

**SOUTHWEST BROOKLYN  
CONVERTED MARINE TRANSFER STATION  
PROPOSED WETLAND MITIGATION PLAN  
NYSDEC PERMIT NUMBER: 2-6106-00002/00025**

**DRAFT**



**Submitted by:  
City of New York Department of Sanitation  
Solid Waste Management**

**Prepared by:  
Henningson, Durham & Richardson Architecture and Engineering, P.C.  
in Association with HDR Engineering**

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## LIST OF ACRONYMS

BFE	Base flood elevations
CSO	Combined sewer overflow
DPR	New York City Department of Parks and Recreation
DSNY	New York City Department of Sanitation
FEMA	Federal Emergency Management Agency
HM	High marsh
IM	Intertidal marsh
LZ	Littoral zone
MHW	Mean high water
MLW	Mean low water
MTS	Marine Transfer Station
NPS	National Park Service
NWI	National Wetland Inventory
NYSDEC	New York State Department of Environmental Conservation
SM	Shoals, bars and mudflats

## SECTION

### 1.0 INTRODUCTION

#### 1.1 PROPOSED CONVERTED MARINE TRANSFER STATION

The City of New York Department of Sanitation (DSNY) has proposed to replace and upgrade the existing overwater Southwest Brooklyn Marine Transfer Station (MTS), with the construction of a new upland Converted Marine Transfer Station (Converted MTS) that would be located in the Bensonhurst section of Brooklyn on 25<sup>th</sup> Avenue near the terminus of Bay 41<sup>st</sup> Street and adjacent to Gravesend Bay (Figure 1-1). Subsequent to the receipt of applicable permits, notice to proceed with construction of the Converted MTS was given in June 2014 and construction is ongoing. The Converted MTS will be a three-level, upland facility that will allow DSNY to effectively manage municipal solid waste through containerization and barge-based transport. Waste will be delivered to the Converted MTS in DSNY collection vehicles or other vehicles and placed in leak-proof containers to be loaded onto barges for transport to out-of-City intermodal and disposal facilities.

All components of the Converted MTS will be constructed in the upland area adjacent to the existing facility with the exception of a new fendering system along the existing bulkhead and a new king pile wall. The 300 foot-long king pile wall will be placed perpendicular to the southeastern corner of the existing bulkhead. The king pile wall will be constructed of steel king piles, sheet piles and rubber bumpers which will resemble a “picket fence” in profile. King piles will be constructed to an elevation above mean high water (MHW). Fenders and bumpers will be fixed onto the king piles above mean low water (MLW) to protect tugs and barges. Sheet piles will be attached between king piles at variable elevations below MLW to maintain water flow and tidal flushing in the area between the king pile wall and an existing marina consisting of concrete blocks at the adjacent property to the south. The king pile wall will allow for required barge activities at the Converted MTS, while protecting the existing marina structure located on the adjacent property.

#### 1.2 IMPACTS TO WETLANDS AND OPEN WATERS

DSNY has previously received required permits from the New York State Department of Environmental Conservation (NYSDEC) to construct the Converted MTS (NYSDEC Permit No. 2-6106-00002/00022-00025) and subsequent modifications of these permits related to ongoing construction. As part of the construction of the new facility, dredging and filling activities within littoral zone and open water areas within Gravesend Bay, immediately adjacent to the Converted MTS, has been required. An area of approximately 23,417 square feet (sf) (0.54 acres) required dredging to facilitate future movement of barges to and from the facility, and approximately 17,180 sf (0.39 acres) of fill will be placed as part of the construction of the king pile wall. The proposed dredging and filling areas will have an overlap of approximately 565 sf.



Site delineations are approximate.

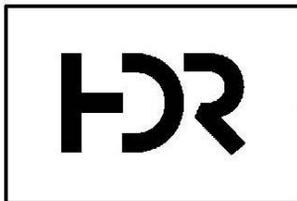
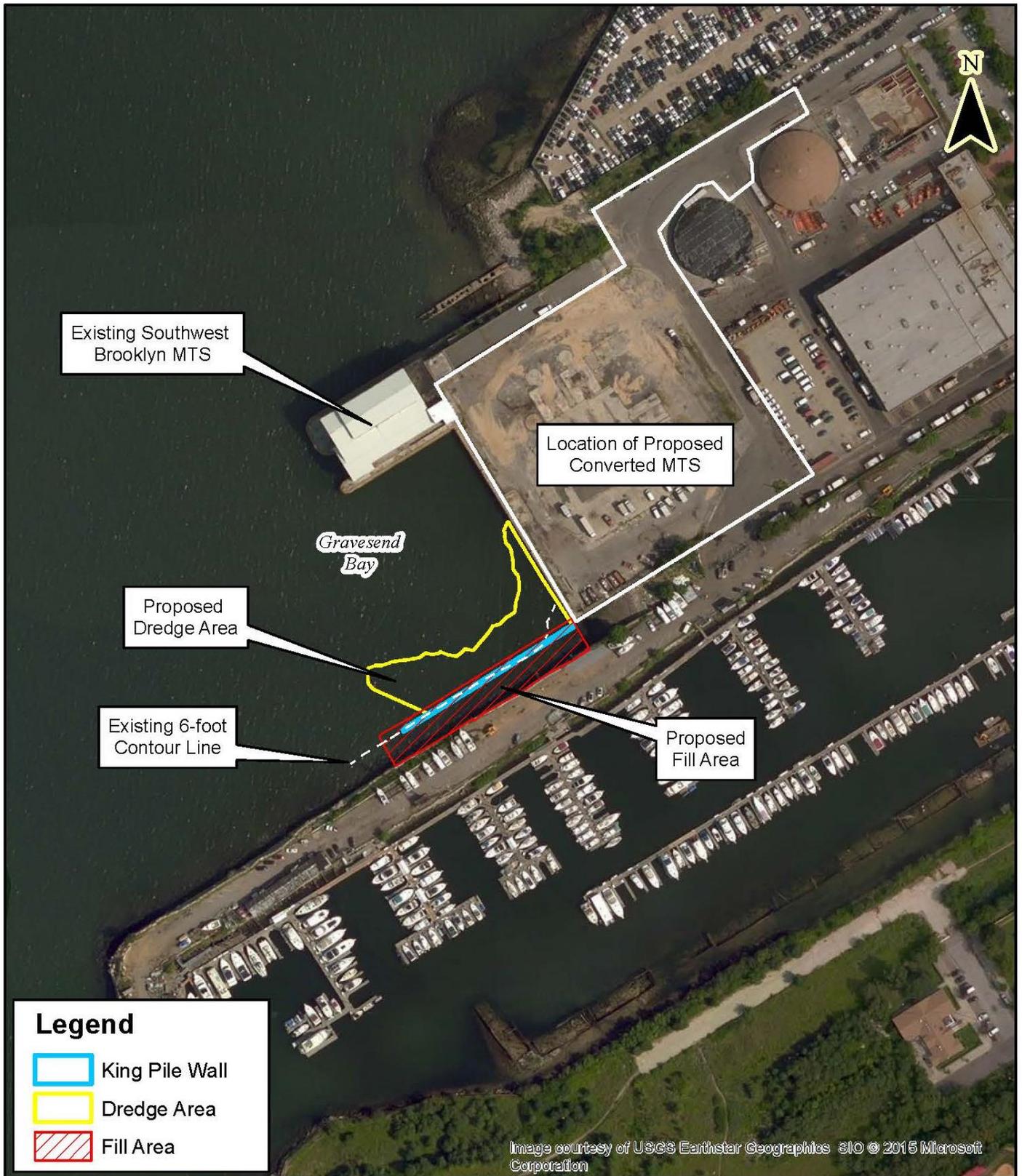


Figure 1-1 Site Location  
Southwest Brooklyn Converted MTS

City of New York  
Department of Sanitation





Site delineations are approximate.



	<p>Figure 1-2 Impact Site Southwest Brooklyn Converted MTS</p>	
	<p>City of New York Department of Sanitation</p>	

The total combined impact upon littoral zone, including the previously disturbed area, will be approximately 15,571 sf (0.36 acres). In addition, approximately 2,594 sf (0.06 acres) of proposed armor stone fill will result in impacts to open water areas (Figure 1-2). The Converted MTS will also have a barge moored at the site on an ongoing basis with a footprint of 6,750 sf (0.15 acres). Total estimated impacts due to the proposed project are therefore 15,571 sf (0.36 acres) to wetlands (i.e., littoral zone) and 9,344 sf (0.21 acres) to open water for a total impact of 24,915 sf (0.57 acres). Approximately 1,550 sf of the total dredge area and approximately 14,586 sf of the proposed fill area will be located within NYSDEC-designated littoral zone.

### **1.3 INITIAL MITIGATION PROPOSAL**

As part of the original permit application process, DSNY initially had identified a number of potential opportunities that could be evaluated to address required mitigation for the Southwest Brooklyn Converted MTS. Based upon the original application for permit, DSNY and NYSDEC had initially agreed on a mitigation ration of 2:1 for impacts to littoral zone and open water due to the proposed MTS and a ratio of 1:1 for impacts associated with the recurrent mooring of a barge at the new site. Removal of the existing MTS was not identified as a preferred mitigation alternative at that point in time.

After further consideration and an assessment of potential mitigation options, DSNY submitted a mitigation plan to NYSDEC in August 2013 in accordance with NYSDEC Permit Special Condition 61. As part of this mitigation plan DSNY proposed the removal of the existing Southwest Brooklyn MTS in order to create approximately 23,855 sf (0.55 acres) of new open water habitat. As the proposed mitigation would be located immediately adjacent to the location of the anticipated impacts, DSNY also requested that the original mitigation ratio of 2:1 be reduced to 1:1. With an approval of the revised mitigation ratio, removal of the existing MTS would address all anticipated impacts to littoral zone and open water associated with the new MTS with the exception of 1,060 sf (0.02 acres). DSNY however also pointed out that steel used in the king pile would provide new substrate for epibenthic recruitment that does not currently exist at the site and as a result would result in the creation of additional new habitat. Discussions with NYSDEC on the draft mitigation plan and the proposed request for a reduction in the mitigation ratio requirement did not result in an agreement.

### **1.4 CURRENTLY PROPOSED MITIGATION**

Due to a change in DSNY priorities and the anticipated capital cost of removing the existing MTS, DSNY indicated to NYSDEC in 2014 that they no longer planned to demolish the existing MTS to meet mitigation obligations for the Converted MTS. During this same period, DSNY was approached by the New York City Department of Parks and Recreation (DPR) in June 2014 to consider providing a contribution to their ongoing restoration plan for the Sunset Cove site (a/k/a Schmitt's Marina) in Jamaica Bay. DPR's restoration of the Sunset Cove site was supported by an initial grant from the National Fish and Wildlife Foundation; however, as a condition of the grant, DPR was required to identify matching funds in order to take full advantage of the grant. Based upon the DPR opportunity, DSNY reached out to NYSDEC to determine if a financial contribution by DSNY for the advancement of the Sunset Cove Restoration could be used to address DSNY's mitigation needs for the Southwest Brooklyn Converted MTS. DSNY received an email approval from NYSDEC on July 11, 2014 that a commitment to provide funding to the Sunset Cove project would be acceptable in lieu of the

creation of new mitigation to address anticipated impacts to littoral zone and open waters resulting from the new Converted MTS. DSNY subsequently memorialized its commitment to the Sunset Cove project in a draft commitment letter to DPR dated July 16, 2014 (Attachment 1), and a final commitment letter was provided by DSNY to DPR in 2015.

Concurrent with the efforts related to Sunset Cove, DSNY had noted that the existing mudline within the proposed dredged area at the Southwest Brooklyn site was previously impacted through the placement of large rip rap or stone along a portion of the site adjacent to the existing marina. Initial observations during an unusually low tide had shown rip rap within this area. As a result, DSNY approached NYSDEC to indicate that there was prior evidence of impact to the bay bottom in this area and as a result, a reduction in the approved mitigation ratio (2:1) was warranted. In order to further delineate these areas, DSNY completed new bathymetry and additional field investigations in November 2014. These investigations determined that existing blocks and rip rap were present in approximately 6,577 sf of the proposed DSNY armor stone fill area. Placement of new armor stone in this area would therefore not result in a material change in the existing bay bottom as this area has already been altered. The findings of these surveys were submitted to NYSDEC for consideration in March 2015. On April 3, 2015, NYSDEC agreed to a reduction in the mitigation ratio for those areas containing existing rip rap, from 2:1 to 1.5:1. The final approved mitigation required for the Converted MTS site was agreed to be 39,792 sf (0.91 acres), as summarized in Table 1-1.

**Table 1-1. Summary of Estimated Impacts to Wetlands and Open Water and Proposed Mitigation Ratios for the Southwest Brooklyn Converted Marine Transfer Station**

Resource	Activity	Estimated Impact		Net Impacts <sup>1</sup>		Required Mitigation Ratio	Required Mitigation Area	
		Square Feet	Acres	Square Feet	Acres		Square Feet	Acres
Undisturbed Littoral Zone	Dredging	1,550	0.04	8,994	0.21	2:1	17,988	0.41
	Filling	7,464	0.17					
Disturbed Littoral Zone	Filling	6,557	0.15	6,577	0.15	1.5:1	9,866	0.23
Open Water	Filling	2,594	0.06	2,594	0.06	2:1	5,188	0.12
	Barge	6,750	0.15	6,750	0.15	1:1	6,750	0.15
<b>Total Mitigation Required</b>							<b>39,792</b>	<b>0.91</b>
<sup>1</sup> Net impacts to littoral zone reflect the overlap of 565 sf between dredging and filling activities.								

This revised mitigation plan incorporates the aforementioned changes and has been prepared for NYSDEC’s formal review and approval. As part of this revised mitigation plan, DSNY is formally removing from further consideration demolition of the existing MTS demolition. Likewise, this revised plan incorporated the revised mitigation ration of 1.5:1 for DSNY filling/dredging activities within previously disturbed areas. This plan also formalizes DSNY’s financial contribution to DPR’s Sunset Cove Restoration to address the Southwest Brooklyn Converted MTS mitigation obligation in its entirety, as previously agreed to by NYSDEC. Details of the proposed mitigation at the Sunset Cove site are provided in the following section.

## SECTION

### 2.0 PROPOSED MITIGATION SITE

#### 2.1 EXISTING CONDITIONS

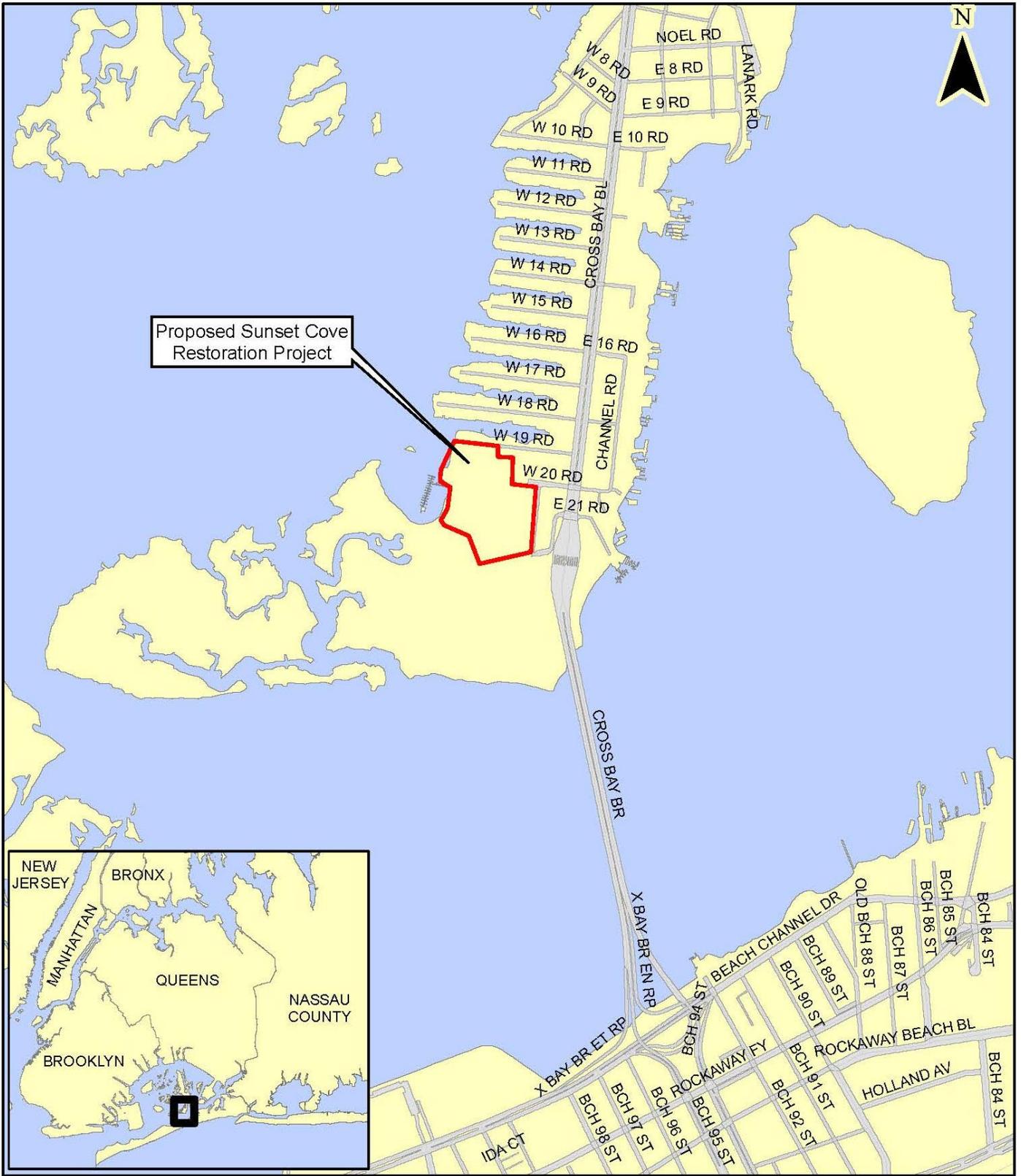
The Sunset Cove restoration site is located along the northern shoreline of Jamaica Bay in Broad Channel, Queens (Figure 2-1). The site lies across the following vacant land and open space parcels owned by DPR: Block 15324, Lot 1; Block 15325, Lot 25; Block 15326, Lot 20; and Block 15327, Lot 10. It is bound to the north by West 19<sup>th</sup> Road, Shad Creek Road to the east, Broad Channel American Park to the south, and is adjacent to Big Egg Marsh, a large wetland complex owned and managed by the National Park Service (NPS). The site is a former marina that was subjected to illegal dumping activities and currently consists largely of fill. It was acquired by DPR in 2009 and has generally remained inaccessible, offering limited ecological and coastal protection functions.

Jamaica Bay is classified as a Class SB water by NYSDEC. Class SB waters are suitable for fish, shellfish and wildlife propagation and survival. This portion of the Bay is an impaired waterbody that has been included on the New York State Section 303(d) List of Impaired Waters since 2002. Based on NYSDEC's Waterbody Inventory Report, the Bay is subject to impacts from pollutants that include municipal discharges, combined sewer overflows (CSOs), urban stormwater runoff and other nonpoint sources. Failing and/or inadequate on-site system discharges are a problem particular to Broad Channel.

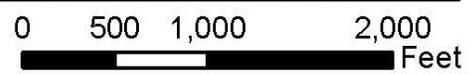
Based on a review of 1974 NYSDEC tidal wetland maps, NYSDEC-designated tidal wetlands identified on-site include: coastal shoals, bars and mudflats (SM); intertidal marsh (IM); high marsh (HM) and littoral zone (LZ). A review of National Wetland Inventory Maps (NWI) does not show wetlands at the site. The Federal Emergency Management Agency (FEMA) preliminary flood insurance rate maps indicate the site is within Zone AE, which depicts areas subject to inundation by the 1-percent-annual-chance flood for which base flood elevations (BFEs) are shown. The shoreline is also within the VE Zone, which depicts areas subject to inundation by the 1-percent-annual-chance flood event with additional hazards due to storm-induced velocity wave action. The limit of moderate wave action extends approximately 200 to 400 feet east from the shoreline.

#### 2.2 PROPOSED MITIGATION

The proposed mitigation plan consists of DSNY's commitment to provide funding to the Sunset Cove project in lieu of the creation of new mitigation to address anticipated impacts to littoral zone and open waters resulting from the new MTS. Mitigation ratios ranging from 1:1 to 2:1 have been agreed upon by NYSDEC and DSNY as summarized in Table 1-1, for a total mitigation requirement of 0.91 acres.



Site delineations are approximate.



	<p>Figure 2-1 Mitigation Site Southwest Brooklyn Converted MTS</p>	
	<p>City of New York Department of Sanitation</p>	

The Sunset Cove project, as a whole, will restore approximately three to five acres of salt marsh (low marsh and high marsh) and seven to nine acres of upland coastal ecosystems (coastal forest and scrub shrub), for a total of approximately 12 acres of habitat improvements. The restored salt marsh will connect to adjacent wetland complexes within Jamaica Bay. A conceptual plan prepared by DPR, dated July 2014, is provided in Attachment 2. The existing hardened shoreline will be rehabilitated to incorporate oyster and shellfish habitat and the upland perimeter will be graded where possible, to provide shoreline protection. Public access amenities, such as paths and educational signage as well as a canoe/kayak launch are also proposed. The Sunset Cove project will implement comprehensive restoration measures that will increase both ecological and social ecosystem services in Broad Channel.

The anticipated outcomes from the project include:

- resiliency during storm events; increased opportunities for passive recreation such as bird watching and hiking;
- increased wave attenuation capacity;
- increased education, engagement, and empowerment of underserved communities;
- increased area of water quality enhancing ecosystems (salt marsh and oysters);
- increased biodiversity of wildlife and ecological connectivity; and
- increased experience in environmental stewardship for local community groups.

Overall, the project will restore a vital coastal ecosystem and promote resiliency of the Broad Channel community.

The design and construction of the Sunset Cove project is estimated to be approximately seven million dollars. The current partners involved in the project include NPS, Jamaica Bay Eco Watchers, the Broad Channel Civic Association and the American Littoral Society. A majority of the funding for the project was awarded in 2014 through the U.S. Department of the Interior Sandy Coastal Resiliency Grant Program, with additional funding acquired from a New York State Department of State Local Waterfront Revitalization Program Grant and New York Rising.

## **2.3 SCHEDULE**

Construction of the Converted MTS, inclusive of the king pile wall and dredging, is estimated to occur over a period of approximately 36 months and be completed in late 2017. The conceptual design for the Sunset Cove project based on topographic survey and soil sampling was completed in Fall 2013 with construction of the project anticipated to start in early 2017 and be completed by June 2017.

# **ATTACHMENT 1**

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## **COMMITMENT LETTER FOR SUNSET COVE FUNDING**

## **ATTACHMENT 2**

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# **SUNSET COVE CONCEPTUAL RESTORATION PLAN**