

**Environmental Assessment
Broad Channel Volunteer Fire Department Relocation
Broad Channel, Queens County, New York**

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LIST OF ACRONYMS

APE – Area of Potential Effects

BCVFD – Broad Channel Volunteer Fire Department

BAD – Best Available Data

CAA – Clean Air Act

CO – Carbon Monoxide

CO₂ – Carbon Dioxide

CWA – Clean Water Act

CZMA – Coastal Zone Management Act

CZMP – Coastal Zone Management Plan

dba – Decibel

EA – Environmental Assessment

EO – Executive Order

EPA – U.S. Environmental Protection Agency

ESA – Endangered Species Act

FEMA – Federal Emergency Management Agency

FONSI – Finding of No Significant Impact

FWHA – Federal Highway Administration

NAA – Non-attainment Areas

NAAQS – National Ambient Air Quality Standards

NEPA – National Environmental Policy Act

NHPA – National Historic Preservation Act

NOAA – U.S. National Oceanic and Atmospheric Administration

NO₂ – Nitrogen Dioxide

NPDES – National Pollution Discharge Elimination System

Environmental Assessment

Broad Channel Volunteer Fire Department Relocation and Reconstruction

NWI – National Wetland Inventory

NYSDEC – New York State Department of Environmental Conservation

NYSHPO – New York State Historic Preservation Officer

O₃ – Ozone

OPA – Otherwise Protected Area

Pb – Lead

PM – Particulate Matter

SIP – State Implementation Plan

SO₂ – Sulfur Dioxide

SPDES – State Pollution Discharge Elimination System

SPL – Sound Pressure Level

USACE – United States Army Corps of Engineers

USFWS – U.S. Fish and Wildlife Service

VOCs – Volatile Organic Compounds

1.0 INTRODUCTION

On October 29, 2012 Hurricane Sandy caused storm damage to several areas of New York State including the Broad Channel Volunteer Fire Department (BCVFD) located in Broad Channel, Queens County, New York. President Barack Obama declared Hurricane Sandy a major disaster on October 30, 2012. The declaration authorized federal public assistance to affected communities and certain non-profit organizations per Federal Emergency Management Agency (FEMA) 4085-DR-NY and in accordance with the Robert T. Stafford Disaster Relief and Emergency Assistance Act of 1974 (42 U.S.S. 5172) as amended; the Sandy Recovery Improvement Act of 2013 and the accompanying Disaster Relief Appropriations Act, 2013. The BCVFD (Subgrantee) is seeking funding to replace the fire house in Broad Channel, NY from FEMA pursuant to sections 406 and 428 of the Robert T Stafford Disaster Relief and Emergency Assistance act. The New York State Division of Homeland Security and Emergency Services is the Grantee partner for the proposed action.

This Environmental Assessment (EA) is prepared in accordance with Section 102 of the National Environmental Policy Act (NEPA) of 1969, as amended; and the Regulations for Implementation of the National Environmental Policy Act (40 Code of Federal Regulations [CFR] Parts 1500 to 1508). The purpose of the EA is to analyze the potential environmental impacts of the proposed project and alternatives, including a no action alternative, and to determine whether to prepare an Environmental Impact Statement or a Finding of No Significant Impact (FONSI). In accordance with above referenced regulations and FEMA's regulations for NEPA compliance found at 44 CFR Part 10, FEMA is required, during decision making, to evaluate and consider the environmental consequences of major federal actions it funds or undertakes.

2.0 PURPOSE AND NEED

FEMA's Public Assistance Program fosters the protection of health, safety and welfare of citizens, assists communities in recovering from damages caused by disasters and reduces future losses resulting from natural disasters. The purpose of this project is to restore the pre-storm capacity and function of the BCVFD and improve resiliency of critical services to the community from future storm and flood related disasters. The need for this project is to ensure the continued operation of fire and rescue operations in the community. The project would meet the Broad Channel Community's need to improve emergency response capability by restoring the facility's critical services with the addition of a communications center that would allow the BCVFD to be optimize its response during an emergency.

3.0 PROJECT LOCATION AND BACKGROUND

The BCVFD provides emergency fire and medical service to Broad Channel and to the off-island communities of Howard Beach and the Rockaways through a mutual aid agreement with the New York City Fire Department. The BCVFD's existing two story 1,572 square foot facility is located at the northwest corner of Church Road and Noel Road in Broad Channel, Queens County, New York. It is a two-story wood frame building that occupies nearly the entire 2,500 square-foot lot. The BCVFD has occupied this location since 1908. The facility has been modified many times over the years, most recently adding a second floor with bathroom, kitchen, and dining area. The BCVFD is equipped with two fire trucks, two ambulances, and a boat, which enables quick responses to emergencies on the waters of Jamaica Bay. The Broad Channel Volunteers, Inc. is a 501(c)(3) not-for-profit organization that relies solely on fundraising, government grants and, since 1905, has been operated solely by volunteers.

Prior to the storm, BCVFD evacuated their existing firehouse on Noel Road and set up at their traditional storm headquarters at the American Legion Hall on Cross Bay Boulevard, which has not flooded since Hurricane Donna in 1960. BCVFD relocated their Emergency Medical Service Vehicles to the storm headquarters and had their fire engines conducting last minute search and rescue operations during the early hours of the storm. After Sandy hit, the storm headquarters in the American Legion Hall was unusable as 30 inches of flood water was in the building and both emergency services vehicles had their electrical/electronic systems destroyed by the flood waters. One fire engine was destroyed during the storm when a floating log hit it which shorted out the electrical system and caused the engine to burn. The other engine had its electrical system destroyed, but was kept running during the storm and has since been repaired.

BCVFD's building on Noel Road was inundated by approximately 5.6 feet tidal surge flood of brackish water and a total loss of electrical power to the facility for eight days as a result of Hurricane Sandy. The facility's infrastructure was damaged including the wastewater pipes, circuit breaker, furnace, and emergency generator. Contents were also lost because of the high water and included the telephone system, command consoles, head phones, and tools. The existing BCVFD facility is still in a general state of disrepair as only emergency repairs have been completed to the facility. The tidal surge resulted in extensive damage that exceeded the pre-disaster value of the existing structure.

Before Hurricane Sandy damaged the current facility BCVFD had applied for, and received, funding from the Federal Highway Administration (FHWA). Transportation Improvement funds has been earmarked for this project (No. 1554 & 4606) through the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users. With the addition of FEMA funding, the FHWA funding will be used as a cost share for the construction of the new two story building with no additional or alternative scope of work. FHWA is conducting their own environmental and cultural resource review under NEPA and have proposed that the project falls under FHWA

Categorically Excluded actions under 23 CFR 771.117. No further review is required under NEPA for the FWHA funding, however, this EA will cover the identical scope for FEMA's requirements.

Matching and additional funding to complete all of the project work is being provided by BCVFD and \$0.350 million under Senate Item No. 4310 and No. 5481. The project is classified as an Unlisted Action under the State Environmental Quality Review Act (SEQRA), codified at Article 8 of the Environmental Conservation Law (ECL) of the State of New York, and its implementing regulations, promulgated at Part 617 of Title 6 of the New York Codes, Rules and Regulations (N.Y.C.R.R.), which collectively contain the requirements for the State Environmental Quality Review (SEQR) process. The project was reviewed under SEQRA and the New York City Environmental Quality Review (CEQR) process as set forth in Executive Order 91 of 1977, as amended, and the Rules of Procedure for City Environmental Quality Review. The New York City Planning Commission (CPC), as lead agency for SEQR/CEQR, conducted a coordinated review for the project with the Dormitory Authority State of New York (DASNY) (CEQR No. 12DCP012Q/ULURP No. 120052ZSQ). The CPC completed its review of the Environmental Assessment Statement (EAS) in September 2011 and determined that the proposed action will have no significant effect on the quality of the environment. DASNY, as an involved agency in the SEQRA/CEQR process, concurred with the lead agency's determination of significance.

4.0 ALTERNATIVES

Several alternative courses of action were evaluated for the BCVFD project. The alternatives were evaluated based upon engineering constraints, environmental impacts and available property. Budgetary constraints were considered but were not the controlling factor.

Guidance provided in 40 CFR 1502.14 regarding the NEPA provision of an alternative analysis states that an agency must rigorously explore and objectively evaluate all reasonable alternatives. For alternatives which were eliminated from detailed study, the reasons for their elimination must be briefly discussed. Additionally, a No Action Alternative must be included in the analysis. This section of the document discusses the No Action Alternative or also known as the "Future without Federal Project Condition", the feasible alternatives that would provide for the purpose and need, and the alternative that was eliminated from full analysis.

4.1 Alternative 1: No Action Alternative

Under the No Action Alternative the BCVFD would continue operations at its current location with minimal repairs in order to remain in operation. The existing BCVFD would continue to be at risk from future storm events. The continued deterioration of the structural elements could lead to the building becoming unsafe resulting in repetitive financial losses and disruption of its critical services function to the Broad Channel Community.

4.2 Alternative 2: Proposed Action Alternative, Fire Station at New Location

The proposed action would be the construction of a two-story, approximately 10,000 square foot fire station. The proposed location is in the northeastern section of Broad Channel at 305 Cross Bay Boulevard (Block 15304, Lot 450) in Queens on higher ground near the Broad Channel Athletic Club and the American Legion Hall. The proposed location consists of an approximately 23,000 square foot vacant parcel bounded by Cross Bay Boulevard to the east, 99th Street/Bert Road to the west, and 189th Avenue/West 3rd Road to the north (Appendix B, Figure's A and B). Approximately, 5,000 square feet of the site is paved with asphalt and the remaining 18,000 square feet is overgrown with vegetation. The ground floor of the proposed fire station would house the facility's emergency vehicles and the second floor would consist of sleeping quarters, a bathroom, a kitchen, meeting room, as well as a full telecommunications center that could be used by New York Office of Emergency Management and other agencies during an emergency event. The fire station would accommodate BCFVD owned vehicles including two fire trucks, two ambulances, and a boat. The facility would also be served by 20 at-grade accessory parking spaces. Access to and from the site would be provided via two 30'-0" curb cuts onto Cross Bay Boulevard. The new facility would be constructed to the latest New York City Department of Buildings and FEMA Flood Elevations therefore mitigating potential damages from future events and allowing the BCFVD to continue performing its critical services to the community (Appendix B, Figure C).

4.3 Alternatives Considered and Dismissed

Two additional alternatives were considered by the Subgrantee: 1) Elevating the existing facility and 2) Building a floodwall around the facility. Elevation of the existing facility was dismissed because that option was not cost effective. Building a ten foot high concrete 45' x 83' floodwall around the entire facility with a storm water collection system was dismissed because it was not physically feasible due to the size of the existing parcel and its close proximity to adjacent buildings. In addition, it was not cost effective.

4.4 Summary of Alternatives

Four alternatives were considered by the Subgrantee for implementation for the BCFVD. Of the four, elevation of the existing facility and building a floodwall around the facility were dismissed. The remaining alternatives are:

- 1) No Action Alternative
- 2) Fire Station at New Location (Proposed Alternative)

The following section focuses impact analysis on environmental and cultural resources in regards to the No Action and Proposed alternatives.

5.0 AFFECTED ENVIRONMENT AND POTENTIAL IMPACTS

5.1 Geology and Soils

5.1.1 Existing Conditions

The project area consists of the existing BCVFD site at the northwest corner of Church Road and Noel Road and a vacant parcel located at 305 Cross Bay Boulevard in Broad Channel, Queens, New York City. Bedrock on the southwest shore of Long Island, Kings County (Brooklyn), and Queens County is typically located more than 300 hundred feet below the ground surface. Soils in the project area consist of Bigapple-Verrazano complex, with 0 to 8 percent slopes, typically found along coastal waterways in Brooklyn and Queens. Bigapple-Verrazano complex is generally characterized as nearly level to gently sloping in areas where sandy dredged materials and loamy fill have been historically placed over wetlands or water, and is composed of a mixture of anthropogenic soils with 50 to 80 percent of the surface covered by impervious pavement. They are deep and well drained with parent material composed of sandy dredge deposits, usually more than 40 inches thick. A typical profile includes a surface layer of dark grayish brown sand to an average depth of three inches. It is underlain by a leaching zone of brown sand to 8 inches, followed by the subsoil of yellowish brown stratified sand to a depth greater than 60 inches (New York City Soil and Water Conservation District, 2005). As the soil survey indicates much of the project site has witnessed substantial filling, mostly in the early nineteenth century. In addition to fill, other disturbances within and adjacent to the site area consist of cutting and grading associated with parking lot, road, and underground utility construction.

5.1.2 Potential Impacts and Proposed Mitigation

Alternative 1: No Action Alternative

The No Action alternative would have no consequences on Geology and Soils resources due to no construction activities occurring at the new site and the current building would not have any work done on it.

Alternative 2: Proposed Action Alternative

The Proposed Alternative would have negligible short-term impacts on soil resources. Construction activities disturbing soils will include excavation for foundation elements, grading, installation of plumbing, and other associated earthwork. These excavation activities would disturb approximately one quarter of an acre of soil and generate minimal or no impact to topographical features of the proposed site. Any potential soil erosion impacts from construction activities would be reduced with implementation of localized Best Management Practices. No ground disturbance is anticipated at the damaged site.

5.2 Air Quality

U.S. Environmental Protection Agency (USEPA) has established primary and secondary National Ambient Air Quality Standards (NAAQS) under the provisions of the Clean Air Act (CAA). Primary standards define levels of air quality necessary to protect public health with an adequate margin of safety. Secondary standards define levels of air quality necessary to protect public welfare from any known or anticipated adverse impacts of a pollutant. Federal NAAQS are currently established for the following seven criteria pollutants: carbon monoxide (CO), nitrogen dioxide (NO₂), ozone (O₃), sulfur dioxide (SO₂), lead (Pb), particulate matter (PM) equal to or less than 10 micrometers in aerodynamic diameter (PM₁₀), and PM equal to or less than 2.5 micrometers in aerodynamic diameter (PM_{2.5}).

The CAA, as amended in 1990, defines non-attainment areas (NAA) as geographic regions that have been designated as not meeting one or more of the NAAQS. When an area is designated as non-attainment by the United States Environmental Protection Agency (EPA), the state is required to develop and implement a State Implementation Plan (SIP), which delineates how a state plans to achieve air quality that meets the NAAQS under the deadlines established by the CAA, followed by a plan for maintaining attainment status once the area is in attainment.

The conformity requirements of the CAA and regulations promulgated thereunder limit the ability of federal agencies to assist, fund, permit, and approve projects that do not conform to the applicable SIP. When subject to this regulation, the federal agency is responsible for demonstrating conformity for its proposed action. Conformity determinations for federal actions other than those related to transportation plans, programs, and projects which are developed, funded, or approved under title 23 U.S.C. or the Federal Transit Act (49 U.S.C. 1601 et seq.) must be made according to the requirements of 40 CFR Part 93 (federal general conformity regulations).

Under the general conformity regulations, a determination for federal actions is required for each criteria pollutant or precursor in non-attainment or maintenance areas where the action's direct and indirect emissions have the potential to emit one or more of the six criteria pollutants at rates equal to or exceeding the prescribed *de minimis* rates for that pollutant. In the case of this project, the prescribed annual rates are 50 tons of volatile organic compounds (VOCs) and 100 tons of nitrogen oxides (NO_x) (ozone precursors, ozone non-attainment area in transport region), 100 tons of CO (CO maintenance area), and 100 tons of PM_{2.5}, SO₂, or NO_x (PM_{2.5} and precursors in PM_{2.5} attainment area).

The general conformity requirements do not apply to federal actions that:

- Do not exceed the prescribed emissions threshold levels;
- Occur in an attainment area;

- Are related to transportation plans, programs, and projects developed, funded, or approved under Title 23 U.S.C. or the Federal Transit Act (49 U.S.C. 1601); or
- Qualify for exemptions or where the emissions are not reasonably foreseeable as defined in § 93.153.

The regulation assumes that a proposed federal action whose criteria pollutant emissions have already been included in the local SIP's attainment or maintenance demonstrations conforms to the SIP.

5.2.1 Existing Conditions

The existing background ambient air quality of the project area is based on the air quality monitoring data collected by the EPA. EPA has designated Queens County as a nonattainment area for multiple pollutants under the NAAQS. Queens County has been designated as a nonattainment area for PM_{2.5} in 2006, a marginal nonattainment area for 8-hour O₃ levels in 2008, and a moderate nonattainment area for 8-hour O₃ in 1997. The project site is classified as in attainment for SO₂, CO, NO₂, and Pb (U.S Environmental Protection Agency, 2015).

5.2.2 Potential Impacts and proposed Mitigation

Alternative 1: No Action Alternative

The No Action alternative will not result in any emissions from construction activity and daily operations at the existing facility would not change and therefore would not have a potential impact on air quality.

Alternative 2: Proposed Action Alternative

The construction of the new facility would take approximately 11 months to complete. Typical construction activities would require use of backhoes, loaders, cranes, concrete trucks, delivery trucks, and other construction equipment. The necessary electric power for construction activities at the new facility initially would be supplied by gasoline powered temporary generators. The temporary use of these generators would cause a negligible impact on air quality due to their intermittent use and small size. Emissions of fugitive dust during construction would be controlled by best management practices. Construction vehicles and non-road construction equipment would comply with applicable standards and would use ultra-low sulfur diesel fuel, as required by EPA regulations. A limited number of truck trips to and from the project site would be required during operating hours for construction activities (7:30AM to 2:30PM). In addition, an air quality analysis was conducted as part of the New York City Environmental Quality Review process. The analysis was based on the proposed 10,000 square foot building, approximately 35 feet in height, and with an emissions stack height of 38 feet. The potential for significant adverse impacts was determined to be unlikely and a detailed analysis of stationary source impacts was determined to not be required (Appendix A, Document A). Air quality impacts from construction would be a localized, short-term in nature, and would be discontinued

when the project has been completed and disturbed soils have been stabilized or permanently covered. As the potential construction and operational emissions are below *de minimis* threshold for criteria pollutants, no general conformity analysis would be required.

5.3 Water Resources

5.3.1 Water Quality

The Clean Water Act (CWA), enacted in 1977, regulates discharge of pollutants into water with sections falling under the jurisdiction of the U.S. Army Corps of Engineers (USACE) and the USEPA. Section 404 of the CWA establishes the USACE permit requirements for discharging dredged or fill materials into waters of the United States and traditional navigable waterways. The 1899 Rivers and Harbors Act authorized the USACE to regulate activities within navigable waters. Under the National Pollution Discharge Elimination System (NPDES), the USEPA regulates both point and non-point pollutant sources, including stormwater and stormwater runoff. The USEPA has authorized New York State Department of Environmental Conservation (NYSDEC) to administer the NPDES program, referred to as the State Pollution Discharge Elimination System (SPDES). Activities that disturb one acre or more of ground require an SPDES permit. The SPDES permit requires that a Stormwater Pollution Prevention Plan be prepared. NYSDEC monitors the water quality of surface waters per the CWA, ensures compliance with existing water quality standards, and produces an inventory of impaired waters, which is a list of surface waters that do not meet the assigned surface water quality standards.

Section 1424(e) of the Safe Drinking Water Act of 1974 [P.L. 93-523] authorizes the Administrator of the U.S. Environmental Protection Agency (USEPA) to designate an aquifer for special protection if it is the sole or principal drinking water resource for an area (i.e., it supplies 50 percent or more of the drinking water in a particular area) and if its contamination would create a significant hazard to public health. No commitment for federal financial assistance may be entered into for any project that the Administrator determines may contaminate such a designated aquifer so as to create a significant hazard to public health.

5.3.2 Wetlands

Wetlands are areas which are inundated or saturated by surface or groundwater with a frequency and duration sufficient to support, or under normal hydrological conditions would support a prevalence of vegetation or aquatic life typically adapted for those soil conditions. Actions that would impact wetlands would require review under several regulatory programs. Federal Executive Order (EO) 11990 and Section 404 of the CWA (33 USC 1344) are designed to protect wetlands. Executive Order 11990 requires that all federally funded, permitted, or sponsored projects affecting wetlands demonstrate that there are no practicable alternatives, and that the proposed action includes all practicable measures to minimize harm to wetlands that may

result from such use. FEMA implements EO 11990 (44 CFR Part 9) concurrently with EO 11988, and uses the eight-step decision making process to evaluate potential effects on, and mitigate impacts to, wetlands and floodplains. NYSDEC administers and regulates wetlands in NYS under the Freshwater Wetlands Act (Article 24 of Environmental Conservation Law) and the Tidal Wetlands Act (Article 25 of Environmental Conservation Law – 6 NYCRR Part 661).

5.3.3 Floodplain

A floodplain is defined as an area subject to inundation from a flood that has a 1 percent chance of being equaled or exceeded in any given year, often referred to as the 100-year flood or base flood. FEMA uses Flood Insurance Rate Maps to identify projects in the floodplain; 44 CFR Part 9 implements EO 11988. FEMA is required to use the eight-step decision-making process referenced in section 5.3.2 (Appendix A, Document B) before undertaking an action within the floodplain or an activity that would affect the floodplain. This process requires evaluating practicable alternatives that minimizes potential adverse impacts to floodplains. If no practicable alternatives exist to constructing within or affecting the floodplain, FEMA seeks to minimize the adverse impacts.

5.3.4 Existing Conditions

Wetlands adjoin most of the periphery of Broad Channel although they do not adjoin the proposed area or overlap with existing developed or apparent previously developed areas. In addition, a review of the U.S. Fish and Wildlife National Wetland Inventory (NWI) 03/26/2015 indicates the proposed project location is not located in a mapped wetland or U.S. waters (Appendix B, Figure D).

5.3.5 Potential Impacts and Proposed Mitigation

Alternative 1: No Action Alternative

There would be no ground disturbance under the No Action Alternative and therefore no effect on wetlands or water quality. There are no NWI or NYSDEC-mapped wetlands, NYSDEC-regulated wetland adjacent areas, or other Waters of the United States within or in the vicinity of the existing BCVFD Site. However, the No-Action Alternative leaves the existing facility vulnerable to future flooding due to its unrepaired state in the Special Flood Hazard Area.

Alternative 2: Proposed Action Alternative

Ground disturbance would be limited for the construction of the proposed fire station and would consist of minor clearing of ground cover and low growing vegetation, and grading approximately 10,000 square feet (0.23 acre) to establish a level surface. The primary impact that the proposed action would have on Jamaica Bay would be from storm water runoff toward the Bay. However, storm water runoff would not be significantly increased than what currently

leaves the project site due to its current paved surfaces. No known contamination is in the area that may cause hazardous runoff (see section 5.14). Neither a SPDES permit nor a Stormwater Pollution Prevention Plan would be required. However, BMPs (e.g., silt fences, inlet protection) would be used to prevent adverse effects on water quality during construction. No heavy equipment would be operated in wetlands and no staging areas, roads or equipment would be constructed in wetlands.

In addition, NYSDEC determined the proposed location for the new Fire Department is not within the jurisdiction of the NYSDEC under the Freshwater Wetlands Act or the Tidal Wetlands Act (Appendix C, Correspondence B). A tidal Department of Environmental Conservation tidal wetlands or freshwater wetlands permit will not be required to alter or develop the property (New York State Department of Environmental Conservation, 2000).

The new facility is located within the 100-year floodplain (AE Zone Base Flood Elevation 10 feet (NAVD88)) as shown on Flood Insurance Rate Map panel # 3604970377G (Appendix B, Figure D). The relocation of the site does not remove the services from the floodplain; however, the building will be constructed at New York City Department of Buildings and FEMA Flood Elevations (Appendix B, Figure C) which will mitigate against future flood losses. The project will not encourage further development in the floodplain due to the already developed nature of the area. The Proposed Alternative is designed to incorporate flood damage risk reduction and other hazard mitigation measures at or above the 500-year floodplain elevation. This alternative allows the BCVFD to meet their desired goals while also increasing the resiliency of the facility to withstand future tidal surge damage (see 8-Step, Appendix A, Document B).

5.4 Coastal Resources

The Coastal Zone Management Act (CZMA), administered by states with shorelines in coastal zones, requires a Coastal Zone Management Plan to manage coastal development. Projects falling within designated coastal zones must be evaluated to ensure they are consistent with a State's Coastal Zone Management Plan (CZMP). Projects receiving federal assistance must follow the procedures outlined in 15 CFR 930.90 – 930.101 for federal coastal zone consistency determinations. In order to guide development and resource management within the State's coastal area, substantive policies have been identified and promulgated by the New York State Department of State and NYSDEC. The Coastal Erosion Hazard Law (Environmental Conservation Law 34) empowers NYSDEC to identify and map coastal erosion hazard areas and to adopt regulations (6 NYCRR Part 505). The Coastal Erosion Hazard Area Permit Program manages regulated activities or land disturbance to properties within the coastal erosion hazard areas.

The Coastal Barrier Resources Act (CBRA) of 1982 created designated areas that were made ineligible for both direct and indirect federal expenditures. The CBRA was amended by the

Coastal Barrier Improvement Act of 1990 which added a new category of coastal barriers called Otherwise Protected Areas (OPAs). OPAs are undeveloped coastal barriers that are within the boundaries of an area established under Federal, State, or local law, or held by a qualified organization, primarily for wildlife refuge, sanctuary, recreational, or natural resource conservation purposes. The law encourages the conservation of hurricane prone, biologically rich coastal barriers by restricting Federal expenditures that encourage development, such as Federal flood insurance.

5.4.1 Existing Conditions

The proposed project area is not located within the jurisdiction of the CBRA or an OPA (Appendix B, Figure F). However, Jamaica Bay is located approximately 300 feet from the project site at its closest point which is in OPA unit designation NY-60P. The majority of Jamaica Bay is designated as a National Wildlife Refuge within the Gateway National Recreation Area by the Federal government, but the proposed project site is not within their boundaries. The project is within a CZMA area and is under New York State's Department of State CZMP and must adhere to the 44 coastal management policies.

5.4.2 Potential Impacts and Proposed Mitigation

Alternative 1: No Action Alternative

There would be no ground disturbance under the No Action Alternative and therefore no effect on coastal resources.

Alternative 2: Proposed Action Alternative

The project site is located approximately 300 feet from the shoreline of Jamaica Bay at its closest point. The proposed action would not have a significant impact to any coastal communities and with the implementation of localized best management practices would not affect Jamaica Bay. It is consistent with CBRA as the project location is not in a CBRA zone or an OPA. Coordination with New York City has occurred and a Consistency Assessment Form for the New York City Waterfront Revitalization Program was completed and approved as part of the City Environmental Quality Review process (Appendix A, Document A). In addition, FEMA consulted with the State of New York Department of State on August 20th 2015 with the determination that the project is consistent with the Department's Coastal Management Program Policies 1-44 (Appendix C, Correspondence C). Concurrence was received on August 21st 2015. The proposed development would exceed all applicable State and Federal standards for the protection of lives and structures in coastal areas.

5.5 Vegetation

5.5.1 Existing Conditions

The existing BCVFD site at the northwest corner of Church Road and Noel Road is devoid of any vegetation. The proposed action project site's approximately 18,000 square feet that is not covered in asphalt is overgrown with weeds consisting of grasses, shrubs, a few small trees of less than 2 inches in diameter, and invasive vines. The vegetation on the site is second growth typical of disturbed site conditions. No significant vegetation or habitats are located on the project site. The areas north and south of the proposed facility are residential and commercial with no intact vegetative communities; however, no activity associated with the project would disturb the unimproved parkland areas adjoining the project site to the west. Executive Order (EO) 13112, *Invasive Species*, requires federal agencies to prevent the introduction of invasive plant and animal species and provide for their control to minimize the economic, ecological, and human health impacts that invasive species cause. While not all non-native species are detrimental, invasive species are those that can cause harm to the environment or to human health. Invasive species prefer disturbed habitats and generally possess high dispersal abilities, enabling them to out-compete native species.

5.5.2 Potential Impacts and Proposed Mitigation

Alternative 1: No Action Alternative

Under the No-Action alternative, no changes would be made to the existing facility and the proposed project site which would remain vacant and unused. Vegetation within the study area is expected to remain unchanged.

Alternative 2: Proposed Action Alternative

The proposed location for the BCVFD is adjoined by a major roadway, Cross Bay Boulevard, and residential and community facilities on three sides. All existing vegetation on the subject site would be removed in order to accommodate the proposed development. A 7 foot wide planter screening strip consisting of native trees and other vegetation would then be planted around the entire periphery of the site, except for the driveway curb cuts, and the southern border which would be provided with a 4 foot wide planter screening strip. The existing trees along Cross Bay Boulevard will also be retained. The Subgrantee is responsible for ensuring that all vegetative debris is staged and disposed of in a manner consistent with EO 13112 *Invasive Species*, United States Department of Agriculture, NYSDEC, and New York State Department of Agriculture and Markets guidelines and regulations. The proposed removal of vegetation from the proposed action would not be considered to be a significant impact to any vegetative communities.

5.6 Biological Resources

The Endangered Species Act (ESA) of 1973 provides a program for the conservation of threatened and endangered plants and animals and the habitats in which they are found. The lead Federal agencies for implementing ESA are the United States Fish and Wildlife Service (USFWS), and the U.S. National Oceanic and Atmospheric Administration (NOAA) National Marine Fisheries Service (NMFS). The law requires Federal agencies to ensure that actions they authorize, fund, or carry out are not likely to jeopardize the continued existence of any listed species or result in the destruction or adverse modification of designated critical habitat of such species. The law also prohibits any action that causes a “taking” of any listed species of endangered fish or wildlife. The Migratory Bird Treaty Act (MBTA) of 1918 provides a program for the conservation of migratory birds that fly through the United States. Birds protected under the act include all common songbirds, waterfowl, shorebirds, hawks, owls, eagles, ravens, crows, native doves and pigeons, swifts, martins, swallows, and others. The lead federal regulatory agency for implementing the MBTA is the USFWS. The law makes it illegal for anyone to “take,” possess, import, export, transport, sell, purchase, barter, or offer for sale, purchase, or barter, any migratory bird, or their parts, feathers, nests, or eggs. “Take” is defined as “to pursue, hunt, shoot, wound, kill, trap, capture, or collect, or any attempt to carry out these activities.”

5.6.1 Current Conditions

No habitats conducive to wildlife are present at the site and any wildlife using or crossing the property would be transitory in nature. Stantec Consulting Services consulted with USFWS on June 28, 2012 that Federally listed species designated habitat is present in area but there will be no effect to species and habitat. The consultation response (Appendix C, Document A) lists the following three (3) potential endangered or threatened animals: Piping Plover (Threatened); Roseate Tern (Endangered); and, Seabeach amaranth (Threatened). In addition to the three species delineated in the correspondence with USFWS the Red Knot (Threatened) was listed on December 15, 2014. The USFWS lists the following federally threatened and endangered (T&E) species for Queens County through their Information, Planning and Conservation System (U.S. Fish and Wildlife Service, 2015).

Piping plovers utilize the open, sandy beaches close to the primary dune of the barrier islands and coastlines of the Atlantic for breeding and prefer sparsely vegetated open sand, gravel, or cobble for a nest site. They forage along the rack line where the tide washes up onto the beach. In the U.S., red knots utilize Atlantic and bay beaches and mudflats. Roseate terns breed in colonies almost exclusively on small offshore islands, rarely on large islands. The northeastern colonies are on rocky offshore islands, barrier beaches, or salt marsh islands. Colonies are close to shallow water fishing sites with sandy bottoms, bars, or shoals. No evidence of habitat that would support piping plovers, red knots, or roseate terns was found on the project site.

Seabeach amaranth is native (endemic) to Atlantic Coast beaches and barrier islands. The primary habitat of seabeach amaranth consists of overwash flats at accreting ends of islands, lower foredunes, and upper strands of non-eroding beaches landward of the debris line. The species occasionally establishes small temporary populations in other habitats, including sound-side beaches, blowouts in foredunes, inter-dunal areas, and on sand and shell material deposited for beach replenishment or as dredge spoil. Seabeach amaranth usually grows on a nearly pure sand substrate, occasionally with shell fragments mixed in. No evidence of habitat that would support seabeach amaranth was found on the project site. Per the USFWS IPaC, there are no critical habitats within the proposed project area.

According to the USFWS Migratory Bird Program, New York City is located within the Atlantic Flyway for migratory birds. The proposed project area is urbanized and has little potential to provide habitat for migratory birds (U.S. Fish and Wildlife Service, 2015).

5.6.2 Potential Impacts and Proposed Mitigation

Alternative 1: No Action Alternative

Under the No-Action alternative, no changes would be made to the existing facility and the proposed project site would remain vacant and unused. Biological resources within the study area are expected to remain largely unchanged.

Alternative 2: Proposed Action Alternative

A site visit conducted by FEMA on March 16, 2015 confirmed that no evidence of protected species or appropriate habitat exists at the site. The proposed project would not adversely impact migratory birds, and other fish or wildlife resources compared to existing land use and surrounding structures. No modifications to the nearby body of water or wild areas are included in the scope of work. Many migratory birds protected under the Migratory Bird Treaty Act use tree-dominated vegetation communities such as forests and riparian areas. Based on site assessments and assessments of resources present there is no habitat for above-mentioned endangered and threatened species. Therefore FEMA has determined that the proposed project would have no effect on federally listed threatened and endangered species.

5.7 Cultural Resources

As a federal agency, FEMA must take into account the potential effects of any of its funded actions on historic properties (i.e., undertakings) prior to engaging in any undertaking and provide the Advisory Council of Historic Preservation (ACHP) a reasonable opportunity to comment. This obligation is defined in Section 106 of the National Historic Preservation Act of 1966 (NHPA), as amended and implemented by 36 CFR Part 800. The NHPA (36 CFR Part 800.16(1)(1)) defines a historic property as “any prehistoric or historic district, site, building, structure, or object included in or eligible for inclusion in, the National Register of Historic

Places (NRHP) maintained by the Secretary of the Interior (SOI). This term includes artifacts, records, and remains that are related to and located within such properties. The term includes properties of traditional religious and cultural importance to an Indian tribe or Native Hawaiian organization and that meet the National Register criteria.” Defined in 36 CFR Part 60.2, the National Register is an authoritative guide to be used by Federal, State, and local governments, private groups and citizens to identify the Nation’s cultural resources and to indicate what properties should be considered for protection from destruction or impairment. Eligibility criteria for listing a property in the NRHP are found at 36 CFR Part 60. To be considered eligible for inclusion in the NRHP, a historic property must meet one or more of the eligibility criteria established by the National Park Service (NPS) found in 36 CFR Part 60.4. Historic resources not yet evaluated may be considered potentially eligible for inclusion in the NRHP and, as such, are afforded the same regulatory consideration as nominated and/or listed properties. The NHPA of 1966 (36 CFR Part 60.1), authorizes the SOI to expand and maintain a National Register of districts, sites, buildings, structures, and objects significant in American history, architecture, archaeology, engineering, and culture.

During review, consideration is given to cultural resources that may be impacted by an undertaking. Cultural resources are defined as prehistoric and historic sites, structures, districts, buildings, objects, artifacts, or any other physical evidence of human activity considered important to a culture, subculture, or community for scientific, traditional, religious, or other reasons. As part of the NHPA Section 106 review and NEPA processes, FEMA will undertake consultation with tribes regarding possible effects of federal actions on cultural properties of historic or traditional significance, referred to as traditional cultural properties.

The Area of Potential Effects (APE) is defined in 36 CFR 800.16(d) as the geographic area(s) within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if such properties exist. The APE is influenced by the scale and nature of an undertaking and may be different for different kinds of effects caused by the undertaking. The requirements for review include the identification of historic properties within the APE which the undertaking may impact. Within the APE, impacts to cultural resources are evaluated prior to the undertaking for both architectural resources (above ground standing structures resources) and archaeological sites (below ground resources). The NYS Historic Preservation Officer (NYSHPO) maintains a regularly updated list of historic properties listed or eligible for listing in the NYS and NRHP. It also reviews previously unevaluated properties within the APE to assess historic significance and potential project effects.

5.7.1 Existing Conditions

Broad Channel is a neighborhood in the New York City borough of Queens. It occupies the southern portion of Rulers Bar Hassock, colloquially known as “Broad Channel Island”, and is the only inhabited island in Jamaica Bay. The small community became part of New York City

in 1898. With the construction of Cross Bay Boulevard in 1923 and the opening of the Cross Bay Parkway Bridge, Broad Channel underwent a surge in popularity. Today the community numbers around 3,000 year round residents. It is served by a volunteer fire department that was started as a bucket brigade in 1905. Two years later the group formally organized into the Broad Channel Volunteer Fire Association and opened a firehouse at 15 Noel Road. This two-story wooden frame structure, which dates to around 1908, sustained substantial damage during Hurricane Sandy. NYC Department of Buildings determined that the fire station was substantially damaged and FEMA concurred.

The volunteer fire department is considering Lot 450 adjacent to Cross Bay Boulevard for a new fire station. The 23,004 SF project site is devoid of any of any structures (standing), although approximately 5,000 SF of the central portion of the lot is covered with paved asphalt from the early 1990s. The remainder of the site is covered with woody vegetation. Research shows that the site has been vacant since 1933

Using the State Historic Preservation Office's new Cultural Resources Information System (CRIS) database, FEMA conducted a search for known historic standing structures within the APE to determine if any buildings in the project area are listed on the National Register of Historic Places or the New York State Register of Historic Places, either individually, or collectively, as part of a National Register Historic District. A search also was performed to see whether any Landmarks Preservation Commission (LPC) landmarks were present. Based on the results of FEMA's historic property identification efforts, FEMA determined that there are no LPC landmarks nearby or structures listed or eligible for inclusion in the National Register of Historic Places or the State Register of Historic Places. On September 18, 2014, NY SHPO concurred with the National Park Service that the Rulers Bar Hassock was not eligible for listing in the National Register of Historic Places. The site for the new Broad Channel Volunteer Fire Department fire station would have fallen within the boundaries of the proposed historic district. According to SHPO, "[w]hile the property possesses historical significance as a bird and wildlife sanctuary[,] the historic design, materials, workmanship, and association have diminished with the deterioration or destruction of topographic, vegetation, and water features from gradual saltwater encroachment and by Hurricane Sandy."

FEMA archaeologist researched SHPO archaeological sensitivity maps. No previously recorded archaeological sites or National Register eligible historic properties are located in the APE or within a one mile radius. A Phase I Archaeological Survey was completed for the Broad Channel Fire Department in August 2011. Archival research and archaeological investigation delineated in the survey noted that the proposed project site witnessed no discernable human activity in either the prehistoric or historic periods, when the APE was tidal wetlands. A total of seven shovel test pits were excavated within the project area. No prehistoric or historic artifacts were encountered during the surface survey and subsurface archaeological testing. Recorded soils in the shovel tests consisted of disturbed and fill sediments, and only material dating from the mid-

20th century through the present was found. No further archaeological investigations were recommended.

5.7.2 Potential Impacts and Proposed Mitigation

Alternative 1: No Action Alternative

Under the No-Action alternative, no changes would be made to the existing project site. Cultural and Archaeological resources within the study area are expected to remain largely unchanged.

Alternative 2: Proposed Action Alternative

Activities associated with the construction of the new fire station would have no effect on Archaeological and Cultural resources as there are no previously recorded archaeological sites or National Register eligible historic properties located in the APE or within a one mile radius. In the event of an unexpected discovery the sub-grantee will immediately stop construction in the vicinity of the discovery and take all reasonable measures to avoid or minimize harm to the property until FEMA has completed consultation with the NYSHPO.

5.8 Aesthetic Resources

Consideration is given to the loss of, or impact to, any aesthetic resources or viewshed. A viewshed is an area of land, water, or other environmental element that is visible to the human eye from a fixed vantage point. Viewsheds are areas of particular scenic or historic value that have been deemed worthy of preservation against development or other change. Viewsheds are spaces that are readily visible from public areas and thoroughfares, such as from public roadways, public parks or high-rise buildings. If the viewshed is integral to the setting of a landmark building or part of the NHPA Evaluation Criterion for a buildings' eligibility, the viewshed must be considered for any new development or renovation proposal.

5.8.1 Existing Conditions

The existing project site consists of an urban site surrounded by several single family homes, businesses, and vacant lots along Cross Bay Boulevard. The proposed area is approximately 300 feet from the shoreline of Jamaica Bay at its closest point. The site has been vacant for a number of years and is currently being utilized to store construction equipment and supplies for a nearby municipal infrastructure project. The central portion of the property has been paved with asphalt.

5.8.2 Potential Impacts and Proposed Mitigation

Alternative 1: No Action Alternative

Under the No-Action alternative, no changes would be made to the existing site. Aesthetic resources within the proposed location will be untouched and remain unchanged.

Alternative 2: Proposed Action Alternative

The proposed project involves the construction of a new fire house on a vacant lot. Visual impacts during construction will include vegetation removal and the temporary presence of construction equipment. However, such impacts would be minor and temporary in nature. In addition, a seven foot wide planter screening strip consisting of trees and other vegetation would be provided around the entire periphery of the site (except for the driveway curb cuts) with the exception of the southern border which would be provided with a four foot wide planter screening strip. The visual impact of the proposed fire house will be minimal and will not have a significant negative impact on views in the area.

5.9 Socioeconomic Resources — Environmental Justice

EO 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, requires agencies to identify and address disproportionately high and adverse human health or environmental effects its activities may have on minority or low income populations. Per EPA Region 2's Guidelines for Conducting Environmental Justice Analyses for New York, a community would be considered an Environmental Justice community if the minority population was 51.51 percent or higher or if 23.59 percent or more of the population was below the poverty line.

5.9.1 Existing Conditions

In order to provide context for this report a demographic analysis was undertaken. The first step was to define a relevant Community of Concern in the context of the Proposed Alternative, which seeks to repair existing BCVFD and construct a new fire department.

Examination of Queens County's 2010 Census data indicates the facility's service population does not meet the criteria for "Minority Populations" and does not cross the Poverty Threshold. The percentage of Minority Population in the project area is approximately 10 percent based on US Census 2010 Block Group data and the percentage of households below poverty is less than 5 percent based on US Census 2010 Tract Data. Based on Queens County 2010 Census Data, the median household income for Broad Channel, zip code 11693, is \$85,843 (U.S. Census Bureau, 2010). According to the Environmental Justice Screener a mapping tool that uses high resolution maps combined with demographic and environmental data to identify places with potentially

higher environmental burdens and vulnerable populations no data is available for Broad Channel (U.S. Environmental Protection Agency, 2015).

5.9.2 Potential Impacts and Proposed Mitigation

Alternative 1: No Action Alternative

A consequence of the No Action Alternative is that the existing facility remains susceptible to another extended loss of facility function as a result of a future flooding event, which affects everyone in the entire Broad Channel Community. However, the No Action Alternative does not pose a disproportionately high and adverse human health or environmental effect on minority or low-income populations.

Alternative 2: Proposed Action Alternative

Construction of the BDVFD would have a beneficial long-term effect on all people living and working in the vicinity of the project area as it would increase the level of service to the community during severe weather events. There would be no disproportionate or adverse effect on minority or low income populations from construction and operation of the Proposed Alternative.

5.10 Land Use and Planning

5.10.1 Existing Conditions

The existing BCVFD site at 15 Noel Road opened as two-story wooden frame firehouse around 1908. The proposed site is located at 305 Cross Bay Boulevard (Block 15304, Lot 450) along the west side of Cross Bay Boulevard at the corner of 189th Avenue/West 3rd Road and 99th Street/Bert Road in the Broad Channel neighborhood of Queens. The lot is estimated to have been vacant of any structures since at least 1933 (New York City Department of City Planning, 2011). The central portion of the site was paved with asphalt in the early 1990's for the temporary storage of construction equipment and supplies for a municipal infrastructure project (New York City Department of City Planning, 2011).

On October 7, 2011 the BCVFD was granted a special permit pursuant to Section 74-67 of the Zoning Resolution to allow a fire station to be located in a residential district and to allow the applicable community facility regulations as set forth in Sections 24-33 and 24-521 of the Zoning Resolution to apply, to facilitate the development of a fire station. The New York City Planning Commission noted that approval of the special permit will facilitate the construction of a two-story, approximately 10,000 square-foot fire station on a vacant lot located at 305 Cross Bay Boulevard in an R3-2 district in Broad Channel, Queens, Community District 14. The Commission stated that the proposed fire station will allow the BCVFD to more effectively serve the Broad Channel community by providing a centrally-located building with adequate space to store its vehicles and equipment.

5.10.2 Potential Impacts and Proposed Mitigation

Alternative 1: No Action Alternative

Under the No-Action Alternative, no changes would be made to the existing site. Surrounding land uses within the proposed projected site will have no construction activity and will remain largely unchanged.

Alternative 2: Proposed Action Alternative

The project site is currently undeveloped and there will be no ground disturbance beyond the site. Land use in area will not change due to previous development at the site. No potentially significant adverse impacts related to land use are expected to occur as a result of the proposed action.

5.11 Noise

The Noise Control Act of 1972 required the EPA to create a set of noise criteria. In response, the EPA published *Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety* in 1974 which explains the impact of noise on humans. The EPA report found that keeping the maximum 24-hour Ldn value below 70 Decibel (dBA) would protect the majority of people from hearing loss. The EPA recommends an outdoor Ldn of 55 dBA. According to published lists of noise sources, sound levels, and their effects, sound causes pain starting at approximately 120 to 125 dBA and can cause immediate irreparable damage at 140 dBA and above. Occupational Safety and Health Administration (OSHA) has adopted a standard of 140 dBA for maximum impulse noise exposure.

Sound pressure level (SPL) is used to measure the magnitude of sound and is expressed in decibels (dB or dBA), with the threshold of human hearing defined as 0 dBA. The SPL increases logarithmically, so that when the intensity of a sound is increased by a factor of 10, its SPL rises by 10 dB, while a 100-fold increase in the intensity of a sound increases the SPL by 20 dB. Equivalent noise level (Leq) is the average of sound energy over time, so that one sound occurring for 2 minutes would have the same Leq of a sound twice as loud occurring for 1 minute. The day night noise level (Ldn) is based on the Leq, and is used to measure the average sound impacts for the purpose of guidance for compatible land use. It weights the impact of sound as it is perceived at night against the impact of the same sound heard during the day. This is done by adding 10 dBA to all noise levels measured between 10 pm and 7 am. For instance, the sound of a car on a rural highway may have an SPL of 50 dBA when *measured* from the front porch of a house. If the measurement were taken at night, a value of 60 dBA would be recorded and incorporated into the 24-hour Ldn.

Leq and Ldn are useful measures when used to determine levels of constant or regular sounds (such as road traffic or noise from a ventilation system). However, neither represents the sound level as it is perceived during discrete events, such as fire sirens and other impulse noises. They are averages that express the equivalent SPL over a given period of time. Because the decibel scale is logarithmic, louder sounds (higher SPL) are weighted more heavily; however, loud infrequent noises (such as fire sirens) with short durations would not significantly increase Leq or Ldn over the course of a day.

5.11.1 Existing Conditions

The existing BCVFD facility is located in a residential area with a church nearby and is an area that receives little noise. The proposed site is vacant of any structures, but lies adjacent to the American Legion facility. Most of the noise that is generated is from vehicle traffic along Cross Bay Boulevard.

5.11.2 Potential Impacts and Proposed Mitigation

Alternative 1: No Action Alternative

Under the No-Action Alternative, no changes would be made to the existing site. Surrounding noise levels within and around the proposed project area are expected to remain unchanged due to no construction activity and future emergency operations use there.

Alternative 2: Proposed Action Alternative

There would be no increase in vehicular traffic along Cross Bay Boulevard resulting from the proposed fire department activities and would not increase existing noise levels in this area of the community. Construction activities would contribute to ambient noise levels temporarily; however, the effects are anticipated to be only minor increases and well below Ldn levels. BMPs would minimize noise levels by ensuring that construction equipment uses the manufacturer's standard noise control devices. The Subgrantee would be responsible to ensure construction activities are in accordance with any local noise ordinances and standards which may or may not include work hour restrictions. The two ambulances associated with the proposed project would be subject to Subchapter 5, §24-241(b) of the New York City Noise Control Code, and would be required to produce noise levels no greater than 90 dBA when measured at a distance of 50 feet. Noise abatement in residential areas shall limit construction activities, including operation of heavy machinery, to normal business hours (Monday to Friday, 7 am – 5 pm). Construction activities within 200 feet of noise-sensitive receptors, such as schools, hospitals, residential areas, and nursing homes, shall be avoided to the extent practicable. Consequently, no significant impacts are anticipated.

5.12 Utilities and Transportation

5.12.1 Existing Conditions

Overhead electrical, telephone, and cable utilities are located along Noel Road and Cross Bay Boulevard. Underground water and sanitary utilities are owned and operated by the New York City Department of Environmental Protection. Significant traffic occurs along Cross Bay Boulevard as this is the sole north-south major roadway traversing the Broad Channel community from Howard Beach or the Rockaways. Currently, BCVFD emergency vehicles originate their runs from Noel Road in a residential neighborhood of Broad Channel.

5.12.2 Potential Impacts and Proposed Mitigation

Alternative 1: No Action Alternative

Under the No Action Alternative the BCVFD would not be relocated and would continue operations at its current location. No new construction would occur so there would be no impacts to utilities and existing traffic conditions would remain the same.

Alternative 2: Proposed Action Alternative

Construction activities associated with the proposed action would likely not require closing of lanes of traffic on Cross Bay Boulevard. The proposed fire station will be located to minimize the movement of emergency vehicles through local streets in residential areas. Emergency vehicles would enter and exit the site from Cross Bay Boulevard which is a wide thorough fare compared to its existing location on narrow Noel Road. In addition, Cross Bay Boulevard does not have high pedestrian activity and is not near any sensitive land uses that include schools, hospitals, and other community centers, therefore no significant impacts to transportation are anticipated. All necessary utilities would connect with existing service along Cross Bay Boulevard.

5.13 Public Health and Safety

5.13.1 Existing Conditions

The Broad Channel community numbers around 3,000 year round residents. Fire Protection and Emergency Medical Services are provided by the BCVFD. New York City Department of Buildings determined that the fire station was substantially damaged, but it is currently being utilized by the BCVFD. The BCVFD is equipped with two fire trucks, two ambulances, and a boat, which enables quick responses to emergencies on the waters of Jamaica Bay. Broad Channel is one of the communities within the 100th Precinct of the New York City Police Department who provide law enforcement and emergency services. The police department precinct is located in the southern area of the borough of Queens on the Rockaway Peninsula at 92-24 Rockaway Beach Blvd., Queens, NY, 11693-1527.

5.13.2 Potential Impacts and Proposed Mitigation

Alternative 1: No Action Alternative

Under the No Action Alternative the BCVFD would not be relocated and would continue operations at its current location. The existing BCVFD would continue to be at risk from future storm events with repetitive financial losses and disruption of its critical services function to the Broad Channel Community. The BCVFD would not benefit from a more centrally located and modern facility with adequate storage and space for its equipment, personnel, and vehicles and would continue to occupy their Noel Road location. In addition, the continued deterioration of the structural elements could lead to the building becoming unsafe.

Alternative 2: Proposed Action Alternative

The relocation to the proposed location would have a beneficial impact on Public Health and Safety for the Broad Channel Community. The entire community would benefit from a more centrally located and modern facility that would be better equipped to provide critical services and more resilient to future flood events due to flood mitigation measures implemented in new building. In addition, response times by the BCVFD's ambulance and fire trucks is anticipated to be improved with better access to Cross Bay Boulevard due to the new location.

5.14 Hazardous Materials

NYSDEC defines hazardous substances as any solid, liquid, contained gaseous or semisolid waste, or any combination of wastes that pose a substantial present or potential hazard to human health and the environment (NYSDEC, 2014). Hazardous materials and wastes are regulated under a variety of federal and state laws, including 40 CFR Part 260, the Resource Conservation and Recovery Act of 1976 (42 USC § 6901 *et seq.*), Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (42 USC § 9601 *et seq.*), Solid Waste Act, the Toxic Substances Control Act, and the CAA of 1970 (42 USC § 7401 *et seq.*). OSHA standards under the Occupational Safety and Health Act seek to minimize adverse impacts to worker health and safety (United States Department of Labor, 2014). Evaluations of hazardous substances and wastes must consider whether any hazardous material would be generated by the proposed activity and/or already exists at or in the general vicinity of the site (40 CFR 312.10). If hazardous materials are discovered, they must be handled by properly permitted entities. The New York Department of Labor permits entities for asbestos waste abatement and NYSDEC issues permits for transportation and disposal of hazardous waste.

5.14.1 Existing Conditions

A Phase I Environmental Site Assessment was conducted in order to document the likely presence and or absence of hazardous/contaminated environmental conditions at the proposed location. Hazardous materials located at the current location including fuel oil and solvents were contained during and after the disaster. The Phase I Environmental Site Assessment included a review of NYSDEC regulatory data files and a site “walkover” was conducted on June 29, 2011. In addition, a site visit conducted by FEMA on March 16, 2015 confirmed that no hazardous waste/contaminated materials were identified within or adjacent to the proposed project area or at the existing location. The potential risk for involvement with documented or undocumented inactive hazardous waste/contaminated materials is low (New York City Department of City Planning, 2011).

5.14.2 Potential Impacts and Proposed Mitigation

Alternative 1: No Action Alternative

Under the No Action Alternative, no impacts at proposed site are expected with respect to hazardous materials as construction activities would not occur. However, materials at current site that may be classified as hazardous, such as petroleum, oil, and solvents may be present and could be released in the event of future flood event.

Alternative 2: Proposed Action Alternative

No hazardous waste or contaminated material was identified at the proposed location in the Hazardous Waste and Contaminated Materials site screening process (Phase I Environmental Site Assessment and FEMA site visit). Excavated soil and waste materials, including hazardous waste, shall be managed and disposed of in accordance with applicable federal, state, and local regulations. Solid waste haulers shall be required to have an NYSDEC waste hauler permit and all waste shall be disposed of or processed at an NYSDEC permitted facility. Construction of the BCVFD is expected to generate minimal amounts of solid waste and implementation of best management practices and spill control during project construction would negate any potential adverse impacts. The Subgrantee would use approved local landfills that accept construction waste and have sufficient permitted capacity to accommodate the project's solid waste disposal needs.

5.15 Climate Change

EO 13514, Federal Leadership in Environmental, Energy and Economic Performance, sets sustainability goals for federal agencies and focuses on making improvements in their environmental, energy and economic performance. EO 13653, Preparing the United States for the Impacts of Climate Change, sets standards to prepare the United States for the impacts of climate change by undertaking actions to enhance climate preparedness and resilience. FEMA is

required under these executive orders to implement climate change adaptability and green infrastructure in FEMA-funded projects, when feasible.

According to EPA, climate change “...refers to any significant change in the measures of climate lasting for an extended period of time” (EPA 2014). This includes major variations in precipitation, sea surface temperatures and levels, atmospheric temperature, wind patterns and other variables resulting over several decades or longer. Such changes are dubbed “abrupt climate change,” occurring over decades and not gradually over centuries or millennia, a distinction from natural variability. The EPA identifies and regulates human actions that may affect climate change. Embodied energy is a measure of sustainability that accounts for the energy used by structures or to create materials. Another measure of sustainability is life-cycle or cradle-to-grave analysis, which accounts for the extraction, manufacture, distribution, use and disposal of materials. While resources exist to quantify embodied energy and life-cycle analysis, no such calculations were required to be prepared by the Subgrantee for the options presented in this EA.

5.15.1 Existing Conditions

Broader discussion of climate change impacts can be found in the following documents and are incorporated here by reference, as recommended by CEQ:

- Intergovernmental Panel on Climate Change Fifth Assessment Report (IPCC 2013)
- Third National Climate Assessment (United States Global Change Research Program 2014)
- New York City Panel on Climate Change 2015 Report, (NPCC3 2015)

The only climate change effect directly relevant to the Proposed Project for which reasonably foreseeable consequences can be projected is sea level rise and its interaction with coastal storms. The NPCC3 report is the latest and best available source of climate change information for the New York City area. According to NPCC3, sea levels in New York City are projected to increase by up to 30 inches by the 2050s (90th percentile estimate, with a middle range, 25-75th percentile, of 11-21 inches), 58 inches by the 2080s (middle range 18-39 inches), and 75 inches by 2100 (middle range 22-50 inches). A “100-year” flood, which is a flood with a 1.0 percent probability of occurring annually under current conditions, would have up to a 12.7 percent probability of occurrence annually by the 2080s.

5.15.2 Potential Impacts and Proposed Mitigation

Alternative 1: No Action Alternative

The No Action Alternative does not provide for flood damage risk reduction and other hazard mitigation measures; therefore, the existing BCVFD facility would be subject to greater risk of damage and operational disruption in the future. The risks would increase over time due to anticipated storm frequency increases and sea level rise associated with climate change.

Alternative 2: Proposed Action Alternative

FEMA 543, Design Guide for Improving Critical Facility Safety from Flooding and High Winds: Providing Protection to People and Buildings, recommends designing to the 500-year return period for emergency response facilities, including fire stations. The Proposed Alternative is designed to incorporate flood damage risk reduction and other hazard mitigation measures to at or above the 500-year floodplain elevation; therefore, increasing the ability of the facility to withstand future tidal surge damage. Restoration projects conducted with Public Assistance grant funds must be carried out in accordance with the local floodplain management plan and ordinance and shall utilize the current Preliminary Flood Insurance Rate Maps (FIRM) Community 3604970377G, dated January 30, 2015 “as best available data” as a minimum standard. Exceptions to this requirement shall be reported to the New York State Division of Homeland Security and Emergency Services (NYS DHSES), FEMA Environmental, and the local floodplain administrator before undertaking the action. This would be beneficial over time, enhancing resiliency for the facility as the frequency of severe weather is expected to increase due to climate change. The new BCVFD firehouse and emergency response facility will have the first floor placed 36 inches above the maximum storm surge elevation, recorded on-site, from Hurricane Sandy. The proposed project is not anticipated to significantly exacerbate impacts of climate change on the project area (see section 5.2).

5.16 Cumulative Impacts

In accordance with NEPA, this EA considers the overall cumulative impact of the Proposed Action and other actions that are related in terms of time or proximity. According to the Council of Environmental Quality (CEQ) regulations, cumulative impacts represent the “impact on the environment which results from the incremental impacts of the action when added to other past, present, and reasonably foreseeable future actions, regardless of what federal agency (federal or non-federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time” (40 CFR 1508.7).

Cumulative impacts are those impacts “... which result from the incremental impact of the action when added to other past, present and reasonably foreseeable future actions...” (40 CFR 1508.7) The statutory basis for considering cumulative impacts of federal actions is the NEPA of 1969, 42 U.S.C. 4321 et seq. In the context of evaluating the scope of a proposed action, direct, indirect and cumulative impacts must be considered.

In addition to NEPA, other statutes require federal agencies to consider cumulative impacts. These include the Clean Water Act section 404 (b) (1) guidelines; the regulations implementing the conformity provisions of the Clean Air Act; the regulations implementing Section 106 of the NHPA; and the regulations implementing section 7 of the ESA.

Reasonably foreseeable future actions within the community include improvements to the Veterans of Foreign War Building and improvements to the American Legion Hall. The potential impacts from the proposed project (Proposed Action), improvements to the Veterans of Foreign War Building, and improvements to the American Legion Hall would not cumulatively have a significant adverse impact on the human environment. The area is now and would continue to be an active construction site for the three respective projects over the next few years. The restoration of public services would be a positive cumulative benefit to the community with the Proposed Action.

6.0 PERMITS AND PROJECT CONDITIONS

Broad Channel Volunteer Fire Department is responsible for obtaining and adhering to all applicable federal, state and local permits, permit conditions, regulatory compliances and authorizations for project implementation. Any substantive change to the approved scope of work will require re-evaluation by FEMA for compliance with NEPA and other environmental and historic preservation laws and EOs. Broad Channel Volunteer Fire Department must also adhere to the following conditions during project implementation and consider the conservation recommendations outlined below. Failure to comply with grant conditions may jeopardize federal funds.

- 1) Floodplain Best Available Data (BAD) shall be used to determine the 100-year floodplain elevation for final engineering design in accordance with 44 CFR Part 9. At the time of this publication, the Preliminary Flood Insurance Rate Map Community-Panel Number 3604970377G dated January 30, 2015 is the BAD.
- 2) BMPs that prevent the introduction, establishment, and spread of invasive plant species shall be implemented. Invasive species shall be removed when encountered, per USDA and state agency guidelines, and suppression or removal practices to prevent their introduction, establishment, and spread shall be implemented. Woody materials and debris shall be treated and stored to manage for invasive insects, particularly for sites in Asian longhorn beetle and emerald ash borer quarantine zones.
- 3) Excavated soil and waste materials, including hazardous waste, shall be managed and disposed of in accordance with applicable federal, state, and local regulations. Solid waste haulers shall be required to have an NYSDEC waste hauler permit and all waste shall be disposed of or processed at an NYSDEC permitted facility.
- 4) New electric utility connections shall be approved by the affected public service companies and be completed in accordance with their requirements and local building codes.
- 5) Adequate maintenance of equipment shall be ensured, including proper engine maintenance, adequate tire inflation, and proper maintenance of pollution control devices.

- 6) Noise abatement in residential areas shall limit construction activities, including operation of heavy machinery, to normal business hours (Monday to Friday, 7 am – 5 pm). Construction activities within 200 feet of noise-sensitive receptors, such as schools, hospitals, residential areas, and nursing homes, shall be avoided to the extent practicable.
- 7) Construction activities shall not be initiated until 15 days after the date that the FONSI has been signed as “APPROVED.”
- 8) In the event of an unexpected discovery the Subgrantee will immediately stop construction in the vicinity of the discovery; and take all reasonable measures to avoid or minimize harm to the property until FEMA has completed consultation with the NYSHPO.

7.0 AGENCY COORDINATION AND PUBLIC INVOLVEMENT

This EA will be made available for agency and public review and comment for a period of 30 days. The public information process will include a public notice with information about the proposed project in the Queens Courier weekly newspaper. The EA will also be made available for download at <http://www.broadchannelvfd.org/FEMA>.

A hard copy of the EA will be available for review at the following locations:

Queens Library Broad Channel Branch
16-26 Cross Bay Boulevard
Broad Channel, NY 11693
718.318.4943

Peninsula Public Library
92-25 Rockaway Beach Boulevard
Rockaway Beach, NY 11693
718.634.1110

Seaside Public Library
116-15 Rockaway Beach Boulevard
Rockaway Beach, NY 11694
718.634.1876

Queens Borough Hall
120-55 Queens Boulevard
Kew Gardens, NY 11424
718.286.3000

Interested parties may request an electronic copy of the EA by emailing FEMA at FEMA-4085-Comment@fema.dhs.gov. This EA reflects the evaluation and assessment of the federal government, the decision-maker for the federal action; however, FEMA will take into consideration any substantive comments received during the public review period to inform the final decision regarding grant approval and project implementation. The public is invited to submit written comments by emailing FEMA-4085-Comment@fema.dhs.gov or via mail to:

FEMA NY Sandy Recovery Office

118-35 Queens Blvd.

Forest Hills, NY 11375

Attn: EHP – Broad Channel Volunteer Fire Department Relocation and Reconstruction EA Comments.

If no substantive comments are received from the public and/or agency reviewers, the EA will be adopted as final and a Finding of No Significant Impact (FONSI) will be issued by FEMA. If FEMA receives substantive comments, the Agency will evaluate and address comments as part of the FONSI record documentation or in a Final EA.

FEMA will send copies of the EA to:

Attn: Steven T. Papa

U.S. Fish and Wildlife Service

Long Island Field Office

340 Smith Road

Shirley, NY 11967

New York State Division for Historic Preservation

New York State Office of Parks, Recreation & Historic Preservation

Peebles Island Resource Center

Delaware Avenue

Cohoes, NY 12047

Hard copies of the EA for public review will be available at the following locations:

Broad Channel Public Library

16-26 Cross Bay Boulevard

Broad Channel, NY 11693

Peninsula Public Library

92-25 Rockaway Beach Boulevard

Rockaway Beach, NY 11693

Seaside Public Library
116-15 Rockaway Beach Boulevard
Rockaway Beach, NY 11694

8.0 CONCLUSION

FEMA, through NEPA, and the Subgrantee, through the SEQRA have found that the Proposed Action Alternative to construct a two-story, approximately 10,000 square foot fire station would not significantly adversely impact the human environment. The EA evaluated resources that could potentially be significantly impacted. The evaluation resulted in identification of no unmitigated significant impacts associated with the resources of geology and soils, air quality, water resources, coastal resources, vegetation, biological resources, cultural resources, aesthetic resources, socioeconomic resources, land use and planning, noise, transportation and utilities, public health and safety, hazardous materials, and climate change. Obtaining and implementing permit requirements along with appropriate Best Management Practices and mitigation measures will avoid or minimize any effects associated with the alternatives considered in this EA to below the level of a significant impact. The relocation of the BCVFD to the proposed location would have a positive impact to Public Health and Safety for the Broad Channel Community. The entire community would benefit from a more centrally located and modern facility that would be better equipped to provide critical services and more resilient to future flood events due to flood mitigation measures implemented in new building. Should no substantive comments be received, or significant impacts be identified, during the public comment period, it is recommended that a FONSI to the human or natural environment be issued for the Proposed Action Alternative.

9.0 LIST OF PREPARERS

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10.0 Summary Table

Section	Area of Evaluation	Alternative 1: No Action Alternative	Alternative 2: Proposed Action Alternative)	Agency	Mitigation
5.1	Geology, Topography, and Soils	No effect	The Proposed Alternative would have negligible short-term impacts on soil resources. Construction activities disturbing soils will include excavation for foundation elements, grading, installation of plumbing, and other associated earthwork. These excavation activities would disturb approximately one quarter of an acre of soil and generate minimal or no impact to topographical features of the project site.	USDA	Any potential soil erosion impacts from construction activities would be reduced with implementation of localized Best Management Practices
5.2	Air Quality	No effect	Air quality impacts from construction would be a localized, short-term in nature, and would be discontinued when the project has been completed and disturbed soils have been stabilized or permanently covered. As the potential construction and operational emissions are below <i>de minimis</i> threshold for criteria pollutants, no general conformity analysis would be required	NYSDEC and USEPA	Emissions of fugitive dust during construction would be controlled by best management practices. Construction vehicles and non-road construction equipment would comply with applicable standards and would use ultra-low sulfur diesel fuel, as required by EPA regulations.
5.3	Water Resources				
5.3.1	Water Quality	No effect	Ground disturbance would be limited for the construction of the proposed Fire Station and would consist of minor clearing of ground cover and low growing vegetation, and grading approximately 10,000 square feet (0.23 acre) to establish a level surface. The primary impact that the proposed action would have on Jamaica Bay would be from storm water runoff leaving the site some of which would likely flow overland eventually reaching the Bay. However, storm water runoff would not be significantly increased than what currently leaves the project site due to its current paved surfaces. Neither a SPDES permit nor a Stormwater Pollution Prevention Plan would be required.	USACE and NYSDEC	No heavy equipment would be operated in wetlands and no staging areas, roads or equipment would be constructed in wetlands.

5.3.2	Wetlands	No effect	No heavy equipment would be operated in wetlands and no staging areas, roads or equipment would be constructed in wetlands.	USACE and NYSDEC	Any potential impacts would be minimized in accordance with FEMA's minimization standards in 44 CFR 9.11 and an 8-step process will be undertaken.
5.3.3	Floodplain	No effect	The proposed action is within the 100-year floodplain. The relocation of the site does not remove the services from the floodplain; however, the building will be constructed at New York City Department of Buildings and FEMA Flood Elevations which will mitigate against future flood losses	FEMA	Any impacts to floodplains would be minimized in accordance with FEMA's minimization standards in 44 CFR 9.11 and an 8-step process will be undertaken.
5.4	Coastal Resources	No effect	The proposed action would not have a significant impact to any coastal communities and with the implementation of localized best management practices would not affect Jamaica Bay. It is consistent with CBRA as the project location is not in a CBRA zone or an OPA. Coordination with New York City has occurred and a Consistency Assessment Form for the New York City Waterfront Revitalization Program was completed and approved as part of the City Environmental Quality Review process.	NYSDEC	Implementation of localized best management practices
5.5	Vegetation	No effect	All existing vegetation on the subject site would be removed in order to accommodate the proposed development. A 7 foot wide planter screening strip consisting of native trees and other vegetation would then be planted around the entire periphery of the site, except for the driveway curb cuts, and the southern border which would be provided with a 4 foot wide planter screening strip. The Subgrantee is responsible for ensuring that all vegetative debris is staged and disposed of in a manner consistent with Executive Order 13112 Invasive Species, United States Department of Agriculture, NYSDEC, and New York State Department of Agriculture and Markets guidelines and regulations. The proposed removal of vegetation from the proposed action would not be a significant impact.	NYSDEC and USDA	A 7 foot wide planter screening strip consisting of native trees and other vegetation would be provided around the entire periphery of the site, except for the driveway curb cuts, and the southern border which would be provided with a 4 foot wide planter screening strip. The existing trees along Cross Bay Boulevard will also be retained.

5.6	Biological Resources	No effect	The proposed project would not adversely impact migratory birds, and other fish or wildlife resources compared to existing land use and surrounding structures. No modifications to the nearby body of water or wild areas are included in the scope of work. Many migratory birds protected under the Migratory Bird Treaty Act use tree-dominated vegetation communities such as forests and riparian areas. Based on site assessments and assessments of resources present there is no habitat for above-mentioned endangered and threatened species. Therefore FEMA has determined that the proposed project would have no effect on federally listed threatened and endangered species.	NYSDEC and USFW	BMPs will be used, advised by local regulations, to reduce impacts to habitats.
5.7	Cultural Resources	No effect	Using the NYSHPO Cultural Resource Information System database and New York State Register of Historic Places, it was determined that there are no LPC landmarks nearby or structures listed or eligible for inclusion in the NRHP or the State Register of Historic Places. Activities associated with the construction of the new fire station would have no effect on Archaeological resources as there are no previously recorded archaeological sites or National Register eligible historic properties located in the APE or within a one mile radius.	NYSHPO	In the event of an unexpected discovery the Subgrantee will immediately stop construction in the vicinity of the discovery comply with Stipulation III.B in the statewide Programmatic Agreement (PA) between FEMA and NYSHPO.
5.8	Aesthetic Resources	No effect	Visual impacts during construction will include vegetation removal and the temporary presence of construction equipment. However, such impacts would be minor and temporary in nature. The visual impact of the proposed fire house will be minimal and will not have a significant negative impact on views in the area.	NYSDEC	If any undertaking results or would result in an adverse effect, for archeological or historic viewsheds, FEMA has a process available for resolving the issue through state wide programmatic agreement.

5.9	Socioeconomic	No effect	Construction of the BCVFD would have a beneficial long-term effect on all people living and working in the vicinity of the project area as it would increase the level of service to the entire community during severe weather events. There would be no disproportionate or adverse effect on minority or low income populations from construction and operation of the Proposed Alternative.		
5.10	Land Use and Planning	No effect	The proposed action would facilitate the construction of a two-story, approximately 10,000 square foot fire station on the project site. No potentially significant adverse impacts related to land use are expected to occur as a result of the proposed action.		
5.11	Noise	No effect	There would be an increase in vehicular traffic along Cross Bay Boulevard resulting from the proposed fire department activities which would increase existing noise levels, but this increment would be a small portion of existing total traffic volumes. Construction activities would contribute to ambient noise levels temporarily; however, the effects are anticipated to be only minor increases.	NYCDEC	BMPs would minimize noise levels by ensuring that construction equipment uses the manufacturer's standard noise control devices.
5.12	Utilities and Transportation	No effect	It is not anticipated that the proposed action's construction activities would require closing of lanes of traffic on Cross Bay Boulevard. The proposed fire station will be located to minimize the movement of emergency vehicles through local streets in residential areas. Emergency vehicles would enter and exit the site from Cross Bay Boulevard which is a wide thorough fare compared to its existing location on narrow Noel Road. In addition, Cross Bay Boulevard does not have high pedestrian activity and is not near any sensitive land uses such as schools or hospitals, therefore no significant impacts to transportation are anticipated. All necessary utilities would connect with existing service along Cross Bay Boulevard.		

Environmental Assessment

Broad Channel Volunteer Fire Department Relocation and Reconstruction

5.13	Public Health and Safety	No effect	The relocation to the proposed location would have a beneficial impact to Public Health and Safety for the Broad Channel Community. The entire community would benefit from a more centrally located and modern facility that would be better equipped to provide critical services and more resilient to future flood events. In addition, response times by the BCVFD's ambulance and fire trucks will be improved with better access to Cross Bay Boulevard due to the new location.		
5.14	Hazardous Materials	No effect	No hazardous waste or contaminated material was identified at the proposed location in the Hazardous Waste and Contaminated Materials site screening process.	NYSDEC	The Subgrantee shall handle and dispose of any hazardous materials exposed, generated, or used during construction in accordance with all applicable local, state, and federal regulations.
5.15	Climate Change	No effect	The Proposed Alternative is designed to incorporate flood damage risk reduction and other hazard mitigation measures to at or above the 500-year floodplain elevation; therefore, increasing the ability of the facility to withstand future tidal surge damage. The proposed project is not anticipated to significantly exacerbate impacts of climate change on the project area. As discussed in the Air Quality section, the proposed construction and modifications to operations of the facility are not expected to result in emissions above <i>de minimis</i> levels.		

11.0 REFERENCES

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New York City Department of City Planning, *City Environmental Quality Review*, 2011

New York City Department of Environmental Protection, *Waterbody/Watershed Facility Plan*, 2011

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U.S. Environmental Protection Agency, *Airdata*, [Online] Available: website <http://www.epa.gov/airdata>, accessed April 1, 2015

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U.S. Fish and Wildlife Service, *IPac*, [Online] Available: website <http://ecos.fws.gov/ipac>, Accessed March 16th, 2015