A. INTRODUCTION

This attachment assesses the potential for significant adverse impacts due to construction of the Proposed Action.

The construction activities and the anticipated schedule are described first followed by an assessment of potential impacts resulting from the construction of the Proposed Action.

B. CONSTRUCTION SCHEDULE AND ACTIVITY

PROPOSED SUBSTATION

It is anticipated that the Proposed Substation construction will commence in July 2019 and will be completed by the end of 2022.

The construction of the Proposed Substation will include clearing approximately 1.7-acres of natural landscaping (i.e., trees, shrubs etc.). Subsequent to clearing, existing subsurface water and sanitary pipes will be removed and replaced/relocated within the Proposed Substation property, as needed, and the property will be regraded. The contractor will utilize existing soil for regrading if the soil meets geotechnical requirements, otherwise pre-approved material will be imported to the Proposed Substation property. Excess soil will be removed and disposed of in accordance with applicable federal, state and local regulations. All construction and demolition debris will be stored in roll-off containers, loaded directly into dump trucks or stockpiled on-site. Following regrading of the site, equipment and structure foundations, steel bus work, and substation equipment and structures will be installed. A temporary construction access road that will be installed from Perimeter Road during construction will be converted to a paved driveway at the completion of construction. This driveway will provide permanent access to the Proposed Substation.

The Proposed Substation will also include the construction of a stormwater detention area containing four dry wells. Once the Proposed Substation construction is complete, tree plantings will be installed along the perimeter fencing.

The quantity of construction workers on-site per day will vary; however, is not expected to exceed 30 individuals at any time. Typical work hours will be from 7 AM to 6 PM, Monday through Friday, with weekend work, as needed.

PROPOSED OFF-SITE WORK

The proposed Off-Site Work will generally be performed concurrently with the Proposed Substation construction, which is anticipated to commence in July 2019 and be complete by the end of 2022. The vast majority of Off-site Work will be completed by the end of July 2020. Typical work hours for the Off-Site Work will be from 7 AM to 6 PM, Monday through Friday,

with weekend work, as needed. Work performed along state roads requiring road closure will be scheduled from 10 AM to 3 PM, as per NYSDOT regulations.

OVERHEAD CONSTRUCTION ACTIVITY

The transmission structures to be installed within Section A and Section B will consist of several individual components, which will be fully assembled at the proposed structure site. Pole boreholes will be completed using a combination of non-mechanized equipment (i.e., vacuum trucks, manual digging) and drill rigs. OH transmission structure installations include a total of 18 steel poles that will be direct-embedded, and five steel poles that will be installed in foundations. The direct-embedded poles will be installed to depths ranging from approximately 15 feet to 20 feet below ground surface. Foundation poles will be installed to maximum depths of approximately 30 feet to 35 feet. Excess soil and select backfill material will be used to backfill and compact pole installation areas to grade. Unused excess soil will be removed and disposed of in accordance with applicable federal, state and local regulations.

Distribution poles will installed to maximum depths of approximately 6.5 feet and backfilled with concrete and/or excess soil. There may be sporadic short-term electric outages during the distribution pole replacements and associated C&R work. If an outage is required, potentially affected customers will be notified in advance.

The installation of the OH components of the Proposed Action will require various construction equipment. Equipment utilized for pole and conductor installation activities will consist of drill rigs, vacuum trucks, cranes, line trucks and/or bucket trucks. Specialized equipment will also be required in order to install and tension the transmission conductors. Trucks will be needed to transport all construction materials. It is anticipated that eight or less vehicles will be needed at any one location during the work. Any impacts to land from construction will be temporary in nature and will be mitigated by work methods and controls.

UNDERGROUND CONSTRUCTION ACTIVITIES

The UG components of the Proposed Action will be completed through a mix of open trench methods and horizontal directional drilling (HDD). The UG 69kV transmission tie-in cables and UG 13kV distribution exit feeders will be completed via open trench methods, with the exception of an approximately 300-foot section below Hempstead Turnpike that will be completed via HDD. Two vaults will be installed along the UG 69kV transmission tie-in cables on Perimeter Road and 13 manholes installed along the UG 13kV distribution exit feeders on Charles Lindbergh Boulevard, Earle Ovington Boulevard and Uniondale Avenue.

Components of the Proposed Action that will be completed via open trench construction will generally proceed in the following sequence: pavement saw-cutting; trench excavation; duct placement; backfilling; and restoration. Construction activities will also include vegetation clearing prior to trenching in areas not under pavement or sidewalk.

Components of the Proposed Action that will be completed via HDD construction will typically be accomplished in three stages. The first stage consists of directionally drilling a small diameter pilot hole along a designed directional path. The second stage involves enlarging this pilot hole to a diameter sufficient to accommodate the duct bank. The final stage consists of pulling the duct bank into the enlarged hole. All stages of HDD involve circulating drilling fluid, typically a mixture of fresh water and bentonite clay, from equipment on the surface, through a drill pipe, and back to the surface through the drilled annulus.

The open trench excavation, HDD, and manhole and vault installation for the Proposed Action is similar to street trenching and HDD work that ordinarily occurs whenever utility companies install or repair underground pipes and cables. Any impacts to land from construction will be temporary in nature and will be mitigated by work methods and controls. Once the project is complete, all disturbed areas will be restored (pavement restoration or seed) in-kind.

The installation of the UG components of the Proposed Action will require various construction equipment. Equipment utilized will consist of excavators, vacuum trucks, horizontal drill rigs, backhoes, compactors and/or pavers. Trucks will be needed to transport all construction materials. It is anticipated that eight or less vehicles will be needed at any one location during the work. Any impacts to land from construction will be temporary in nature and will be mitigated by work methods and controls.

C. ENVIRONMENTAL EFFECTS OF PROPOSED ACTION CONSTRUCTION ACTIVITIES

The following sections assess the potential construction impacts on sensitive receptors, as appropriate.

TRAFFIC

PROPOSED SUBSTATION

During the majority of the Proposed Substation construction work, there will be no impact on traffic since all work will occur on the Proposed Substation property. Flaggers will be deployed any time traffic needs to be regulated.

It is anticipated that all worker and truck parking will be accommodated in nearby parking areas proximate to the Proposed Substation. All vehicles required for construction will be staged at a location to be secured by the contractor prior to commencement of construction.

Based on the anticipated number of worker vehicles and the presence of many multi-lane roadways adjacent to, and in the immediate vicinity of the Proposed Substation, the temporary

increase in traffic will not result in a significant adverse impact on traffic conditions in the vicinity of the Proposed Substation.

Assuming fifty percent reuse of excavated soil, approximately 400 to 500 truckloads of material will be transported off-site from the Proposed Substation throughout the duration of construction. These trucks will be able to access the Proposed Substation property via Charles Lindbergh Boulevard and Perimeter Road. Both of these roads will be able to accommodate the projected increase in traffic volume.

OFF-SITE WORK

Traffic may be impacted temporarily during the Off-Site Work. However, in most instances traffic will be able to flow in both directions along roadways with the use of flaggers and cones to shift lanes. Specifically, as Perimeter Road is a two-lane roadway, construction activities along this road will likely result in closure of one lane of traffic, which will result in temporary alternating traffic for each lane. Construction along the three and four-lane roadways of Charles Lindbergh Boulevard and Earle Ovington Boulevard will allow continuous flow in both directions during construction, as one or more lanes will remain open for traffic flow in each direction. As Uniondale Avenue and Braxton Street are two-lane roadways, construction activities along these roadways will likely result in closure of one lane of traffic, which will result in temporary alternating traffic for each lane. HDD activities will not impact traffic on Hempstead Turnpike since the work area and staging area will be located north and south of the HDD entry/exit points, on Earle Ovington Boulevard and Uniondale Avenue, respectively.

In the immediate vicinity of construction activities, access to residences and businesses will be temporarily limited, but at no point completely blocked. During work shifts, a worker will be assigned to move protective barriers to provide access to properties. A path for emergency equipment to access all residences and businesses will be provided at all times. Access will be returned to normal at completion of work. Notifications relating to temporary limited access will be sent in advance to effected local residences and businesses.

Based on the limited increases in vehicular trips and traffic control implementation in impacted areas, the Proposed Action will not result in significant adverse impacts to traffic.

AIR QUALITY

Procedures to manage and maintain air quality throughout construction are consistent for both the Proposed Substation and the Off-Site Work.

Construction vehicles, worker vehicles and construction equipment, as well as dust generating construction activities, generate air pollutant emissions. Diesel-powered engines produce nitrogen oxides (NO_x) and particulate matter (PM). Fugitive dust generated by demolition and construction activities is also a source of PM. In addition, gasoline engines produce carbon monoxide (CO)

and PM. Overall, the emissions generated during construction of the Proposed Action will not be significant and will not affect New York State Implementation Plans (SIP) for attaining and maintaining National Ambient Air Quality Standards (NAAQS) for the pollutants discussed above. Furthermore, the localized increases in emissions will be temporary and will not significantly affect ambient pollutant levels at sensitive receptor locations (such as residences, schools, and publically accessible open space or recreational areas).

Since construction vehicles, worker vehicles and construction equipment are not expected to operate on a continuous basis during any day, any generated air emissions will not result in adverse impacts to air quality. Furthermore, construction activities will involve a limited number of workers and deliveries; therefore, the number of construction worker vehicle and truck trips will be small in comparison to existing traffic volumes.

Fugitive dust emissions occur as a result of soil or other fine material transport or transfer operations, and traffic over unpaved areas. Actual quantities of dust emissions depend on the extent and nature of operations, the type of equipment utilized, the physical characteristics of the underlying soil, the speed at which construction vehicles/equipment are operated, and the type of fugitive dust control methods implemented. Dust suppression techniques (i.e. wetting, reduced load heights, etc.) will be implemented during demolition/construction activities to minimize the amount of dust generated. Appropriate equipment and truck idling reduction, and fugitive dust control measures, such as dust covers and rinsing of trucks, will be implemented to minimize emissions. Since best practices will be implemented to minimize fugitive dust, the potential for fugitive dust will not result in any significant adverse impact.

NOISE AND VIBRATION

Procedures to manage and maintain noise and vibration effects throughout construction are consistent for both the Proposed Substation and the Off-Site Work.

Increases in noise and vibration levels during construction of the Proposed Action will result from construction equipment operation, as well as from mobile sources (i.e., trucks and worker vehicles traveling to and from the work site). Noise levels at a given receptor are dependent on the type and quantity of construction equipment being operated, the receptor's distance from the work site, and any shielding effects (i.e., from structures such walls or barriers).

Noise from construction equipment is regulated by the United States Environmental Protection Agency (USEPA) noise emission standards. These federal requirements mandate that certain classifications of construction equipment and motor vehicles meet specified noise emission standards, and that construction material be handled and transported in such a manner as to not create unnecessary noise.

Noise from the construction of the Proposed Substation will not result in significant increased noise levels for surrounding properties due to its distance from the closest receptors. Construction

of the proposed Off-Site Work will result in an increase in noise levels for a limited period of time.

In terms of vibration, perceptible vibration levels may be experienced at locations immediately adjacent to the construction area for limited time periods. However, the operations that will cause these perceptible vibration levels will be completed within 2 to 5 days at any one location, and therefore, will not result in a significant noise impact due to the temporary nature of the construction activities.

Potential Construction Noise Impacts

Typical equipment utilized for substation construction has expected noise levels ranging from approximately 63 dB to 89 dB at 50 feet from this equipment. The distance from the Proposed Substation to the closest receptor (the Hempstead Plains Education Center, a recreational educational center) is approximately 300 feet. The closest residential structure is located more than 1,800 feet from the Proposed Substation and the closest commercial structure is located more than 700 feet from the Proposed Substation. Due to the distance between the Proposed Substation and the closest receptors, noise levels associated with the construction of the Proposed Substation will not result in significant impacts.

Installation of the transmission tie-in cables (along Perimeter Road) will be completed via open trench. Installation of the distribution exit feeders (along Charles Lindbergh Boulevard, Earle Ovington Boulevard, Uniondale Avenue and Braxton Avenue) will also completed via open trench, with the exception of an area below Hempstead Turnpike which will be completed via HDD. Construction equipment that will be utilized for the open trench activities has expected noise levels that range from approximately 63 to 89 dB at 50 feet from this equipment.

With the exception of paved parking lots or open space areas, the closest residential, commercial or institutional structures along Perimeter Road, Charles Lindbergh Boulevard and Earle Ovington Boulevard are located approximately 100 feet from the proposed open trench locations. Given that distance, and the limited duration of trenching work at any one location, there will not be significant noise impacts from the underground transmission tie-in cable installation along these roads.

Residential and commercial structures are located along the entire ±2,400-foot length of Uniondale Avenue and Braxton Street along the project route, with the exception of an approximate 600-foot length located adjacent to Cornelius Court School. These residential and commercial structures are located approximately 30 to 60 feet from the proposed open trench location, and Cornelius Court School is located approximately 120 feet from the proposed open trench location. Approximately 150 to 400 linear feet of open trench will be completed over a typical 8-hour day, depending on traffic levels and existing utilities in the work areas. Accordingly, noise impacts to any given receptor will significantly decrease as trenching activities progress along a given roadway. In total, open trench excavation activities will be completed within 2 days in the immediate vicinity of any given location. Equipment utilized for

the open trench activities is similar to that used during typical roadway construction projects. Therefore, these activities will not result in a significant noise impact to nearby properties due to the nature, and limited duration of these activities.

With regards to HDD, which will be completed for approximately 300 feet below Hempstead Turnpike, the closest commercial structure is located approximately 30 feet from the proposed HDD location, and the closest residential structure is located approximately 200 feet from the proposed HDD location. The Hofstra University pedestrian bridge crossing Hempstead Turnpike is located approximately 100 feet from the proposed HDD location. HDD equipment will operate at noise levels similar to the construction equipment that will be utilized for the open trench activities. Construction of the HDD entry and exit drill pits, where the HDD will enter/exit the subsurface, will each require 2 days to complete. Actual HDD activities below Hempstead Turnpike will be completed within 2 days. Accordingly, noise impacts to any given receptor will significantly decrease as HDD activities progress below Hempstead Turnpike. Therefore, these activities will not result in a significant noise impact to nearby properties due to the nature, and limited duration of these activities.

The OH transmission pole installation equipment will operate at similar noise levels to the open trenching and HDD equipment. The closest distance between a transmission pole installation location and a residential or commercial structure is approximately 40 feet. The noise level at the closest receptors may be slightly elevated during the pole installation activities; however, drilling activities will last only approximately 2 to 3 days at any pole location. Therefore, the transmission pole installations will not result in a significant noise impacts due to the temporary nature of the work. Distribution pole replacement activities will be completed in less than 1 day at any given location. Therefore, these activities will not result in a significant noise impact due to the nature, and limited duration of the construction activities.

Construction associated with the proposed Off-Site Work components will generate temporary, elevated noise levels above existing ambient noise levels; however, work activities will be limited to an average of 8 hours during a given day, will be limited to daytime hours, and will be completed within 1 to 5 days at any given location. Due to the temporary nature of the construction activities, these activities will not result in significant noise impacts.

LAND USE AND NEIGHBORHOOD CHARACTER

Procedures to manage and maintain land use and neighborhood character throughout construction are consistent for both the Proposed Substation and the Off-Site Work.

Access to businesses, residences and Nassau Community College will be maintained throughout the construction period. Construction vehicles and construction workers will travel to and from the work site throughout the duration of construction activities. Minimally intrusive noise disruptions will result from operation of the construction equipment, trucks and other vehicles. These disruptions will be temporary in nature and will have no effect on land use in areas adjacent

to the Proposed Action. Overall, while construction activities will be evident in close proximity to the work areas, the duration of construction activities will not result in any significant or long-term adverse impacts on local land use patterns or the character of the surrounding areas.

CULTURAL RESOURCES

Procedures to manage and maintain cultural resources throughout construction are consistent for both the Proposed Substation and the Off-Site Work.

ARCHAEOLOGICAL RESOURCES

As the Proposed Action is not located within an archaeological sensitive area, there will be no impacts on archaeological resources. The Proposed Action is predominantly located on land that has been previously subjected to extensive filling and a variety of other disturbance activities. In addition, consultation requests were submitted to the NYSOPRHP in order to evaluate the potential impact from the Proposed Action on archaeological and/or historic resources within the project area. Responses were received from the NYSOPRHP on February 20 and March 14, 2019 stating that the Proposed Action will have no impact on archaeological and/or historic resources listed in or eligible for the New York State and National Register of Historic Places. Copies of the NYSOPRHP's Letters of No Impact are provided in **Appendix C**. As such, adverse construction impacts to archaeological resources are unlikely. In the event that intact archaeological resources are identified during construction, further testing, documentation, and evaluation may be necessary and will be undertaken in consultation with the NYSOPRHP.

HISTORICAL/ARCHITECTURAL RESOURCES

Proposed Off-Site Work along the Section A OH transmission line is located within and immediately adjacent to the Mitchel Air Base and Flight Line Historic District (referred to as "the District"), which is listed on the National Register of Historic Places. The District is large, with over 100 extant structures from the period of significance in the early 1930s. The Proposed Action will have no physical impact on these structures. Although the potential for visual impacts resulting from these structures exists, they will not constitute a significant adverse impact to architectural resources within the District given the presence of the existing OH transmission lines and structures within and immediately adjacent to the District. In addition, the District has been adaptively repurposed and is currently located in an urban setting with numerous modern visual intrusions, including large office buildings and various commercial and residential structures.

Consultation requests were submitted to the NYSOPRHP in order to evaluate the potential impact from the Proposed Action on archaeological and/or historic resources within the project area. Responses were received from the NYSOPRHP on February 20 and March 14, 2019 stating that the Proposed Action will have no impact on archaeological and/or historic resources listed in or eligible for the New York State and National Register of Historic Places. Copies of the NYSOPRHP's Letters of No Impact are provided in **Appendix C**.

NATURAL RESOURCES

As discussed in **Attachment** C, construction of the Proposed Action will not result in significant adverse impacts to natural resources.

Based on a Geotechnical Investigation Report prepared by PS&S, dated September 6, 2017, groundwater was encountered at depths ranging from 30 feet to 42 feet below ground surface within the Proposed Substation property. Substation construction and equipment installation activities will extend to maximum depths of approximately 16 feet below ground surface. Therefore, groundwater is not anticipated to be encountered during construction of the Proposed Substation.

Based on a Subsurface Investigation and Geotechnical Evaluation prepared by Power Engineers, Inc., dated August 31, 2018, groundwater was encountered at depths ranging from 13.6 feet to 31.3 feet in soil borings completed along the proposed location of the UG 69kV transmission tie-in cables, and was not encountered in several borings that extended to depths of 16 feet below grade, indicating that groundwater is deeper than 16 feet below grade in these areas. The transmission tie-in cables will be installed at depths ranging from 4 feet to 8 feet, with the exception of the installation of the vaults, which will be installed to approximate depths of 12 feet below grade. Therefore, groundwater is not anticipated to be encountered during installation of the transmission tie-in cables.

Based on information provided in a Geotechnical Engineering Investigation Report prepared by PS&S dated July 27, 2018, the interpreted depth to groundwater from cone penetration test soundings completed along the OH 69kV transmission Sections A and B ranged from approximately 26 feet to 42 feet below ground surface; and according to the United States Geological Survey (USGS), the stabilized groundwater level is reportedly approximately 35 feet below ground surface. The only transmission poles that will be installed to depths beyond approximately 26 feet below grade include five foundation poles which will be installed to maximum depths of approximately 30 to 35 feet. As such, dewatering may be required at one or more of these locations. Based on the cone penetration test soundings, groundwater was only encountered at depths shallower than 35 feet at two locations, which correspond to the approximate location of two foundation poles. If warranted, groundwater will be removed from the pole boreholes utilizing pumps and will be transferred into frac tanks for on-site containment, testing, and subsequent off-site transportation and disposal. Dewatering activities will follow best management practices to avoid erosion and sediment migration concerns and will be conducted in compliance with PSEG Long Island SOP EG-706. Bentonite slurry will be used during these installations to prevent the boreholes from collapsing. The bentonite slurry is an inert substance and will not interact with groundwater.

Based on the USGS Long Island Depth to Water Viewer, groundwater in the vicinity of the UG distribution exit feeders and OH distribution pole replacements is estimated at greater than 11 feet

below ground surface. Installation of the UG 69kV distribution exit feeders, manhole installations and OH distribution pole replacements will not extend beyond approximately 8 feet below grade, and therefore will not interfere with groundwater.

Groundwater in the vicinity of the Proposed Action is associated with the Magothy aquifer which is used as a drinking water source¹. With the exception of select transmission pole installations, which is described above, excavation activities related to the Proposed Action construction will not reach these depths and will therefore not result in any significant adverse impacts to groundwater.

A portion of the Off-Site Work, the UG 13kV transmission tie-in cables, are located within the 100-year floodplain (the area with a 1 percent probability of flooding each year). However, the land use of this area will not change following installation of the UG transmission tie-in cables, and surface features will be restored.

As the Proposed Action will require soil disturbance of an area greater than one acre, the Proposed Action requires coverage under the State Pollutant Discharge Elimination System (SPDES) General Permit for Stormwater Discharges from Construction Activity (NYSDEC SPDES Permit No. GP-0-15-002). Stormwater quality and volume will be addressed in Stormwater Pollution Prevention Plans (SWPPP) that will be prepared for the Proposed Substation and Off-Site Work prior to initiation of construction activities. The SWPPPs will be prepared in accordance with the requirements and the technical specifications set forth in the NYSDEC SPDES Permit No. GP-0-15-002 and New York State Stormwater Management Design Manual (NYSSMDM) or the "Blue Book" and will be submitted to the Town of Hempstead for approval.

As such, the Proposed Action will not result in significant adverse impacts to flood levels, flood risk, or the flow of flood waters on or within the vicinity of the Proposed Action.

National Wetland Inventory (NWI) maps depict a freshwater emergent wetland present on the Nassau County-owned property located northwest of Perimeter Road, as well as a freshwater emergent wetland, freshwater forested/shrub wetland and freshwater pond located adjacent to the east of Perimeter Road. However, these NWI wetlands are not located within the actual area of disturbance associated with construction. The installation of the 69 kV UG transmission tie-in cables along Perimeter Road and within the Nassau County-owned has been designed to avoid the NWI wetland areas. In addition, the Proposed Action is not located within any NYSDEC-regulated wetlands or adjacent areas. Furthermore, given that the Off-Site Work is located within previously disturbed public roadway right-of-way and best management practices for sediment and erosion control will be implemented during construction, there will be no significant adverse impacts to nearby wetlands.

USGS. 2018. Depth-to-Water tool for Long Island, NY, 2010. Available online: https://ny.water.usgs.gov/maps/li-dtw10/. Accessed 11/21/2018.

As discussed in **Attachment C**, no threatened or endangered plant species were observed at the Proposed Action site. Although a small area of the Proposed Substation property is comprised of heavily degraded remnant Hempstead Plains Grassland, construction associated with the Proposed Action will not result in any significant adverse impacts to the Hempstead Plains Significant Natural Community, or any grassland-dependent rare, threatened or endangered species. Given that no threatened or endangered plant species were observed in this small area of the Proposed Substation, or in any other portions of the Proposed Action site, the Proposed Action will not result in significant adverse impacts to any grassland-dependent rare, threatened or endangered species described in **Attachment C**.

HAZARDOUS MATERIALS

Procedures to manage and maintain hazardous materials throughout construction are consistent for both the Proposed Substation and the Off-Site Work.

Excavation activities and utility installations associated with the Proposed Action may increase pathways for human exposure. During construction of the Proposed Action, PSEG Long Island and/or on-site contractor(s) will observe soil disturbance activities to evaluate potentially contaminated soils. The potential for contaminated soils will be evaluated through visual or olfactory indicators such as presence of free product, stained soils, and oil or chemical odors. Any material deemed to be contaminated shall be managed and disposed of in accordance with PSEG Long Island Standard Operating Procedures and in accordance with applicable laws and regulations including 6 NYCRR Parts 370-374 and 376.

Petroleum products and chemical substances (generally termed "hazardous materials") will be managed in such a manner as to minimize the potential for threats to human health and the environment. In the event that hazardous materials or petroleum products are accidentally spilled on the Proposed Action site, the contractor(s) or PSEG Long Island personnel will take immediate action to contain and recover the spilled materials. Depending on the severity of the spill, emergency response procedures will be undertaken immediately by PSEG Long Island Hazardous Materials Responders or designated Spill Response Contractors, and agency notifications will be made as necessary.

Several of the steel transmission towers that will be removed as part of the Proposed Action contain lead based paint (LBP). LBP coated towers will be properly abated and disposed of/recycled in accordance with applicable federal and state regulations.

Based on the above, construction activities will not result in a significant adverse impact with regard to hazardous materials.