MEMORANDUM OF AGREEMENT
AMONG THE BUREAU OF OCEAN ENERGY MANAGEMENT,
THE DELAWARE TRIBE OF INDIANS,
THE DELAWARE NATION,
THE MASHANTUCKET (WESTERN) PEQUOT TRIBAL NATION,
THE MASHPEE WAMPANOAG TRIBE,
THE SHINNECOCK INDIAN NATION,
THE STOCKBRIDGE-MUNSEE COMMUNITY BAND OF MOHICAN INDIANS,
THE WAMPANOAG TRIBE OF GAY HEAD (AQUINNAH),
THE STATE PRESERVATION OFFICERS OF NEW YORK AND NEW JERSEY,
THE NEW JERSEY HISTORIC TRUST,
EMPIRE WIND LLC,
AND THE ADVISORY COUNCIL ON HISTORIC PRESERVATION
REGARDING THE EMPIRE WIND OFFSHORE WIND FARM PROJECTS (LEASE NUMBER OCS-A 0512)

WHEREAS, the Bureau of Ocean Energy Management (BOEM) is considering whether to authorize construction and operation of the Empire Wind Offshore Wind Farm Projects (the Projects), which consist of the EW 1 and EW 2, located on Lease Number OCS-A 0512, pursuant to Section 8(p)(1)(C) of the Outer Continental Shelf (OCS) Lands Act (43 U.S.C. 1337(p)(1)(C)), as amended by the Energy Policy Act of 2005 (Public Law No. 109-58) and in accordance with Renewable Energy Regulations at 30 Code of Federal Regulations (CFR) Part 585; and

WHEREAS, BOEM determined that the Projects constitute an undertaking subject to Section 106 of the National Historic Preservation Act (NHPA), as amended (54 U.S.C. 306108), and its implementing regulations (36 CFR 800), and consistent with the Programmatic Agreement (PA) regarding the review of OCS renewable energy activities offshore New Jersey and New York (*Programmatic Agreement Among The U.S. Department of the Interior, Bureau of Ocean Energy Management, The State Historic Preservation Officers of New Jersey and New York, The Shinnecock Indian Nation, and The Advisory Council on Historic Preservation Regarding Review of Outer Continental Shelf Renewable Energy Activities Offshore New Jersey and New York Under Section 106 of the National Historic Preservation Act*); and

WHEREAS, BOEM is considering whether to approve with conditions the Construction and Operations Plan (COP) submitted by Empire Offshore Wind, LLC (Empire) hereafter referred to as the Lessee; and

WHEREAS, BOEM determined that the construction, operation, maintenance, and eventual decommissioning of the Projects, which are planned for up to 147 offshore Wind Turbine Generators (WTGs), up to two offshore substations, three onshore substations, and offshore and onshore export cables, could potentially adversely affect historic properties as defined under 36 CFR 800.16(l); and

WHEREAS, BOEM prepared an Environmental Impact Statement (EIS) for the Projects pursuant to the National Environmental Policy Act (NEPA) (42 U.S.C. 4321 et seq.) and elected to use the NEPA substitution process with its Section 106 consultation pursuant to 36 CFR 800.8(c); and

WHEREAS, BOEM notified in advance the New York State Historic Preservation Officer (SHPO), the New Jersey SHPO, and the Advisory Council on Historic Preservation (ACHP) on April 29, 2021, of their decision to use NEPA substitution and followed the standards for developing environmental documents to comply with the Section 106 consultation for this Project pursuant to 36 CFR 800.8(c), and ACHP responded with acknowledgement on May 12, 2021; and

WHEREAS, in accordance with 36 CFR 800.3, BOEM invited the New York SHPO and the New Jersey SHPO to consult on the Projects on April 29, 2021, and the New York SHPO accepted on May 5, 2021, and the New Jersey SHPO accepted on May 26, 2021; and

WHEREAS, in accordance with 36 CFR 800.3, BOEM invited the ACHP to consult early on the Projects on April 29, 2021, and the ACHP accepted on May 12, 2021; and

WHEREAS, the Projects are within a commercial lease area subject to the previous NHPA Section 106 review by BOEM regarding the issuance of the commercial lease and approval of site assessment activities. Both Section 106 reviews for the lease issuance (August 9, 2016) and the approval of the site assessment plan (November 21, 2018) were conducted pursuant to the PA and concluded with No Historic Properties Affected; and

WHEREAS, consistent with 36 CFR 800.16(d) and BOEM's *Guidelines for Providing Archaeological and Historic Property Information Pursuant to 30 CFR Part 585* (May 27, 2020), BOEM defined the Area of Potential Effects (APE) for the undertaking as the depth and breadth of the seabed potentially impacted by any bottom-disturbing activities, constituting the marine archaeological resources portion of the APE (marine APE); the depth and breadth of terrestrial areas potentially impacted by any ground disturbing activities, constituting the terrestrial archaeological resources portion of the APE (terrestrial APE); the viewshed from which offshore or onshore renewable energy structures would be visible, constituting the visual portion of the APE (visual APE); and any temporary or permanent construction or staging areas that may fall into any of the aforementioned offshore or onshore portions of the APE (see Attachment 1 APE Maps); and

WHEREAS, BOEM identified 30 submerged historic properties and 22 ancient submerged landform features (ASLFs) in the marine APE; no historic properties in the terrestrial APE; 15 historic districts and 26 above-ground historic properties including three National Historic Landmarks (NHLs) in the offshore Project components' portion of the visual APE and one historic district and three historic properties including one NHL in the onshore Project components' portion of the visual APE; and

WHEREAS, within the range of Project alternatives analyzed in the EIS, BOEM determined that ten historic districts and thirteen individual historic properties would be subject to visual adverse effects from WTGs, 30 submerged cultural properties (Targets 01-30) may be potentially adversely affected by physical disturbance from export cable construction within the avoidance buffers of these resources, 22 ASLFs may be potentially adversely affected by physical disturbance in the lease area and from export cable construction, and no historic properties in the terrestrial APE would be adversely affected with implementation of the undertaking; and

WHEREAS, BOEM consulted with the New Jersey SHPO and other consulting parties regarding the need for additional intensive survey of above-ground resources and, pursuant to 36 CFR 800.4(b)(2) and 800.5(a)(4), BOEM with the assistance of the Lessee must conduct a phased and deferred identification and evaluation of above-ground historic properties in New Jersey, within the visual APE, including cumulative visual effects and consistent with the Section 106 Phased Identification Plan (Attachment 5), before the initiation of offshore construction on the OCS lease; and

WHEREAS, BOEM determined there would be no visual adverse effect to the one NHL in the onshore visual APE, Green-Wood Cemetery, because the proposed onshore substation and Operations & Maintenance (O&M) Base would be partially visible from one of the highest topographic points of the cemetery but would be a minor middle-ground element in the built environment of the Gowanus Bay shoreline, and BOEM determined that three NHLs (Sandy Hook Light, Fort Hancock and Sandy Hook Proving Ground Historic District, and Navesink Light Station (Twin Lights)) in the offshore visual APE would be visually adversely affected; and

WHEREAS, BOEM has planned and is taking action to minimize harm, as required by NHPA Section 110(f) at 36 CFR 800.10, to the three adversely affected NHLs in the visual APE, as explained in BOEM's 2023 *Finding of Adverse Effect for the Empire Wind Offshore Wind Farm Construction and Operations Plan* (FEIS Appendix N) (hereafter, the Finding of Effect, and dated September 2023). Minimization measures include using non-reflective white and light gray paint on offshore structures and using Aircraft Detection Lighting Systems (ADLS) that minimize the visibility of the Projects from these NHLs; and

WHEREAS, BOEM determined that the implementation of the avoidance measures identified in this MOA will avoid adverse effects to all 30 submerged cultural resources (Targets 01–30) and nine ASLFs in the marine APE (Targets 32, 34, 37–38, 40, 43–44, 46, and 50), all six historic properties in the terrestrial APE, six historic districts and 13 above-ground historic properties in the offshore visual APE, and one historic district and three historic properties in the onshore visual APE; and

WHEREAS, BOEM determined that all of the ASLFs identified in the marine APE are eligible for listing in the National Register of Historic Places (NRHP) under Criteria A and D and determined, under each of the alternatives analyzed in the EIS, and that the undertaking will adversely affect the following 13 ASLFs: Targets 31, 33, 35-36, 39, 41–42, 45, 47–49, 51 and 52; and

WHEREAS, under each of the alternatives analyzed in the EIS, BOEM determined that the Projects would visually adversely affect these six historic districts and six above-ground historic properties in New York: Breezy Point Surf Club Historic District, Gateway National Recreation Area (National Park Service unit), Rockaway; Silver Gull Beach Club Historic District, Gateway National Recreation Area (National Park Service unit), Rockaway; Fort Tilden Historic District (National Park Service unit), Rockaway; Jacob Riis Park Historic District, Gateway National Recreation Area (National Park Service unit) Rockaway; Fire Island Lighthouse and Light Station Historic District, Fire Island National Seashore (National Park Service unit), Islip; Point of O'Woods Historic District, Islip; West Bank Light Station, Staten Island; Jones Beach State Park, Parkway and Causeway System, Hempstead/Oyster Bay; Gilgo State Park, Babylon; Robert Moses State Park, Babylon; Fire Island Lighthouse, Fire Island National Seashore (National Park Service unit), Islip; Carrington House, Fire Island National Seashore (National Park Service unit), Brook Haven; and

WHEREAS, under each of the alternatives analyzed in the EIS, BOEM determined that the Projects would visually adversely affect these four historic districts and seven above-ground historic properties in New Jersey: Fort Hancock and Sandy Hook Proving Ground Historic District in Gateway National Recreation Area (National Park Service unit), Middletown; Allenhurst Residential Historic District, Allenhurst; Ocean Grove Camp Meeting Association District, Ocean Grove; Water Witch (Monmouth Hills) Historic District, Middletown; Romer Shoal Light, Lower New York Bay; Sandy Hook Light, Gateway National Recreation Area (National Park Service unit), Middletown; Fort Hancock, U.S. Life Saving Station in Gateway National Recreation Area (National Park Service unit), Highlands; Navesink Light Station (Twin Lights), Middletown; Berkeley-Carteret Hotel in Asbury Park; Asbury Park Convention Hall in Asbury Park; Asbury Park Casino and Carousel in Asbury Park; and

WHEREAS, the New York SHPO and the New Jersey SHPO have concurred with or not objected to BOEM's finding of adverse effect; and

WHEREAS, throughout this document the term "Tribal Nation" has the same meaning as a federally recognized term "Indian Tribe," as defined at 36 CFR 800.16(m); and

WHEREAS, BOEM initially invited the following federally recognized Tribal Nations to consult on this Project: Absentee-Shawnee Tribe of Indians of Oklahoma, Eastern Shawnee Tribe of Oklahoma, Mohegan Tribe of Connecticut, Shawnee Tribe, Mashantucket (Western) Pequot Tribal Nation, the

Narragansett Indian Tribe, and the Shinnecock Indian Nation; the Delaware Tribe of Indians, Delaware Nation, the and Stockbridge-Munsee Community Band of Mohican Indians; and

WHEREAS, the Wampanoag Tribe of Gay Head (Aquinnah) and the Mashpee Wampanoag Tribe requested to consult on this Project; and

WHEREAS, the Delaware Tribe of Indians, Delaware Nation, the Shinnecock Indian Nation, Mashantucket (Western) Pequot Tribal Nation, the Mashpee Wampanoag Tribe, the Stockbridge-Munsee Community Band of Mohican Indians, and the Wampanoag Tribe of Gay Head (Aquinnah) accepted BOEM's invitation to consult and participated in Section 106 consultation meetings and reviews; and

WHEREAS, BOEM acknowledges that Tribal Nations possess special expertise in assessing the NRHP eligibility of properties with tribal religious and cultural significance to the Tribe(s) pursuant to 36 CFR 800.4(c)(1); and

WHEREAS, BOEM consulted with Tribal Nations to identify properties of religious and cultural significance to Tribal Nations that may be eligible for listing in the NRHP and that may be affected by these undertakings; and,

WHEREAS, the Delaware Tribe of Indians, Delaware Nation, the Shinnecock Indian Nation, Mashantucket (Western) Pequot Tribal Nation, the Mashpee Wampanoag Tribe, the Stockbridge-Munsee Community Band of Mohican Indians, and the Wampanoag Tribe of Gay Head (Aquinnah) have certain responsibilities assigned to them in this MOA in order to develop and finalize ethnographic studies and regional analysis of watersheds for their respective Tribal Nation and agreed upon mitigation measures, and BOEM invited these Tribal Nations to sign this MOA as invited signatories; and

WHEREAS, in accordance with 36 CFR 800.3, BOEM invited other federal agencies, state and local governments, and additional consulting parties with a demonstrated interest in the undertaking to participate in this consultation; the list of those accepting participation and declining to participate by either written response or no response to direct invitations are listed in Attachment 2; and

WHEREAS, BOEM has consulted with the Lessee in its capacity as an applicant seeking federal approval of the COP, and, because the Lessee has responsibilities under the MOA, BOEM has invited the Lessee to be an invited signatory to this MOA; and

WHEREAS, construction of the Projects requires a Department of the Army permit from the United States Army Corps of Engineers (USACE) for activities that result in the discharge of dredged or fill material into jurisdictional wetlands and/or other waters of the United States pursuant to Section 404 of the Clean Water Act, and activities occurring in or affecting navigable waters of the United States pursuant to Section 10 of the Rivers and Harbors Act; and

WHEREAS, BOEM invited the USACE to consult since the USACE will be issuing permits for this Project under Section 404 of the Clean Water Act (33 U.S.C. 1344) and Section 10 of the Rivers and Harbors Act (33 U.S.C. 403); and

WHEREAS, the USACE designated BOEM as the Lead Federal Agency pursuant to 36 CFR 800.2(a)(2) to act on its behalf for purposes of compliance with Section 106 for this Project (in a letter dated April 11, 2022), BOEM invited the USACE to sign this MOA as a concurring party; and

WHEREAS, the USACE has reviewed and has the authority to authorize the South Brooklyn Marine Terminal (SBMT) Port Improvement Project in Brooklyn, New York, which includes marine upgrades at the Empire Wind 1 O&M facility at the South Brooklyn Marine Terminal, and BOEM reviewed this SBMT Port Improvement Project as part of this undertaking; and

WHEREAS, BOEM notified and invited the Secretary of the Interior represented by the National Park Service (NPS) to consult regarding the Projects pursuant to the Section 106 regulations, including consideration of the potential effects to the NHLs as required under NHPA Section 110(f) (54 U.S.C. 306107) and 36 CFR 800.10 and the NPS accepted BOEM's invitation to consult; and

WHEREAS, BOEM notified and invited the Fire Island National Seashore, which is a NPS park unit, to consult regarding the Projects and due to the visual adverse effects to historic properties located in this park unit, the NPS accepted BOEM's invitation to consult, the NPS agreed to implement specific mitigation measures associated with resolving these specific visual adverse effects for the Fire Island Lighthouse and Light Station Historic District, Fire Island Lighthouse, and Carrington House all located in the Fire Island National Seashore (National Park Service unit), and BOEM invited the NPS to sign this MOA as an invited signatory; and

WHEREAS, BOEM notified and invited the Gateway National Recreation Area, which is a NPS park unit, to consult regarding the Projects and due to the visual adverse effects to historic properties located in this park unit, the NPS accepted BOEM's invitation to consult, the NPS agreed to implement specific mitigation measures associated with resolving the visual adverse effects for the Breezy Point Surf Club Historic District, Silver Gull Beach Club Historic District, Fort Tilden Historic District, Jacob Riis Park Historic District, Fort Hancock and Sandy Hook Proving Ground Historic District, Sandy Hook Light, and Fort Hancock U.S. Life Saving Station all located in the Gateway National Recreation Area (National Park Service unit), and BOEM invited the NPS to sign this MOA as an invited signatory; and

WHEREAS, BOEM notified and invited New York State Office of Parks, Recreation and Historic Preservation (OPRHP) to consult regarding the Projects and due to the visual adverse effects to historic properties including Jones Beach State Park, Gilgo State Park, and Robert Moses State Park, the OPRHP accepted BOEM's invitation to consult, the OPRHP agreed to implement mitigation measures associated with resolving the visual adverse effects to these three historic properties, and BOEM invited the OPRHP to sign this MOA as an invited signatory; and

WHEREAS, BOEM invited the New Jersey Historic Trust to consult because the organization agreed to be the third-party administrator for the mitigation fund associated with adversely affected New Jersey historic properties, established under Stipulation III.B.5, and this MOA assigns certain responsibilities to the New Jersey Historic Trust in administering this mitigation fund, and BOEM invited the New Jersey Historic Trust to sign this MOA as an invited signatory; and

WHEREAS, BOEM has consulted with consulting parties participating in the development of this MOA regarding the definition of the undertaking, the delineation of the APEs, the identification and evaluation of historic properties, the assessment of potential effects to the historic properties, and on measures to avoid minimize, and mitigate adverse effects to historic properties; and

WHEREAS, pursuant to 36 CFR 800.6, BOEM invited the consulting parties as listed in Attachment 2 to sign as concurring parties; however, the refusal of any consulting party to sign this MOA or otherwise concur does not invalidate or affect the effective date of this MOA, and consulting parties who choose not to sign this MOA will continue to receive information if requested and have an opportunity to participate in consultation as specified in this MOA; and

WHEREAS, the signatories (required signatories and invited signatories) agree, consistent with 36 CFR 800.6(b)(2), that adverse effects will be resolved in the manner set forth in this MOA; and

WHEREAS, BOEM conducted five Section 106 consultation meetings [September 12, 2022, December 9, 2022; June 23, 2023; August 15, 2023; and September 28, 2023] and invited all the participating consulting parties listed in Attachment 2 to these meetings; and

WHEREAS, BOEM sought and considered the views of the public regarding Section 106 for the Projects through the NEPA process by holding virtual public scoping meetings when initiating the NEPA and NHPA Section 106 review on June 30, July 8, and 13, 2021 and virtual public hearings related to the Draft EIS on December 7, 13, and 15, 2022; and

WHEREAS, BOEM made the first Draft MOA available to the public for review and comment from November 18, 2022, to January 17, 2022, provided updated versions of the Draft MOA to the public using BOEM's Project website, and BOEM did receive comments from the public; and

NOW, THEREFORE, BOEM, the New York SHPO, the New Jersey SHPO, and the ACHP agree that the undertaking shall be implemented in accordance with the following stipulations in order to take into account the effect of the undertaking on historic properties.

STIPULATIONS

BOEM, with the assistance of the Lessee, will ensure that the following measures are carried out as conditions of its approval of the undertaking:

I. MEASURES TO AVOID ADVERSE EFFECTS TO IDENTIFIED HISTORIC PROPERTIES

A. Marine APE

1. BOEM will include the following avoidance measures for adverse effects within the marine APE as conditions of approval of the Lessee's COP:

   i. The Lessee must avoid all known and potential shipwrecks (Targets 1-3, 7-8, 10, 12-13, 19, 23-30) previously identified during marine archaeological surveys by a distance of no less than 50 meters from the known extent of the resource for placement of Project structures and when conducting seafloor-disturbing activities.

   ii. The Lessee must avoid magnetic anomalies or acoustic contacts (Targets 22 and 27) identified during marine archaeological surveys by a distance of no less than 50 meters from the known extent of the resource.

   iii. The Lessee must avoid nine ASLFs (Targets 32, 34, 37, 38, 40, 43, 44, 46, and 50). No additional avoidance buffer is required for these ASLFs given avoidance of the ASLFs is based on the defined spatial extent of each ASLF, which has been determined based on the maximum observed presence of the seismic reflector and unique buffer area designed to account for minimal positioning errors or lack of resolution.

   iv. For the avoidance of all archaeological sites and historic properties, the Lessee must provide as-placed and as-laid maps with both the horizontal and vertical extent of all seafloor impacts. These seafloor impacts include impacts from anchoring activities (location of all anchors, anchor chains, cables, and wire ropes on the seafloor, including sweep but excluding the vertical extent of anchor penetration of the seafloor), cable installation (including trenching depths and seafloor footprint of the installation vessel), and WTG installation (anchoring and spudding/jack-up vessel placement). The as-built or as-laid position plats must be submitted at a scale of 1-in. = 1,000-ft., with Differential Global Positioning System (DGPS) accuracy demonstrating that these seafloor disturbing activities did not impact the avoidance criteria applied to the archaeological sites or historic properties established in this MOA. These documents and maps must be submitted to BOEM no later than 90 days after completion of the seafloor disturbing/construction activities for consulting parties to review.

B. Terrestrial APE

1. BOEM will include the following avoidance measures within the terrestrial APE as conditions of approval of the Lessee's COP:

   i. An archaeological monitor must be present where the Projects' ground disturbing activities intersect the "Archaeological Monitoring Area" depicted on Figure Y-2-12 in Attachment Y-2 of COP Appendix Y. Archaeological monitoring will reduce potential impacts on undiscovered archaeological resources to a minor level by preventing further physical impacts on the archaeological resources encountered during construction. If archaeological resources or human remains are identified during construction, operations, or decommissioning of the Projects, the onsite construction supervisor must stop work

immediately and follow the protocols outlined in the Lessee's Terrestrial Monitoring and Unanticipated Discoveries Plan (Attachment 7).

ii. In addition, the Lessee must work with Tribal Nations to provide them with an opportunity to participate as monitors during ongoing ground disturbing activities in the area depicted on Figure Y-2-12 in Attachment Y-2 of the COP Appendix Y. The Lessee must pay any reasonable costs Tribal Nations incur for participating in the monitoring activities. In addition, the Lessee must adhere to the monitoring plan for the areas depicted on Figure Y-2-12 in Attachment Y-2 of the COP Appendix Y.

C. Visual APE

1. BOEM will include the following avoidance measures for adverse effects within the visual APE as conditions of approval of the Lessee's COP:

i. To maintain avoidance of adverse effects to historic properties in the visual APE where BOEM determined no adverse effects or where no effects would occur, the Lessee must ensure that Project structures are within the design envelope, sizes, scale, locations, lighting prescriptions, and distances that were used by BOEM to inform the definition of the APE for the Projects and for determining effects in the FEIS Appendix N, Finding of Effect (see the *Construction & Operations Plan: Empire Wind Offshore Wind Farm Project*, July, 2023).

II. MEASURES TO MINIMIZE ADVERSE EFFECTS TO IDENTIFIED HISTORIC PROPERTIES

A. Visual APE

1. BOEM has undertaken planning and actions to minimize adverse effects to above-ground historic properties in the visual APE. BOEM will include these minimization measures for adverse effects within the visual APE as conditions of approval of the Lessee's COP:

i. The Lessee must use uniform WTG design, speed, height, and rotor diameter to reduce visual contrast and decrease visual clutter.

ii. The Lessee must use consistent spacing and as far apart as possible, with maximum spacing in the dominant trawl tow direction where feasible to decrease visual clutter, aligning WTGs to allow for safe transit corridors. The minimum WTG spacing must be 0.65 nautical miles (nm) with the exception of two WTGs near the southeastern boundary of EW1 that will be spaced 0.57 nm apart.

iii. The Lessee must apply a consistent paint color to the WTGs no lighter than RAL 9010 pure white and no darker than RAL 7035 light gray to help reduce the potential visibility of the turbines against the horizon during daylight hours.

iv. The Lessee must implement an aircraft detection lighting system (ADLS) to automatically activate lights when aircraft approach. The WTGs and Offshore Substations (OSS) must be lit and marked in accordance with Federal Aviation Administration (FAA) and United States Coast Guard (USCG) lighting standards and will be consistent with BOEM's *Guidelines for Lighting and Marking of Structures Supporting Renewable Energy Development* (April 28, 2021) to reduce light intrusion.

III. MEASURES TO MITIGATE ADVERSE EFFECTS TO IDENTIFIED HISTORIC PROPERTIES

A. Marine APE

1. The Lessee cannot avoid 13 ASLFs (Targets 31, 33, 35, 36, 39, 41, 42, 45, 47–49, 51, and 52). To resolve the adverse effects to the 13 ASLFs, BOEM will include the following as conditions of approval of the Lessee's COP and require fulfillment of any on-site preconstruction work at these 13 ASLFs for the following mitigation measures prior to construction of the Projects. The collection of the vibracore samples must be completed prior to commencing seabed disturbing activities within ASLFs. The post-construction seafloor inspection must be completed no later than 60 calendar days post-final cable burial. If unanticipated issues arise during offshore construction that prevent the post-construction seafloor inspection from being completed within 60 calendar days post-final cable burial, the Lessee must notify BOEM and propose an alternate completion timeframe for BOEM approval. The open-source GIS, story-maps, ethnographic studies, and settlement pattern analysis may be completed during or post-construction but must be completed within four years of execution of this MOA, unless different timing is agreed upon by the consulting Tribal Nations and the New York SHPO and accepted by BOEM. The Lessee must fund mitigation measures, as described in Attachment 8 (Mitigation Funding Amounts) and Attachment 3 (Marine Archaeological Resources Treatment Plan):

    i. Preconstruction Geoarchaeology. The Lessee must fulfill the following commitments in accordance with Attachment 3: collaborative review of existing geophysical and geotechnical data with Tribal Nations; selection of coring locations in consultation with Tribal Nations; collection of two to three vibracores within each affected ASLF that has not been previously sampled, with a sampling focus on areas that will be disturbed by Project construction activities; written verification to BOEM that the samples collected are sufficient for the planned analyses and consistent with the agreed scope of work; collaborative laboratory analyses at a laboratory located in the Atlantic region, decided through consultation with Tribal Nations; screening of recovered sediments for debitage or micro-debitage associated with indigenous land uses; third-party laboratory analyses, including micro- and macro-faunal analyses, micro- and macro-botanical analyses, radiocarbon dating of organic subsamples, and chemical analyses for potential indirect evidence of indigenous occupations; temporary curation of archival core sections; draft reports for review by BOEM and consulting Tribal Nations; final reporting; and public or professional presentations summarizing the results of the investigations, developed with the consent of the consulting Tribal Nations. The collection of vibracores must be completed prior to commencing seabed disturbing activities within the ASLFs. The qualified professional marine archaeologist leading the research must meet the professional qualifications listed under Stipulation IX (Expertise and Qualifications). If any unanticipated discovery is found during the implementation of this mitigation measure, then BOEM with the assistance of the Lessee must follow Stipulation X (Post-Review Discoveries).

        a. The Lessee must notify signatories and Tribal Nations of completion of this measure through annual reporting, per Stipulation XIII (Monitoring and Reporting).

    ii. Open-Source GIS and Story Maps. The Lessee must fulfill the following commitments in accordance with Attachment 3: consultation with the Tribal Nations to determine the

appropriate open-source GIS platform; review of candidate datasets and attributes for inclusion in the GIS; data integration; development of custom reports or queries to assist in future research or tribal maintenance of the GIS; work sessions with Tribal Nations to develop Story Map content; training sessions with Tribal Nations to review GIS functionality; review of Draft Story Maps with Tribal Nations; delivery of GIS to Tribal Nations; and consultation with Tribal Nations to decide how the data will be interpreted and the format to be used (i.e. Story Maps or reports).

a. The Lessee must develop the GIS under this measure so that it is free to use and free to modify by the Tribal Nations. To the extent feasible, all data must be provided in formats that allow for interoperability with other GIS platforms that the Tribal Nations may use. All datasets incorporated in the GIS must comply with Federal Geographic Data Committee data and metadata standards.

b. The Lessee must submit the Description of the GIS with appropriate schema, data organization, and custom reports/queries, formatting, and intended audiences, and Final Technical Description of the GIS with schema, data organization, and custom reports/queries to the consulting Tribal Nations for review.

c. BOEM, in consultation with the Tribal Nations, will select a consultant to implement these mitigation measures, per Stipulation IX.C.

d. The Lessee must notify signatories and Tribal Nations of completion of this measure through annual reporting, per Stipulation XIII (Monitoring and Reporting).

iii. ASLF Post-Construction Seafloor Impact Inspection. The Lessee must fulfill the following commitments in accordance with Attachment 3:

a. Assessment. The Lessee must assess seafloor impacts on a maximum of 13 ASLFs and analyze the ASLFs for the presence of archaeological materials, including but not limited to chipped stone tools, flakes, modified wooden implements, and bone. The post-construction seafloor assessment may consist of a Qualified Marine Archaeologist (QMA) conducting or overseeing a Remotely Operated Vehicle (ROV) of the seafloor in the areas where previously identified ASLFs exist and where construction activities will permanently disturb the ASLFs and displace material culture.

b. Three-Dimensional (3D) Model. The Lessee must develop a 3D model to define the spatial relationship of project components and installation methodology (e.g., cable installation via trenching or jetting) relative to the ASLFs. The 3D model must identify portions of ASLFs within the vertical APE that will be impacted and that possess a high potential for preserved evidence of human occupation.

c. Documentation. The QMA must document the impacts immediately following the installation of any inter-array cables, WTGs, service platforms, and export cables that impact the previously identified ASLFs. Documentation of the impacted ASLFs must include the use of standard archaeological methodologies.

d. Methods. This inspection must cover not only the immediate physical impacts to the seafloor but also any berms created during trenching activities, anchoring activities, and scour or berms made during pile driving and installation of WTGs. These methodologies may include, but are not limited to, establishing a permanent datum, mapping, photo, video, 3D photogrammetry, and collecting a limited number of artifacts. For position accuracy, the ROV should be tracked using an Ultra- Short Base Line (USBL) positioning system.

e. Reporting. In the final report for each of these investigations, the QMA must note the seafloor conditions (visibility), environmental conditions (e.g., sandy, mud, shell hash bottom), sea state, and how much time has passed since the construction activities have concluded in the area of the ASLF. The Lessee must produce a series of as-laid or as-placed plats that will show the location of the infrastructure in relation to the ASLF and should include both horizontal and vertical penetration into the ASLF. The maps must also include the location of any sites and artifacts identified as a result of the visual inspection. If sites are identified on state-owned submerged bottomlands, a copy of the notification to the state, a copy of the site file, and the site trinomial must be provided as part of the final report. The QMA must include all logs and other data associated with the ROV visual inspection of the seafloor.

    1) Identification of potential cultural material during the ROV inspection would not constitute a "discovery" nor trigger the reporting and consultation requirements established in the Marine Unanticipated Discovery Plan (UDP) (Attachment 6). In the event that human remains or potential human remains are identified during the ROV inspections, the Lessee must adhere to the offshore UDP (Attachment 6), inclusive of the statutory, regulatory, and policy requirements incorporated, therein. The Lessee must provide Tribal Nations and BOEM with draft and final technical reports, including 3D models and resulting seafloor impact assessments.

    2) The Lessee must notify signatories and Tribal Nations of completion of this measure through annual reporting, per Stipulation XIII (Monitoring and Reporting).

f. Timing. This mitigation measure must be completed no later than 60 calendar days post-final cable burial. If unanticipated issues arise during the course of offshore construction that prevent this measure from being completed within 60 calendar days post-final cable burial, the Lessee must notify BOEM, propose an alternate completion timeframe, and reach agreement with BOEM on the timeframe.

g. Tribal Monitors. The Lessee must work with Tribal Nations to provide them with an opportunity to participate as monitors during the post-construction seafloor inspection of the previously identified ASLFs in the APE (as described above). The Lessee must compensate Tribal Nations for the monitoring activities.

iv. Ethnographic Study with the Delaware Tribe of Indians. The Lessee must fulfill the following commitments in accordance with Attachment 3: funding ethnographic researcher selected by Delaware Tribe of Indians for 2-year period; funding for

researcher travel to New Jersey for research and site visits; funding for Delaware Tribe of Indians technology upgrades associated with interpretation and analysis of non-proprietary or otherwise regulatory protected GIS data; funding for Delaware Tribe of Indians historic preservation oversight and indirect costs; funding for the Delaware Tribe of Indians THPO collaboration; provide relevant ASLF GIS data layers to Delaware Tribe of Indians for use in this study as well as provide a tutorial on the data; hold quarterly progress update calls lasting approximately one-half hour with Delaware Tribe of Indians until the final technical reports are issued; delivery of Final deliverables consisting of one confidential report that may contain sensitive resource information and one report that could be made available to the public (both reports will be distributed by the Tribes, at their discretion); and funding for a presentation to highlight the results of the study to be coordinated and executed by Delaware Tribe of Indians. This measure may be completed pre, during or post-construction, and must be completed within five years after the MOA is executed. The Delaware Nation and/or the Stockbridge-Munsee Community Band of Mohican Indians may elect to participate in the Delaware Tribe of Indians Ethnographic Study.

a. BOEM, in consultation with the Tribal Nations, will select consultants to implement this mitigation measure, per Stipulation IX.C.

b. The Lessee must notify signatories and Tribal Nations of completion of this measure through annual reporting, per Stipulation XIII (Monitoring and Reporting).

v. Tribal Capacity for the Delaware Nation. The Lessee must fulfill the following commitments in accordance with Attachment 3: funding Tribal Nation capacity activities as determined by the Delaware Nation associated with monitoring of the ASLFs, including, but not limited to, technology upgrades and training associated with interpretation and analysis of non-proprietary or otherwise regulatory protected GIS data; funding for the Delaware Nation historic preservation participation in the Delaware Tribe of Indians and Stockbridge-Munsee Community Band of Mohican Indian's ethnographic studies (Stipulation III.A.1.iv and III.A.1.vi); funding for the Delaware Nation THPO collaboration with those same studies; and provide relevant ASLF GIS data layers to the Delaware Nation for use in this study as well as provide a tutorial on the data. This measure may be completed pre, during or post-construction, and must be completed within five years after the MOA is executed. The Delaware Nation will determine priority Tribal capacity needs and initiatives associated with the monitoring of ASLFs.

a. The Lessee must notify signatories and Tribal Nations of completion of this measure through annual reporting, per Stipulation XIII (Monitoring and Reporting).

vi. Tribal Capacity for the Mashantucket (Western) Pequot Tribal Nation. The Lessee must fulfill the following commitments in accordance with Attachment 3: funding Tribal Nation capacity activities as determined by the Mashantucket (Western) Pequot Tribal Nation associated with monitoring of the ASLFs, including, but not limited to, technology upgrades and training associated with interpretation and analysis of non-proprietary or otherwise regulatory protected GIS data. This measure may be completed pre, during or post-construction, and must be completed within five years after the MOA is executed. The Mashantucket (Western Pequot) Tribal Nation will determine priority Tribal capacity needs and initiatives associated with the monitoring of ASLFs.

a. The Lessee must notify signatories and Tribal Nations of completion of this measure through annual reporting, per Stipulation XIII (Monitoring and Reporting).

vii. Tribal Capacity for the Wampanoag Tribe of Gay Head (Aquinnah). The Lessee must fulfill the following commitments in accordance with Attachment 3: funding Tribal Nation capacity activities as determined by the Wampanoag Tribe of Gay Head (Aquinnah) associated with monitoring of the ASLFs, including, but not limited to, technology upgrades and training associated with interpretation and analysis of non-proprietary or otherwise regulatory protected GIS data. This measure may be completed pre, during or post-construction, and must be completed within five years after the MOA is executed. The Wampanoag Tribe of Gay Head (Aquinnah) will determine priority Tribal capacity needs and initiatives associated with the monitoring of ASLFs.

a. The Lessee must notify signatories and Tribal Nations of completion of this measure through annual reporting, per Stipulation XIII (Monitoring and Reporting).

viii. Ethnographic Study with the Stockbridge-Munsee Community Band of Mohican Indians. The Lessee must fulfill the following commitments in accordance with Attachment 3: funding ethnographic researcher selected by the Stockbridge-Munsee Community Band of Mohican Indians for 2-year period; funding for researcher travel for research and site visits; funding for the Stockbridge-Munsee Community Band of Mohican Indians technology upgrades associated with interpretation and analysis of non-proprietary or otherwise regulatory protected GIS data; funding for the Stockbridge-Munsee Community Band of Mohican Indians historic preservation oversight and indirect costs; provide relevant ASLF GIS data layers to the Stockbridge-Munsee Community Band of Mohican Indians for use in this study as well as provide a tutorial on the data; hold quarterly progress update calls lasting approximately one-half hour with the Stockbridge-Munsee Community Band of Mohican Indians until the final technical reports are issued; delivery of Final deliverables consisting of one confidential report that may contain sensitive resource information and one report that could be made available to the public (both reports will be distributed by the Stockbridge-Munsee Community Band of Mohican Indians, at their discretion); and funding for a presentation to highlight the results of the study to be coordinated and executed by the Stockbridge-Munsee Community Band of Mohican Indians. This measure may be completed pre, during or post-construction, and must be completed within five years after the MOA is executed. The Delaware Tribe of Indians and/or the Delaware Nation may elect to participate in the Stockbridge-Munsee Community Band of Mohican Indians Ethnographic Study.

a. BOEM, in consultation with the Tribal Nation, will select consultants to implement this mitigation measure, per Stipulation IX.C.

b. The Lessee must notify signatories and Tribal Nations of completion of this measure through annual reporting, per Stipulation XIII (Monitoring and Reporting).

ix. Ethnographic Study with the Shinnecock Indian Nation. The Lessee must fulfill the following commitments in accordance with Attachment 3: funding ethnographic researcher selected by Shinnecock Indian Nation for 2-year period; funding for researcher travel for research and site visits; funding for Shinnecock Indian Nation technology

upgrades associated with interpretation and analysis of non-proprietary or otherwise regulatory protected GIS data; funding for Shinnecock Indian Nation historic preservation oversight and indirect costs; provide relevant ASLF GIS data layers to Shinnecock Indian Nation for use in this study as well as provide a tutorial on the data; hold quarterly progress update calls lasting approximately one-half hour with Shinnecock Indian Nation until the final technical reports are issued; delivery of Final deliverables consisting of one confidential report that may contain sensitive resource information and one report that could be made available to the public (both reports will be distributed by the Shinnecock Indian Nation, at their discretion); and funding for a presentation to highlight the results of the study to be coordinated and executed by Shinnecock Indian Nation. This measure may be completed pre, during or post-construction, and must be completed within five years after the MOA is executed.

a. BOEM, in consultation with the Tribal Nation, will select consultants to implement this mitigation measure, per Stipulation IX.C.

b. The Lessee must notify signatories and Tribal Nations of completion of this measure through annual reporting, per Stipulation XIII (Monitoring and Reporting).

x. Regional Analysis of Watersheds in the Project Area with the Mashpee Wampanoag Tribe. The region for assessment consists of coastal and marine environments from New Jersey to Massachusetts. Per BOEM's consultation with the Mashpee Wampanoag Tribe, the Lessee must fulfill the following commitments in accordance with Attachment 3: funding for a desktop assessment of archaeological assemblages for a regional settlement pattern analysis and assessment of associated watershed systems; GIS data layers indicating site locations; digital copies of site maps, reports, and literature relevant to the study (this may require additional consultation between the Tribal Nations, contractor, and applicable SHPO); funding for technology upgrades associated with interpretation and analysis of non-proprietary or otherwise regulatory protected GIS data; funding for the Mashpee Wampanoag Tribe's historic preservation participation and indirect costs; funding for the Mashpee Wampanoag Tribe's THPOs collaboration; providing relevant GIS data layers to the Tribal Nations for use in this study as well as providing a tutorial on the data; holding quarterly progress update calls lasting approximately one-half hour with the Mashpee Wampanoag Tribe until the final technical report is issued; and delivering the final deliverables consisting of one confidential report per participating Tribal Nation that may contain sensitive resource information and one report that could be made available to the public (both reports may be distributed by the Mashpee Wampanoag Tribe, at their discretion). These reports may also be shared by the Mashpee Wampanoag Tribe with any other Tribal Nations if requested at the Tribe's discretion. This measure may be completed pre, during, or post-construction, and must be completed within four years after the MOA is executed. The Lessee must notify signatories and Tribal Nations of completion of this measure through annual reporting, per Stipulation XIII (Monitoring and Reporting).

B. Visual APE

1. BOEM will include the measures under Stipulation III.B.4 as conditions of approval of the Lessee's COP and as mitigation measures to resolve the adverse effects, including direct, indirect, and cumulative effects, to the 20 historic properties that will be visually adversely affected:

- West Bank Light Station, Staten Island, New York;
- Breezy Point Surf Club Historic District, Rockaway, New York;
- Fort Tilden Historic District, Rockaway, New York;
- Silver Gull Beach Club Historic District, Rockaway, New York;
- Jacob Riis Park Historic District, Rockaway, New York;
- Jones Beach State Park, Parkway and Causeway System, Hempstead/Oyster Bay, New York;
- Gilgo State Park, Babylon, New York;
- Robert Moses State Park, Babylon, New York;
- Fire Island Lighthouse, Fire Island National Seashore, Islip, New York;
- Fire Island Light Station Historic District, Fire Island National Seashore, Islip, New York;
- Carrington House, Fire Island National Seashore, Brook Haven, New York;
- Point O'Woods Historic District, Islip, New York;
- Romer Shoal Light, Lower New York Bay, New York;
- Sandy Hook Light, Middletown, New Jersey;
- Fort Hancock and Sandy Hook Proving Ground Historic District, Middletown, New Jersey;
- Fort Hancock U.S. Life Saving Station, Highlands, New Jersey;
- Navesink Light Station (Twin Lights), Middletown, New Jersey;
- Allenhurst Residential Historic District, Allenhurst, New Jersey;
- Ocean Grove Camp Meeting Association District, Ocean Grove, New Jersey;
- Water Witch (Monmouth Hills) Historic District, Middletown, New Jersey

2. The Lessee must fund the mitigation measures according to Attachment 8 (Mitigation Funding Amounts), which contains funding amounts for each mitigation effort in Stipulation III.B.4. Funding amounts reflect good faith estimates, based on the experience of qualified consultants with similar activities and comparable historic properties.

3. The Lessee must ensure the mitigation measures under Stipulation III.B.4 are completed within four years of MOA execution, unless a different timeline is agreed upon by interested consulting parties and accepted by BOEM and may be completed simultaneously, as applicable.

4. The Lessee must fund the following mitigation measures in accordance with Attachment 4 (Empire Offshore Wind: Empire Wind Project (EW 1 and EW 2) Historic Properties Treatment Plan for Above-Ground Properties Subject to Adverse Visual Effect):

    i. National Park Service Properties

        a. Breezy Point Surf Club Historic District (Gateway National Recreation Area, NY)

            1) The Lessee must provide funding for Climate Resiliency, Education, Interpretation, Outreach, Preservation, Restoration, Rehabilitation, or Visitor Experience. The NPS, in coordination with the Lessee, will: determine priority projects in collaboration with appropriate NPS personnel; use already available plans or develop plans appropriate to the identified project, and ensure the plans submitted for review and acceptance by NPS and are prepared by professionals meeting Secretary of the Interior (SOI) Professional Qualifications for Architecture or

Architectural History, as needed, with experience applying the SOI Standards for the Treatment of Historic Properties; ensure the project is carried out by qualified contractors who will execute plans; and take necessary steps to ensure planned work is completed.

2) Any physical projects will follow NPS Section 106 review and compliance procedures.

b. Fort Tilden Historic District (Gateway National Recreation Area, NY)

1) The Lessee must provide funding for Climate Resiliency, Education, Interpretation, Outreach, Preservation, Restoration, Rehabilitation, or Visitor Experience. The NPS, in coordination with the Lessee, will: determine priority projects in collaboration with appropriate NPS personnel; use already available plans or develop plans appropriate to the identified project, and ensure the plans submitted for review and acceptance by NPS and are prepared by professionals meeting Secretary of the Interior (SOI) Professional Qualifications for Architecture or Architectural History, as needed, with experience applying the SOI Standards for the Treatment of Historic Properties; ensure the project is carried out by qualified contractors who will execute plans; and take necessary steps to ensure planned work is completed.

2) Any physical projects will follow NPS Section 106 review and compliance procedures.

c. Silver Gull Beach Club Historic District (Gateway National Recreation Area, NY)

1) The Lessee must provide funding for Climate Resiliency, Education, Interpretation, Outreach, Preservation, Restoration, Rehabilitation, or Visitor Experience. The NPS, in coordination with the Lessee, will: determine priority projects in collaboration with appropriate NPS personnel; use already available plans or develop plans appropriate to the identified project, and ensure the plans submitted for review and acceptance by NPS and are prepared by professionals meeting Secretary of the Interior (SOI) Professional Qualifications for Architecture or Architectural History, as needed, with experience applying the SOI Standards for the Treatment of Historic Properties; ensure the project is carried out by qualified contractors who will execute plans; and take necessary steps to ensure planned work is completed.

2) Any physical projects will follow NPS Section 106 review and compliance procedures.

d. Jacob Riis Park Historic District (Gateway National Recreation Area, NY)

1) The Lessee must provide funding for Climate Resiliency, Education, Interpretation, Outreach, Preservation, Restoration, Rehabilitation, or Visitor Experience. The NPS, in coordination with the Lessee, will: determine priority projects in collaboration with appropriate NPS personnel; use already available plans or develop plans appropriate to

the identified project, and ensure the plans submitted for review and acceptance by NPS and are prepared by professionals meeting Secretary of the Interior (SOI) Professional Qualifications for Architecture or Architectural History, as needed, with experience applying the SOI Standards for the Treatment of Historic Properties; ensure the project is carried out by qualified contractors who will execute plans; and take necessary steps to ensure planned work is completed.

2) Any physical projects will follow NPS Section 106 review and compliance procedures.

e. Fire Island Lighthouse (Fire Island National Seashore, NY)

1) The Lessee must provide funding for Climate Resiliency, Education, Interpretation, Outreach, Preservation, Restoration, Rehabilitation, or Visitor Experience. The NPS, in coordination with the Lessee, will: determine priority projects in collaboration with appropriate NPS personnel; use already available plans or develop plans appropriate to the identified project, and ensure the plans submitted for review and acceptance by NPS and are prepared by professionals meeting Secretary of the Interior (SOI) Professional Qualifications for Architecture or Architectural History, as needed, with experience applying the SOI Standards for the Treatment of Historic Properties; ensure the project is carried out by qualified contractors who will execute plans; and take necessary steps to ensure planned work is completed.

2) Any physical projects will follow NPS Section 106 review and compliance procedures.

f. Fire Island Light Station Historic District (Fire Island National Seashore, NY)

1) The Lessee must provide funding for Climate Resiliency, Education, Interpretation, Outreach, Preservation, Restoration, Rehabilitation, or Visitor Experience. The NPS, in coordination with the Lessee, will: determine priority projects in collaboration with appropriate NPS personnel; use already available plans or develop plans appropriate to the identified project, and ensure the plans submitted for review and acceptance by NPS and are prepared by professionals meeting Secretary of the Interior (SOI) Professional Qualifications for Architecture or Architectural History, as needed, with experience applying the SOI Standards for the Treatment of Historic Properties; ensure the project is carried out by qualified contractors who will execute plans; and take necessary steps to ensure planned work is completed.

2) Any physical projects will follow NPS Section 106 review and compliance procedures.

g. Carrington House (Fire Island National Seashore, NY)

1) The Lessee must provide funding for Climate Resiliency, Education, Interpretation, Outreach, Preservation, Restoration, Rehabilitation, or Visitor Experience. The NPS, in coordination with the Lessee, will:

determine priority projects in collaboration with appropriate NPS personnel; use already available plans or develop plans appropriate to the identified project, and ensure the plans submitted for review and acceptance by NPS and are prepared by professionals meeting Secretary of the Interior (SOI) Professional Qualifications for Architecture or Architectural History, as needed, with experience applying the SOI Standards for the Treatment of Historic Properties; ensure the project is carried out by qualified contractors who will execute plans; and take necessary steps to ensure planned work is completed.

2) Any physical projects will follow NPS Section 106 review and compliance procedures.

h. Sandy Hook Light (Gateway National Recreation Area, NJ)

1) The Lessee must provide funding for Climate Resiliency, Education, Interpretation, Outreach, Preservation, Restoration, Rehabilitation, or Visitor Experience. The NPS, in coordination with the Lessee, will: determine priority projects in collaboration with appropriate NPS personnel; use already available plans or develop plans appropriate to the identified project, and ensure the plans submitted for review and acceptance by NPS and are prepared by professionals meeting Secretary of the Interior (SOI) Professional Qualifications for Architecture or Architectural History, as needed, with experience applying the SOI Standards for the Treatment of Historic Properties; ensure the project is carried out by qualified contractors who will execute plans; and take necessary steps to ensure planned work is completed.

2) Any physical projects will follow NPS Section 106 and 110 review and compliance procedures.

i. Fort Hancock and Sandy Hook Proving Ground Historic District (Gateway National Recreation Area, NJ)

1) The Lessee must provide funding for Climate Resiliency, Education, Interpretation, Outreach, Preservation, Restoration, Rehabilitation, or Visitor Experience. The NPS, in coordination with the Lessee, will: determine priority projects in collaboration with appropriate NPS personnel; use already available plans or develop plans appropriate to the identified project, and ensure the plans submitted for review and acceptance by NPS and are prepared by professionals meeting Secretary of the Interior (SOI) Professional Qualifications for Architecture or Architectural History, as needed, with experience applying the SOI Standards for the Treatment of Historic Properties; ensure the project is carried out by qualified contractors who will execute plans; and take necessary steps to ensure planned work is completed.

2) Any physical projects will follow NPS Section 106 and 110 review and compliance procedures.

j. Fort Hancock U.S. Life Saving Station (Gateway National Recreation Area, NJ)

1) The Lessee must provide funding for Climate Resiliency, Education, Interpretation, Outreach, Preservation, Restoration, Rehabilitation, or Visitor Experience. The NPS, in coordination with the Lessee, will: determine priority projects in collaboration with appropriate NPS personnel; use already available plans or develop plans appropriate to the identified project, and ensure the plans submitted for review and acceptance by NPS and are prepared by professionals meeting Secretary of the Interior (SOI) Professional Qualifications for Architecture or Architectural History, as needed, with experience applying the SOI Standards for the Treatment of Historic Properties; ensure the project is carried out by qualified contractors who will execute plans; and take necessary steps to ensure planned work is completed.

2) Any physical projects will follow NPS Section 106 review and compliance procedures.

ii. Nassau County, New York

a. Jones Beach State Park

1) The Lessee must provide funding for Climate Resiliency, Education, Interpretation, Maintenance, Public Access, Restoration, Rehabilitation, or Visitor Experience. The New York State Office of Parks, Recreation and Historic Preservation (OPRHP) will: determine priority projects in collaboration with appropriate OPRHP personnel; use already available plans or develop plans appropriate to the identified project, and ensure the plans submitted for review and acceptance by OPRHP and are prepared by professionals meeting Secretary of the Interior (SOI) Professional Qualifications for Architecture or Architectural History with experience applying the SOI Standards for the Treatment of Historic Properties; ensure the project is carried out by qualified contractors who will execute plans; and take necessary steps to ensure planned work is completed.

2) All mitigation is subject to NY SHPO review and approval. Mitigation measures will also comply with the SOI Standards for the Treatment of Historic Properties.

iii. Suffolk County, New York

a. Gilgo State Park

1) The Lessee must provide funding for Climate Resiliency, Education, Interpretation, Maintenance, Public Access, Restoration, Rehabilitation, or Visitor Experience. The New York State Office of Parks, Recreation and Historic Preservation (OPRHP) will: determine priority projects in collaboration with appropriate OPRHP personnel; use already available plans or develop plans appropriate to the identified project, and ensure the plans submitted for review and acceptance by OPRHP and are prepared by professionals meeting Secretary of the Interior (SOI)

Professional Qualifications for Architecture or Architectural History with experience applying the SOI Standards for the Treatment of Historic Properties; ensure the project is carried out by qualified contractors who will execute plans; and take necessary steps to ensure planned work is completed.

2) All mitigation is subject to NY SHPO review and approval. Mitigation measures will also comply with the SOI Standards for the Treatment of Historic Properties.

Robert Moses State Park

3) The Lessee must provide funding for Climate Resiliency, Education, Interpretation, Maintenance, Public Access, Restoration, Rehabilitation, or Visitor Experience. The New York State Office of Parks, Recreation and Historic Preservation (OPRHP) will: determine priority projects in collaboration with appropriate OPRHP personnel; use already available plans or develop plans appropriate to the identified project, and ensure the plans submitted for review and acceptance by OPRHP and are prepared by professionals meeting Secretary of the Interior (SOI) Professional Qualifications for Architecture or Architectural History with experience applying the SOI Standards for the Treatment of Historic Properties; ensure the project is carried out by qualified contractors who will execute plans; and take necessary steps to ensure planned work is completed.

4) All mitigation is subject to NY SHPO review and approval. Mitigation measures will also comply with the SOI Standards for the Treatment of Historic Properties.

b. Point O'Woods Historic District

1) The Lessee must contribute funding toward restoration of historic landscape features, including paths, benches, plantings, rock walls, and roads or for projects related to Climate Resiliency, Education, Interpretation, Preservation, Restoration, or Rehabilitation.

2) All mitigation is subject to NY SHPO review and approval. Mitigation measures will also comply with the SOI Standards for the Treatment of Historic Properties.

iv. Lower New York Bay, New York

a. West Bank Light Station

1) As a result of consultation, the Lessee must contribute funding toward a structural survey by an SOI qualified historic architect or engineer; and

2) Restoration of elements of West Bank Light, as chosen by the executive board of Romer Shoal Lighthouse, in concert with BOEM, NY SHPO, and NY City Landmarks Commission as appropriate.

v. Lower New York Bay, New Jersey

a. Romer Shoal Light Station

1) As a result of consultation, the Lessee must contribute funding toward restoring safe and functional boat access to Romer Shoal Light Station.

2) All mitigation is subject to NJ SHPO review and approval. Mitigation measures will also comply with the SOI Standards for the Treatment of Historic Properties.

vi. Monmouth County, New Jersey

a. Navesink Light Station (Twin Lights)

1) As a result of consultation, the Lessee must contribute funding toward the following repairs at Navesink Light Station:

i. Repairs to Bivalve lens by certified Lampist to return it to a rotating basis;

ii. Fresnel Lens reproduction to attach to the clockwork drive in Gallery 1;

iii. Repairs/repointing to North and South tower tops to make the towers waterproof;

iv. Reproduction brass vent covers to replace missing ones on the towers;

v. Arched storm windows for the front of the lighthouse to replace the square ones to show windows in their intended configuration;

vi. New roof on main building; and

vii. South Tower Excavation Exhibit

2) The Lessee must provide these funds to the NJ Department of Environmental Protection, State Parks, Forests & Historic Sites Program consistent with Attachment 8.

3) Any proposed mitigation projects at Navesink Light Station are subject to NJ SHPO review and approval under the New Jersey Register of Historic Places Act. Mitigation measures will also comply with the SOI Standards for the Treatment of Historic Properties.

b. Water Witch (Monmouth Hills) Historic District

1) As a result of consultation, the Lessee must contribute funding toward proposed preservation projects at Water Witch Historic District, to include restoration of the Clubhouse Roof and Widow's Walk; and/or rehabilitation of the Clubhouse Retaining Wall.

2) The Lessee must consult with the NJ SHPO to determine if a project authorization under the New Jersey Register of Historic Places Act (NJRHPA) is required.

3) All mitigation is subject to NJ SHPO review and approval. Mitigation measures will also comply with the SOI Standards for the Treatment of Historic Properties.

c. Allenhurst Residential Historic District

1) As a result of consultation, the Lessee must contribute funding toward the restoration or rehabilitation of the municipal building and/or beach club building. The Lessee must: determine priority projects in collaboration with the representatives for the property; use already available plans or develop plans appropriate to the identified project, and ensure the plans submitted for review are prepared by professionals meeting Secretary of the Interior (SOI) Professional Qualifications for Architecture or Architectural History with experience applying the SOI Standards for the Treatment of Historic Properties; ensure the project is carried out by qualified contractors who will execute plans; and take necessary steps to ensure planned work is completed.

2) The Lessee must consult with the NJ SHPO to determine if a project authorization under the New Jersey Register of Historic Places Act (NJRHPA) is required.

3) All mitigation is subject to NJ SHPO review and approval. Mitigation measures will also comply with the SOI Standards for the Treatment of Historic Properties.

d. Ocean Grove Camp Meeting Association Historic District

1) As a result of consultation, the Lessee must contribute funding toward installation of a fitness lane in proximity to the Ocean Grove boardwalk. The fitness path will meet the Secretary of the Interior's Standards for the Treatment of Historic Properties.

2) The Lessee must consult with the NJ SHPO to determine if a project authorization under the New Jersey Register of Historic Places Act (NJRHPA) is required.

3) All mitigation is subject to NJ SHPO review and approval. Mitigation measures will also comply with the SOI Standards for the Treatment of Historic Properties.

5. Mitigation Fund for Historic Properties in New Jersey. The Lessee must establish and contribute funding to a mitigation fund consistent with Attachment 8 to resolve visual adverse effects on the following three historic properties in New Jersey: Berkeley-Carteret Hotel, Asbury Park Convention Hall, and Asbury Park Casino and Carousel, and any historic properties identified in the phased identification in New Jersey (Stipulation IV). This mitigation fund is separate from and not related to the mitigation measures in Stipulation III.A. and B.

i. Fund Establishment. BOEM will require the Lessee to establish and contribute funds to a mitigation fund to resolve visual adverse effects to the historic properties in New Jersey. Attachment 8 provides a basis for the total funding amount, based on input of qualified consultants with experience fulfilling activities similar to those that can be funded through the mitigation fund and for historic properties comparable to those adversely effected by the Projects.

ii. Fund Amount and Application to Mitigation of Adverse Effects. To mitigate the undertaking's visual adverse effects to historic properties, the Lessee must provide the total amount of $365,000 of funding in support of historic preservation and public interpretive and commemorative activities; see Attachment 8. The total fund amount is subject to change after consultation of the phased identification (Stipulation IV) is implemented (Stipulation IV.A.6.vii). The amount contributed on behalf of each individual historic property is based on previously proposed measures discussed with consulting parties (see FEIS Appendix N, Finding of Effect, September 15, 2023), including, but not limited to, activities such as Historic American Buildings Survey/Historic American Engineering Record/Historic American Landscapes Survey (HABS/HAER/HALS) documentation, and/or applicable brick and mortar preservation, public access, or interpretation activities, and included in Appendix H to BOEM's EIS for the Projects. BOEM considers these measures to be appropriate to fully address the nature, scope, size, and magnitude of adverse effects, including cumulative effects, caused by the Projects to the NRHP-qualifying characteristics of each historic property that would be affected. In the specific context of this undertaking, including the privately owned properties involved, the signatories agree that it is appropriate to provide flexibility to implement these or other specific activities for preservation, interpretation, and commemoration to mitigate adverse effects to historic properties, and the signatories agree that the level of funding identified in Attachment 8 is appropriate.

iii. Depositing the Fund and the Allocation of Funds through Grants. Within 90 days of the Lessee receiving a non-objection notice from BOEM for the Projects' last Fabrication and Installation Report (FIR), or 60 days after submittal of the last FIR with Bureau of Safety and Environmental Enforcement not having raised objections (30 CFR 285.700(b)), the Lessee must pay $365,000 into an escrow account. The total fund amount is subject to change after consultation of the phased identification (Stipulation IV) is implemented (Stipulation IV.A.6.vii), and the Lessee must pay these funds into the same escrow account within 60 days. The mitigation fund will be managed by a third-party administrator, the New Jersey Historic Trust, for the purpose of providing grants until the fund balance is expended. Notwithstanding the additional obligations of the Lessee under this MOA, including reporting on the implementation of mitigation fund, the Lessee's deposit of such funds into this mitigation fund will satisfy the Lessee's obligations as it relates to mitigation for visual adverse effects to the historic properties listed in Stipulation III.B.5, unless additional consultation is required in the event of unallocated funds, as described below. These grants are to support mitigation activities for the preservation, interpretation, or commemoration of historic sites, buildings, or events. Grants will be awarded for the long-term protection, preservation, and commemoration of adversely affected historical properties in the following order of preference. Grants must first be awarded to the historic properties listed in Stipulation III.C.1. If after two years from the date the administrator begins accepting grant applications any funds are still unapplied, then grants may be awarded for activities for any adversely affected historic property identified in FEIS Appendix N, Finding of Effect.

iv. Unapplied Funds. If, after five years from the date the administrator begins accepting applications, any funds are unapplied, then BOEM will consult with the consulting parties on appropriate use of the remaining funds to resolve adverse effects. BOEM will ensure that the mitigation fund operating procedures are clear that the remaining funds will be used for historic properties that are listed under Stipulation III.B.5 and that have not yet received any funds from this mitigation fund. After those historic properties are addressed, then any remaining funds may be applied to activities for any adversely affected historic property identified in the FEIS Appendix N, Finding of Effect. The signatories agree that the existence of unapplied funds does not constitute a breach of this agreement.

v. Fund Administration and Monitoring. The New Jersey Historic Trust will serve as the third-party administrator of the fund and will oversee the funded activities consistent with this MOA. BOEM will consult with the third-party administrator and New Jersey SHPO prior to allowing the third-party administrator to issue any grants to ensure the grants will be awarded for preservation-related activities. The third-party administrator's fees and administrative costs will be paid from the fund and must not exceed 6 percent of the fund amount. The total fund amount is subject to change after consultation of the phased identification (Stipulation IV) is implemented. BOEM, with the assistance of the third-party administrator, must ensure through the annual reporting process (see Stipulation XIII) that all granted funds are used exclusively for the purposes described in Stipulation III.B.5 for direct costs of preservation, interpretation, or commemoration of the historic properties adversely affected by the undertaking. The mitigation fund administrator must prohibit the use of grant funds for indirect costs, such as accountant fees, employee salary or benefits, or legal fees. In the case of the need to replace the fund administrator, BOEM and the Lessee must consult on the selection of this fund administrator with the consulting parties, and BOEM will choose the replacement administrator.

vi. Mitigation Fund Operating Procedures and Reporting. BOEM will consult with the third-party administrator to develop operating procedures for the mitigation fund, and BOEM will review and approve the final operating procedures no later than two years after the MOA is executed. BOEM will provide the final operating procedures to the consulting parties. The mitigation fund operating procedures will clarify when and how the third-party administrator will start accepting grants, including the time period for application, how the applications will be screened, and the criteria for grant funding eligibility. BOEM will ensure that the third-party administrator has procedures under which it will provide a copy of all grants made and an annual report on expenditure of funds and activities to BOEM, the New Jersey SHPO, and the Lessee. The Lessee must summarize the third-party administrator's annual report to describe funded mitigation activities, progress, completion, and outcomes in the annual report per Stipulation X, with sufficient detail for BOEM to ensure that the mitigation is being implemented according to this section (Stipulation III.B.5).

vii. Grant-supported Mitigation Standards. BOEM will ensure that the operating procedures include the following, where applicable.

    a. In such cases where HABS documentation and HABS-like documentation mitigation would be selected as the appropriate mitigation measure, the grantee will first consult with the New Jersey SHPO and the NPS, as appropriate, to identify photographic documentation specifications.

b. Where Historic Structure Report mitigation is included within a grant, the documentation will be prepared in accordance with the Historic Structure Reports and Preservation Plans: A Preparation Guide – Second Edition, as may be amended, and the project team must include an individual meeting the SOI's professional qualifications standards for historic architecture.

c. Where funding for visitor experience, public access, climate resiliency, or comparable actions would be granted, all projects must meet the SOI Standards for the Treatment of Historic Properties, and these projects should not constitute adverse effects themselves on the historic properties.

d. If any additional historic properties, identified through phased identification (Stipulation IV), are included in this mitigation fund and they are State, County, or municipally-owned property, then they are subject to review under the New Jersey Register of Historic Places Act.

6. In order to demonstrate that mitigation measures for each adversely affected private historic property in New Jersey will not result in additional adverse effects, the Lessee must engage a historic architect that meets the SOI Professional Qualifications Standards to review all architectural/engineering plans and specifications from contractors. This historic architect will prepare a report for each mitigation measure that describes how the proposed work meets the SOI Standards for the Treatment of Historic Properties which will be submitted to BOEM prior to the start of construction for each mitigation measure. That documentation will be submitted to BOEM and to NJ SHPO for review and approval (per Stipulation V). Documentation of conformance with the SOI Standards must be maintained by the Lessee. The Lessee must also keep a record of all final plans and specifications for each mitigation project, which will be available to BOEM or the NJ SHPO upon request.

   i. The historic architect must submit the following to BOEM and NJ SHPO for review as part of the historic architect's report:

      a. A site plan that has the north direction clearly marked;

      b. A set of architectural/engineering plans and specifications for the mitigation measure;

      c. Photographs of the historic property before mitigation implementation;

      d. A description of the mitigation measure (the project);

      e. A description of the mitigation measure's origin (including but not limited to "requested by the property owner through consultation on [date]");

      f. Identification of the staff who meet the SOI Professional Qualifications Standards; and

      g. A description of how the work meets the SOI Standards for the Treatment of Historic Properties.

   ii. The Lessee must submit the following to BOEM at the conclusion of the mitigation measure implementation:

      a. Before and after images of the mitigation measure's implementation; and

b. A concluding report from the historic architect describing how the work met the SOI Standards for the Treatment of Historic Properties.

IV. PHASED IDENTIFICATION

A. BOEM will defer and phase the identification of historic properties, assessment of effect, and resolution of adverse effects within the visual APE in New Jersey. BOEM will conduct phased identification and evaluation of historic architectural resources in New Jersey, pursuant to 36 CFR 800.4(b)(2) and 800.5(a)(4), including cumulative visual effects and consistent with the Section 106 Phased Identification Plan (see Attachment 5). BOEM will then assess the effects and consult with Tribal Nations, the NJ SHPO, the ACHP, and consulting parties on identification, assessment of effect, and the resolution of adverse effects prior to the initiation of offshore construction on the OCS lease. The following measures will be implemented for phased identification in the visual APE:

1. For identification of historic properties within the portions of the visual APE in New Jersey, the Lessee must conduct supplemental technical studies in accordance with state guidelines and recommendations presented in BOEM's most recent *Guidelines*.

    i. BOEM requires that identification efforts be documented in a technical report that addresses the identification of historic properties and includes an evaluation of effects applying the criteria of adverse effect pursuant to 36 CFR 800.5(a).

    ii. BOEM requires that identification efforts for historic architectural resources in the state of New Jersey be documented in a supplemental architectural survey report, consistent with NJ SHPO guidelines.

    iii. BOEM requires preparation of a supplemental Analysis of Visual Effects to Historic and Architectural Properties that includes effects recommendations on historic properties identified in the supplemental architectural survey report.

2. BOEM will analyze cumulative visual effects for any additional adversely affected historic properties identified in the phased identification. BOEM will produce a Cumulative Historic Resources Visual Effects Assessment (CHRVEA) addendum based on the results of this analysis.

3. BOEM will consult with Tribal Nations, the NJ SHPO, the ACHP, and consulting parties on the results of historic property identification surveys and the results of the CHRVEA addendum for that portion of the visual APE in New Jersey that was not addressed prior to the execution of this MOA.

4. BOEM will treat all identified potential historic properties as eligible for inclusion in the NRHP unless BOEM determines, and the New Jersey SHPO concurs, that a property is ineligible, pursuant to 36 CFR 800.4(c).

5. If BOEM identifies no additional historic properties or determines that no historic properties are adversely affected as a result of this phased identification, BOEM, with the assistance of the Lessee, will notify and consult with the signatories, invited signatories, and consulting parties following the consultation process set forth here in this stipulation.

    i. The Lessee must notify all Tribal Nations, the NJ SHPO, the ACHP, and consulting parties about the surveys and BOEM's determination by providing a written summary of

the surveys including any maps, a summary of the surveys and/or research conducted to identify historic properties and assess effects, and copies of the surveys.

ii. BOEM and the Lessee must provide Tribal Nations, the NJ SHPO, the ACHP, and consulting parties with 60 calendar days to review and comment on the survey reports, the results of the surveys, BOEM's determination, and the documents.

iii. After the 60-calendar day review period has concluded and if no comments require additional consultation, the Lessee must notify Tribal Nations, the NJ SHPO, the ACHP, and consulting parties that the New Jersey SHPO has agreed on the results of this phased identification and, if they received any comments, provide a summary of the comments and BOEM's responses. If the New Jersey SHPO has concerns, then BOEM will resolve any such concerns through additional consultation.

iv. If requested by the Tribal Nations, the NJ SHPO, the ACHP, or consulting parties, BOEM, with the assistance of the Lessee, will conduct a consultation meeting during this 60-calendar day review period and any additional consultation meetings.

v. This MOA will not need to be amended if no additional historic properties are identified and/or adversely affected.

6. If BOEM determines new adverse effects to historic properties will occur based on the information in these surveys, BOEM with the assistance of the Lessee must notify and consult with the signatories, invited signatories, and consulting parties regarding BOEM's finding and the proposed measures to resolve the adverse effect(s), including the development of a new treatment plan(s) (HPTPs) and/or contribution to the mitigation fund following the consultation process set forth here in this stipulation. Funding amounts for additional adversely affected properties will be commensurate with the funding amounts for similar historic properties identified in Stipulation III.B.1 and III.B.5.

i. BOEM, with the assistance of the Lessee, will notify all signatories, invited signatories, and consulting parties about the surveys and BOEM's determination by providing a written summary of the results including any maps, a summary of the surveys and/or research conducted to identify historic properties and assess effects, copies of the surveys, BOEM's determination, and the proposed resolution measures for the adverse effect(s).

ii. The consulting parties will have 60 calendar days to review and comment on the documents including the adverse effect finding and the proposed resolution of adverse effect(s), including a draft treatment plan(s).

iii. BOEM, with the assistance of the Lessee, will conduct a consultation meeting during this 60-calendar day review period and conduct any additional consultation meetings as necessary.

iv. BOEM, with the assistance of the Lessee, will respond to the comments and make necessary edits to the documents.

v. BOEM, with the assistance of the Lessee, will send the revised draft final documents to the other signatories, invited signatories, and consulting parties for review and comment during a 30-calendar day review and comment period. With this same submittal of draft final documents, the Lessee must provide a summary of all the comments received on the documents and BOEM's responses.

vi. BOEM, with the assistance of the Lessee, will respond to the comments on the draft final documents and make necessary edits to the documents.

vii. Once BOEM has received agreement from the New Jersey SHPO on the finding of new adverse effect(s) and BOEM has accepted the final measures to resolve adverse effects for above-ground historic properties in New Jersey, then the Lessee must notify all the signatories, invited signatories, and consulting parties that the phased identification and final measures to resolve adverse effects have been accepted. With this notification, the Lessee must provide the final document(s), including the final measures to resolve adverse effects and a summary of comments and BOEM's responses to comments (if they receive comments on the draft final documents).

viii. The Lessee must implement the final measures to resolve adverse effects for above-ground historic properties in New Jersey per Stipulation III.B.5 (mitigation fund) or new historic property treatment plan(s) (HPTPs) as applicable and based on consultation.

ix. The MOA will not need to be amended after the final measures to resolve adverse effects are accepted by BOEM.

7. If the New Jersey SHPO disagrees with BOEM's determination regarding whether an affected property is eligible for inclusion in the NRHP, or if the ACHP or the Secretary of the Interior so request, the agency official will obtain a determination of eligibility from the Secretary of the Interior pursuant to 36 CFR Part 63 (36 CFR 800.4(c)(2)).

8. If any of the consulting parties object to the findings or resolutions made pursuant to these measures, BOEM will resolve any such objections pursuant to the dispute resolution process set forth in Stipulation XIV.

V. REVIEW PROCESS FOR DOCUMENTS

A. The following process will be used for any submission including, but not limited to, documents, reports, architectural/engineering plans or specifications produced in accordance with Stipulations of this MOA:

1. Draft Document

i. The Lessee must provide the document to BOEM for technical review and approval.

a. BOEM will have 30 calendar days to complete its technical review.

b. If BOEM does not provide approval, it will submit its comments back to the Lessee, who will have 30 calendar days to address the comments.

ii. BOEM, with the assistance of the Lessee, will provide the draft document to the requisite signatory, except the ACHP, for review and approval.

a. Consulting parties will have 30 calendar days, or another time frame agreed upon by the signatories, invited signatories, and consulting parties, to review and comment.

b. BOEM, with the assistance of the Lessee, will coordinate a meeting with consulting parties to facilitate comments on the document if requested by a consulting party.

c. BOEM will consolidate comments received and provide them to the Lessee within 15 calendar days of receiving comments from consulting parties.

d. BOEM, with the assistance of the Lessee, will respond to the comments and make necessary edits to the documents.

iii. If the BOEM requires substantial edits to the draft document, the Lessee must make those revisions and resubmit the document as a draft for revision under Stipulation V.A.1.i.

2. Draft Final Document

i. The Lessee must provide BOEM with the draft final document for technical review and approval.

a. BOEM will have 15 calendar days to complete its technical review.

b. If BOEM does not provide approval, it will submit its comments back to the Lessee, who will have 15 calendar days to address the comments.

ii. BOEM, with the assistance of the Lessee, will provide the final draft document to the requisite signatory, except the ACHP, for review and approval.

a. Consulting parties will have 30 calendar days, or another time frame agreed upon by the signatories, invited signatories, and consulting parties, to review and comment.

b. BOEM, with the assistance of the Lessee, will coordinate a meeting with consulting parties to facilitate comments on the document if requested by a consulting party.

c. BOEM will consolidate comments received and provide them to the Lessee within 15 calendar days of receiving comments from consulting parties.

d. BOEM, with the assistance of the Lessee, will respond to the comments and make necessary edits to the documents.

3. Final Document

i. The Lessee must provide BOEM with the final document approval.

a. BOEM will have 15 calendar days to complete its technical review.

b. If BOEM does not provide approval, it will submit its comments back to the Lessee, who will have 15 calendar days to address the comments.

c. BOEM, with the assistance of the Lessee, will provide the final document to consulting parties, except the ACHP, within 30 calendar days of approving the final document. With this same submittal of final documents, the Lessee must provide a summary of all the comments received on the documents and BOEM's responses.

VI. SUBMISSION OF DOCUMENTS

A. Tribal Nations, New York SHPO, New Jersey SHPO, ACHP, and Consulting Parties

1. All submittals to the Tribal Nations, New York SHPO, New Jersey SHPO, ACHP, and consulting parties will be submitted electronically unless a specific request is made for the submittal be provided in paper format.

VII. PROJECT MODIFICATIONS

A. If the Lessee proposes any modifications to the Projects that expand the Projects beyond the Project Design Envelope included in the COP and/or occur outside the defined APEs or if the proposed modifications change BOEM's final Section 106 determinations and findings for this Project, the Lessee must notify and provide BOEM with information concerning the proposed modifications. The Lessee must not proceed with the proposed modifications until the following process under Stipulation VII.A is concluded. BOEM will notify consulting parties within 60 calendar days and consult on whether these modifications require alteration of the conclusions reached in the FEIS Appendix N, Finding of Effect and, thus, may require additional consultation with the signatories and consulting parties. The Lessee must provide the signatories, invited signatories, and consulting parties with the information concerning the proposed changes, and they will have 30 calendar days from receipt of this information to comment on the proposed changes. BOEM will consider any comments from signatories and consulting parties prior to agreeing to any proposed changes. Using the procedure below, BOEM will, as necessary, consult with the signatories and consulting parties to identify and evaluate historic properties in any newly affected areas, assess the effects of the modification, and resolve any adverse effects. Any project modification followed pursuant to Stipulation VII would not require an amendment to the MOA.

1. If the Projects are modified and BOEM identifies no additional historic properties or finds that no historic properties are adversely affected due to the modification, BOEM, with the assistance of the Lessee, will notify and consult with the signatories and consulting parties following the consultation process set forth in this Stipulation VII.A.1.

    i. The Lessee must notify all the signatories and consulting parties about this proposed change and BOEM's finding by providing a written summary of the project modification including any maps, a summary of any additional surveys and/or research conducted to identify historic properties and assess effects, and copies of the surveys.

    ii. BOEM and the Lessee will provide the signatories and consulting parties with 30 calendar days to review and comment on the proposed change, BOEM's finding, and the documents.

    iii. After the 30-calendar review period has concluded and no comments require additional consultation, the Lessee must notify the signatories and consulting parties that BOEM has approved the project modification and, if they received any comments, provide a summary of the comments and BOEM's responses.

    iv. BOEM, with the assistance of the Lessee, will conduct any consultation meetings if requested by the signatories or consulting parties.

2. If BOEM finds new adverse effects to historic properties will occur due to a Project modification(s), BOEM, with the assistance of the Lessee, will notify and consult with the signatories and consulting parties regarding BOEM's finding and the proposed measures to

resolve the adverse effect(s) including the development of a new treatment plan(s) following the consultation process set forth in this Stipulation VII.A.2.

i. The Lessee must notify all signatories and consulting parties about this proposed modification, BOEM's finding, and the proposed resolution measures for the adverse effect(s).

ii. The signatories and consulting parties will have 30 calendar days to review and comment on the adverse effect finding and the proposed resolution of adverse effect(s), including a draft treatment plan(s).

iii. BOEM, with the assistance of the Lessee, will conduct additional consultation meetings, if necessary, during consultation on the adverse effect finding and during drafting and finalization of the treatment plan(s).

iv. BOEM, with the assistance of the Lessee, will respond to the comments and make necessary edits to the documents.

v. The Lessee must send the revised draft final documents to the other signatories, invited signatories, and consulting parties for review and comment during a 30-calendar day review and comment period. With this same submittal of draft final documents, the Lessee must provide a summary of all the comments received on the documents and BOEM's responses.

vi. BOEM, with the assistance of the Lessee, will respond to the comments on the draft final documents and make necessary edits to the documents.

vii. The Lessee must notify all the signatories and consulting parties that BOEM has approved the project modification and must provide the final document(s) including the final treatment plan(s) and a summary of comments and BOEM's responses to comments, if they receive any on the draft final documents. This notification will occur after BOEM has received agreement from the New Jersey SHPO on the finding of new adverse effect(s), BOEM has accepted the final treatment plan(s), and BOEM has approved the Projects modification.

3. If any of the signatories or consulting parties object to findings or resolutions made pursuant to these measures (Stipulation VII.A.1 and 2), BOEM will resolve any such objections pursuant to the dispute resolution process set forth Stipulation XIV.

VIII. CONSERVATION AND CURATION

A. Collections from federal lands or the OCS:

1. Any archaeological materials removed from federal lands or the OCS as a result of the actions required by this Project will be curated in accordance with 36 CFR 79, "Curation of Federally Owned and Administered Archaeological Collections," ACHP's "Recommended Approach for Consultation on Recovery of Significant Information from Archaeological Sites" published in the Federal Register (64 Fed. Reg. 27085-27087 (May 18, 1999)), or other provisions agreed to by Tribal Nations and the consulting parties and will follow applicable State guidelines. No excavation is allowed to be initiated before acceptance and approval of a conservation and curation plan**.** When such a plan is submitted, it must include in-field and long-term conservation of material culture recovered and the Lessee must submit this plan to BOEM and consulting parties for review.

i. In the event artifacts and material culture associated with the Pre-Contact periods within the coastal and marine environments are identified and recovered during pre-construction, construction, operation, maintenance, and decommissioning of the proposed Project under this MOA, including for mitigation or resulting from post-review discovery including but not limited to vibracore sampling, those materials, if they are not replaced on the seafloor, will be housed at a curatorial facility in consultation with the Tribal Nations. These collection and curation directions do not apply to the post-construction seafloor inspection mitigation.

2. If suspected human remains are encountered, the Lessee must comply with the Advisory Council on Historic Preservation's (ACHP) *Policy Statement on Burial Sites, Human Remains, and Funerary Objects (March 2023)*.

B. Collections from state, local government, and private lands:

1. Archaeological materials from state or local government lands in the APE and the records and documentation associated with these materials will be curated within the state of their origin at a repository preferred by the SHPO, or an approved and certified repository, in accordance with the standards and guidelines required by the New Jersey SHPO for materials collected in New Jersey or required by the New York SHPO for materials collected in New York. Lands as described here may include the seafloor in state waters. No excavation should be initiated before acceptance and approval of a curation plan.

    i. In the event artifacts and material culture associated with the Pre-Contact periods within the coastal and marine environments are identified and recovered from state property during pre-construction, construction, operation, maintenance, and decommissioning of the proposed Project under this MOA, including for mitigation or resulting from post-review discovery including but not limited to vibracore sampling, those materials, if they are not replaced on the seafloor, may be housed at a curatorial facility in consultation with the Tribal Nations and SHPO and local government(s). These collection and curation directions do not apply to the post-construction seafloor inspection mitigation.

2. Collections from private lands that would remain private property: In cases where archaeological survey and testing are conducted on private land, any recovered collections remain the property of the landowner. In such instances, BOEM and the Lessee, in coordination with the New Jersey SHPO or the New York SHPO as appropriate based on which state these materials are located, and affected Tribe(s), will encourage landowners to donate the collection(s) to an appropriate public or Tribal entity. To the extent a private landowner requests that the materials be removed from the site, the Lessee must seek to have the materials donated to the repository identified under Stipulation VII.B.1 through a written donation agreement developed in consultation with the consulting parties. BOEM, assisted by the Lessee, will seek to have all materials from each state curated together in the same curation facility within the state of origin. In cases where the property owner wishes to transfer ownership of the collection(s) to a public or Tribal entity, BOEM and the Lessee will ensure that recovered artifacts and related documentation are curated in a suitable repository as agreed to by BOEM, the appropriate SHPO, and affected Tribe(s), and following applicable State guidelines. To the extent feasible, the materials and records resulting from the actions required by this MOA for private lands, will be curated in accordance with 36 CFR 79. No excavation is allowed to be initiated before acceptance and approval of a curation plan.

3. If suspected human remains are encountered, the Lessee must comply with the Advisory Council on Historic Preservation's (ACHP) *Policy Statement on Burial Sites, Human Remains, and Funerary Objects (March 2023)* and Attachments 6 and 7.

IX. EXPERTISE AND QUALIFICATIONS

A. Secretary of the Interior's (SOI) Standards for Archaeology and Historic Preservation. The Lessee must ensure that all work carried out pursuant to this MOA will meet the SOI Standards for Archaeology and Historic Preservation, 48 FR 44716 (September 29, 1983), considering the suggested approaches to new construction in the SOI's Standards for Rehabilitation.

B. SOI Professional Qualifications Standards. The Lessee must ensure that all work carried out pursuant to this MOA is performed by or under the direction supervision of historic preservation professionals who meet the SOI's Professional Qualifications Standards (48 FR 44738-44739). A "qualified professional" is a person who meets the relevant standards outlined in such SOI's Standards. The Lessee must provide documentation to BOEM demonstrating that the consultants retained for services pursuant to the MOA meet these standards prior to the implementation of mitigation measures.

C. Investigations of ASLFs. The Lessee must ensure that the additional investigations of ASLFs will be conducted and reports and other materials produced by one or more QMAs and geological specialists who meet the SOI's Professional Qualifications Standards and has experience both in conducting High Resolution Geophysical (HRG) surveys and processing and interpreting the resulting data for archaeological potential, as well as collecting, subsampling, and analyzing cores. BOEM, in consultation with the Tribal Nations, will select a consultant to implement mitigation measures in Stipulation III.A.1.ii, iv, and v (Open-Source GIS and Story Maps; Ethnographic Studies; Regional Analysis of Watersheds) acceptable to the majority of Tribal Nations. The Lessee must work with Tribal Nations to provide them an opportunity to participate as monitors during the post-construction seafloor inspection of previously identified ASLFs in the APE (as described above). The Lessee must compensate Tribal Nations for the monitoring activities.

D. Tribal Consultation Experience. BOEM, with the assistance of the Lessee, will ensure that all work carried out pursuant to this MOA that requires consultation with Tribal Nations is performed by professionals who have demonstrated professional experience consulting with federally recognized Tribal Nations.

E. BOEM Acknowledgement of the Special Expertise of Tribal Nations. BOEM recognizes that all tribal participants and knowledge need not conform to the SOI's standards, acknowledging that Tribal Nations possess special expertise in assessing the eligibility of historic properties that may possess religious and cultural significance to Tribal Nations, pursuant to 36 CFR 800.4(c)(1). To further apply this expertise, BOEM, with the assistance of the Lessee, will incorporate indigenous knowledge and Indigenous Traditional Ecological Knowledge into the documents and review processes when such knowledge is received from Tribal Nations in consultation and during implementation of the MOA, consistent with the Office of Science and Technology Policy and Council on Environmental Quality memorandums (Executive Branch policy) on ITEK and federal decision making (November 15, 2021) and on "Guidance for Federal Department and Agencies on Indigenous Knowledge" (November 30, 2022). Tribal Nations will also be afforded the opportunity to review the application of their knowledge in documents produced under the MOA pursuant to Stipulation V.

X. DURATION

A. This MOA will expire at (1) the decommissioning of the Projects in the lease area, as defined in the Lessee's lease with BOEM (Lease Number OCS-A 0512) or (2) 25-years from the date of COP approval, whichever occurs first. Prior to such time, BOEM may consult with the other signatories and invited signatories to reconsider the terms of the MOA and amend it in accordance with Amendment Stipulation (Stipulation XV).

XI. POST-REVIEW DISCOVERIES

A. Implementation of Post-Review Discovery Plans. If properties are discovered that may be historically significant or have unanticipated effects on historic properties found, BOEM and BSEE, with the assistance of the Lessee, will implement the post-review discovery plans found in Attachment 6 (Unanticipated Discoveries Plan for Submerged Archaeological Sites, Historic Properties, and Cultural Resources Including Human Remains) and Attachment 7 (Monitoring and Unanticipated Discoveries Plan for Terrestrial Archaeological Resources).

1. The signatories acknowledge and agree that it is possible that additional historic properties may be discovered during the implementation of the Projects, despite the completion of a good faith effort to identify historic properties throughout the APEs.

B. All Post-Review Discoveries. In the event of a post-review discovery of a historic property or unanticipated effects to a historic property prior to or during construction, operation, maintenance, or decommissioning of the Projects, the Lessee must implement the following actions that are consistent with the post-review discovery plans (Attachments 6 and 7):

1. Immediately halt all ground- or seafloor-disturbing activities within the area of discovery while considering whether stabilization and further protections are warranted to keep the discovered resource from further degradation and impact; and

2. Notify BOEM in writing via report within 72 hours of the discovery, including any recommendations on need and urgency of stabilization and additional protections for the discovered resource; and

3. Keep the location of the discovery confidential and take no action that may adversely affect the discovered historic property until BOEM or its designee has made an evaluation and instructs the Lessee on how to proceed; and

4. Conduct any additional investigations as directed by BOEM or its designee to determine if the resource is eligible for listing in the NRHP (30 CFR 585.802(b)). BOEM will direct the Lessee to complete additional investigations, as BOEM deems appropriate, if:

   i. the site has been impacted by the Lessee's Project activities, or

   ii. impacts to the site from the Lessee's Project activities cannot be avoided.

5. If investigations indicate that the resource is eligible for the NRHP, BOEM, with the assistance of the Lessee, will work with the other relevant signatories, invited signatories, and consulting parties to this MOA who have a demonstrated interest in the affected historic property and on the further avoidance, minimization, or mitigation of adverse effects.

6. If investigations identify that human remains or funerary items are present and associated with Tribal Nations, as defined at 25 U.S.C. 32 3001 (9), then BOEM, assisted by the Lessee,

will implement the treatment process consistent with the Native American Graves Protection and Repatriation Act (NAGPRA). BOEM will consult with Tribal Nations prior to the development or execution of a treatment plan, consistent with the provisions of NAGPRA at 25 U.S.C. 3001-3013 and related law at 18 U.S.C. 1170. The Lessee must assist BOEM in the development and execution of a treatment plan at BOEM's request that is responsive to Tribal Nation concerns that might be expressed in the consultation.

7. If there is any evidence that the discovery is from an indigenous society or appears to be a preserved burial site, the Lessee must contact the Tribal Nations (the Delaware Tribe of Indians, Delaware Nation, the Shinnecock Indian Nation, Mashantucket (Western) Pequot Tribal Nation, the Mashpee Wampanoag Tribe, the Stockbridge-Munsee Community Band of Mohican Indians, and the Wampanoag Tribe of Gay Head (Aquinnah)) as identified in the notification lists included in the post-review discovery plans within 72 hours of the discovery with details of what is known about the discovery, and consult with the Tribal Nations pursuant to the post-review discovery plan.

8. If BOEM incurs costs in addressing the discovery, under Section 110(g) of the NHPA, BOEM may charge the Lessee reasonable costs for carrying out historic preservation responsibilities, pursuant to its delegated authority under the OCS Lands Act (30 CFR 585.802 (c-d)).

XII. EMERGENCY SITUATIONS

A. In the event of an emergency or disaster that is declared by the President or the Governors of New York or New Jersey, which represents an imminent threat to public health or safety or creates a hazardous condition due to impacts from this Project's infrastructure damaged during the emergency and affecting historic properties in the APEs, the Lessee must notify BOEM and the Bureau of Safety and Environmental Enforcement (BSEE). BOEM will then, with the assistance of the Lessee, notify the Tribal Nations, New York SHPO, New Jersey SHPO, and the ACHP of the condition which has initiated the situation and the measures taken to respond to the emergency or hazardous condition. BOEM will make this notification as soon as reasonably possible, but no later than 48 hours from when it becomes aware of the emergency or disaster. Should the Tribal Nations, New York SHPO, New Jersey SHPO, or the ACHP desire to provide technical assistance to BOEM, they will submit comments within seven calendar days from notification if the nature of the emergency or hazardous condition allows for such coordination.

XIII. MONITORING AND REPORTING

A. At the beginning of each calendar year by January 31, following the execution of this MOA until it expires or is terminated, the Lessee must prepare and, following BOEM's review and agreement to share this summary report, provide all signatories, invited signatories, and consulting parties to this MOA a summary report detailing work undertaken pursuant to the MOA. Such report will include a description of how the stipulations relating to avoidance and minimization measures (Stipulations I and II) were implemented; any scheduling changes proposed; any problems encountered; and any disputes and objections received in BOEM's efforts to carry out the terms of this MOA. The Lessee can satisfy its reporting requirement under this stipulation by providing the relevant portions of the annual compliance certification required under 30 CFR 585.633. If requested by the signatories, BOEM will convene an annual meeting with the other signatories, invited signatories, and consulting parties to discuss the annual report, the implementation of this MOA, and other requested topics.

XIV. DISPUTE RESOLUTION

A. If any signatory or consulting party to this MOA object at any time to any actions proposed or the manner in which the terms of this MOA are implemented, they must notify BOEM in writing of their objection. BOEM will consult with such party to resolve the objection. If BOEM determines that such objection cannot be resolved, BOEM will:

1. Forward all documentation relevant to the dispute, including BOEM's proposed resolution, to the ACHP. The ACHP will provide BOEM with its advice on the resolution of the objection within 30 calendar days of receiving adequate documentation. Prior to reaching a final decision on the dispute, BOEM will prepare a written response that takes into account any timely advice or comments regarding the dispute from the ACHP, signatories, invited signatories, and/or consulting parties, and provide them with a copy of this written response. BOEM will make a final decision and proceed accordingly.

2. If the ACHP does not provide its advice regarding the dispute within the 30 calendar-day time period, BOEM may make a final decision on the dispute and proceed accordingly. Prior to reaching such a final decision, BOEM will prepare a written response that considers any timely comments regarding the dispute from the signatories, invited signatories, or consulting parties to the MOA, and provide them and the ACHP with a copy of such written response.

B. BOEM's responsibility to carry out all other actions subject to the terms of this MOA that are not the subject of the dispute remain unchanged.

C. At any time during the implementation of the measures stipulated in this MOA, should a member of the public object in writing to the signatories regarding the manner in which the measures stipulated in this MOA are being implemented, that signatory will notify BOEM. BOEM will review the objection and may notify the other signatories as appropriate and respond to the objector.

XV. AMENDMENTS

A. This MOA may be amended when such an amendment is agreed to in writing by all signatories and invited signatories. The amendment will be effective on the date a copy signed by all the signatories and invited signatories is filed with the ACHP.

B. Revisions to any attachment may be proposed by any signatory or invited signatory by submitting a draft of the proposed revisions to all signatories and invited signatories with a notification to the consulting parties. The signatories and invited signatories will consult for no more than 30 calendar days (or another time period agreed upon by all signatories and invited signatories) to consider the proposed revisions to the attachment. If the signatories and invited signatories unanimously agree to revise the attachment, BOEM will provide a copy of the revised attachment to the other signatories, invited signatories, and consulting parties. Revisions to any attachment to this MOA will not require an amendment to the MOA.

XVI. TERMINATION

A. If any signatory or invited signatory to this MOA determines that its terms will not or cannot be carried out, that party will immediately consult with the other signatories, invited signatories, and consulting parties to attempt to develop an amendment per Stipulation XV. If within 30 calendar days (or another time period agreed to by all signatories) an amendment cannot be reached, any signatory or invited signatory may terminate the MOA upon written notification to the other signatories.

B. Once the MOA is terminated, and prior to work continuing on the undertaking, BOEM will either (a) execute an MOA pursuant to 36 CFR 800.6 or (b) request, take into account, and respond to the comments of the ACHP under 36 CFR 800.7. BOEM will notify the signatories and invited signatories as to the course of action it will pursue.

XVII. COORDINATION WITH OTHER FEDERAL AGENCIES

A. If another federal agency not initially a party to or subject to this MOA receives an application for funding/license/permit for the undertaking as described in this MOA, that agency may fulfill its Section 106 responsibilities by stating in writing it concurs with the terms of this MOA and notifying the signatories and invited signatories that it intends to do so. Such federal agency may become a signatory, invited signatory, or a concurring party (collectively referred to as signing party) to the MOA as a means of complying with its responsibilities under Section 106 and based on its level of involvement in the undertaking. To become a signing party to the MOA, the agency official must provide written notice to the signatories and invited signatories that the agency agrees to the terms of the MOA, specifying the extent of the agency's intent to participate in the MOA. The participation of the agency is subject to approval by the signatories and invited signatories who must respond to the written notice within 30 calendar days or the approval will be considered implicit. Any necessary amendments to the MOA as a result will be considered in accordance with the Amendment Stipulation (Stipulation XV).

B. If the signatories and invited signatories approve the federal agency's request to be a signing party to this MOA, an amendment under Stipulation XV will not be necessary if the federal agency's participation does not change the undertaking in a manner that would require any modifications to the stipulations set forth in this MOA. BOEM will document these conditions and involvement of the federal agency in a written notification to the signatories, invited signatories, and consulting parties, and include a copy of the federal agency's executed signature page, which will codify the addition of the federal agency as a signing party in lieu of an amendment.

XVIII. ANTI-DEFICIENCY ACT

A. Pursuant to 31 U.S.C. 1341, BOEM's obligations under this MOA are subject to the availability of appropriated funds, and the stipulations of this MOA are subject to the provisions of the Anti-Deficiency Act. BOEM will make reasonable and good faith efforts to secure the necessary funds to implement this MOA in its entirety. If compliance with the Anti-Deficiency Act alters or impairs BOEM's ability to implement the stipulations of this agreement, BOEM will consult in accordance with the amendment and termination procedures found in Stipulations XV and XVI of this agreement.

Execution of this MOA by BOEM, the New York SHPO, New Jersey SHPO, and the ACHP, and implementation of its terms demonstrate that BOEM has taken into account the effects of this undertaking on historic properties and afforded the ACHP an opportunity to comment.

[SIGNATURES COMMENCE ON THE FOLLOWING PAGE]

MEMORANDUM OF AGREEMENT
AMONG THE BUREAU OF OCEAN ENERGY MANAGEMENT,
THE DELAWARE TRIBE OF INDIANS,
THE DELAWARE NATION,
THE MASHANTUCKET (WESTERN) PEQUOT TRIBAL NATION,
THE MASHPEE WAMPANOAG TRIBE,
THE SHINNECOCK INDIAN NATION,
THE STOCKBRIDGE-MUNSEE COMMUNITY BAND OF MOHICAN INDIANS,
THE WAMPANOAG TRIBE OF GAY HEAD (AQUINNAH),
THE STATE PRESERVATION OFFICERS OF NEW YORK AND NEW JERSEY,
THE NEW JERSEY HISTORIC TRUST,
EMPIRE WIND LLC,
AND THE ADVISORY COUNCIL ON HISTORIC PRESERVATION
REGARDING THE EMPIRE WIND OFFSHORE WIND FARM PROJECTS (LEASE NUMBER OCS-A 0512)

Signatory:

Bureau of Ocean Energy Management (BOEM)

ELIZABETH KLEIN Digitally signed by ELIZABETH KLEIN Date: 2023.11.09 16:34:06 -05'00'

Date:_____

Elizabeth A. Klein
Director
Bureau of Ocean Energy Management

MEMORANDUM OF AGREEMENT
AMONG THE BUREAU OF OCEAN ENERGY MANAGEMENT,
THE DELAWARE TRIBE OF INDIANS,
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THE NEW JERSEY HISTORIC TRUST,
EMPIRE WIND LLC,
AND THE ADVISORY COUNCIL ON HISTORIC PRESERVATION
REGARDING THE EMPIRE WIND OFFSHORE WIND FARM PROJECTS (LEASE NUMBER OCS-A 0512)

Signatory:

New York State Historic Preservation Officer (SHPO)

R Daniel Mackay

Date: 11/16/23

R. Daniel Mackay
Deputy Commissioner
State Historic Preservation Officer
New York State Office of Parks, Recreation and Historic Preservation

**MEMORANDUM OF AGREEMENT
AMONG THE BUREAU OF OCEAN ENERGY MANAGEMENT,
THE DELAWARE TRIBE OF INDIANS,
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EMPIRE WIND LLC,
AND THE ADVISORY COUNCIL ON HISTORIC PRESERVATION
REGARDING THE EMPIRE WIND OFFSHORE WIND FARM PROJECTS (LEASE NUMBER OCS-A 0512)**

Signatory:

New Jersey State Historic Preservation Officer (SHPO)

Katherine J. Marcopul

Date: 11/14/2023

Katherine J. Marcopul, Ph.D., CPM
Administrator and
Deputy State Historic Preservation Officer
New Jersey Department of Environmental Protection

MEMORANDUM OF AGREEMENT
AMONG THE BUREAU OF OCEAN ENERGY MANAGEMENT,
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EMPIRE WIND LLC,
AND THE ADVISORY COUNCIL ON HISTORIC PRESERVATION
REGARDING THE EMPIRE WIND OFFSHORE WIND FARM PROJECTS (LEASE NUMBER OCS-A 0512)

Invited Signatory:

New York State Office of Parks, Recreation and Historic Preservation (OPRHP)

Date: 11/18/23

Thomas Alworth
Executive Deputy Commissioner
New York State Office of Parks, Recreation and Historic Preservation

MEMORANDUM OF AGREEMENT
AMONG THE BUREAU OF OCEAN ENERGY MANAGEMENT,
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EMPIRE WIND LLC,
AND THE ADVISORY COUNCIL ON HISTORIC PRESERVATION
REGARDING THE EMPIRE WIND OFFSHORE WIND FARM PROJECTS (LEASE NUMBER OCS-A 0512)

Invited Signatory:

Empire Wind, LLC

B Scott Lundin

_____ Date: 11/9/2023

Scott Lundin
Vice President of Permitting, Community, and Environmental Affairs
Equinor Wind US, LLC (Empire Offshore Wind LLC)

MEMORANDUM OF AGREEMENT
AMONG THE BUREAU OF OCEAN ENERGY MANAGEMENT,
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THE NEW JERSEY HISTORIC TRUST,
EMPIRE WIND LLC,
AND THE ADVISORY COUNCIL ON HISTORIC PRESERVATION
REGARDING THE EMPIRE WIND OFFSHORE WIND FARM PROJECTS (LEASE NUMBER OCS-A 0512)

Concurring Party:

U.S. Army Corps of Engineers (USACE)

Stephan A. Ryba

Date: 11/6/2023

Stephan A. Ryba
Chief, Regulatory Branch, New York District
U.S. Army Corps of Engineers

**MEMORANDUM OF AGREEMENT
AMONG THE BUREAU OF OCEAN ENERGY MANAGEMENT,
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EMPIRE WIND LLC,
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REGARDING THE EMPIRE WIND OFFSHORE WIND FARM PROJECTS (LEASE NUMBER OCS-A 0512)**

Concurring Party

The Ocean Grove Camp Meeting Association

Natalie Stephens-Stewart

Date: 12/7/2023

Natalie Stewart
Chief Operating Officer
The Ocean Grove Camp Meeting Association

MEMORANDUM OF AGREEMENT
AMONG THE BUREAU OF OCEAN ENERGY MANAGEMENT,
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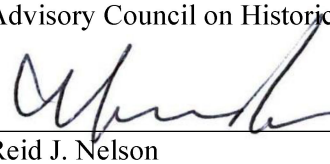
EMPIRE WIND LLC,
AND THE ADVISORY COUNCIL ON HISTORIC PRESERVATION
REGARDING THE EMPIRE WIND OFFSHORE WIND FARM PROJECTS (LEASE NUMBER OCS-A 0512)

Signatory:

Advisory Council on Historic Preservation (ACHP)



Date: 11/20/2023

Reid J. Nelson
Executive Director
Advisory Council on Historic Preservation

MEMORANDUM OF AGREEMENT
AMONG THE BUREAU OF OCEAN ENERGY MANAGEMENT,
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THE SHINNECOCK INDIAN NATION,
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AND THE ADVISORY COUNCIL ON HISTORIC PRESERVATION
REGARDING THE EMPIRE WIND OFFSHORE WIND FARM PROJECTS (LEASE NUMBER OCS-A 0512)

Invited Signatory:

The New Jersey Historic Trust

_____ Date:December 14, 2023_____
Dorothy Guzzo
Executive Director
The New Jersey Historic Trust

MEMORANDUM OF AGREEMENT
AMONG THE BUREAU OF OCEAN ENERGY MANAGEMENT,
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AND THE ADVISORY COUNCIL ON HISTORIC PRESERVATION
REGARDING THE EMPIRE WIND OFFSHORE WIND FARM PROJECTS (LEASE NUMBER OCS-A 0512)

LIST OF ATTACHMENTS TO THE MOA

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ATTACHMENT 1 – APE MAPS

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Marine Archaeological APE Figures

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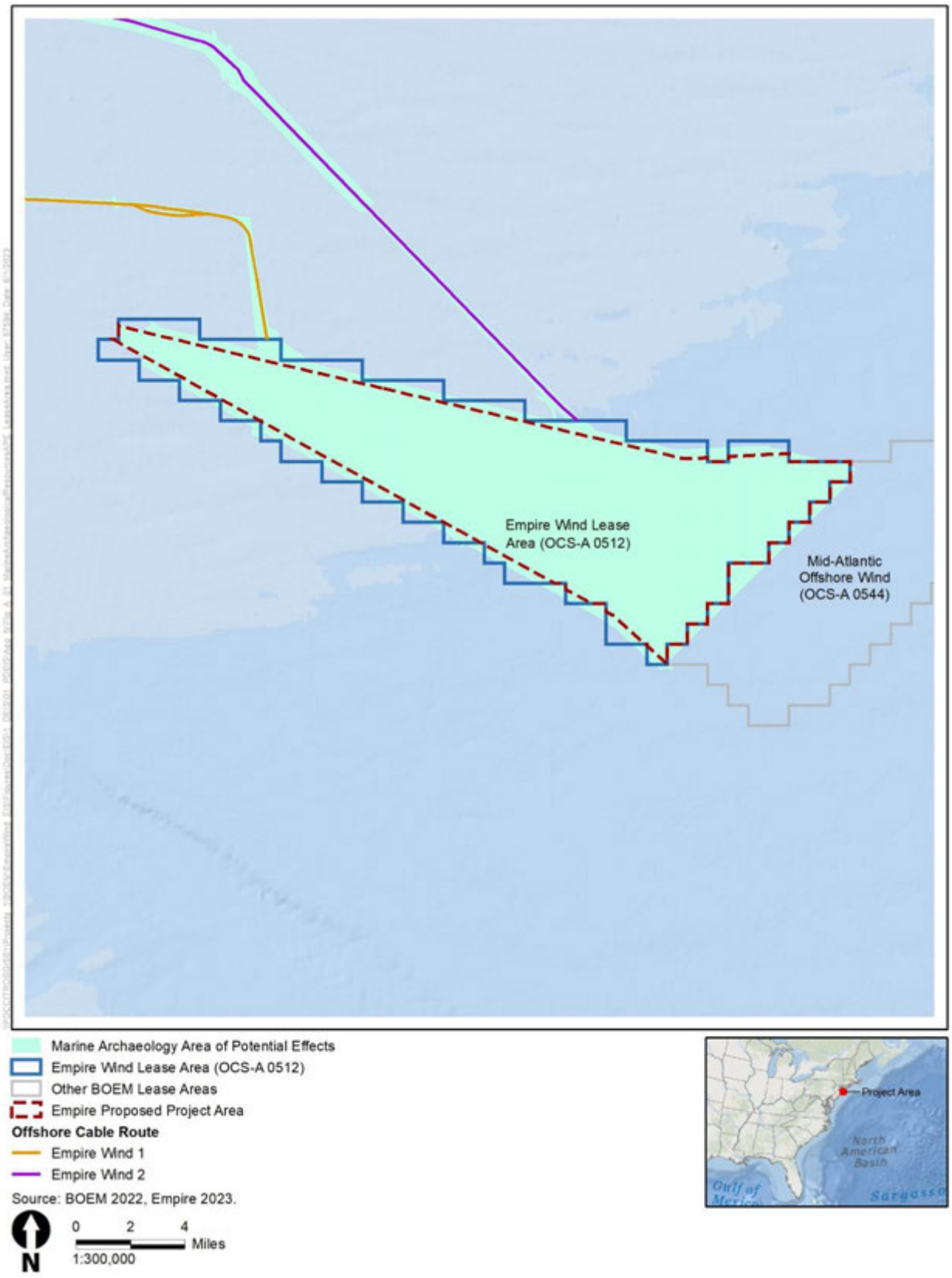

Figure 1 **Marine Archaeological Resources APE for Activities within the Lease Area**

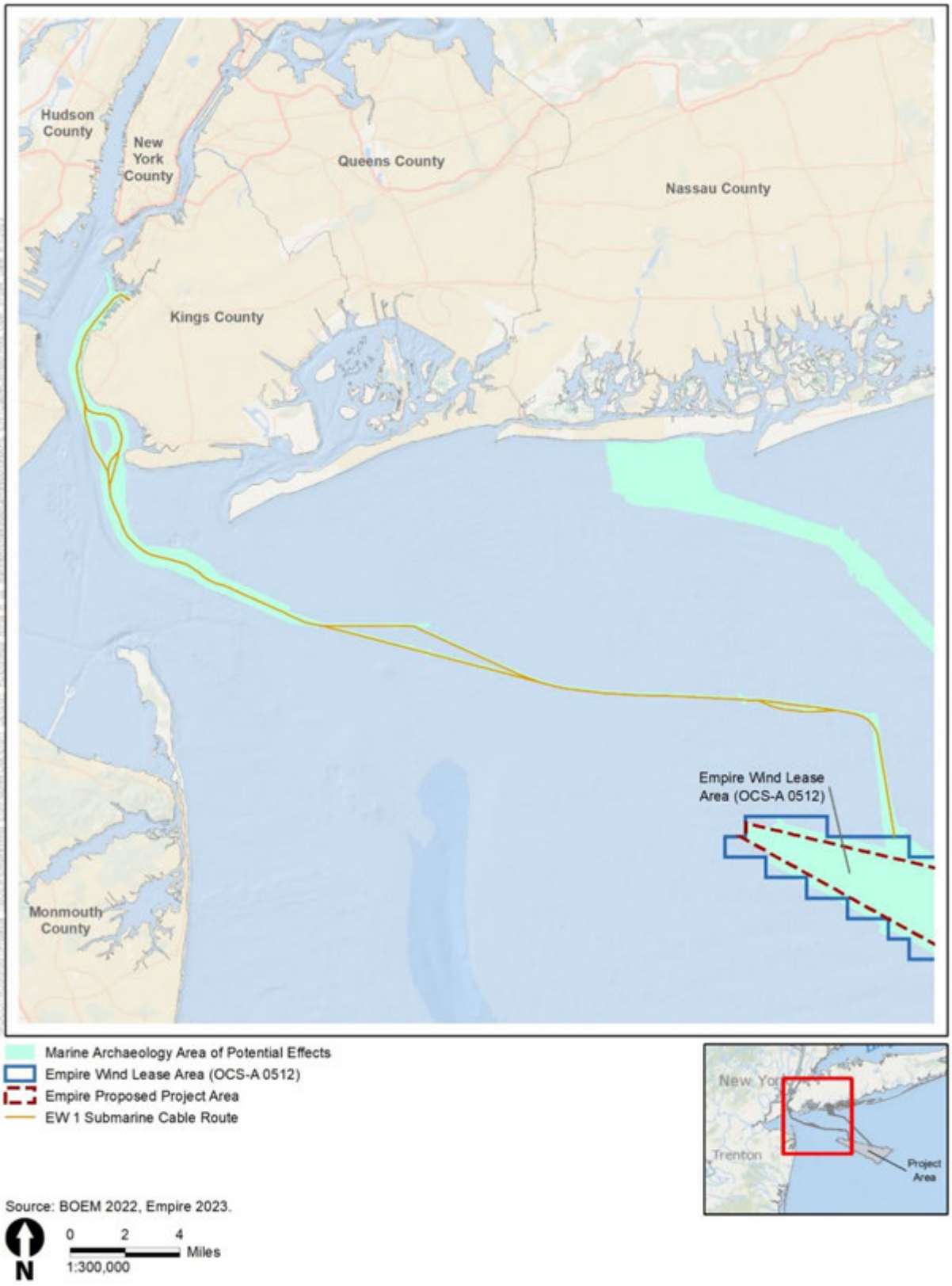

Figure 2 Marine Archaeological Resources APE for Activities within the EW 1 Cable Route Corridor

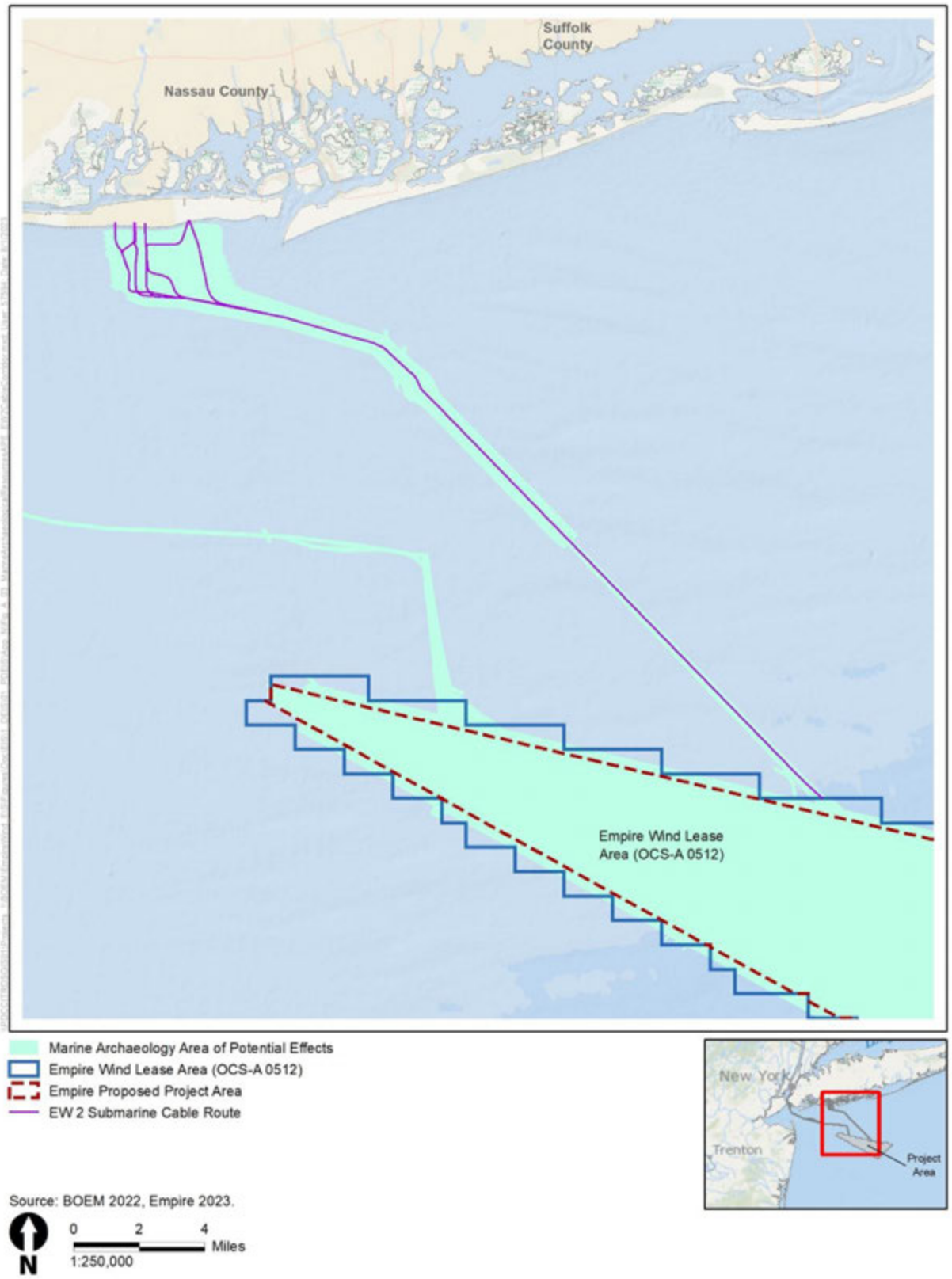

Figure 3 Marine Archaeological Resources APE for Activities within the EW 2 Cable Route Corridor

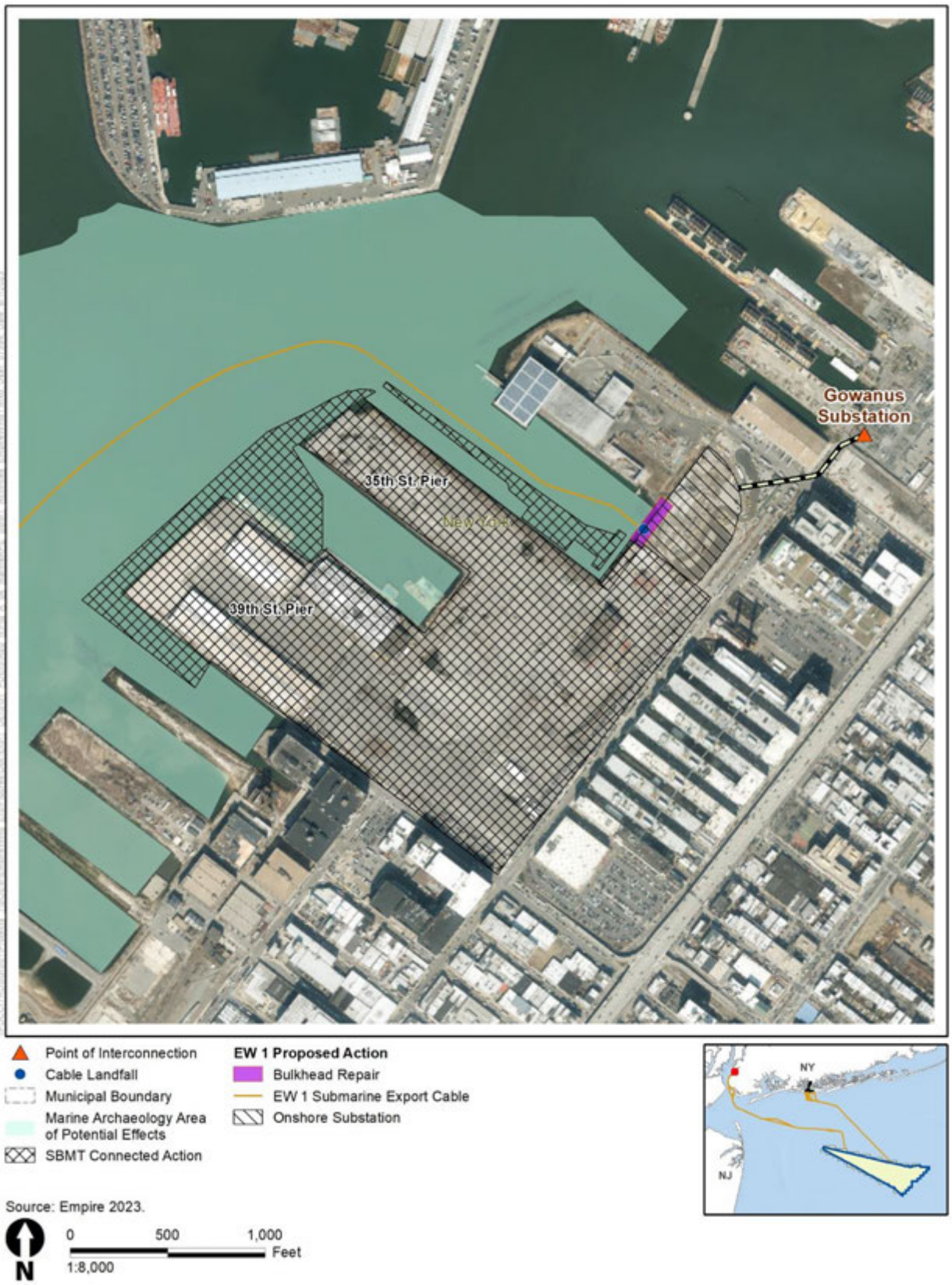

Figure 4 **Marine Archaeological Resources APE for Connected Action Activities**

Terrestrial Archaeological Resources APE Figures

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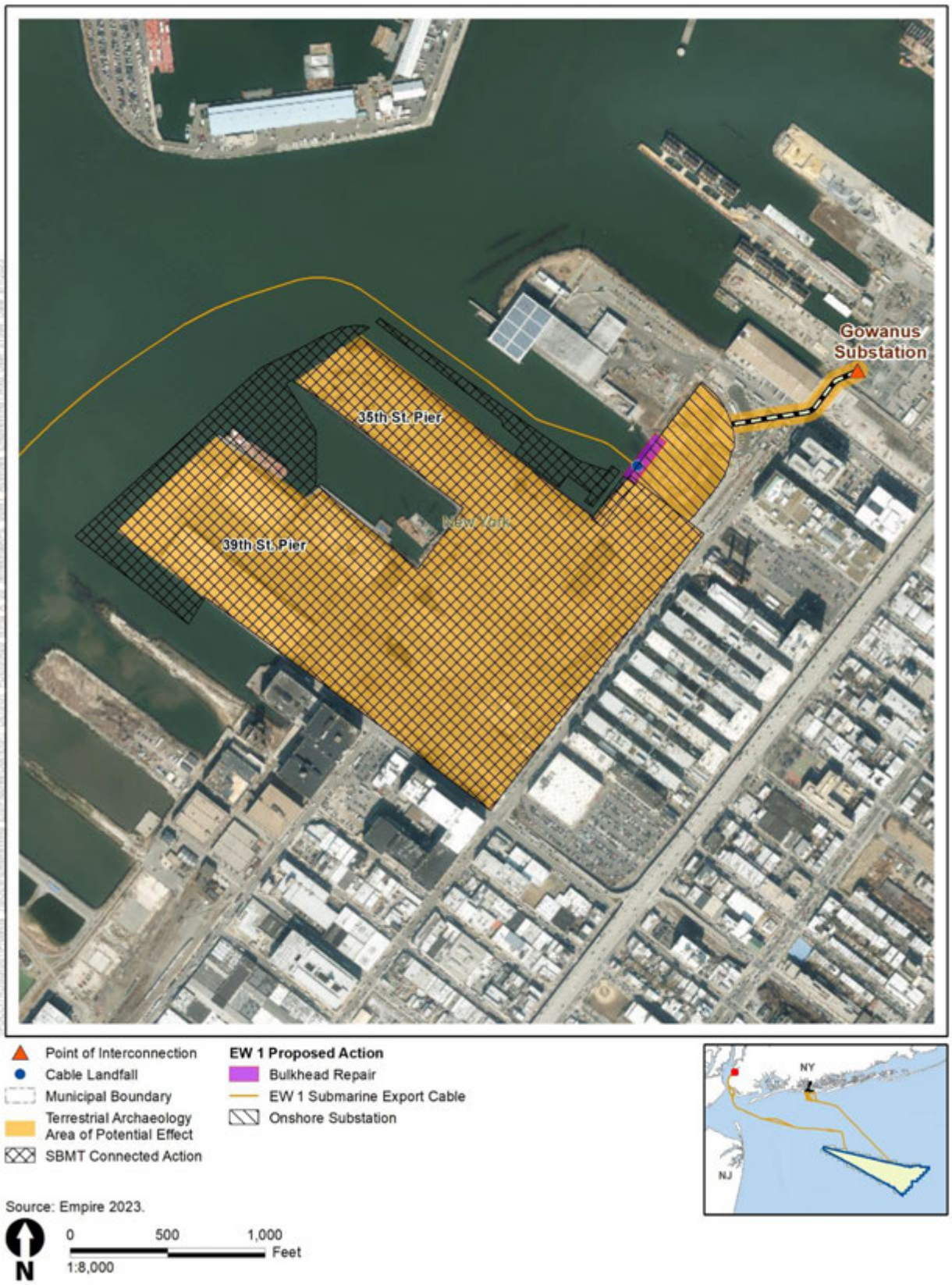

Figure 5 EW 1 Terrestrial Archaeological Resources APE

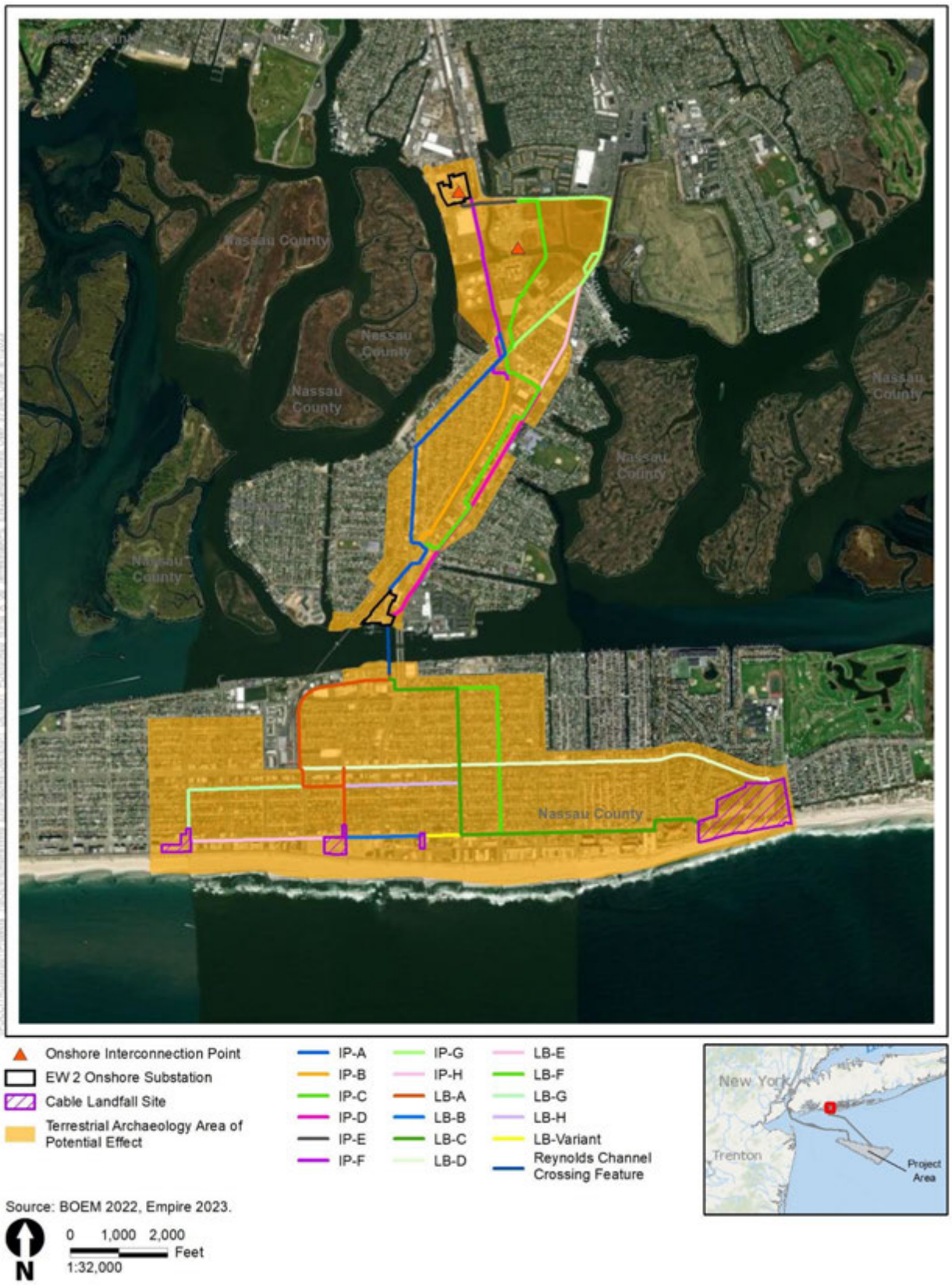

Figure 6 EW 2 Terrestrial Archaeological Resources APE

Offshore Visual APE Figures

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Offshore Visual APE

Individual Historic Properties

- Adverse Effect
- No Adverse Effect

Historic District

- Adverse Effect
- No Adverse Effect

N.

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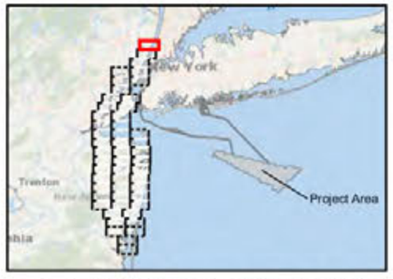


Figure 7 - New Jersey Offshore Visual APE
Map 1 of 51

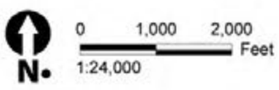
Offshore Visual APE

Individual Historic Properties

- Adverse Effect
- No Adverse Effect

Historic District

- Adverse Effect
- No Adverse Effect



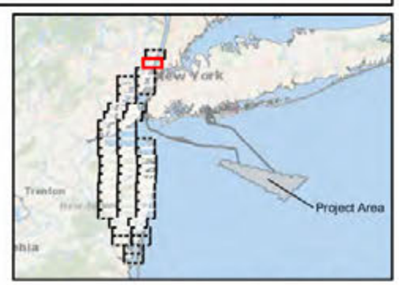


Figure 7 - New Jersey Offshore Visual APE
Map 2 of 51

Offshore Visual APE

Individual Historic Properties

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- No Adverse Effect

Historic District

- Adverse Effect
- No Adverse Effect

N.

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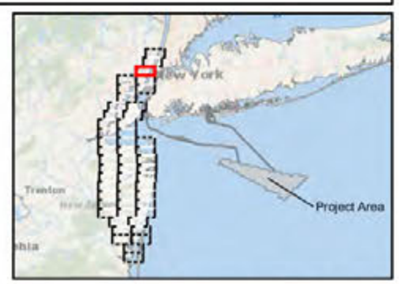

Figure 7 - New Jersey Offshore Visual APE
Map 3 of 51

Offshore Visual APE

Individual Historic Properties

- Adverse Effect
- No Adverse Effect

Historic District

- Adverse Effect
- No Adverse Effect

N.

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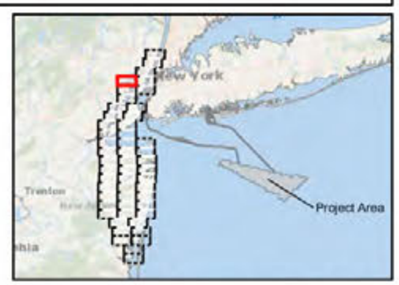

Figure 7 - New Jersey Offshore Visual APE
Map 4 of 51

Offshore Visual APE

Individual Historic Properties

- Adverse Effect
- No Adverse Effect

Historic District

- Adverse Effect
- No Adverse Effect

N.

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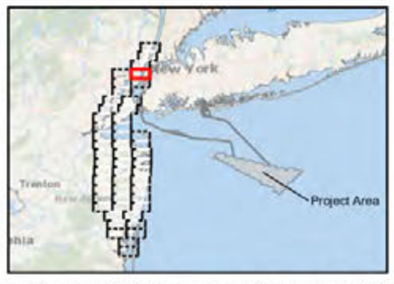

Figure 7 - New Jersey Offshore Visual APE
Map 5 of 51

Offshore Visual APE

Individual Historic Properties

- Adverse Effect
- No Adverse Effect

Historic District

- Adverse Effect
- No Adverse Effect

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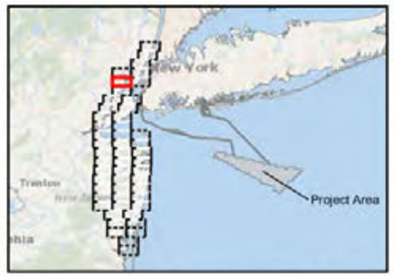

Figure 7 - New Jersey Offshore Visual APE
Map 6 of 51

Offshore Visual APE

Individual Historic Properties

- Adverse Effect
- No Adverse Effect

Historic District

- Adverse Effect
- No Adverse Effect

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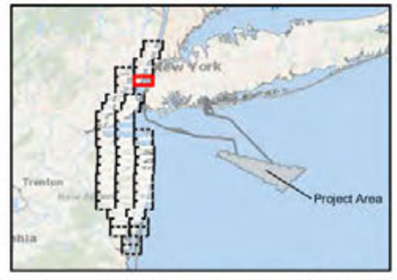

Figure 7 - New Jersey Offshore Visual APE
Map 7 of 51

Offshore Visual APE

Individual Historic Properties

- Adverse Effect
- No Adverse Effect

Historic District

- Adverse Effect
- No Adverse Effect

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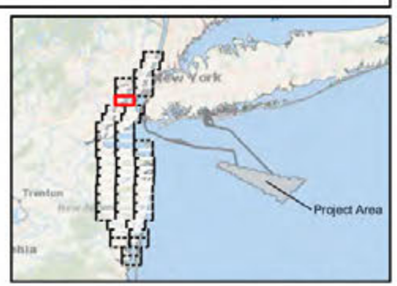
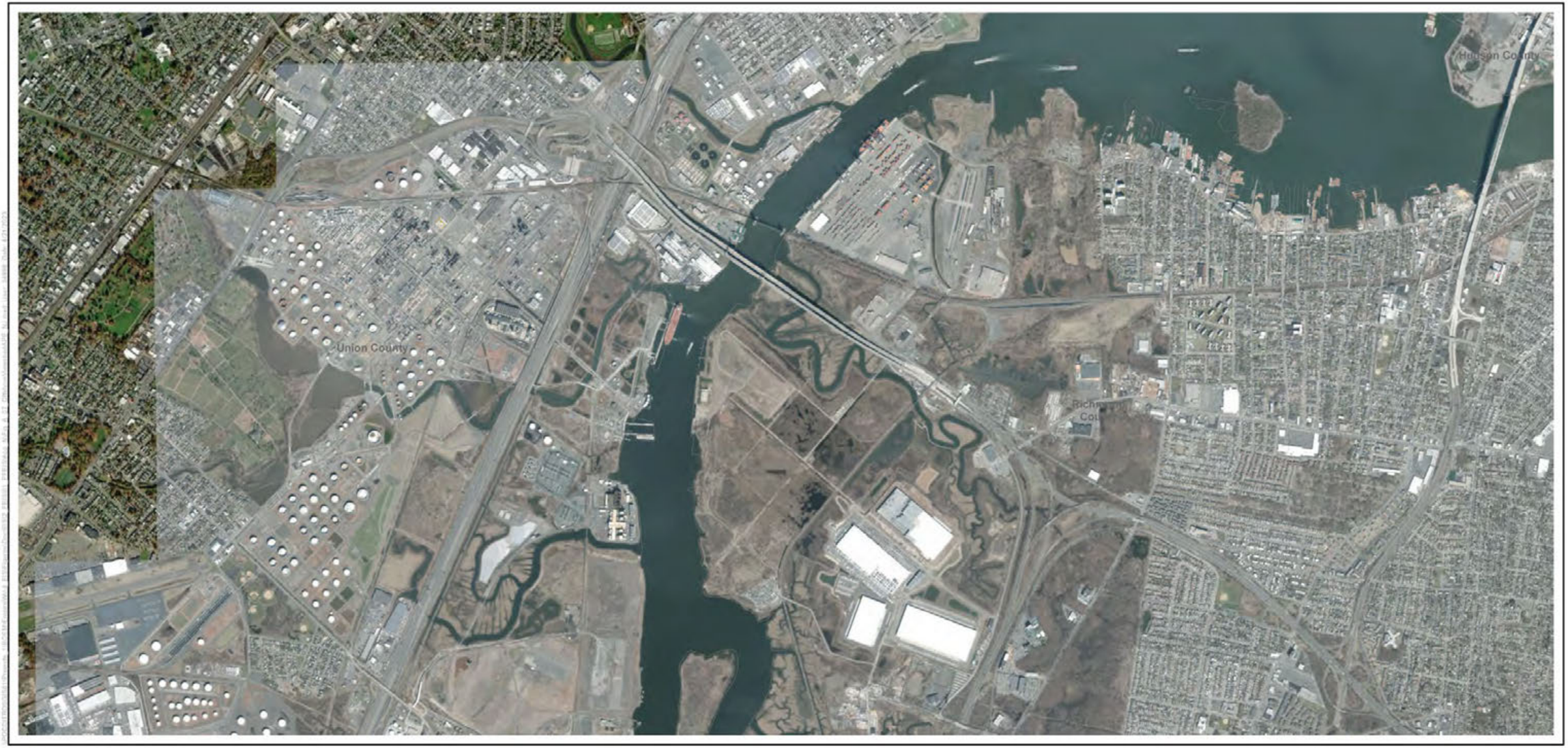


Figure 7 - New Jersey Offshore Visual APE
Map 8 of 51



Offshore Visual APE

Individual Historic Properties

- Adverse Effect
- No Adverse Effect

Historic District

- Adverse Effect
- No Adverse Effect

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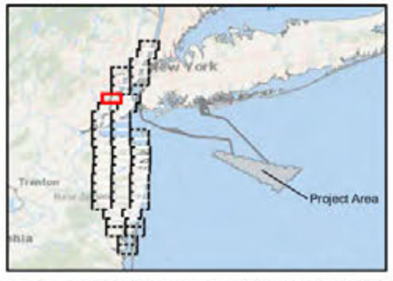

Figure 7 - New Jersey Offshore Visual APE
Map 9 of 51

Offshore Visual APE

Individual Historic Properties

- Adverse Effect
- No Adverse Effect

Historic District

- Adverse Effect
- No Adverse Effect

N.

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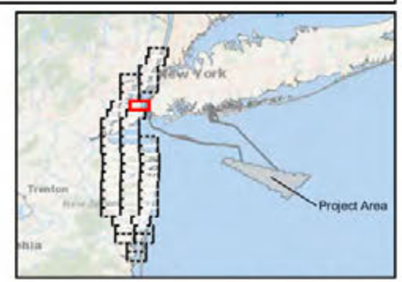

Figure 7 - New Jersey Offshore Visual APE
Map 10 of 51

Offshore Visual APE

Individual Historic Properties

- Adverse Effect
- No Adverse Effect

Historic District

- Adverse Effect
- No Adverse Effect

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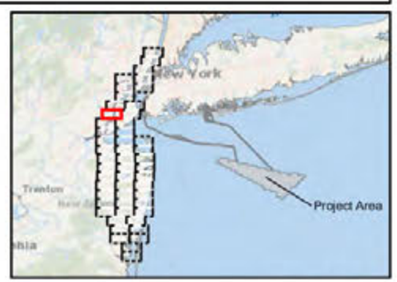

Figure 7 - New Jersey Offshore Visual APE
Map 11 of 51

Offshore Visual APE

Individual Historic Properties

- Adverse Effect
- No Adverse Effect

Historic District

- Adverse Effect
- No Adverse Effect

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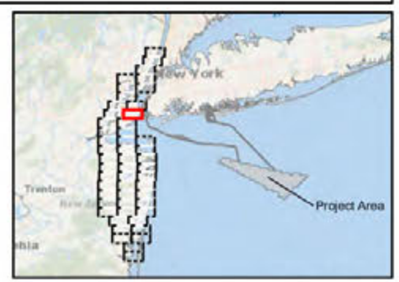

Figure 7 - New Jersey Offshore Visual APE
Map 12 of 51

Offshore Visual APE

Individual Historic Properties

- Adverse Effect
- No Adverse Effect

Historic District

- Adverse Effect
- No Adverse Effect

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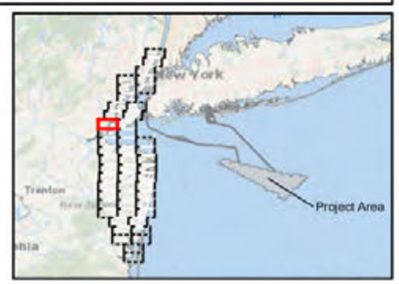

Figure 7 - New Jersey Offshore Visual APE
Map 13 of 51

Offshore Visual APE

Individual Historic Properties

- Adverse Effect
- No Adverse Effect

Historic District

- Adverse Effect
- No Adverse Effect

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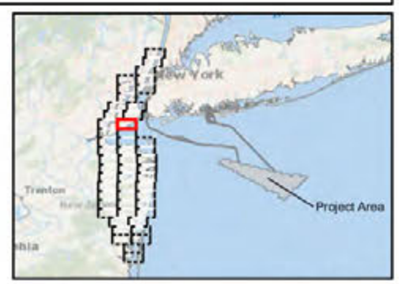

Figure 7 - New Jersey Offshore Visual APE
Map 14 of 51

Offshore Visual APE

Individual Historic Properties

- Adverse Effect
- No Adverse Effect

Historic District

- Adverse Effect
- No Adverse Effect

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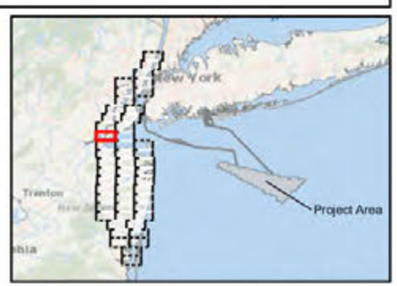

Figure 7 - New Jersey Offshore Visual APE
Map 15 of 51

Offshore Visual APE

Individual Historic Properties

- Adverse Effect
- No Adverse Effect

Historic District

- Adverse Effect
- No Adverse Effect

N.

0 1,000 2,000 Feet

1:24,000

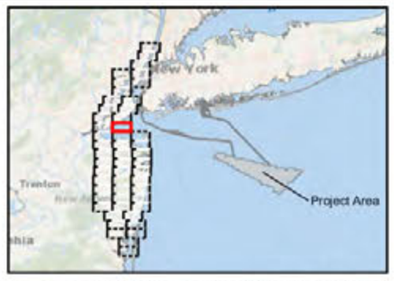

Figure 7 - New Jersey Offshore Visual APE
Map 16 of 51

Offshore Visual APE

Individual Historic Properties

- Adverse Effect
- No Adverse Effect

Historic District

- Adverse Effect
- No Adverse Effect

N.

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1:24,000

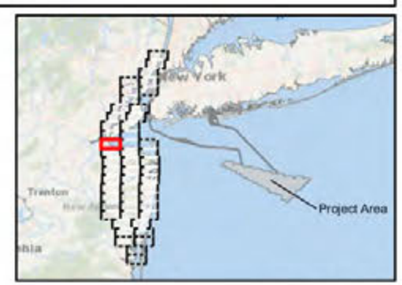

Figure 7 - New Jersey Offshore Visual APE
Map 17 of 51

Offshore Visual APE

Individual Historic Properties

- Adverse Effect
- No Adverse Effect

Historic District

- Adverse Effect
- No Adverse Effect

N.

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1:24,000

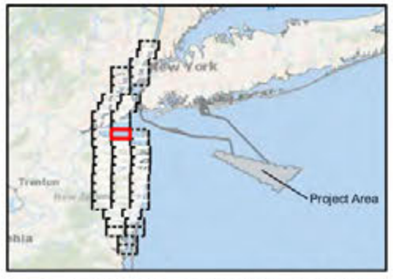

Figure 7 - New Jersey Offshore Visual APE
Map 18 of 51

Offshore Visual APE

Individual Historic Properties

- Adverse Effect
- No Adverse Effect

Historic District

- Adverse Effect
- No Adverse Effect

N

0 1,000 2,000 Feet

1:24,000

Figure 7 - New Jersey Offshore Visual APE
Map 19 of 51

Offshore Visual APE

Individual Historic Properties

- Adverse Effect
- No Adverse Effect

Historic District

- Adverse Effect
- No Adverse Effect

N.

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1:24,000

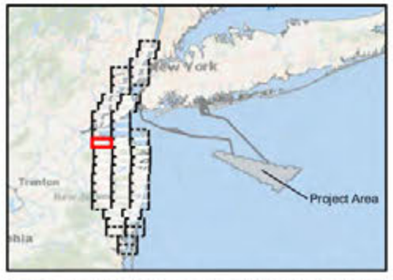

Figure 7 - New Jersey Offshore Visual APE
Map 20 of 51

Offshore Visual APE

Individual Historic Properties

- Adverse Effect
- No Adverse Effect

Historic District

- Adverse Effect
- No Adverse Effect

N.

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1:24,000

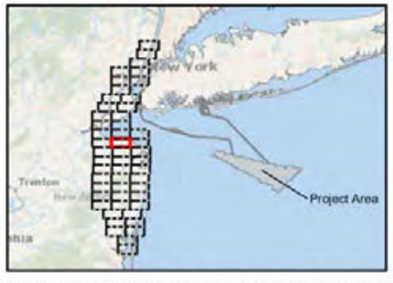
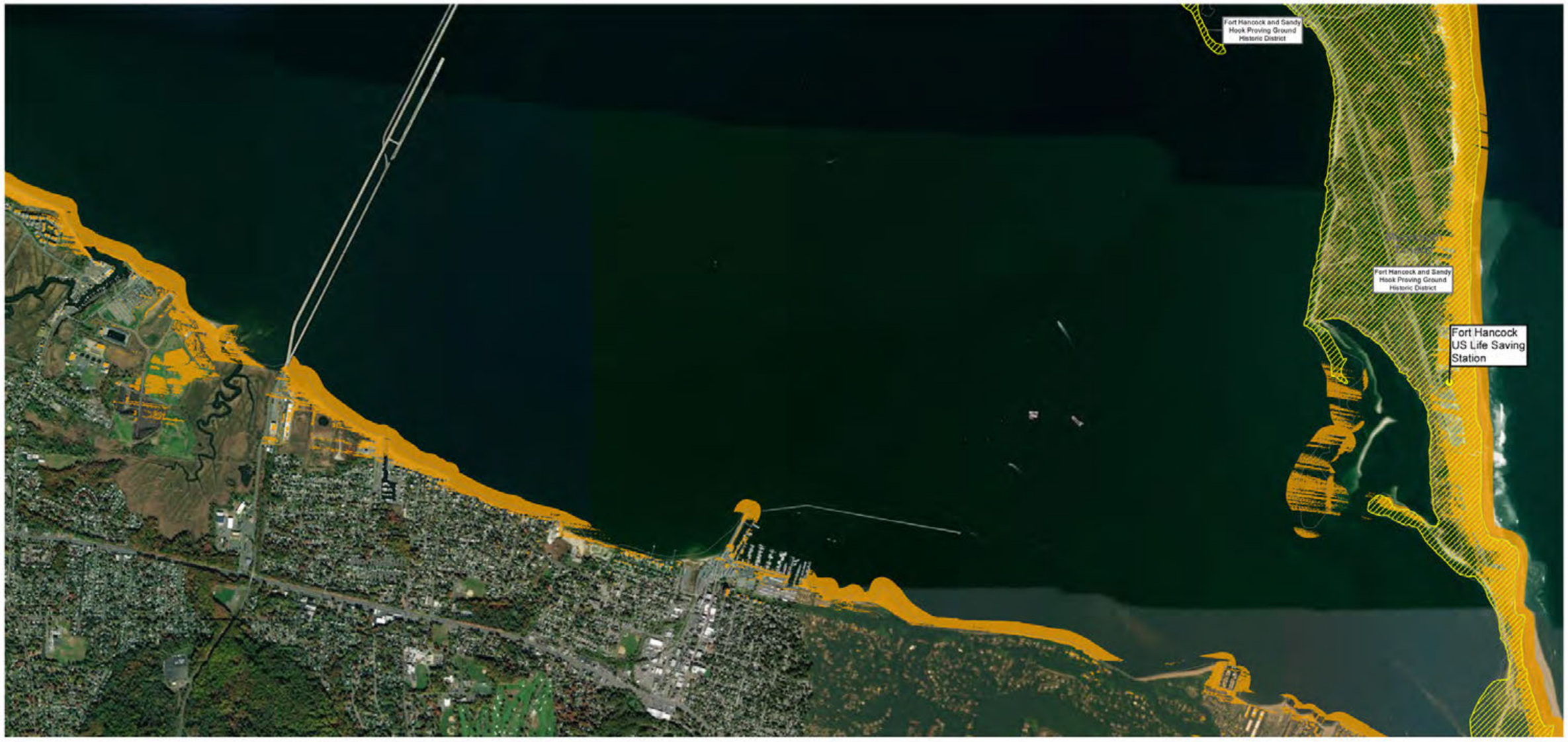


Figure 7 - New Jersey Offshore Visual APE
Map 21 of 51



Offshore Visual APE

Individual Historic Properties

- Adverse Effect
- No Adverse Effect

Historic District

- Adverse Effect
- No Adverse Effect

N.

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1:24,000

Figure 7 - New Jersey Offshore Visual APE
Map 22 of 51

Offshore Visual APE

Individual Historic Properties

- Adverse Effect
- No Adverse Effect

Historic District

- Adverse Effect
- No Adverse Effect

N.

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1:24,000

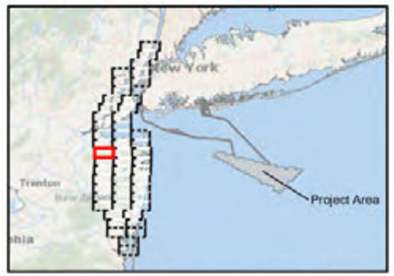

Figure 7 - New Jersey Offshore Visual APE
Map 23 of 51

Offshore Visual APE

Individual Historic Properties

- Adverse Effect
- No Adverse Effect

Historic District

- Adverse Effect
- No Adverse Effect

N.

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1:24,000

Figure 7 - New Jersey Offshore Visual APE
Map 24 of 51

Offshore Visual APE

Individual Historic Properties

- Adverse Effect
- No Adverse Effect

Historic District

- Adverse Effect
- No Adverse Effect

N.

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1:24,000

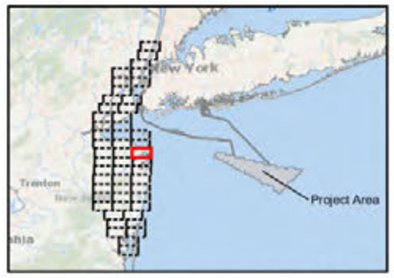

Figure 7 - New Jersey Offshore Visual APE
Map 25 of 51

Offshore Visual APE

Individual Historic Properties

- Adverse Effect
- No Adverse Effect

Historic District

- Adverse Effect
- No Adverse Effect

N.

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1:24,000

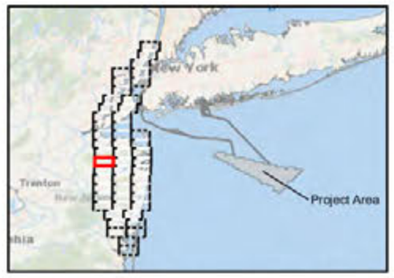

Figure 7 - New Jersey Offshore Visual APE
Map 26 of 51

Offshore Visual APE

Individual Historic Properties

- Adverse Effect
- No Adverse Effect

Historic District

- Adverse Effect
- No Adverse Effect

N.

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1:24,000

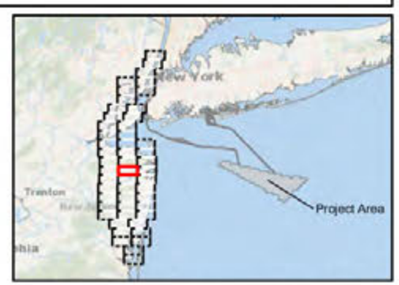


Figure 7 - New Jersey Offshore Visual APE
Map 27 of 51

Offshore Visual APE

Individual Historic Properties

- Adverse Effect
- No Adverse Effect

Historic District

- Adverse Effect
- No Adverse Effect

N.

0 1,000 2,000 Feet

1:24,000

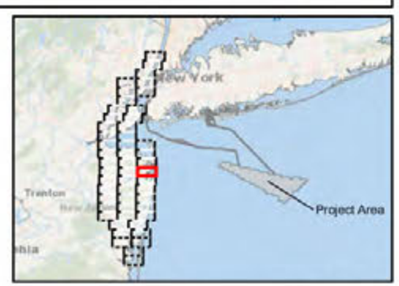


Figure 7 - New Jersey Offshore Visual APE
Map 28 of 51

Offshore Visual APE

Individual Historic Properties

- Adverse Effect
- No Adverse Effect

Historic District

- Adverse Effect
- No Adverse Effect

N.

0 1,000 2,000 Feet

1:24,000

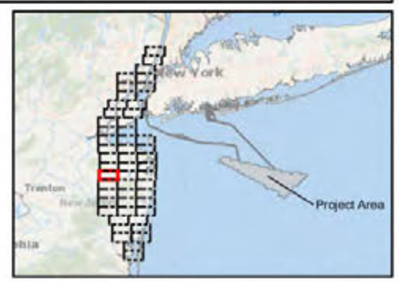


Figure 7 - New Jersey Offshore Visual APE
Map 29 of 51

Offshore Visual APE

Individual Historic Properties

- Adverse Effect
- No Adverse Effect

Historic District

- Adverse Effect
- No Adverse Effect

N.

0 1,000 2,000 Feet

1:24,000

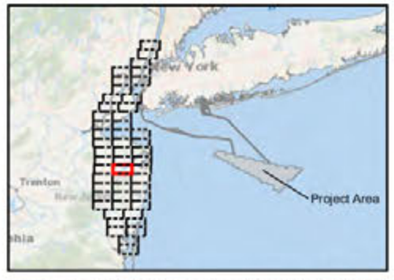


Figure 7 - New Jersey Offshore Visual APE
Map 30 of 51

Offshore Visual APE

Individual Historic Properties

- Adverse Effect
- No Adverse Effect

Historic District

- Adverse Effect
- No Adverse Effect

N.

0 1,000 2,000 Feet

1:24,000

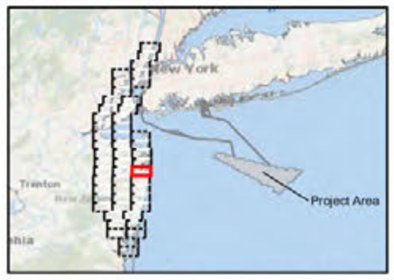


Figure 7 - New Jersey Offshore Visual APE
Map 31 of 51

Offshore Visual APE

Individual Historic Properties

- Adverse Effect
- No Adverse Effect

Historic District

- Adverse Effect
- No Adverse Effect

N.

0 1,000 2,000 Feet

1:24,000

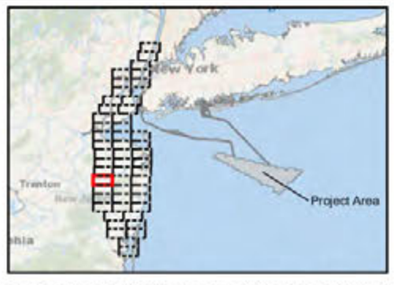


Figure 7 - New Jersey Offshore Visual APE
Map 32 of 51

Offshore Visual APE

Individual Historic Properties

- Adverse Effect
- No Adverse Effect

Historic District

- Adverse Effect
- No Adverse Effect

N.

0 1,000 2,000 Feet

1:24,000

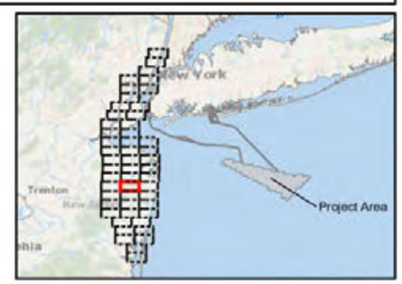


Figure 7 - New Jersey Offshore Visual APE
Map 33 of 51

Offshore Visual APE

Individual Historic Properties

- Adverse Effect
- No Adverse Effect

Historic District

- Adverse Effect
- No Adverse Effect

N.

0 1,000 2,000 Feet

1:24,000

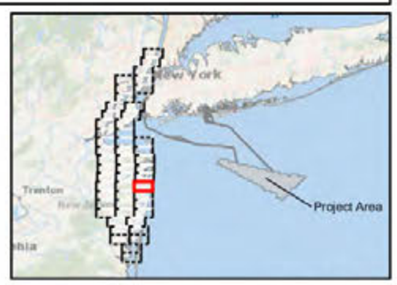


Figure 7 - New Jersey Offshore Visual APE
Map 34 of 51

Offshore Visual APE

Individual Historic Properties

- Adverse Effect
- No Adverse Effect

Historic District

- Adverse Effect
- No Adverse Effect

N.

0 1,000 2,000 Feet

1:24,000

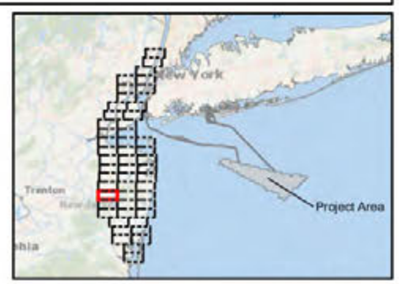


Figure 7 - New Jersey Offshore Visual APE
Map 35 of 51

Offshore Visual APE

Individual Historic Properties

- Adverse Effect
- No Adverse Effect

Historic District

- Adverse Effect
- No Adverse Effect

N.

0 1,000 2,000 Feet

1:24,000

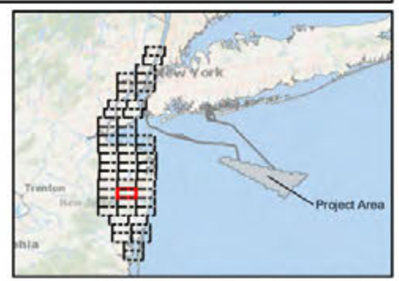
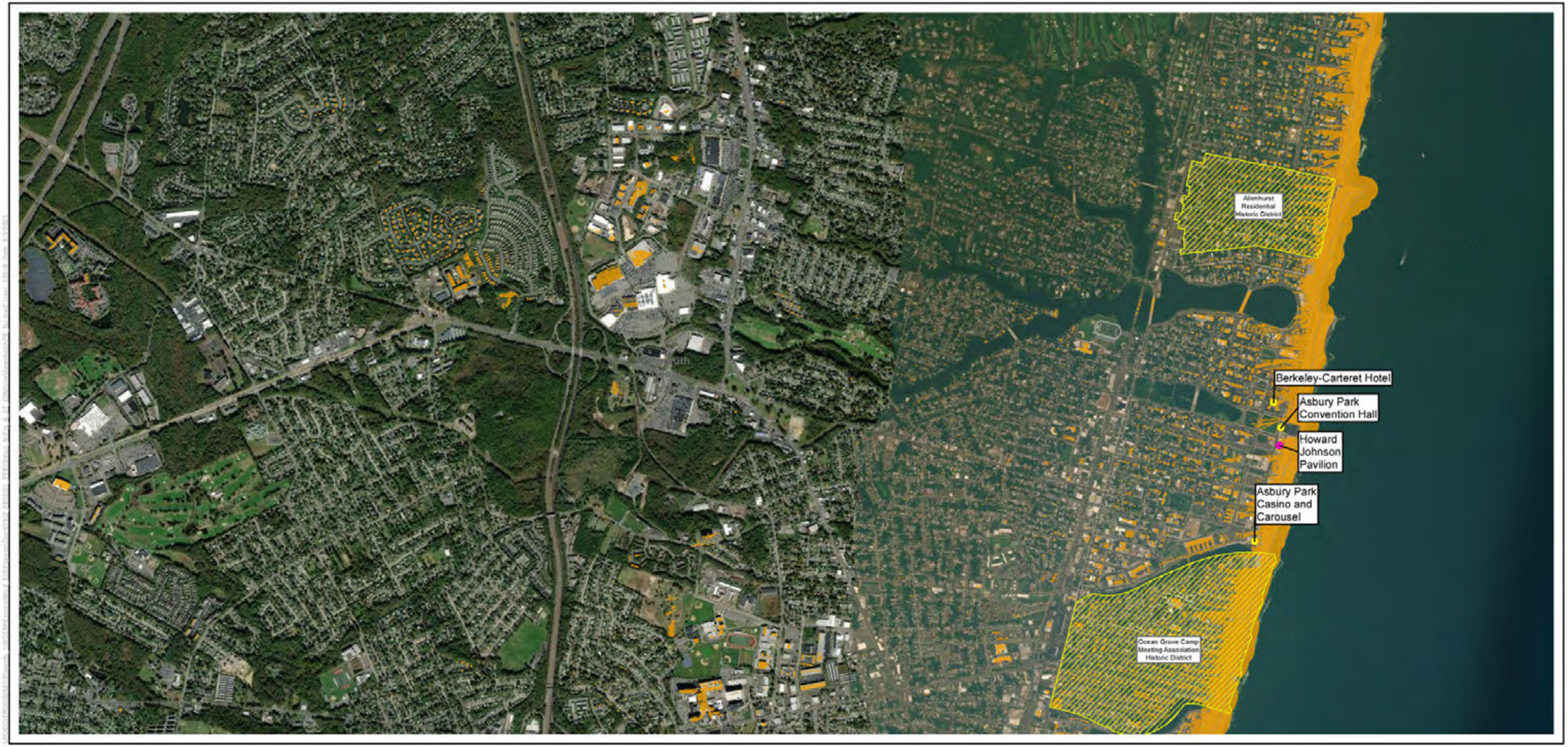


Figure 7 - New Jersey Offshore Visual APE
Map 36 of 51



Offshore Visual APE

Individual Historic Properties

- Adverse Effect
- No Adverse Effect

Historic District

- Adverse Effect
- No Adverse Effect

N.

0 1,000 2,000 Feet

1:24,000

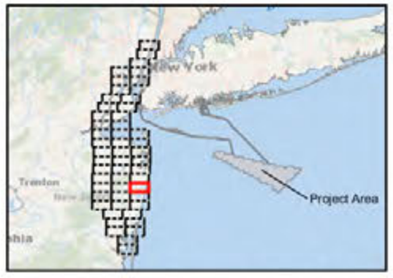


Figure 7 - New Jersey Offshore Visual APE
Map 37 of 51

Offshore Visual APE

Individual Historic Properties

- Adverse Effect
- No Adverse Effect

Historic District

- Adverse Effect
- No Adverse Effect

N.

0 1,000 2,000 Feet

1:24,000

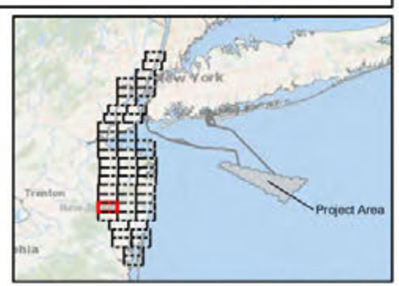


Figure 7 - New Jersey Offshore Visual APE
Map 38 of 51

Offshore Visual APE

Individual Historic Properties

- Adverse Effect
- No Adverse Effect

Historic District

- Adverse Effect
- No Adverse Effect

N.

0 1,000 2,000 Feet

1:24,000

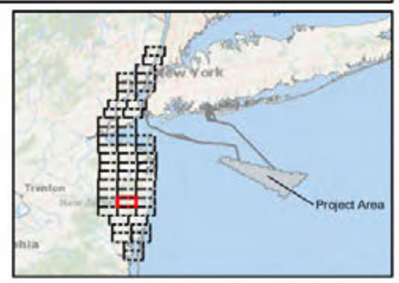


Figure 7 - New Jersey Offshore Visual APE
Map 39 of 51

Offshore Visual APE

Individual Historic Properties

- Adverse Effect
- No Adverse Effect

Historic District

- Adverse Effect
- No Adverse Effect

N.

0 1,000 2,000 Feet

1:24,000

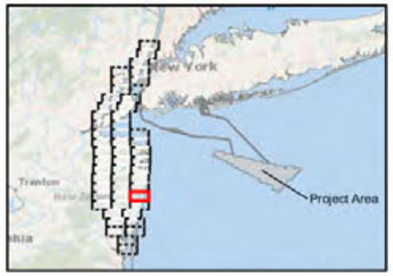


Figure 7 - New Jersey Offshore Visual APE
Map 40 of 51

Offshore Visual APE

Individual Historic Properties

- Adverse Effect
- No Adverse Effect

Historic District

- Adverse Effect
- No Adverse Effect

N.

0 1,000 2,000 Feet

1:24,000

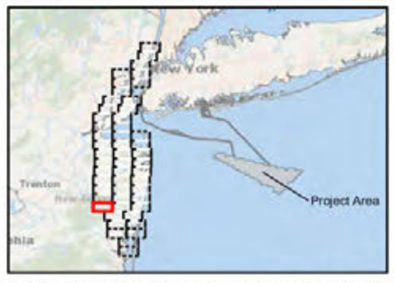


Figure 7 - New Jersey Offshore Visual APE
Map 41 of 51

Offshore Visual APE

Individual Historic Properties

- Adverse Effect
- No Adverse Effect

Historic District

- Adverse Effect
- No Adverse Effect

N.

0 1,000 2,000 Feet

1:24,000

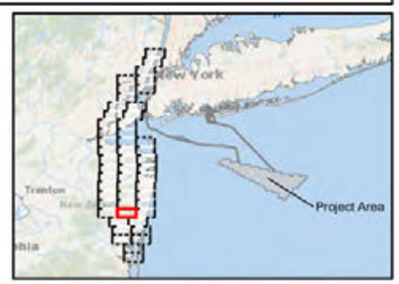


Figure 7 - New Jersey Offshore Visual APE
Map 42 of 51

Offshore Visual APE

Individual Historic Properties

- Adverse Effect
- No Adverse Effect

Historic District

- Adverse Effect
- No Adverse Effect

N

0 1,000 2,000 Feet

1:24,000

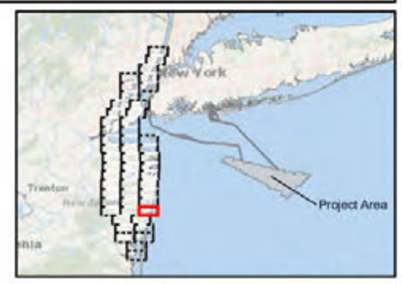


Figure 7 - New Jersey Offshore Visual APE
Map 43 of 51

Monmouth County

Offshore Visual APE

Individual Historic Properties

- Adverse Effect
- No Adverse Effect

Historic District

- Adverse Effect
- No Adverse Effect

N

0 1,000 2,000 Feet

1:24,000

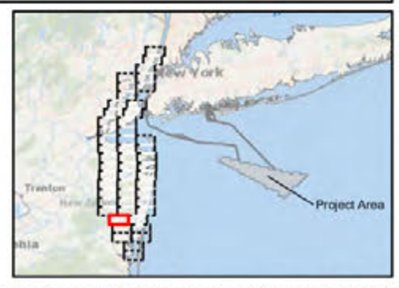


Figure 7 - New Jersey Offshore Visual APE
Map 44 of 51

Offshore Visual APE

Individual Historic Properties

- Adverse Effect
- No Adverse Effect

Historic District

- Adverse Effect
- No Adverse Effect

N.

0 1,000 2,000 Feet

1:24,000

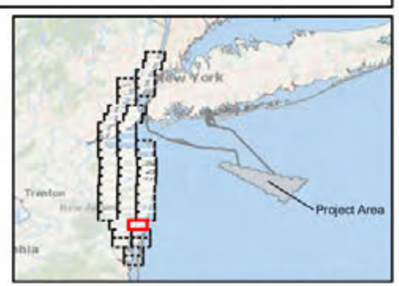


Figure 7 - New Jersey Offshore Visual APE
Map 45 of 51

Offshore Visual APE

Individual Historic Properties

- Adverse Effect
- No Adverse Effect

Historic District

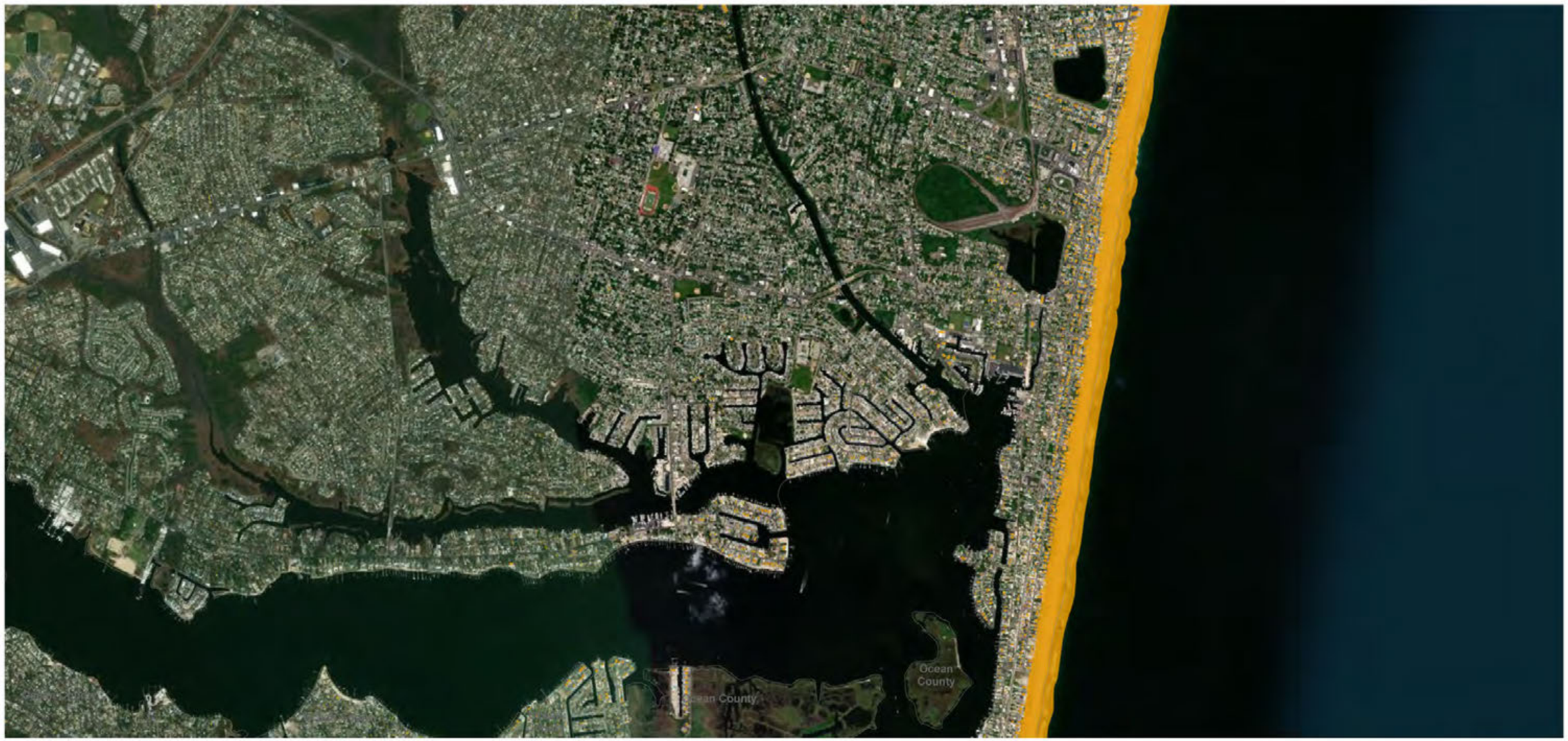
- Adverse Effect
- No Adverse Effect

N.

0 1,000 2,000 Feet

1:24,000

Figure 7 - New Jersey Offshore Visual APE
Map 46 of 51



Offshore Visual APE

Individual Historic Properties

- Adverse Effect
- No Adverse Effect

Historic District

- Adverse Effect
- No Adverse Effect

N.

0 1,000 2,000 Feet

1:24,000

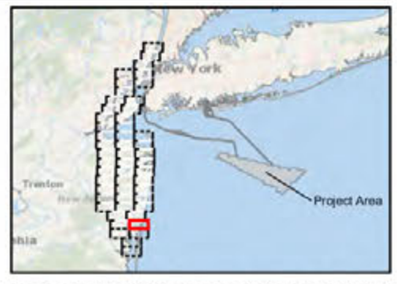


Figure 7 - New Jersey Offshore Visual APE
Map 47 of 51

Offshore Visual APE

Individual Historic Properties

- Adverse Effect
- No Adverse Effect

Historic District

- Adverse Effect
- No Adverse Effect

N

0 1,000 2,000 Feet

1:24,000

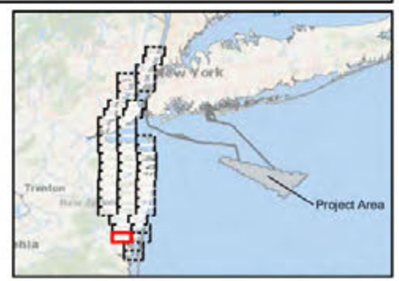


Figure 7 - New Jersey Offshore Visual APE
Map 48 of 51

Offshore Visual APE

Individual Historic Properties

- Adverse Effect
- No Adverse Effect

Historic District

- Adverse Effect
- No Adverse Effect

N.

0 1,000 2,000 Feet

1:24,000

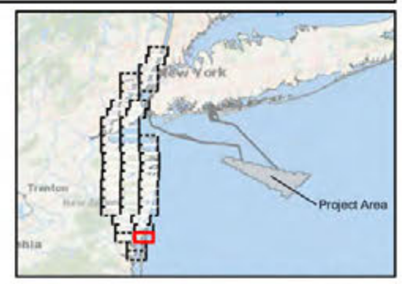
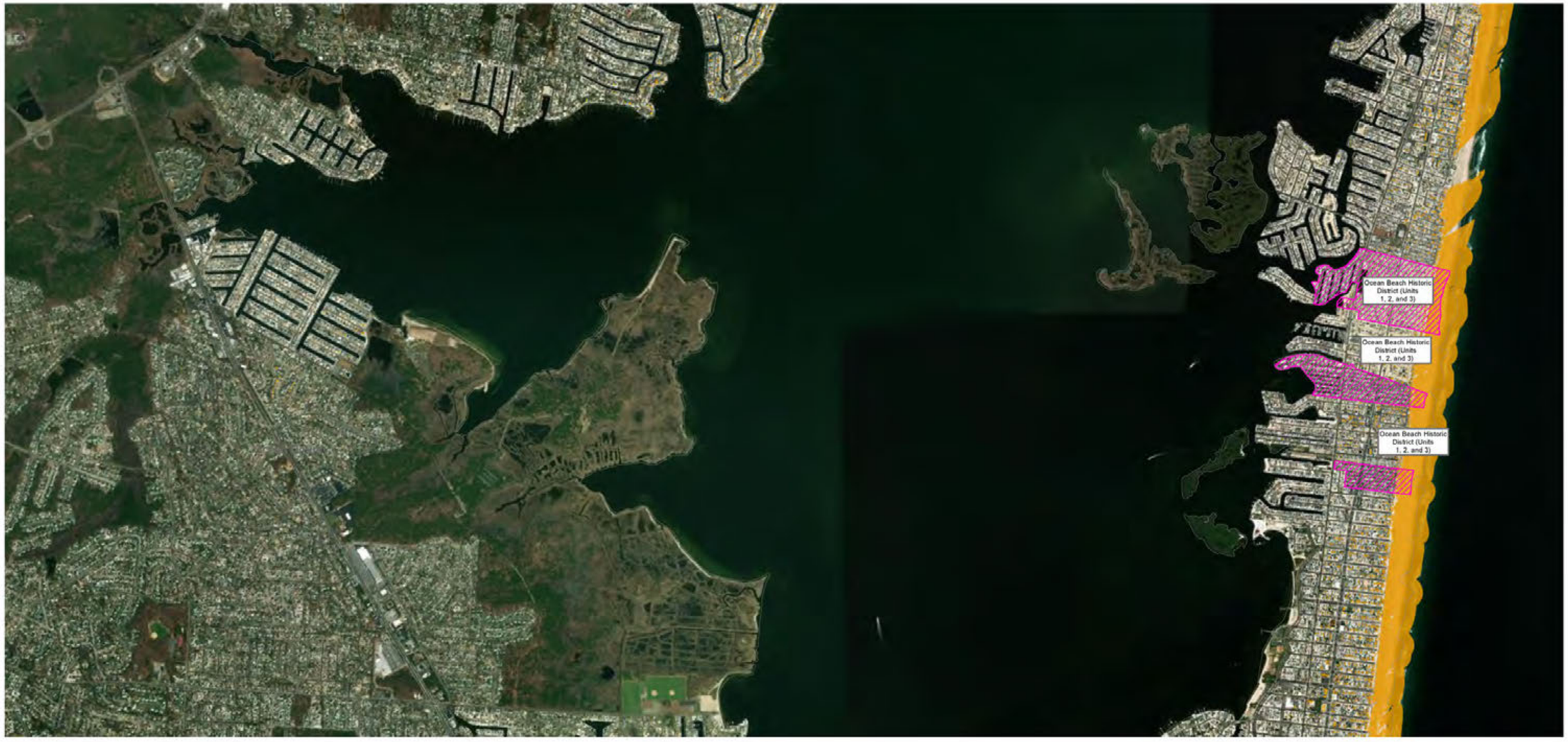


Figure 7 - New Jersey Offshore Visual APE
Map 49 of 51



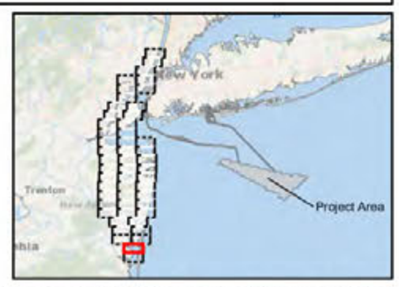
Offshore Visual APE

Individual Historic Properties

- Adverse Effect
- No Adverse Effect

Historic District

- Adverse Effect
- No Adverse Effect

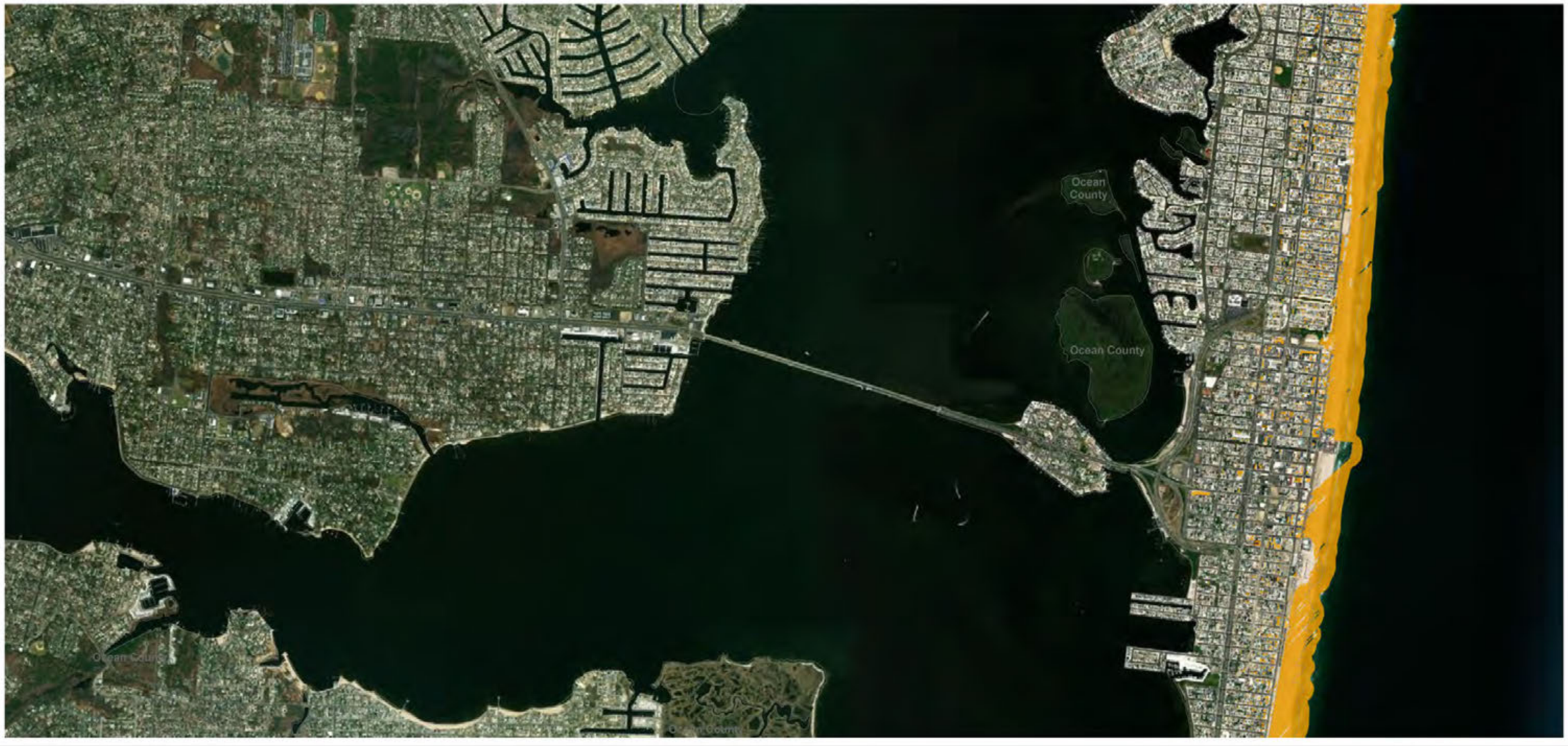


N.

0 1,000 2,000 Feet

1:24,000

Figure 7 - New Jersey Offshore Visual APE
Map 50 of 51



Offshore Visual APE

Individual Historic Properties

- Adverse Effect
- No Adverse Effect

Historic District

- Adverse Effect
- No Adverse Effect

N.

0 1,000 2,000 Feet

1:24,000

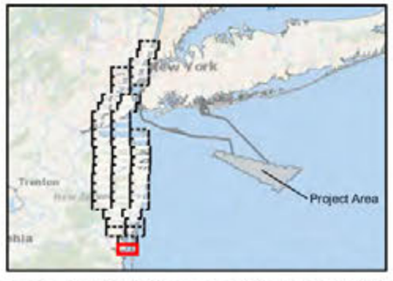


Figure 7 - New Jersey Offshore Visual APE
Map 51 of 51

Suffolk County

Suffolk County

Offshore Visual APE

Individual Historic Properties

- Adverse Effect
- No Adverse Effect

Historic District

- Adverse Effect
- No Adverse Effect

N.

0 1,000 2,000 Feet

1:24,000

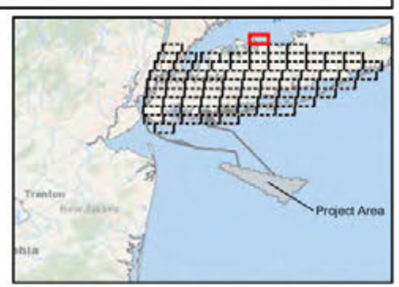


Figure 8 - New York Offshore Visual APE
Map 1 of 83

Offshore Visual APE

Individual Historic Properties

- Adverse Effect
- No Adverse Effect

Historic District

- Adverse Effect
- No Adverse Effect

N.

0 1,000 2,000 Feet

1:24,000

Figure 8 - New York Offshore Visual APE
Map 2 of 83

Offshore Visual APE

Individual Historic Properties

- Adverse Effect
- No Adverse Effect

Historic District

- Adverse Effect
- No Adverse Effect

N.

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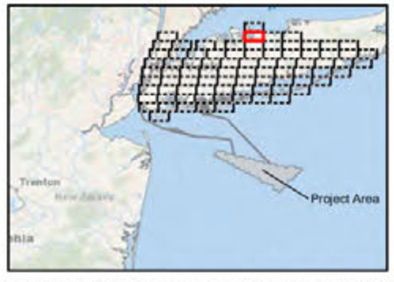

Figure 8 - New York Offshore Visual APE
Map 3 of 83

Offshore Visual APE

Individual Historic Properties

- Adverse Effect
- No Adverse Effect

Historic District

- Adverse Effect
- No Adverse Effect

N.

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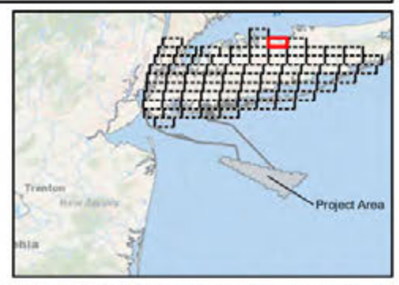

Figure 8 - New York Offshore Visual APE
Map 4 of 83

Offshore Visual APE

Individual Historic Properties

- Adverse Effect
- No Adverse Effect

Historic District

- Adverse Effect
- No Adverse Effect

N.

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Figure 8 - New York Offshore Visual APE
Map 5 of 83

Offshore Visual APE

Individual Historic Properties

- Adverse Effect
- No Adverse Effect

Historic District

- Adverse Effect
- No Adverse Effect

N.

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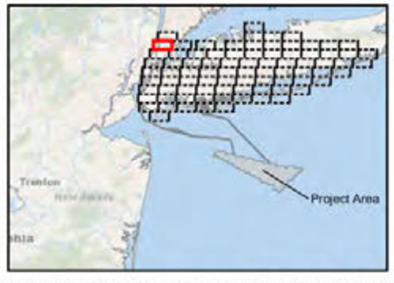

Figure 8 - New York Offshore Visual APE
Map 6 of 83

Offshore Visual APE

Individual Historic Properties

- Adverse Effect
- No Adverse Effect

Historic District

- Adverse Effect
- No Adverse Effect

N.

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1:24,000

Figure 8 - New York Offshore Visual APE
Map 7 of 83

Offshore Visual APE

Individual Historic Properties

- Adverse Effect
- No Adverse Effect

Historic District

- Adverse Effect
- No Adverse Effect

N.

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1:24,000

Figure 8 - New York Offshore Visual APE
Map 8 of 83

Offshore Visual APE

Individual Historic Properties

- Adverse Effect
- No Adverse Effect

Historic District

- Adverse Effect
- No Adverse Effect

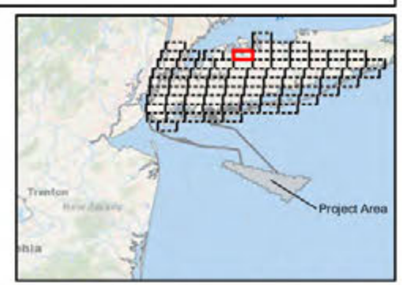

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Figure 8 - New York Offshore Visual APE
Map 9 of 83

Offshore Visual APE

Individual Historic Properties

- Adverse Effect
- No Adverse Effect

Historic District

- Adverse Effect
- No Adverse Effect

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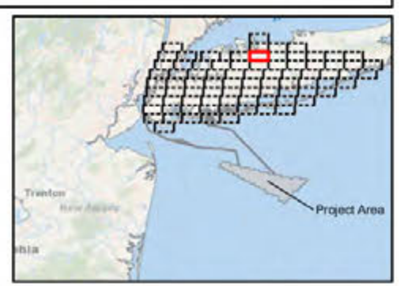

Figure 8 - New York Offshore Visual APE
Map 10 of 83

Offshore Visual APE

Individual Historic Properties

- Adverse Effect
- No Adverse Effect

Historic District

- Adverse Effect
- No Adverse Effect

N.

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1:24,000

Figure 8 - New York Offshore Visual APE
Map 11 of 83

Offshore Visual APE

Individual Historic Properties

- Adverse Effect
- No Adverse Effect

Historic District

- Adverse Effect
- No Adverse Effect

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1:24,000

Figure 8 - New York Offshore Visual APE
Map 12 of 83

Offshore Visual APE

Individual Historic Properties

- Adverse Effect
- No Adverse Effect

Historic District

- Adverse Effect
- No Adverse Effect

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1:24,000

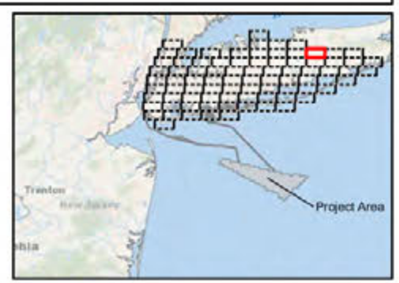

Figure 8 - New York Offshore Visual APE
Map 13 of 83

Offshore Visual APE

Individual Historic Properties

- Adverse Effect
- No Adverse Effect

Historic District

- Adverse Effect
- No Adverse Effect

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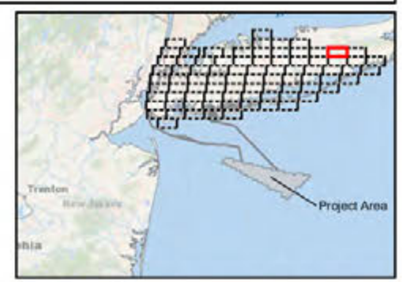

Figure 8 - New York Offshore Visual APE
Map 14 of 83

Offshore Visual APE

Individual Historic Properties

- Adverse Effect
- No Adverse Effect

Historic District

- Adverse Effect
- No Adverse Effect

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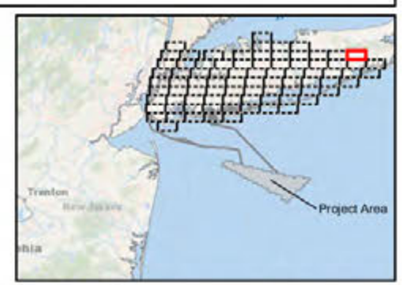

Figure 8 - New York Offshore Visual APE
Map 15 of 83

Offshore Visual APE

Individual Historic Properties

- Adverse Effect
- No Adverse Effect

Historic District

- Adverse Effect
- No Adverse Effect

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Figure 8 - New York Offshore Visual APE
Map 16 of 83

Offshore Visual APE

Individual Historic Properties

- Adverse Effect
- No Adverse Effect

Historic District

- Adverse Effect
- No Adverse Effect

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Figure 8 - New York Offshore Visual APE
Map 17 of 83

Offshore Visual APE

Individual Historic Properties

- Adverse Effect
- No Adverse Effect

Historic District

- Adverse Effect
- No Adverse Effect

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1:24,000

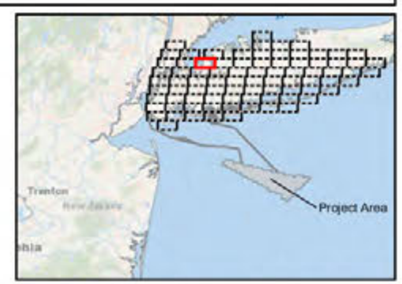


Figure 8 - New York Offshore Visual APE
Map 18 of 83

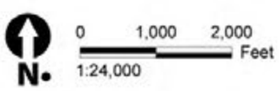
Offshore Visual APE

Individual Historic Properties

- Adverse Effect
- No Adverse Effect

Historic District

- Adverse Effect
- No Adverse Effect



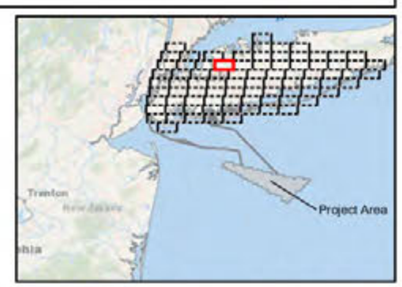


Figure 8 - New York Offshore Visual APE
Map 19 of 83

Offshore Visual APE

Individual Historic Properties

- Adverse Effect
- No Adverse Effect

Historic District

- Adverse Effect
- No Adverse Effect

N.

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1:24,000

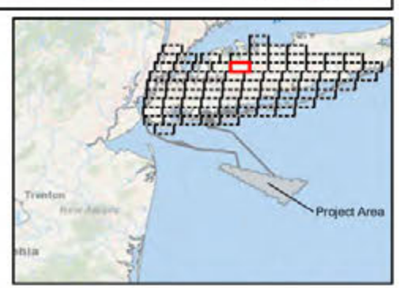

Figure 8 - New York Offshore Visual APE
Map 20 of 83

Offshore Visual APE

Individual Historic Properties

- Adverse Effect
- No Adverse Effect

Historic District

- Adverse Effect
- No Adverse Effect

N.

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1:24,000

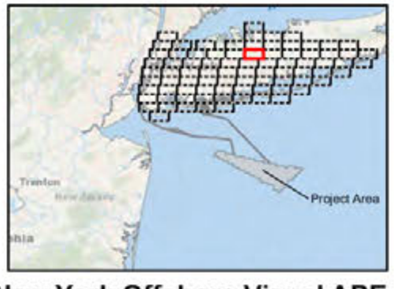

Figure 8 - New York Offshore Visual APE
Map 21 of 83

Offshore Visual APE

Individual Historic Properties

- Adverse Effect
- No Adverse Effect

Historic District

- Adverse Effect
- No Adverse Effect

N.

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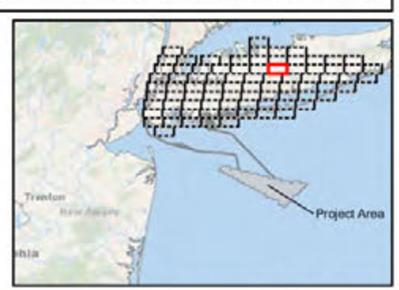

Figure 8 - New York Offshore Visual APE
Map 22 of 83

Offshore Visual APE

Individual Historic Properties

- Adverse Effect
- No Adverse Effect

Historic District

- Adverse Effect
- No Adverse Effect

N.

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1:24,000

Figure 8 - New York Offshore Visual APE
Map 23 of 83

Offshore Visual APE

Individual Historic Properties

- Adverse Effect
- No Adverse Effect

Historic District

- Adverse Effect
- No Adverse Effect

N.

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1:24,000

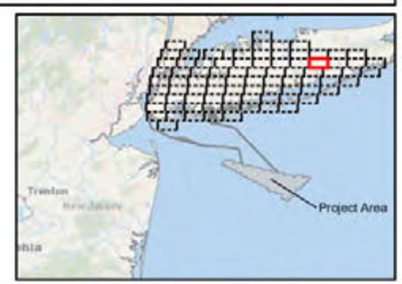

Figure 8 - New York Offshore Visual APE
Map 24 of 83

Offshore Visual APE

Individual Historic Properties

- Adverse Effect
- No Adverse Effect

Historic District

- Adverse Effect
- No Adverse Effect

N.

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1:24,000

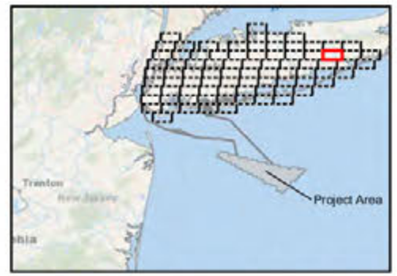


Figure 8 - New York Offshore Visual APE
Map 25 of 83

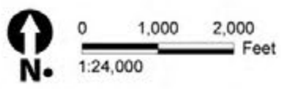
Offshore Visual APE

Individual Historic Properties

- Adverse Effect
- No Adverse Effect

Historic District

- Adverse Effect
- No Adverse Effect



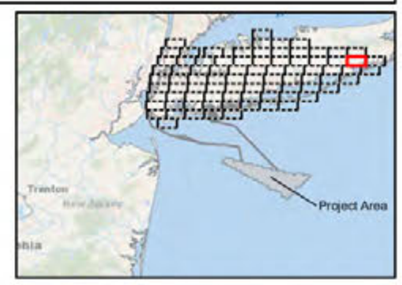


Figure 8 - New York Offshore Visual APE
Map 26 of 83

Offshore Visual APE

Individual Historic Properties

- Adverse Effect
- No Adverse Effect

Historic District

- Adverse Effect
- No Adverse Effect

N.

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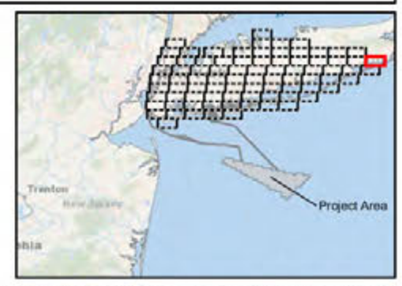
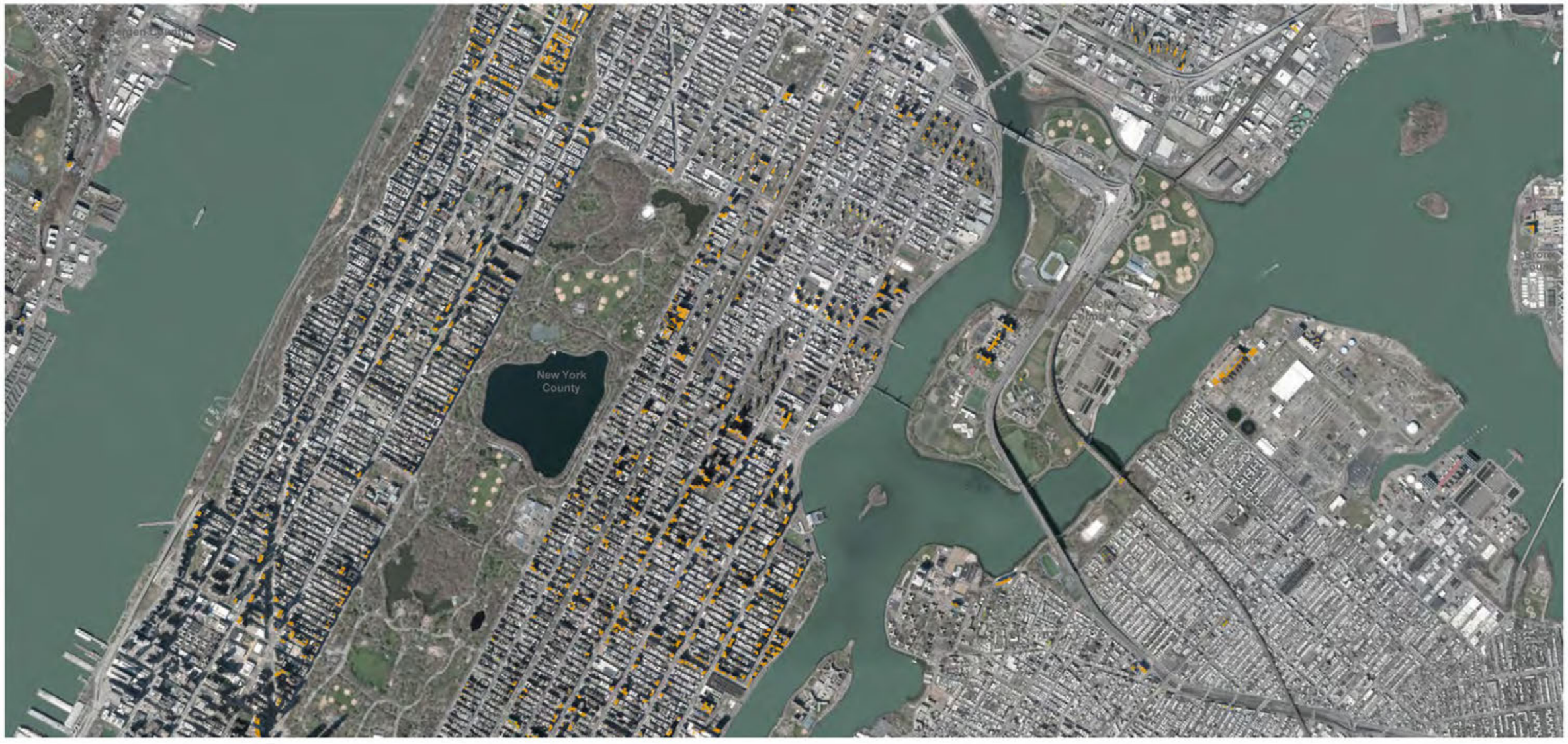


Figure 8 - New York Offshore Visual APE
Map 27 of 83



Offshore Visual APE

Individual Historic Properties

- Adverse Effect
- No Adverse Effect

Historic District

- Adverse Effect
- No Adverse Effect

N.

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Figure 8 - New York Offshore Visual APE
Map 28 of 83

Offshore Visual APE

Individual Historic Properties

- Adverse Effect
- No Adverse Effect

Historic District

- Adverse Effect
- No Adverse Effect

N.

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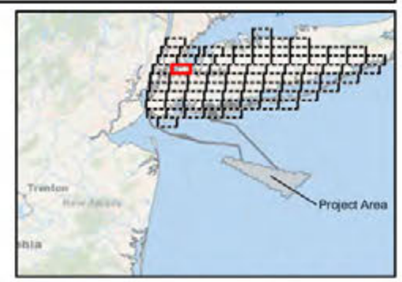

Figure 8 - New York Offshore Visual APE
Map 29 of 83

Offshore Visual APE

Individual Historic Properties

- Adverse Effect
- No Adverse Effect

Historic District

- Adverse Effect
- No Adverse Effect

N.

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1:24,000

Figure 8 - New York Offshore Visual APE
Map 30 of 83

Offshore Visual APE

Individual Historic Properties

- Adverse Effect
- No Adverse Effect

Historic District

- Adverse Effect
- No Adverse Effect

N.

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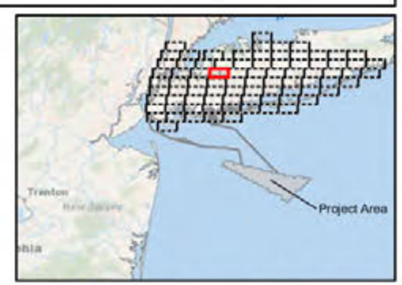

Figure 8 - New York Offshore Visual APE
Map 31 of 83

Offshore Visual APE

Individual Historic Properties

- Adverse Effect
- No Adverse Effect

Historic District

- Adverse Effect
- No Adverse Effect

N.

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1:24,000

Figure 8 - New York Offshore Visual APE
Map 32 of 83

Offshore Visual APE

Individual Historic Properties

- Adverse Effect
- No Adverse Effect

Historic District

- Adverse Effect
- No Adverse Effect

N.

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1:24,000

Figure 8 - New York Offshore Visual APE
Map 33 of 83

Offshore Visual APE

Individual Historic Properties

- Adverse Effect
- No Adverse Effect

Historic District

- Adverse Effect
- No Adverse Effect

N.

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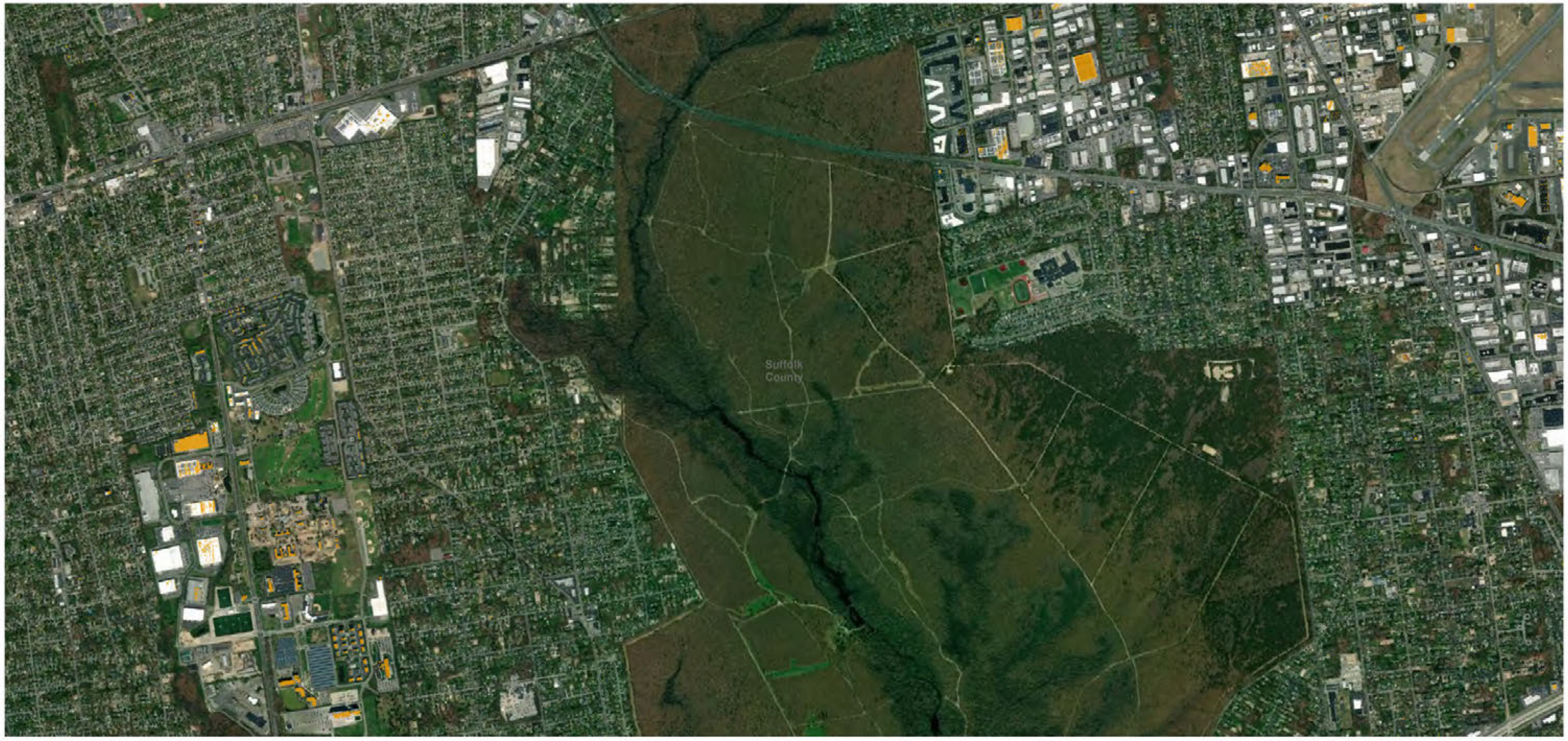
1:24,000

Figure 8 - New York Offshore Visual APE
Map 34 of 83



Offshore Visual APE

Individual Historic Properties

- Adverse Effect
- No Adverse Effect

Historic District

- Adverse Effect
- No Adverse Effect

N.

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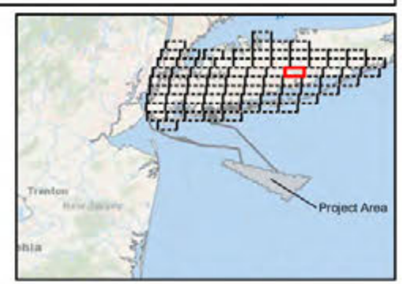

Figure 8 - New York Offshore Visual APE
Map 35 of 83

Offshore Visual APE

Individual Historic Properties

- Adverse Effect
- No Adverse Effect

Historic District

- Adverse Effect
- No Adverse Effect

N.

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Figure 8 - New York Offshore Visual APE
Map 36 of 83

Offshore Visual APE

Individual Historic Properties

- Adverse Effect
- No Adverse Effect

Historic District

- Adverse Effect
- No Adverse Effect

N.

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1:24,000

Figure 8 - New York Offshore Visual APE
Map 37 of 83

Offshore Visual APE

Individual Historic Properties

- Adverse Effect
- No Adverse Effect

Historic District

- Adverse Effect
- No Adverse Effect

N.

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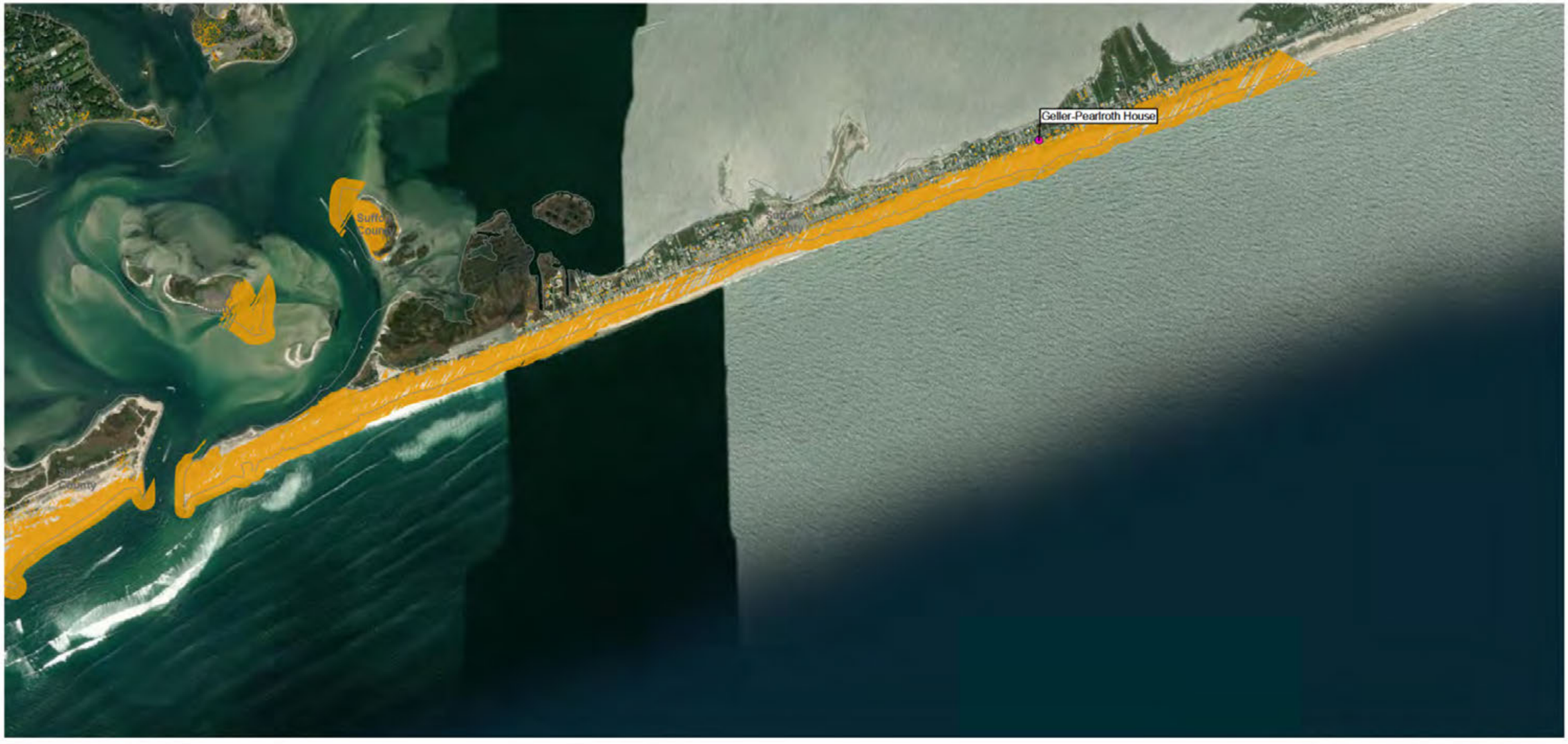
Figure 8 - New York Offshore Visual APE
Map 38 of 83



Offshore Visual APE

Individual Historic Properties

- Adverse Effect
- No Adverse Effect

Historic District

- Adverse Effect
- No Adverse Effect

N

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Figure 8 - New York Offshore Visual APE
Map 39 of 83

Offshore Visual APE

Individual Historic Properties

- Adverse Effect
- No Adverse Effect

Historic District

- Adverse Effect
- No Adverse Effect

N.

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Figure 8 - New York Offshore Visual APE
Map 40 of 83

Offshore Visual APE

Individual Historic Properties

- Adverse Effect
- No Adverse Effect

Historic District

- Adverse Effect
- No Adverse Effect

N.

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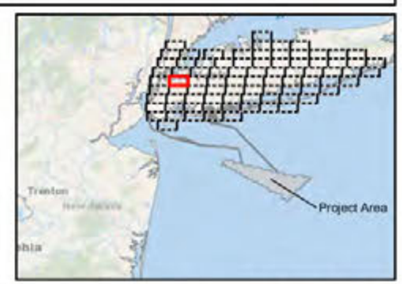

Figure 8 - New York Offshore Visual APE
Map 41 of 83

Offshore Visual APE

Individual Historic Properties

- Adverse Effect
- No Adverse Effect

Historic District

- Adverse Effect
- No Adverse Effect

N.

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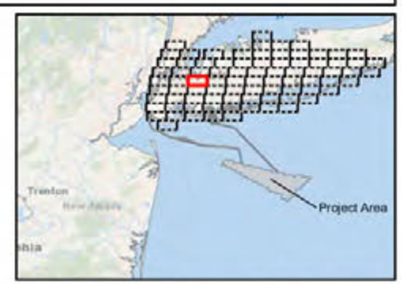

Figure 8 - New York Offshore Visual APE
Map 42 of 83

Offshore Visual APE

Individual Historic Properties

- Adverse Effect
- No Adverse Effect

Historic District

- Adverse Effect
- No Adverse Effect

N.

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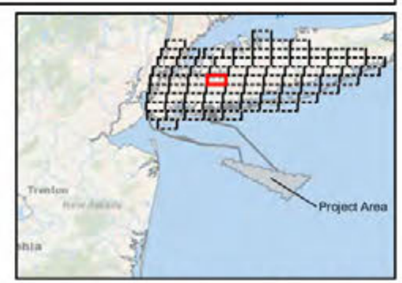

Figure 8 - New York Offshore Visual APE
Map 43 of 83

Offshore Visual APE

Individual Historic Properties

- Adverse Effect
- No Adverse Effect

Historic District

- Adverse Effect
- No Adverse Effect

N

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1:24,000

Figure 8 - New York Offshore Visual APE
Map 44 of 83

Offshore Visual APE

Individual Historic Properties

- Adverse Effect
- No Adverse Effect

Historic District

- Adverse Effect
- No Adverse Effect

N.

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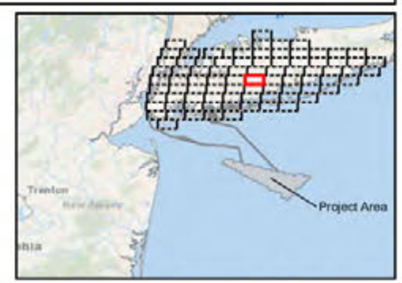

Figure 8 - New York Offshore Visual APE
Map 45 of 83

Offshore Visual APE

Individual Historic Properties

- Adverse Effect
- No Adverse Effect

Historic District

- Adverse Effect
- No Adverse Effect

N.

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Figure 8 - New York Offshore Visual APE
Map 46 of 83

Offshore Visual APE

Individual Historic Properties

- Adverse Effect
- No Adverse Effect

Historic District

- Adverse Effect
- No Adverse Effect

N.

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1:24,000

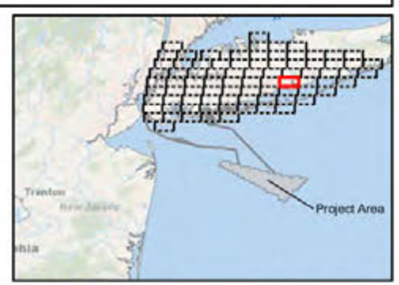

Figure 8 - New York Offshore Visual APE
Map 47 of 83

Offshore Visual APE

Individual Historic Properties

- Adverse Effect
- No Adverse Effect

Historic District

- Adverse Effect
- No Adverse Effect

N.

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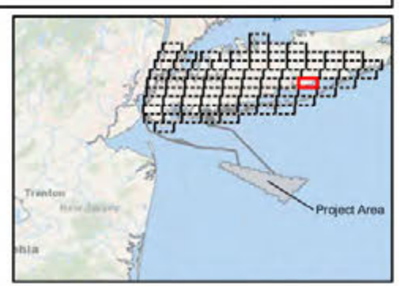

Figure 8 - New York Offshore Visual APE
Map 48 of 83

Offshore Visual APE

Individual Historic Properties

- Adverse Effect
- No Adverse Effect

Historic District

- Adverse Effect
- No Adverse Effect

N.

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1:24,000

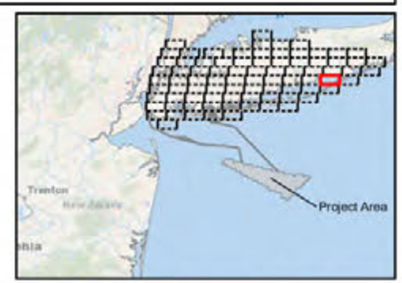
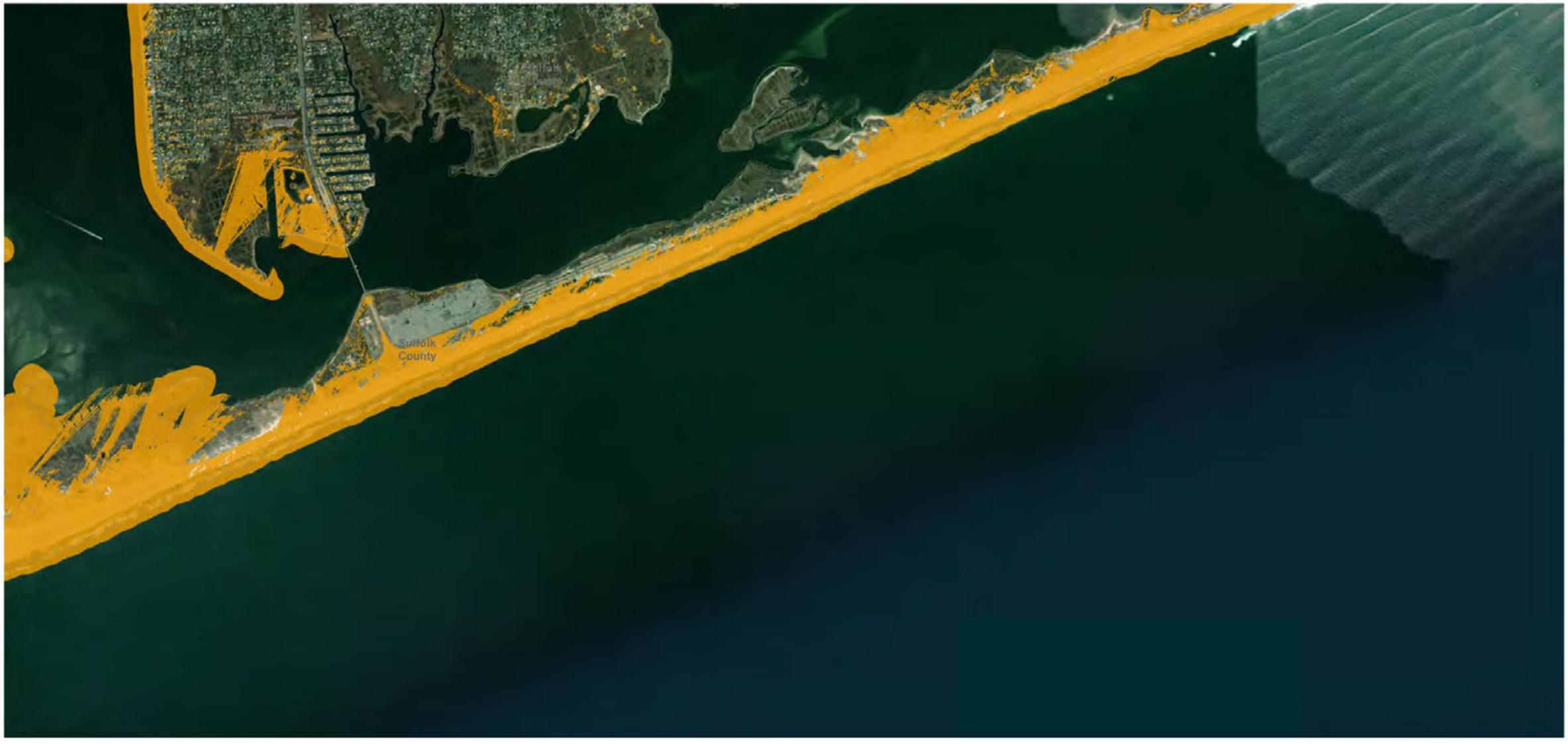


Figure 8 - New York Offshore Visual APE
Map 49 of 83



Offshore Visual APE

Individual Historic Properties

- Adverse Effect
- No Adverse Effect

Historic District

- Adverse Effect
- No Adverse Effect

N.

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Figure 8 - New York Offshore Visual APE
Map 50 of 83

Offshore Visual APE

Individual Historic Properties

- Adverse Effect
- No Adverse Effect

Historic District

- Adverse Effect
- No Adverse Effect

N

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1:24,000

Figure 8 - New York Offshore Visual APE
Map 51 of 83

Offshore Visual APE

Individual Historic Properties

- Adverse Effect
- No Adverse Effect

Historic District

- Adverse Effect
- No Adverse Effect

N.

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1:24,000

Figure 8 - New York Offshore Visual APE
Map 52 of 83

Offshore Visual APE

Individual Historic Properties

- Adverse Effect
- No Adverse Effect

Historic District

- Adverse Effect
- No Adverse Effect

N.

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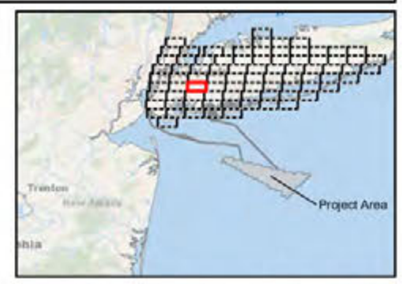
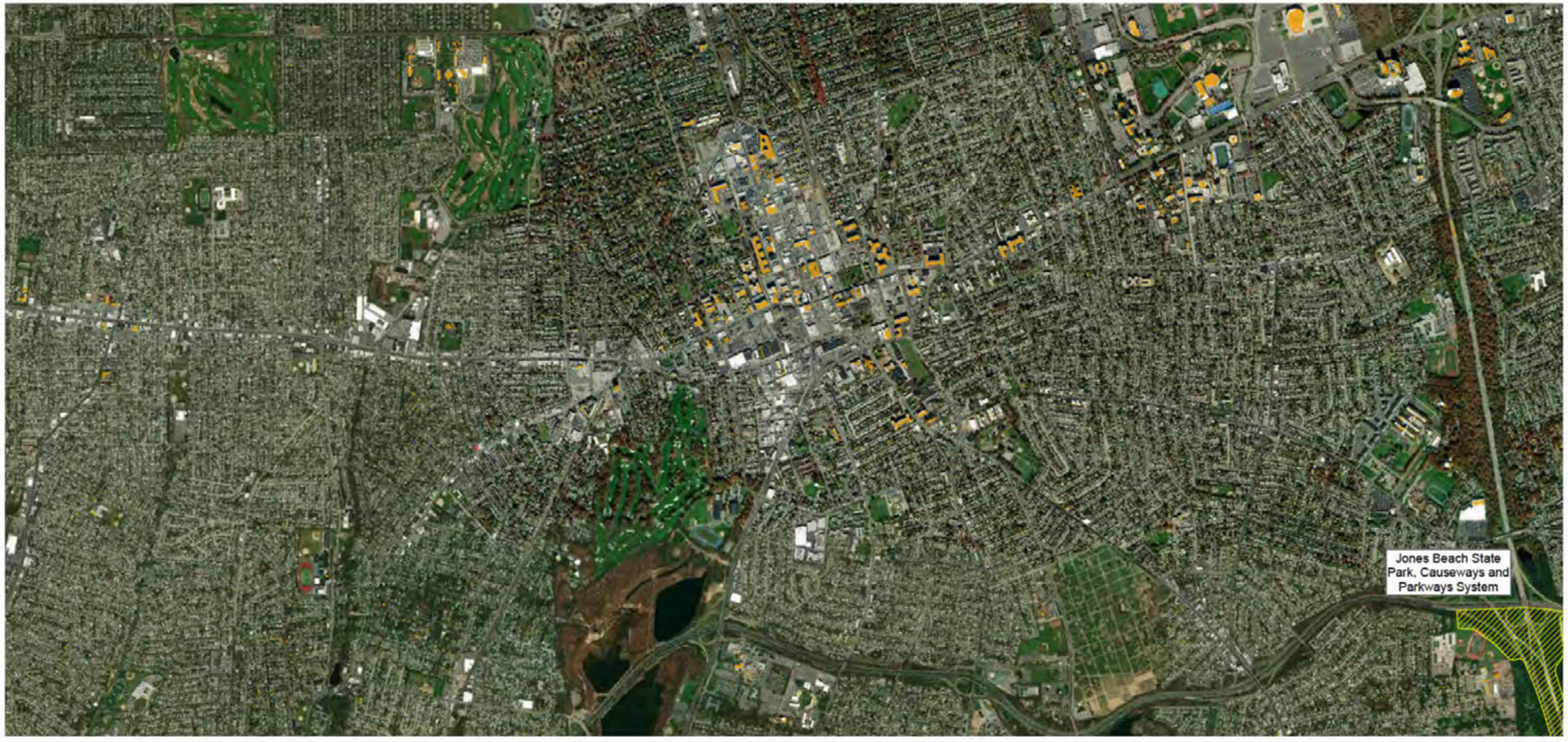


Figure 8 - New York Offshore Visual APE
Map 53 of 83



Offshore Visual APE

Individual Historic Properties

- Adverse Effect
- No Adverse Effect

Historic District

- Adverse Effect
- No Adverse Effect

N

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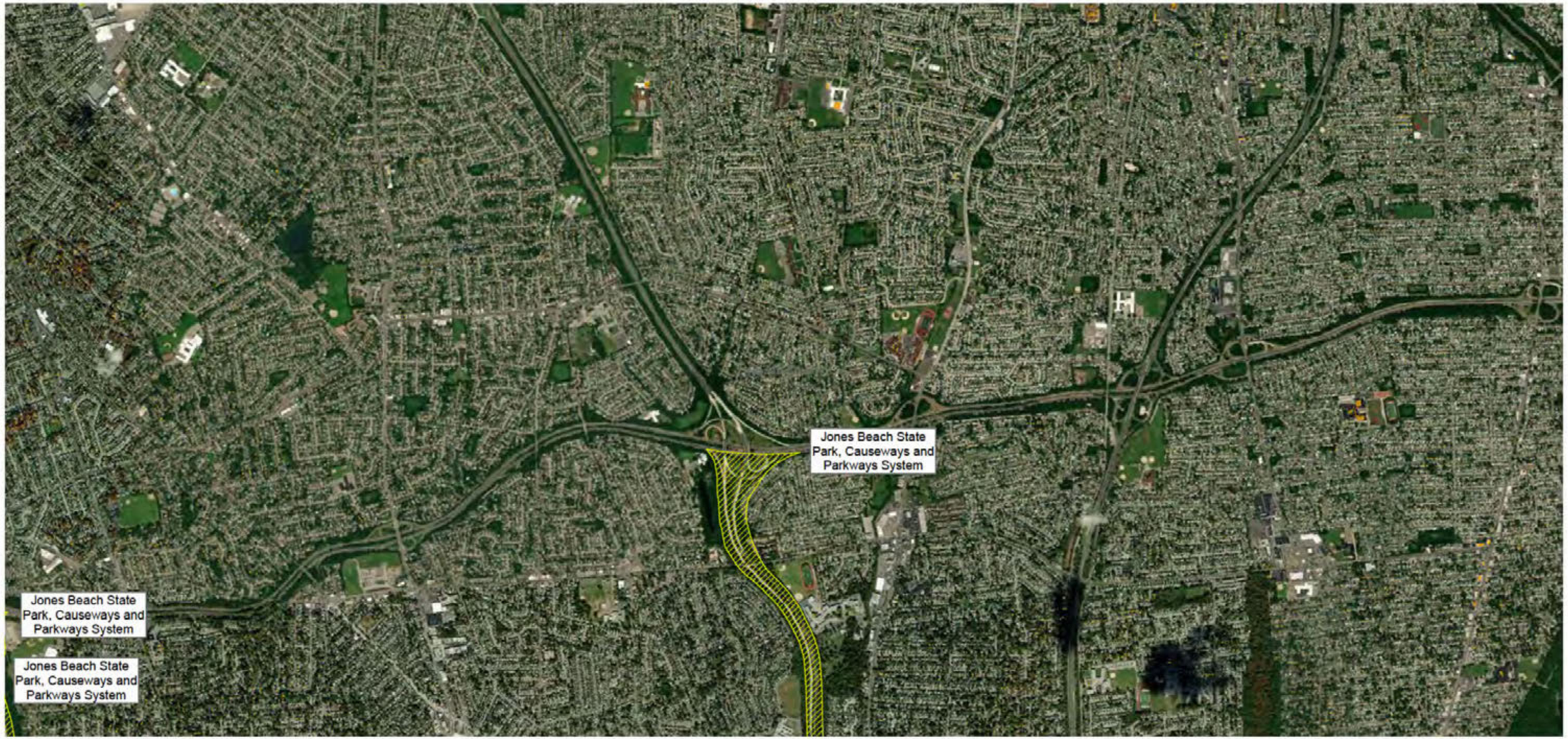
Figure 8 - New York Offshore Visual APE
Map 54 of 83



Offshore Visual APE

Individual Historic Properties

- Adverse Effect
- No Adverse Effect

Historic District

- Adverse Effect
- No Adverse Effect

N

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Figure 8 - New York Offshore Visual APE
Map 55 of 83

Offshore Visual APE

Individual Historic Properties

- Adverse Effect
- No Adverse Effect

Historic District

- Adverse Effect
- No Adverse Effect

N.

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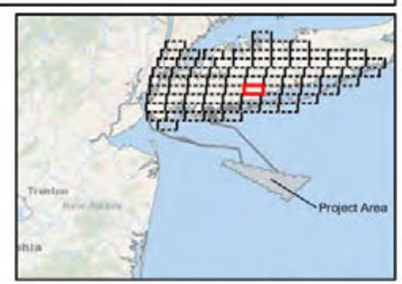

Figure 8 - New York Offshore Visual APE
Map 56 of 83

Offshore Visual APE

Individual Historic Properties

- Adverse Effect
- No Adverse Effect

Historic District

- Adverse Effect
- No Adverse Effect

N.

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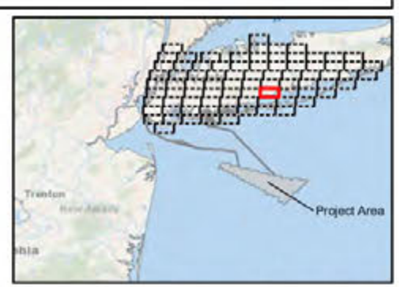

Figure 8 - New York Offshore Visual APE
Map 57 of 83

Offshore Visual APE

Individual Historic Properties

- Adverse Effect
- No Adverse Effect

Historic District

- Adverse Effect
- No Adverse Effect

N.

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Figure 8 - New York Offshore Visual APE
Map 58 of 83

Offshore Visual APE

Individual Historic Properties

- Adverse Effect
- No Adverse Effect

Historic District

- Adverse Effect
- No Adverse Effect

N

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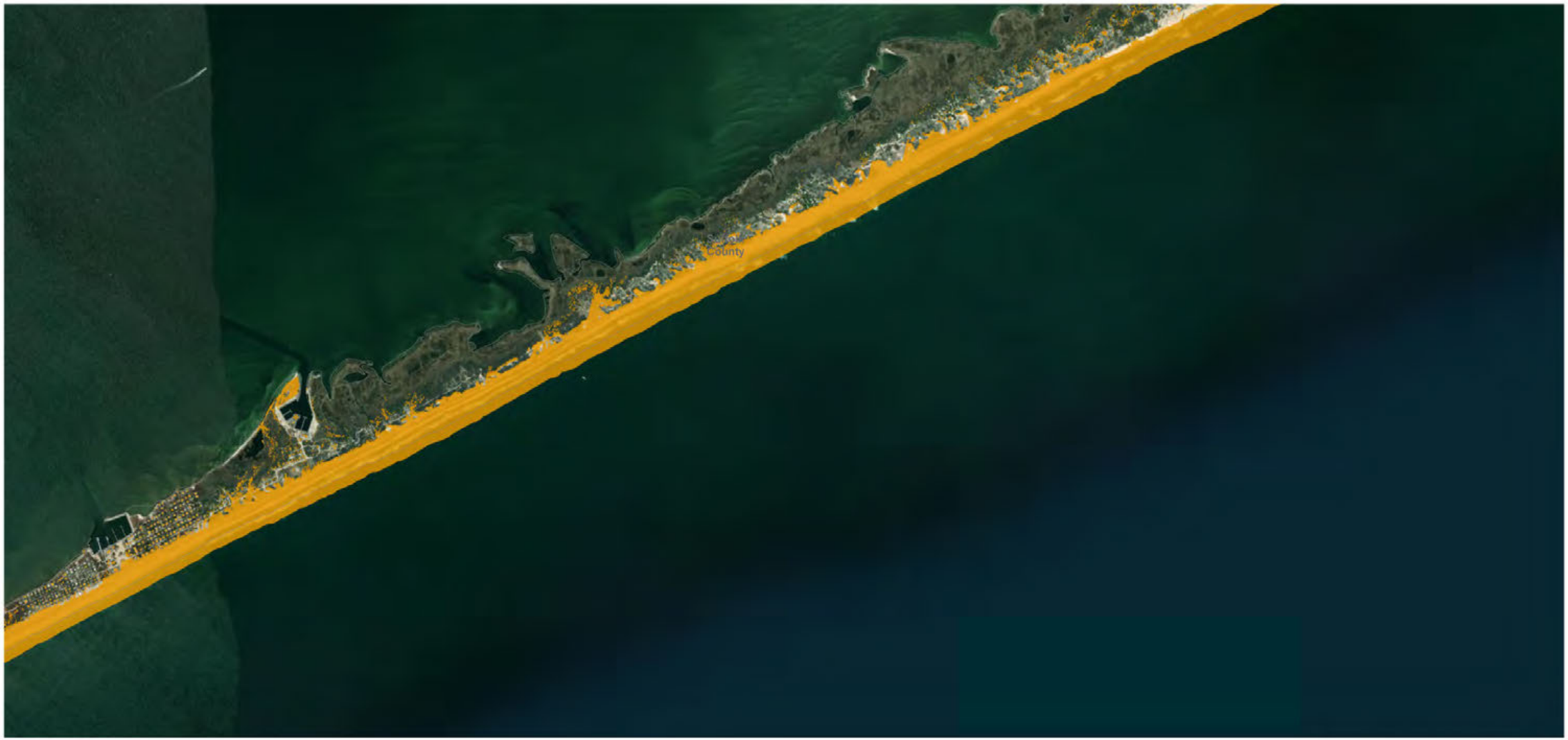
Figure 8 - New York Offshore Visual APE
Map 59 of 83



Offshore Visual APE

Individual Historic Properties

- Adverse Effect
- No Adverse Effect

Historic District

- Adverse Effect
- No Adverse Effect

N.

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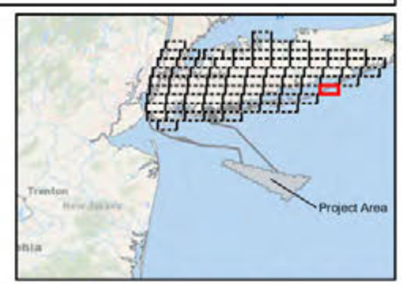

Figure 8 - New York Offshore Visual APE
Map 60 of 83

Offshore Visual APE

Individual Historic Properties

- Adverse Effect
- No Adverse Effect

Historic District

- Adverse Effect
- No Adverse Effect

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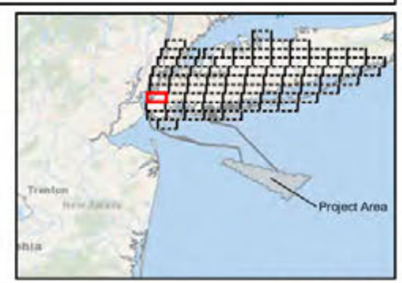

Figure 8 - New York Offshore Visual APE
Map 61 of 83

Offshore Visual APE

Individual Historic Properties

- Adverse Effect
- No Adverse Effect

Historic District

- Adverse Effect
- No Adverse Effect

N.

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Figure 8 - New York Offshore Visual APE
Map 62 of 83

Offshore Visual APE

Individual Historic Properties

- Adverse Effect
- No Adverse Effect

Historic District

- Adverse Effect
- No Adverse Effect

N.

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Figure 8 - New York Offshore Visual APE
Map 63 of 83

Offshore Visual APE

Individual Historic Properties

- Adverse Effect
- No Adverse Effect

Historic District

- Adverse Effect
- No Adverse Effect

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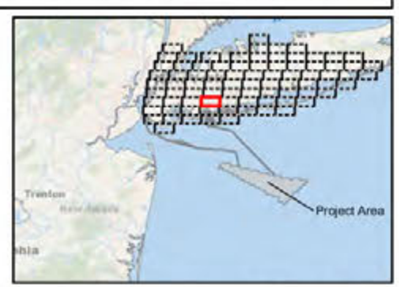

Figure 8 - New York Offshore Visual APE
Map 64 of 83

Offshore Visual APE

Individual Historic Properties

- Adverse Effect
- No Adverse Effect

Historic District

- Adverse Effect
- No Adverse Effect

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Figure 8 - New York Offshore Visual APE
Map 65 of 83

Suffolk County

Suffolk County

Offshore Visual APE

Individual Historic Properties

- Adverse Effect
- No Adverse Effect

Historic District

- Adverse Effect
- No Adverse Effect

N.

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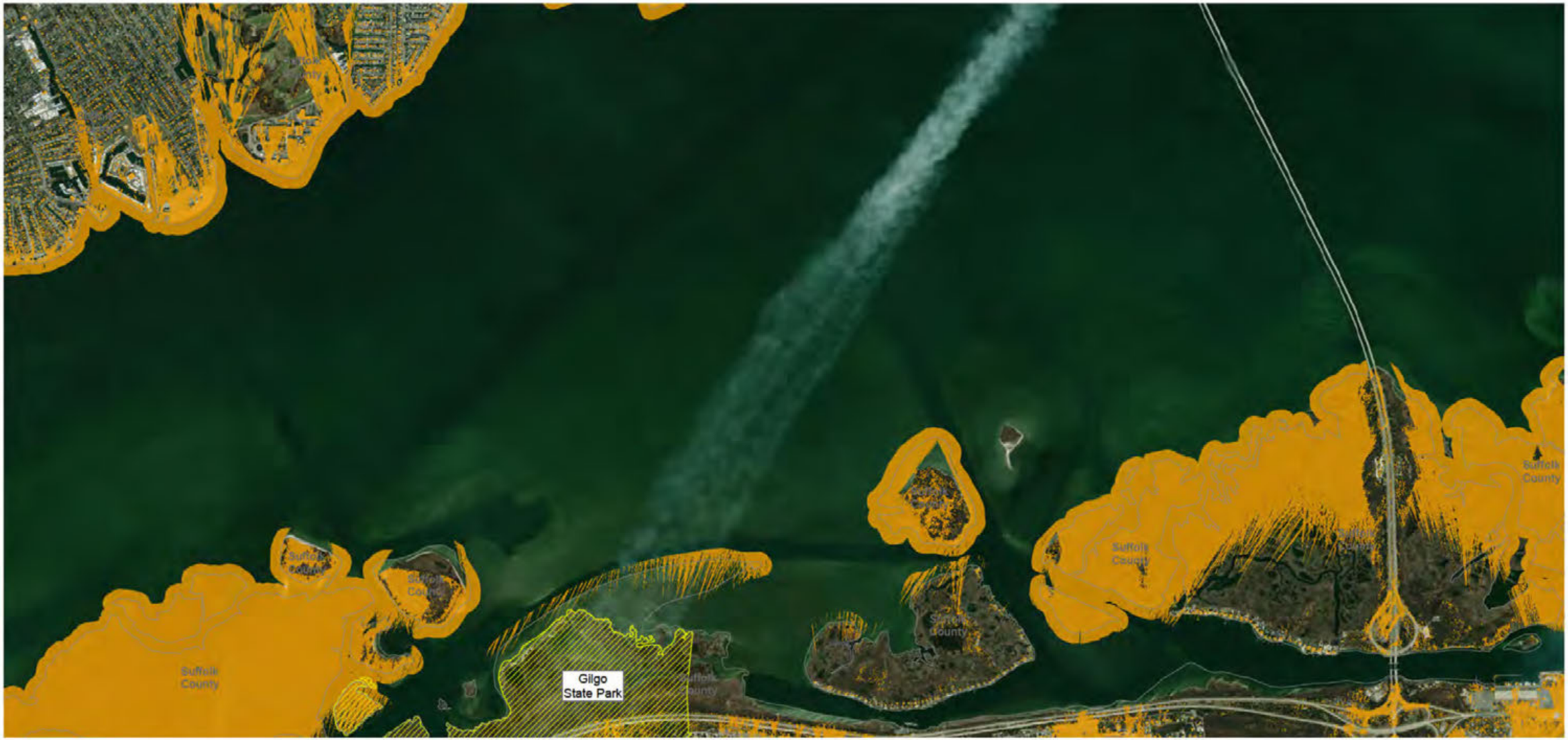
Figure 8 - New York Offshore Visual APE
Map 66 of 83



Offshore Visual APE

Individual Historic Properties

- Adverse Effect
- No Adverse Effect

Historic District

- Adverse Effect
- No Adverse Effect

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Figure 8 - New York Offshore Visual APE
Map 67 of 83

Offshore Visual APE

Individual Historic Properties

- Adverse Effect
- No Adverse Effect

Historic District

- Adverse Effect
- No Adverse Effect

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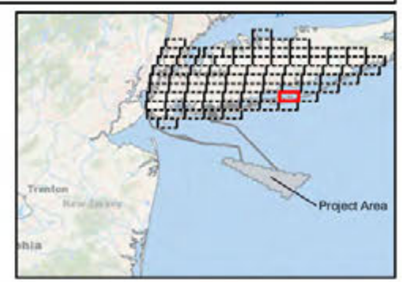
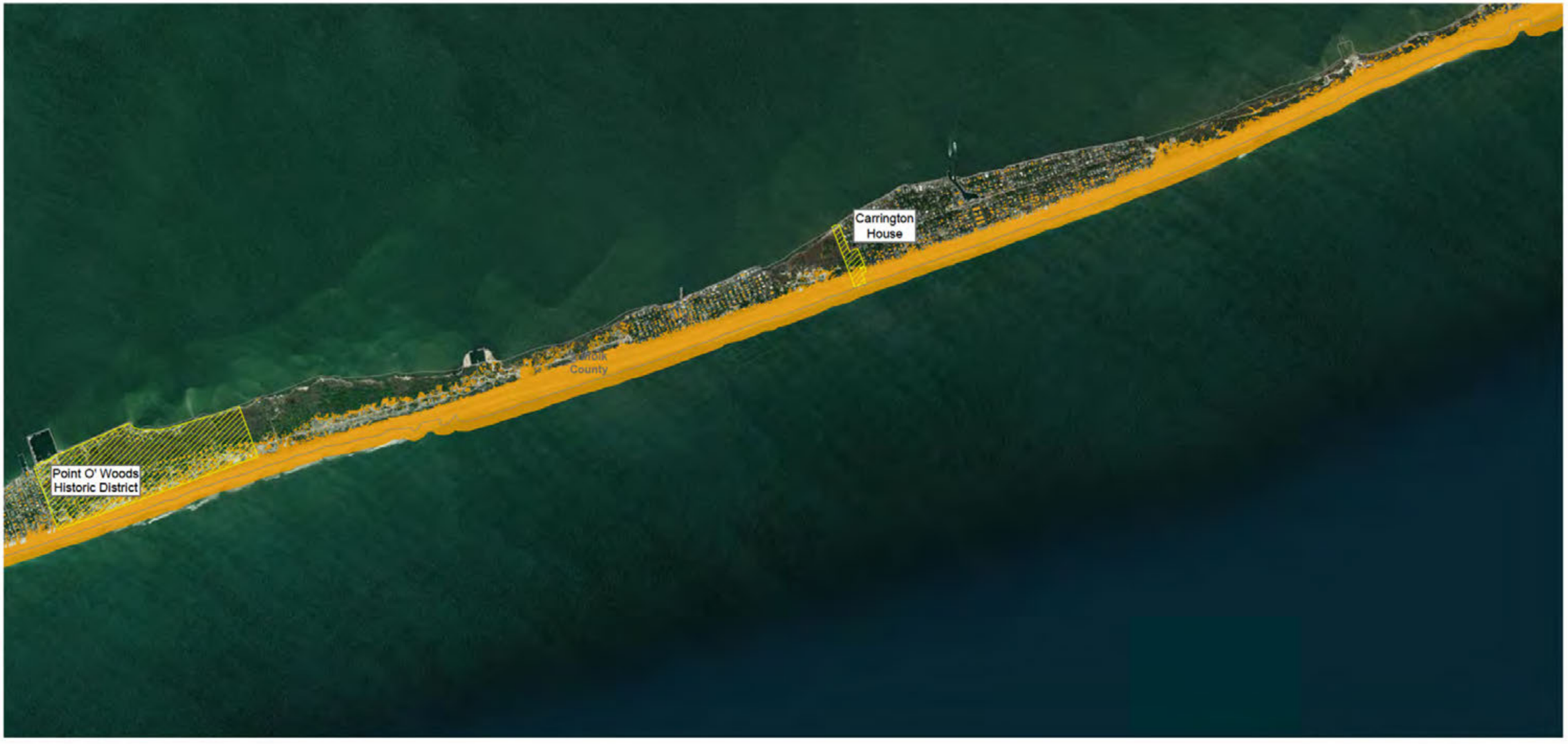


Figure 8 - New York Offshore Visual APE
Map 68 of 83



Offshore Visual APE

Individual Historic Properties

- Adverse Effect
- No Adverse Effect

Historic District

- Adverse Effect
- No Adverse Effect

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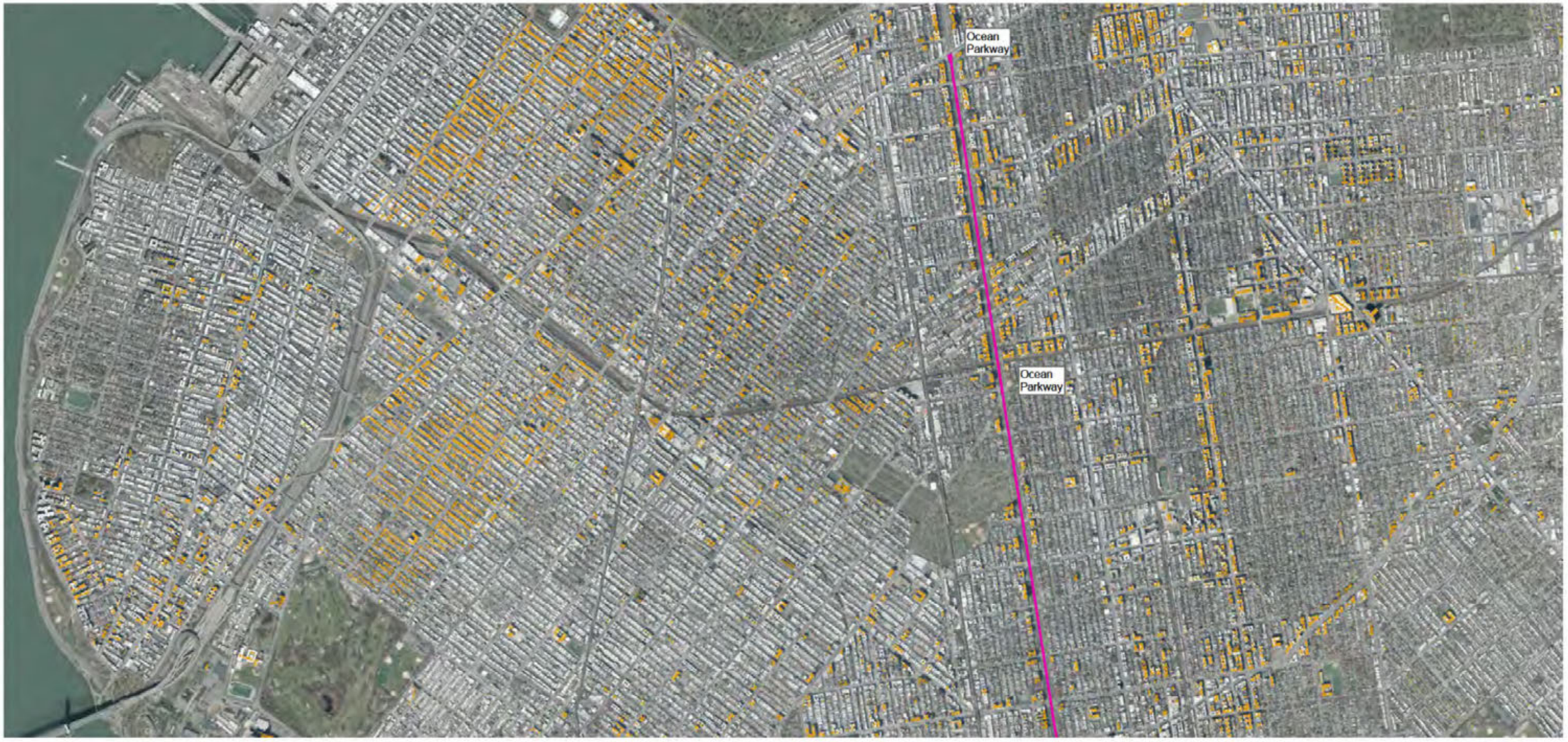
Figure 8 - New York Offshore Visual APE
Map 69 of 83



Offshore Visual APE

Individual Historic Properties

- Adverse Effect
- No Adverse Effect

Historic District

- Adverse Effect
- No Adverse Effect
- Linear District

N

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Figure 8 - New York Offshore Visual APE
Map 70 of 83

Offshore Visual APE

Individual Historic Properties

- Adverse Effect
- No Adverse Effect

Historic District

- Adverse Effect
- No Adverse Effect

N.

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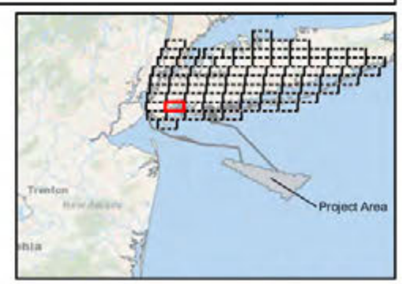
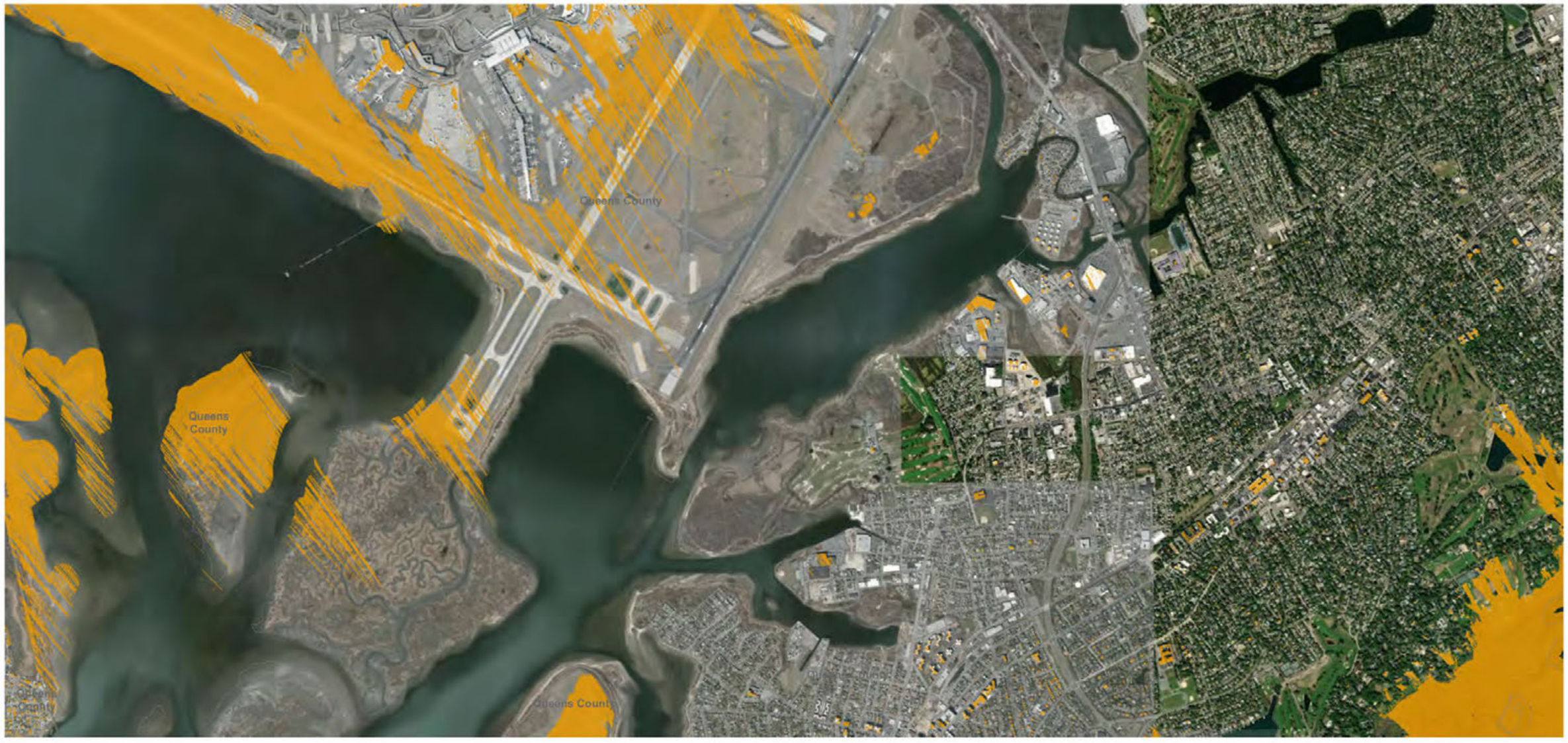


Figure 8 - New York Offshore Visual APE
Map 71 of 83



Offshore Visual APE

Individual Historic Properties

- Adverse Effect
- No Adverse Effect

Historic District

- Adverse Effect
- No Adverse Effect

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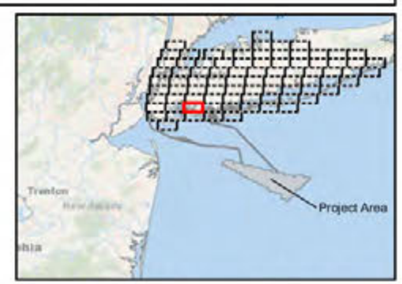

Figure 8 - New York Offshore Visual APE
Map 72 of 83

Nassau County

Offshore Visual APE

Individual Historic Properties

- Adverse Effect
- No Adverse Effect

Historic District

- Adverse Effect
- No Adverse Effect

N.

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Figure 8 - New York Offshore Visual APE
Map 73 of 83

Jones Beach State Park, Causeways and Parkways System

Jones Beach State Park, Causeways and Parkways System

Jones Beach State Park, Causeways and Parkways System

Jones Beach State Park, Causeways and Parkways System

Jones Beach State Park, Causeways and Parkways System

Nassau County

Offshore Visual APE

Individual Historic Properties

- Adverse Effect
- No Adverse Effect

Historic District

- Adverse Effect
- No Adverse Effect

N

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Figure 8 - New York Offshore Visual APE
Map 74 of 83

Offshore Visual APE

Individual Historic Properties

- Adverse Effect
- No Adverse Effect

Historic District

- Adverse Effect
- No Adverse Effect

N

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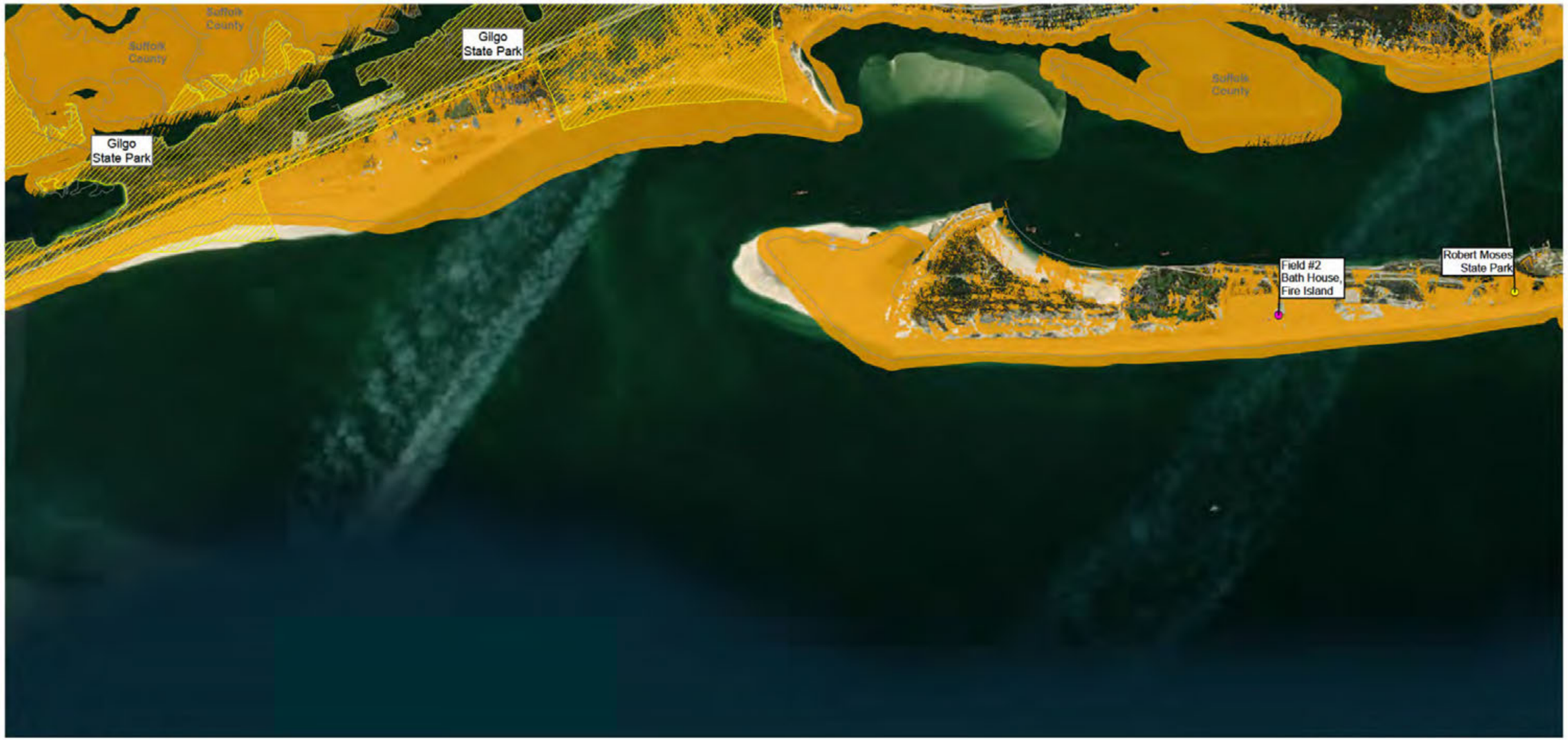
Figure 8 - New York Offshore Visual APE
Map 75 of 83



Offshore Visual APE

Individual Historic Properties

- Adverse Effect
- No Adverse Effect

Historic District

- Adverse Effect
- No Adverse Effect

N

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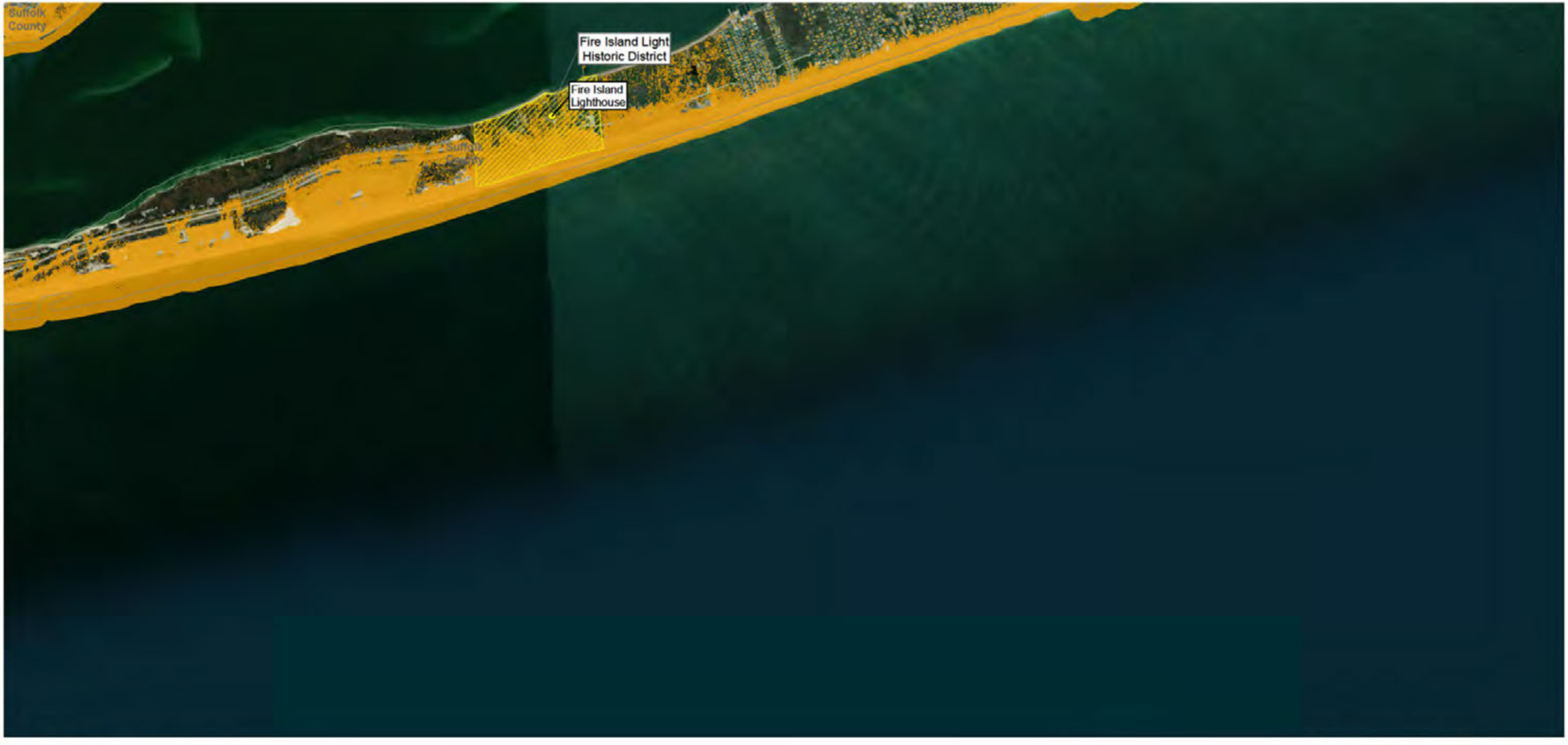
Figure 8 - New York Offshore Visual APE
Map 76 of 83



Offshore Visual APE

Individual Historic Properties

- Adverse Effect
- No Adverse Effect

Historic District

- Adverse Effect
- No Adverse Effect

N

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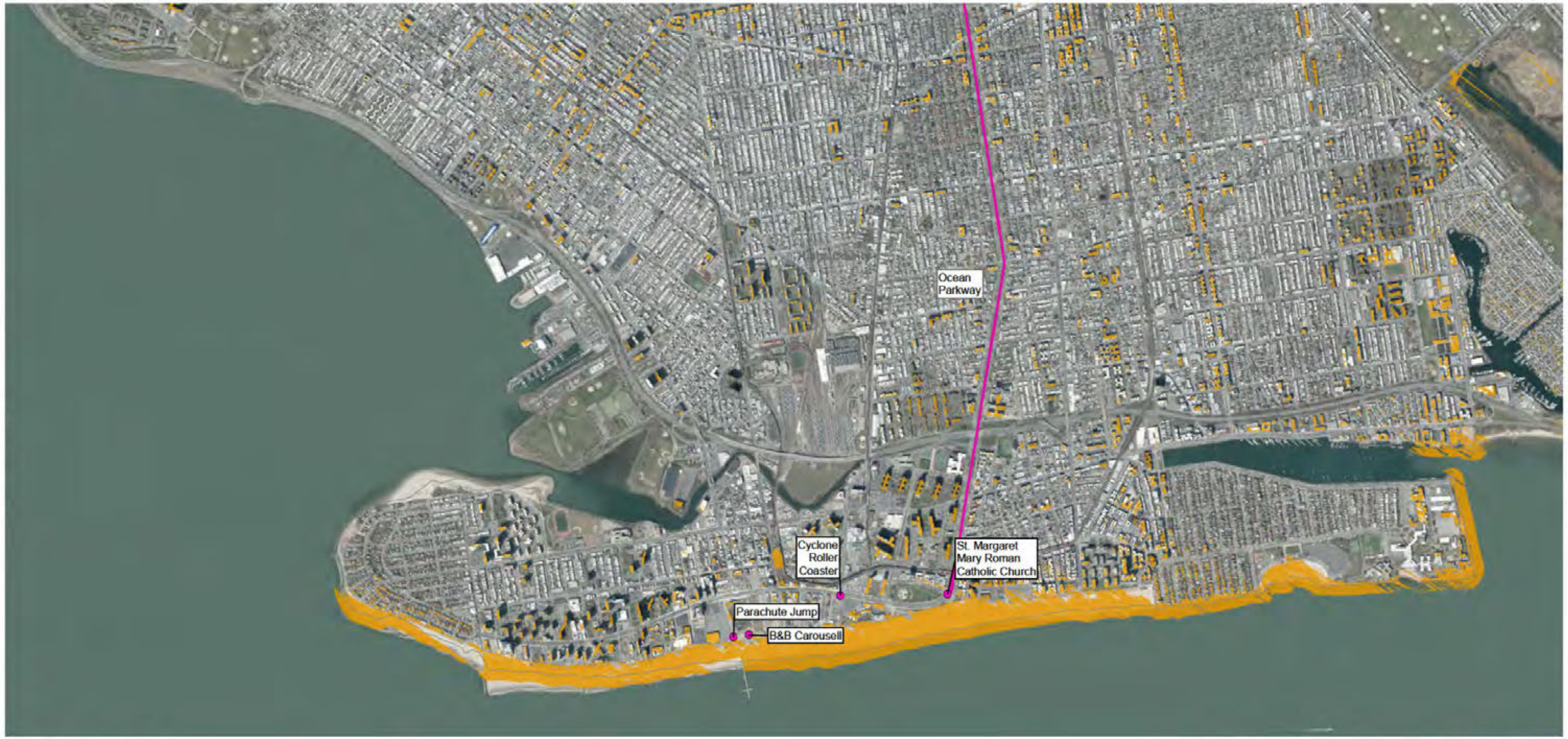
Figure 8 - New York Offshore Visual APE
Map 77 of 83



Offshore Visual APE

Individual Historic Properties

- Adverse Effect
- No Adverse Effect

Historic District

- Adverse Effect
- No Adverse Effect
- Linear District

N

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Figure 8 - New York Offshore Visual APE
Map 78 of 83

Offshore Visual APE

Individual Historic Properties

- Adverse Effect
- No Adverse Effect

Historic District

- Adverse Effect
- No Adverse Effect

N

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1:24,000

Figure 8 - New York Offshore Visual APE
Map 79 of 83

Offshore Visual APE

Individual Historic Properties

- Adverse Effect
- No Adverse Effect

Historic District

- Adverse Effect
- No Adverse Effect

N.

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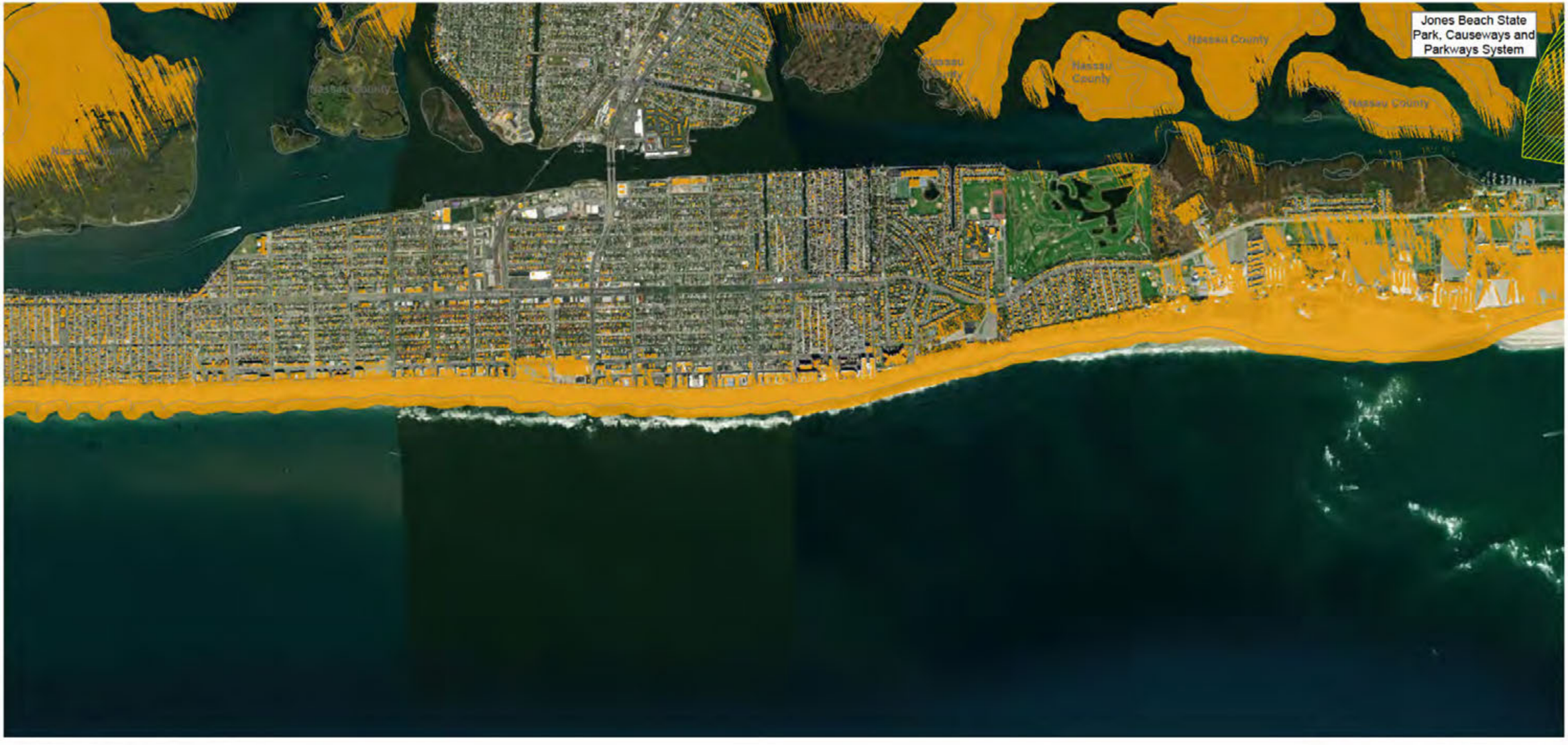
1:24,000

Figure 8 - New York Offshore Visual APE
Map 80 of 83



Offshore Visual APE

Individual Historic Properties

- Adverse Effect
- No Adverse Effect

Historic District

- Adverse Effect
- No Adverse Effect

N

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Figure 8 - New York Offshore Visual APE
Map 81 of 83

Offshore Visual APE

Individual Historic Properties

- Adverse Effect
- No Adverse Effect

Historic District

- Adverse Effect
- No Adverse Effect

N

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1:24,000

Figure 8 - New York Offshore Visual APE
Map 82 of 83

Offshore Visual APE

Individual Historic Properties

- Adverse Effect
- No Adverse Effect

Historic District

- Adverse Effect
- No Adverse Effect

N

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Figure 8 - New York Offshore Visual APE
Map 83 of 83

Onshore Visual APE Figures

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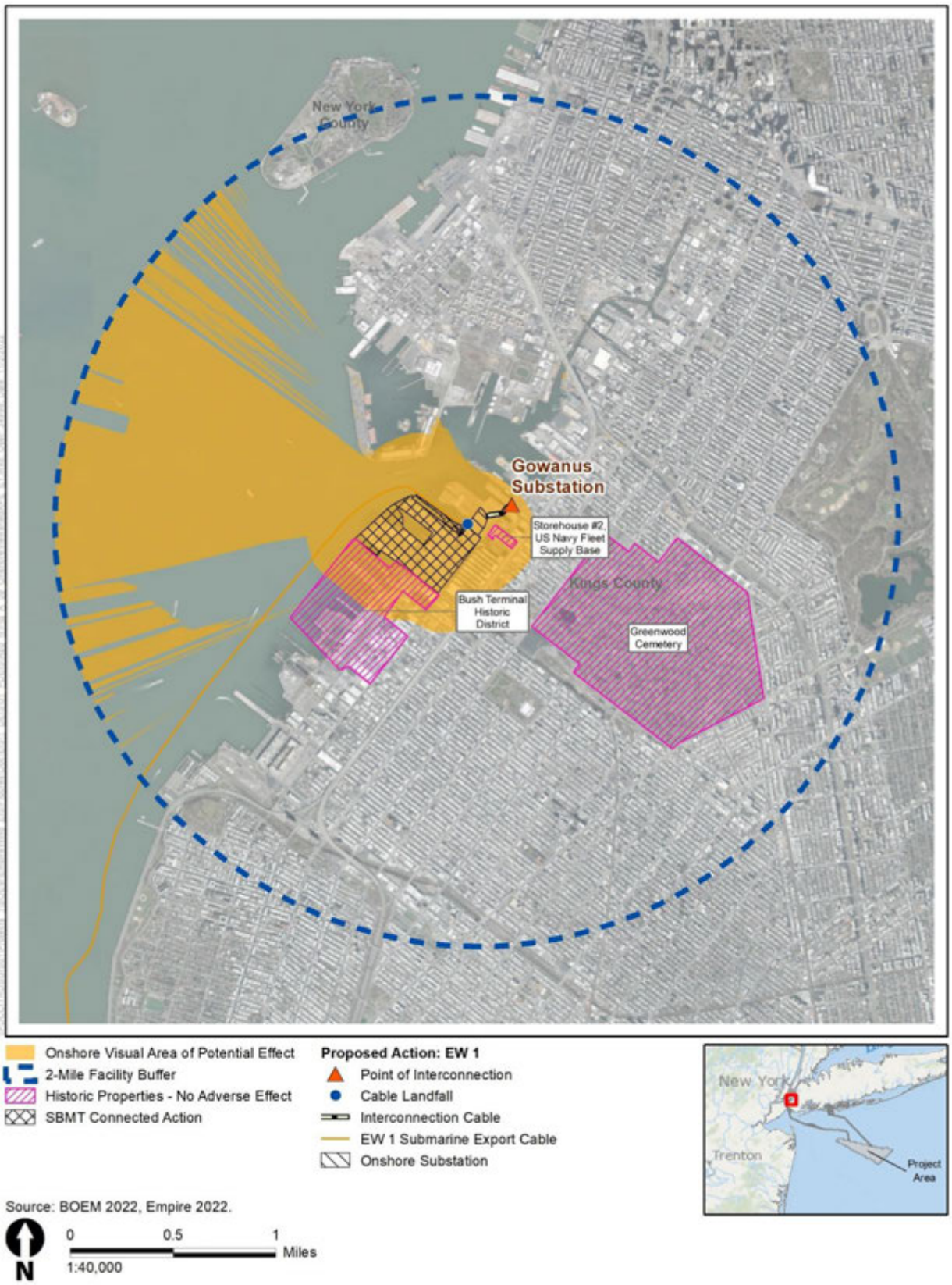

Figure 9 Onshore Visual APE for EW 1 Substation

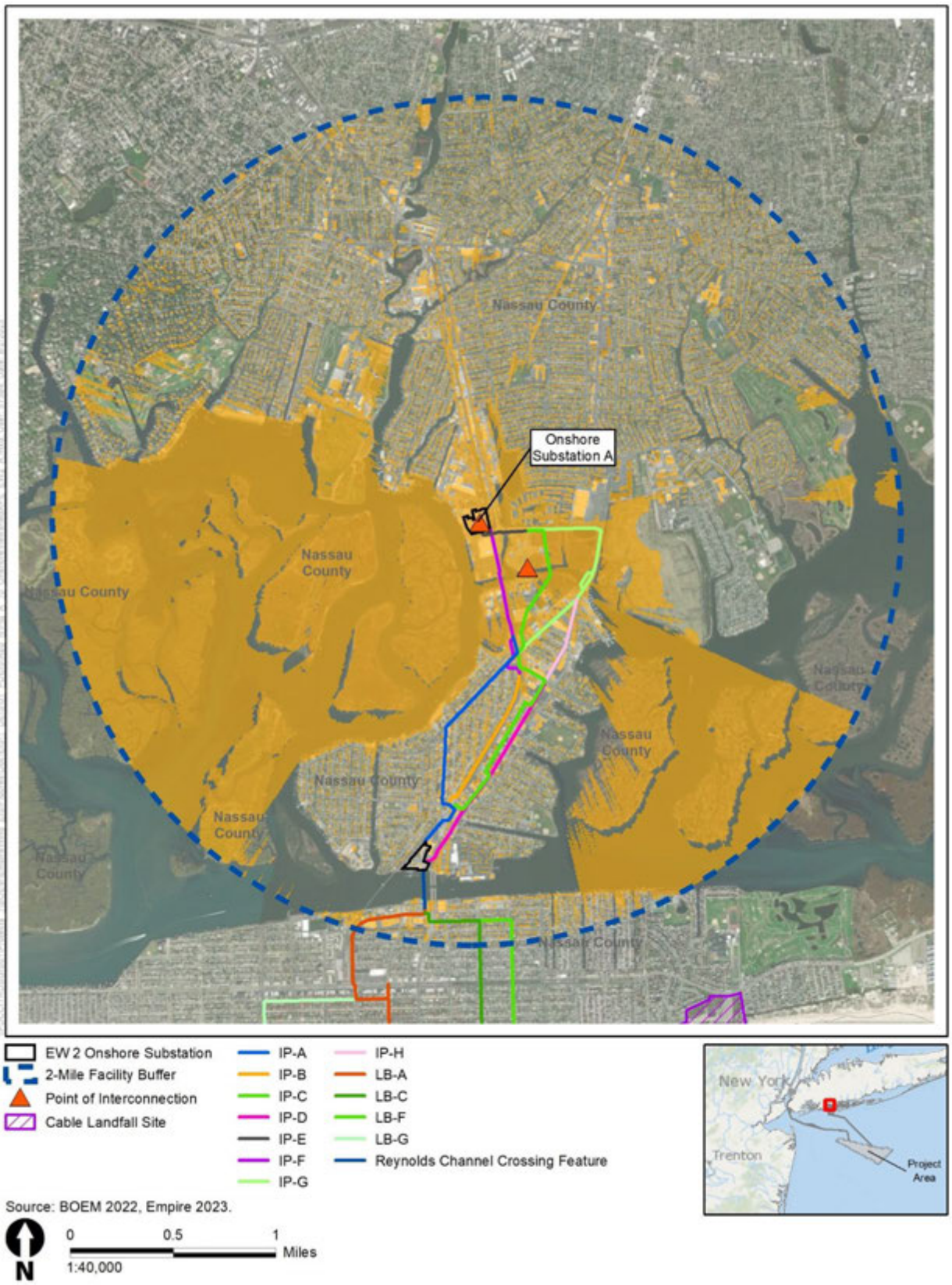

Figure 10 Onshore Visual APE for EW 2 Substation A

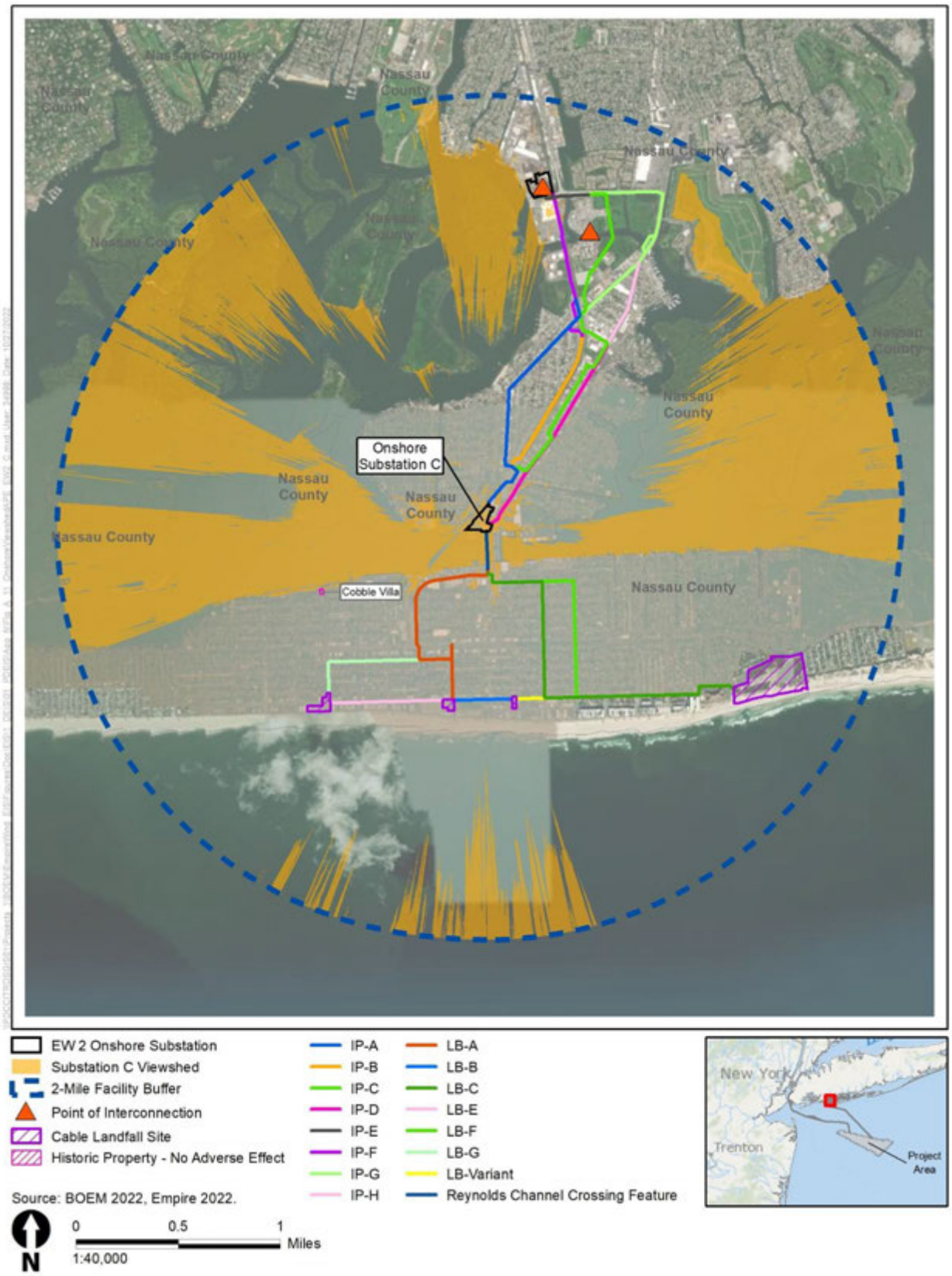

Figure 11 Onshore Visual APE for EW 2 Substation C

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ATTACHMENT 2 – LISTS OF INVITED AND PARTICIPATING CONSULTING PARTIES

Table 1. Parties Invited to Participate in NHPA Section 106 Consultation

Participants in the Section 106 Process	Invited Consulting Parties
SHPOs and State Agencies	New Jersey Commission on Indian Affairs
	New Jersey Cultural Trust
	NJDEP, Historic Preservation Office
	New Jersey Division of Archives and Record Management
	New Jersey Historic Trust
	New Jersey Historical Commission
	New Jersey Office of Planning Advocacy
	New Jersey State Museum
	New Jersey State Parks, Forests and Historic Sites
	New York SHPO
	New York State Parks, Recreation and Historic Preservation
	New York State Parks, Recreation and Historic Preservation, Long Island State Parks, Region 9
	New York State Parks, Recreation and Historic Preservation, Region 9, Gilgo State Park
	New York State Parks, Recreation and Historic Preservation, Region 9, Jones Beach State Park
	New York State Parks, Recreation and Historic Preservation, Region 9, Robert Moses State Park
Federal Agencies	ACHP
	BSEE
	NOAA
	USACE
	USCG
	USEPA
	USFWS
	National Park Service
	National Park Service, Region 1
Federally Recognized Tribal Nations	Absentee-Shawnee Tribe of Indians of Oklahoma
	Delaware Tribe of Indians
	Eastern Shawnee Tribe of Oklahoma
	Mashantucket (Western) Pequot Tribal Nation
	Mohegan Tribe of Connecticut
	Shawnee Tribe
	Stockbridge-Munsee Community, Wisconsin/Band of Mohican

Participants in the Section 106 Process	Invited Consulting Parties
	Indians
	The Delaware Nation
	The Narragansett Indian Tribe
	The Shinnecock Indian Nation
Non-Federally Recognized Tribes	Nanticoke Indian Association, Inc.
	Nanticoke Lenni-Lenape Tribal Nation
	Powhatan Renape Nation
	Ramapough Lenape Indian Nation
	Ramapough Mountain Indians
	Lenape Indian Tribe of Delaware
Local Government	Aberdeen Township
	Allenhurst Borough
	Amityville Historical Society
	Asbury Park
	Atlantic Highlands Borough
	Avon-by-the-Sea Borough
	Belmar Borough
	Borough of Brooklyn
	Borough of Manhattan
	Borough of Queens
	Borough of Staten Island
	Borough of The Bronx
	Bradley Beach Borough
	Brick Township
	Bronx County
	City of Bayonne
	City of Bayonne Planning Board
	City of Hoboken
	City of Hoboken Historic Preservation Commission
	City of Jersey City
	City of Long Beach
	Deal Borough
	Highlands Borough
	Hudson County
	Incorporated Village of Lindenhurst
	Keyport Borough
	Kings County

Participants in the Section 106 Process	Invited Consulting Parties
	Lake Como Borough
	Loch Arbour Village
	Long Branch
	Manasquan Borough
	Middlesex County
	Middletown Township
	Monmouth Beach Borough
	Monmouth County
	Nassau County
	Neptune Township
	New York City
	New York City Department of Parks & Recreation
	New York City Landmarks Commission
	New York State Council of Parks
	Ocean County
	Old Bridge Township
	Queens County
	Richmond County
	Sea Bright Borough
	Sea Girt Borough
	Spring Lake Borough
	Suffolk County
	Town of Babylon
	Town of Brookhaven
	Town of Hempstead
	Town of Islip
	Town of Oyster Bay
	Union Beach Borough
	Village of Amityville
	Village of Bellport
	Village of Brightwaters
	Village of Mastic Beach
	Village of Patchogue
Nongovernmental Organizations or Groups	Alliance for Coney Island
	American Irish Historical Society
	American Jewish Historical Society
	Asbury Park Historical Society

Participants in the Section 106 Process	Invited Consulting Parties
	Atlantic Highlands Historical Society
	Bay Shore Historical Society
	Bayonne Community Museum, Inc.
	Bellport-Brookhaven Historical Society
	Belmar Historical Society
	Bradley Beach Historical Society
	Brick Township Historical Society
	Bronx County Historical Society
	Crossroads of the American Revolution in New Jersey
	East Islip Historical Society
	Equinor Wind US, LLC
	Friends of Asbury Park Environmental Shade Tree Commission
	Friends of Monmouth County Parks
	Friends of Sunset Park
	Greater Patchogue Historical Society
	Green-Wood Cemetery
	Hispanic Society of America
	Historic Districts Council
	Historic House Trust of New York City
	Historical Society for the Preservation of the Underground Railroad
	Historical Society of East Rockaway and Lynbrook
	Historical Society of Highlands
	Historical Society of Islip Hamlet
	Historical Society of Ocean Grove
	Hoboken Historical Museum
	Hudson County Historical Society
	Hudson County Register
	Huntington Historical Society
	Italian Historical Society of America (Brooklyn)
	Jersey City Landmarks Conservancy
	Keyport Historical Society
	Long Beach Historical and Preservation Society
	Long Branch Historical Museum Association
	Long Island Maritime Museum
	Malverne Historical and Preservation Society
	Mastic Peninsula Historical Society
	Matawan Historical Society

Participants in the Section 106 Process	Invited Consulting Parties
	Middletown Township Historical Society
	Monmouth County Historical Society
	Nassau County Historical Society
	Nassau Historical Society
	National Maritime Historical Society
	New Jersey Future
	New Jersey Historical Society
	New Jersey Lighthouse Society
	New Jersey Maritime Museum
	New York Central Historical Society
	New-York Historical Society
	Ocean County Historical Society
	Ocean Grove Camp Meeting Association
	Oyster Bay Historical Society
	Preservation Alliance of Spring Lake
	Preservation League of New York
	Preservation New Jersey
	Queens County Historical Society
	Queens Historical Society
	Richmond County Historical Society
	Romer Shoal Light
	Roosevelt Island Historical Society
	Sea Bright Historical Society
	Spring Lake Historical Society
	Squan Village Historical Society
	Staten Island Historical Society at Historic Richmond Town
	Suffolk County Historical Society
	The Archaeological Society of New Jersey
	The League of Historical Societies of New Jersey
	The Sandy Hook Foundation
	Thomas Warne Museum/Madison-Old Bridge Township Historical Society
	Twin Lights Historical Society
	Village of Babylon Historical Society
	West Islip Historical Society

Table 2. Consulting Parties Participating in Section 106 Consultation

Participants in the Section 106 Process	Participating Consulting Parties
SHPOs and State Agencies	NJDEP, Historic Preservation Office
	New Jersey Office of Planning Advocacy
	New York SHPO
	New York State Parks, Recreation and Historic Preservation
	New York State Parks, Recreation and Historic Preservation, Long Island State Parks Region 9
	New York State Parks, Recreation and Historic Preservation, Region 9, Gilgo State Park
	New York State Parks, Recreation and Historic Preservation, Region 9, Robert Moses State Park
Federal Agencies	ACHP
	BSEE
	U.S. Maritime Administration
	U.S. National Park Service
	U.S. Naval History and Heritage Command
	USACE
	USEPA
Federally Recognized Tribal Nations	Delaware Tribe of Indians
	The Delaware Nation
	Mashantucket (Western) Pequot Tribal Nation
	The Shinnecock Indian Nation
	Stockbridge-Munsee Community
	Wampanoag Tribe of Gay Head (Aquinnah)
	Mashpee Wampanoag Tribe
Local Government	Atlantic Highlands Borough
	City of Long Beach
	Highlands Borough
	Lake Como Borough
	Long Branch
	Middletown Township
	Nassau County
	New York City Landmarks Commission
	Ocean County
	Sea Bright Borough
	Sea Girt Borough
	Suffolk County
	Town of Babylon
	Town of Hempstead
	Town of Islip
	Village of Amityville
	Village of Bellport
Nongovernmental Organizations or Groups	Bay Shore Historical Society
	Equinor Wind US, LLC
	Historical Society of Highlands

Participants in the Section 106 Process	Participating Consulting Parties
	Water Witch Historic District (Monmouth Hills Inc.)
	Ocean Grove Camp Meeting Association
	Point O'Woods Association
	Romer Shoal Light
	The League of Historical Societies of New Jersey

Table 3. Parties Invited to Consult under Section 106 and that Did Not Participate in Consultation

Participants in the Section 106 Process	Invited Consulting Parties that Did Not Participate in Consultation
SHPOs and State Agencies	New Jersey Commission on Indian Affairs
	New Jersey Cultural Trust
	New Jersey Division of Archives and Record Management
	New Jersey Historic Trust
	New Jersey Historical Commission
	New Jersey State Museum
	New Jersey State Parks, Forests and Historic Sites
Federal Agencies	NOAA
	USCG
	USFWS
	National Park Service, Region 1
Federally Recognized Tribal Nations	Absentee-Shawnee Tribe of Indians of Oklahoma
	Eastern Shawnee Tribe of Oklahoma
	Mohegan Tribe of Connecticut
	Shawnee Tribe
	The Narragansett Indian Tribe
Non-Federally Recognized Tribe	Nanticoke Indian Association, Inc.
	Nanticoke Lenni-Lenape Tribal Nation
	Powhatan Renape Nation
	Ramapough Lenape Indian Nation
	Ramapough Mountain Indians
	Lenape Indian Tribe of Delaware
Local Government	Aberdeen Township
	Allenhurst Borough
	Amityville Historical Society
	Asbury Park
	Avon-by-the-Sea Borough
	Belmar Borough
	Borough of Brooklyn
	Borough of Manhattan
	Borough of Queens
	Borough of Staten Island
	Borough of The Bronx
	Bradley Beach Borough
	Brick Township
	Bronx County
	City of Bayonne
	City of Bayonne Planning Board
	City of Hoboken
	City of Hoboken Historic Preservation Commission
	City of Jersey City
	Deal Borough
	Hudson County
	Incorporated Village of Lindenhurst
	Keyport Borough

Participants in the Section 106 Process	Invited Consulting Parties that Did Not Participate in Consultation
	Kings County
	Loch Arbour Village
	Manasquan Borough
	Middlesex County
	Middletown Township
	Monmouth Beach Borough
	Monmouth County
	Neptune Township
	New York City
	New York City Department of Parks & Recreation
	New York State Council of Parks
	Old Bridge Township
	Queens County
	Richmond County
	Spring Lake Borough
	Town of Brookhaven
	Town of Oyster Bay
	Union Beach Borough
	Village of Brightwaters
	Village of Mastic Beach
	Village of Patchogue
Nongovernmental Organizations or Groups	Alliance for Coney Island
	American Irish Historical Society
	American Jewish Historical Society
	Asbury Park Historical Society
	Atlantic Highlands Historical Society
	Bayonne Community Museum, Inc.
	Bellport-Brookhaven Historical Society
	Belmar Historical Society
	Bradley Beach Historical Society
	Brick Township Historical Society
	Bronx County Historical Society
	Crossroads of the American Revolution in New Jersey
	East Islip Historical Society
	Friends of Asbury Park Environmental Shade Tree Commission
	Friends of Monmouth County Parks
	Friends of Sunset Park
	Greater Patchogue Historical Society
	Green-Wood Cemetery
	Hispanic Society of America
	Historic Districts Council
	Historic House Trust of New York City
	Historical Society for the Preservation of the Underground Railroad
	Historical Society of East Rockaway and Lynbrook
	Historical Society of Islip Hamlet
	Historical Society of Ocean Grove
	Hoboken Historical Museum

Participants in the Section 106 Process	Invited Consulting Parties that Did Not Participate in Consultation
	Hudson County Historical Society
	Hudson County Register
	Huntington Historical Society
	Italian Historical Society of America (Brooklyn)
	Jersey City Landmarks Conservancy
	Keyport Historical Society
	Long Beach Historical and Preservation Society
	Long Branch Historical Museum Association
	Long Island Maritime Museum
	Malverne Historical and Preservation Society
	Mastic Peninsula Historical Society
	Matawan Historical Society
	Middletown Township Historical Society
	Monmouth County Historical Society
	Nassau County Historical Society
	Nassau Historical Society
	National Maritime Historical Society
	New Jersey Future
	New Jersey Historical Society
	New Jersey Lighthouse Society
	New Jersey Maritime Museum
	New York Central Historical Society
	New-York Historical Society
	Ocean County Historical Society
	Oyster Bay Historical Society
	Preservation Alliance of Spring Lake
	Preservation League of New York
	Preservation New Jersey
	Queens County Historical Society
	Queens Historical Society
	Richmond County Historical Society
	Roosevelt Island Historical Society
	Sea Bright Historical Society
	Spring Lake Historical Society
	Squan Village Historical Society
	Staten Island Historical Society at Historic Richmond Town
	Suffolk County Historical Society
	The Archaeological Society of New Jersey
	The Sandy Hook Foundation
	Thomas Warne Museum/Madison-Old Bridge Township Historical Society
	Twin Lights Historical Society
	Village of Babylon Historical Society
	West Islip Historical Society

ATTACHMENT 3 – EMPIRE WIND MARINE ARCHAEOLOGICAL RESOURCES TREATMENT PLAN

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Empire Offshore Wind: Empire Wind Project (EW 1 and EW 2)

Marine Archaeological Resources Treatment Plan

Prepared for:

Empire Offshore Wind LLC
600 Washington Blvd, Suite 800
Stamford, Connecticut 06901

Prepared by:

3117 Edgewater Dr.
Orlando, FL 32804

January 2024

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EXECUTIVE SUMMARY

This marine archaeological resources treatment plan (MARTP) provides background data, historic property information, and detailed steps that will be implemented to carry out the potential cultural resources mitigation actions identified by the Bureau of Ocean Energy Management (BOEM) for the Empire Offshore Wind Project: Empire Wind 1 (EW 1) and Empire Wind 2 (EW 2) (Project). The mitigation actions, if required, will be developed in consultation with the New York State Historic Preservation Office (NY SHPO) and other National Historic Preservation Act (NHPA) Section 106 review consulting parties as elements of the Final Environmental Impact Statement (FEIS) and issued in accordance with 40 CFR parts 1500-1508, 36 CFR §§ 800.8, 800.10. This MARTP outlines the mitigation measures, implementation steps, and timeline for actions.

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ACRONYMS AND ABBREVIATIONS

ACHP	Advisory Council on Historic Preservation
APE	Area of Potential Effects
ASLF	Ancient submerged landform feature
BOEM	Bureau of Ocean Energy Management
COP	Construction and Operations Plan
CRIS	Cultural Resources Information System
Empire	Empire Offshore Wind LLC
EW 1	Empire Wind 1
EW 2	Empire Wind 2
FEIS	Final environmental impact statement
FOE	Finding of Effect
GIS	geographic information system
HRVEA	Historic resources visual effects assessment
HRG	High-resolution geophysical
km	Kilometer
MARTP	marine archaeological resources treatment plan
mi	Mile
MOA	Memorandum of Agreement
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
nm	Nautical mile
NPS	National Park Service
NRHP	National Register of Historic Places
NYSOPRHP	New York State Office of Parks, Recreation & Historic Preservation
OCS	outer continental shelf
PAPE	preliminary area of potential effects
Project	The offshore wind project for OCS A-0512 proposed by Empire Offshore Wind LLC consisting of Empire Wind 1 (EW 1) and Empire Wind 2 (EW 2).
Project Area	The area associated with the build out of the Lease Area, including the Lease Area, submarine export cable routes, and onshore Project facility locations, including the onshore export and interconnection cables, the onshore substations, and the Operations and Maintenance Base.
PSL	Public Service Law
QMA	Qualified Marine Archaeologist
ROD	Record of Decision
SHPO	State Historic Preservation Office
SOI	Secreatary of the Interior
TARA	Terrestrial archaeological resource assessment
Tetra Tech	Tetra Tech, Inc.
THPO	Tribal Historic Preservation Officer
USBL	Ultra-short baseline
USCG	United States Coast Guard
WTG	wind turbine generator

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TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

1 INTRODUCTION

1.1 Project Overview

BOEM's responsibilities for the regulation of renewable energy projects on the outer continental shelf (OCS) derives from the Outer Continental Shelf Lands Act (see 43 U.S.C. 1337) and the Energy Policy Act of 2005 (PL 109-58). BOEM's procedures for the issuance and administration of leases for renewable energy production on the OCS are codified within Title 30 CFR Part 585. BOEM's potential approval or approval with modifications and conditions of Empire's Construction and Operations Plan (COP) for the Project constitutes a federal undertaking subject to Section 106 of the National Historic Preservation Act (NHPA) (54 U.S.C. § 306108). The Project undertaking will comprise the following offshore components: up to 147 wind turbines connected by a network of interarray cables, up to two offshore substations, and up to five submarine export cables to bring power to shore. The closest proposed wind turbine is approximately 12.2 nm (14 mi, 22 km) from the coast of New York on the Atlantic OCS. Two cables will be located within the EW 1 Submarine ECR, and three within the EW 2 Submarine ECR.

BOEM (2020) defines the Area of Potential Effects (APE) of offshore wind projects as the following:

- The depth and breadth of the seabed potentially impacted by any bottom-disturbing activities;
- The depth and breadth of terrestrial areas potentially impacted by any ground-disturbing activities;
- The viewshed from which renewable energy structures, whether located offshore or onshore, would be visible; and
- Any temporary or permanent construction or staging areas, both onshore and offshore.

To support BOEM's efforts to identify historic properties within the APE, Empire Wind conducted a terrestrial archaeological resource assessment (TARA), marine archaeological resource assessment (MARA), and an analysis of visual effects to historic and architectural properties. The present document focuses on marine archaeological resources identified within the Preliminary APE for the MARA (**Figure 1.1.1**). The results of these investigations can be found in the Empire Wind COP Volume 2C, Appendices X, Y, and Z. Based on a review of these documents and consultations with NHPA Section 106 consulting parties, BOEM has determined that the undertaking will result in adverse effects to historic properties. Information about BOEM's assessment of adverse effects can be found in BOEM's Final Environmental Impact Statement (FEIS) Appendix N, Finding of Effect (FOE).

In the FOE, BOEM determined that the Project undertaking will adversely affect 13 ancient-submerged landform features (ASLFs). BOEM is consulting with the Advisory Council on Historic Preservation (ACHP), New York State Office of Parks, Recreation & Historic Preservation (NYSOPRHP), federally recognized Native American Tribes/Tribal Nations (Tribes/Tribal Nations) that are participating in the project consultation (Section 2.2), and other NHPA Section 106 consulting parties to identify ways to avoid, minimize, or mitigate adverse effects to historic properties. BOEM has decided to codify the resolution of adverse effects through an NHPA Section 106 memorandum of agreement (MOA) pursuant to 36 CFR 800.8(c)(4)(i)(B). As defined in 36 CFR § 800.6 (c), a project specific MOA records the terms and conditions agreed upon to resolve adverse effects of the undertaking (i.e., the approval, approval with modification, or disapproval of the Empire Wind COP). This MARTP provides background data, historic property information, and detailed measures to carry out the mitigation actions. The measures agreed upon by BOEM, the ACHP, and NYSOPRHP to resolve adverse effects to historic properties will be recorded in the MOA among BOEM, the NY State Historic Preservation Office (SHPO), and the ACHP regarding the Empire Offshore Wind Project.

Pursuant to the terms and conditions of the MOA, Empire will implement applicant-proposed environmental protection measures to avoid potential impacts to marine archaeological resources and will implement an Unanticipated Discoveries Plan for Submerged Archaeological Resources (see Appendix H of the MARA (COP Volume 2C Appendix X) in the event of an unanticipated discovery). Mitigation Measures implemented under

this MARTP will be conducted in accordance with all agreed upon terms and conditions in the MOA and with applicable local, state, and federal regulations and permitting requirements. Responsibilities for specific compliance actions are described in further detail in Section 7.2, Roles and Responsibilities.

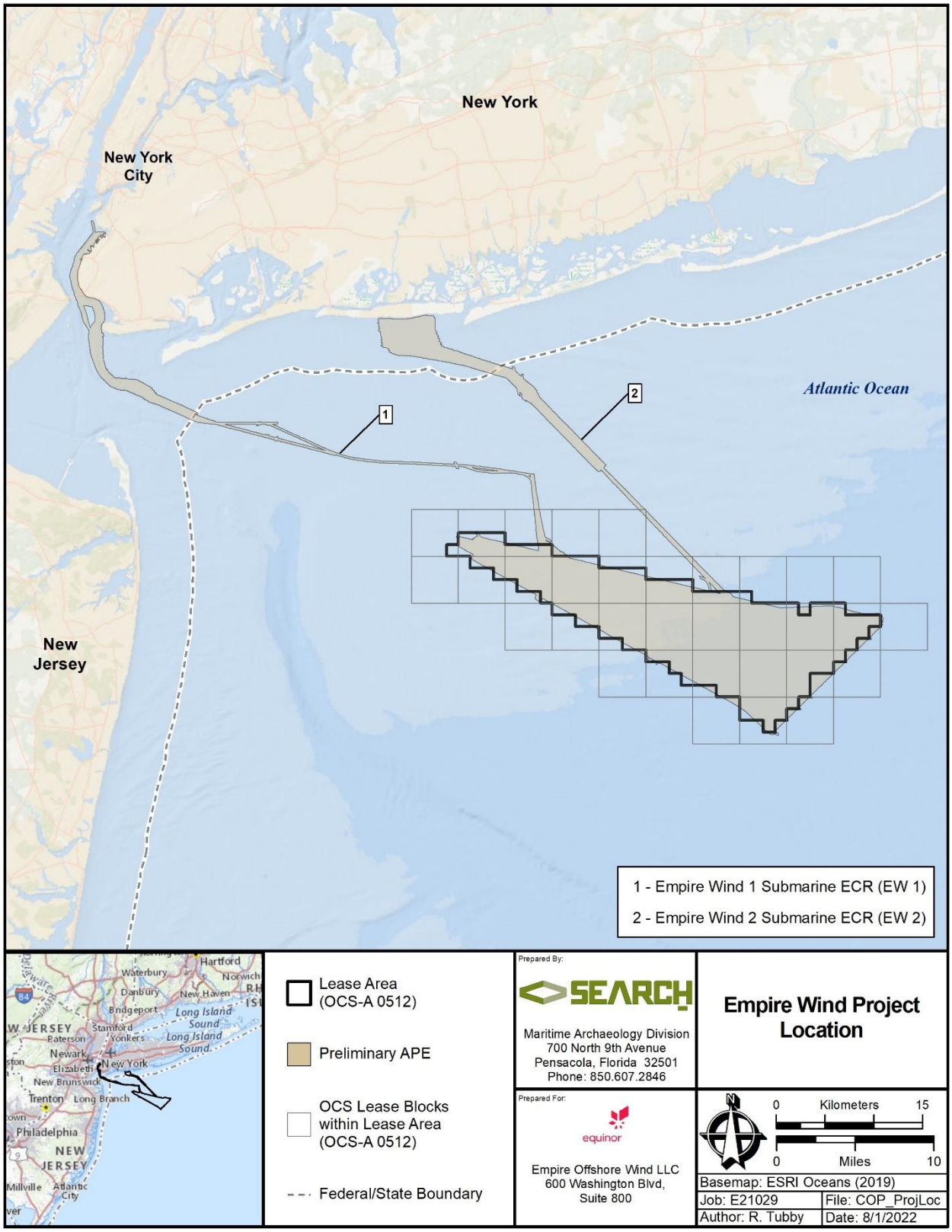

Figure 1.1.1. Empire Wind Project Location.

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2 REGULATORY FRAMEWORK

2.1 National Environmental Policy Act and the National Historic Preservation Act

This MARTP was developed based on coordination with BOEM and reflects consultations conducted by BOEM with multiple consulting parties, including the NY SHPO and Tribes/Tribal Nations for whom identified historic properties may have traditional cultural and/or religious significance. The regulations at 36 CFR § 800.8 provide for use of the National Environmental Policy Act (NEPA) process to fulfill a federal agency's NHPA Section 106 review obligations in lieu of the procedures set forth in 36 CFR § 800.3 through 800.6. Under these provisions, issuance of a Record of Decision (ROD) and implementation of relevant conditions will resolve adverse effects to historic properties caused by the Undertaking. BOEM may also choose to develop an NHPA Section 106 (MOA) to resolve adverse effects to historic properties. As defined in 36 CFR § 800.6 (c), a project specific MOA will record the terms and conditions agreed upon to resolve adverse effects of the undertaking (i.e., the approval, approval with modification, or disapproval of the EW 1 and EW 2 COP). If BOEM chooses to approve the EW 1 and EW 2 COP or approve the COP with modifications, implementation of the NHPA Section 106 MOA will be included in the ROD).

2.2 Participating NHPA Section 106 Consulting Parties

BOEM initiated consultation under Section 106 with invitations to potential consulting parties June 24, 2021, including the NY SHPO, NJ HPO and ACHP. BOEM invited the following federally recognized Tribes/Tribal Nations with historic and cultural ties to the project areas to participate in the Section 106 review as consulting parties:

- Delaware Tribe of Indians
- The Delaware Nation
- The Mashantucket (Western) Pequot Tribal Nation
- The Mashpee Wampanoag Tribe
- The Shinnecock Indian Nation
- The Stockbridge-Munsee Community Band of Mohican Indians
- The Wampanoag Tribe of Gay Head (Aquinnah)

For the remainder of this document, the term "Tribes" and/or "Tribal Nations" includes these seven Tribes.

Empire Wind anticipates the above-listed parties and any subsequently identified parties will participate in the finalization of this MARTP through BOEM's Section 106 consultation process. After its initial invitation, BOEM hosted the following Section 106 consultation meetings with consulting parties on the following dates:

- NEPA Public Scoping Meetings on June 30, July 8, and July 13, 2021
- Section 106 Consulting Parties Meeting 1 – September 12, 2022
- Section 106 Consulting Parties Meeting 2 – December 9, 2022
- Section 106 Consulting Parties Meeting 3 – June 23, 2023
- Section 106 Consulting Parties Meeting 4 – August 15, 2023
- Section 106 Consulting Parties Meeting 5 – September 28, 2023

2.3 State Historic Preservation Laws/Regulations

Portions of the Project located within the State of New York are subject to the New York State Public Service Commission's review of the transmission facility located within the State of New York pursuant to Article VII of the New York Public Service Law (PSL) and the New York State Historic Preservation Act of 1980, Section 14.09 (New York's counterpart to the NHPA). The Submerged Lands Act (43 United States Code § 1301[c]) grants coastal states title to natural resources within their coastal submerged lands out to 2.6 nm (3.0 mi, 4.8 km). The Abandoned Shipwreck Act (43 United States Code § 2101) affirms the authority of state governments to claim and manage abandoned shipwrecks on state submerged lands. Section 233 of the State Education Law (Section 233, subsections 4 and 5, State Education Law L. 1947, c. 820; amended L. 1958, c121, eff. March 6, 1958) prohibits the disturbance of archaeological resources without prior approval from the New York State Museum, while the New York State Parks – Division for Historic Preservation is the agency that administers the program authorized by both the NHPA and New York State Historic Preservation Act of 1980.

2.4 Municipal Laws/Regulations, Preservation Easements & Restrictions (if applicable)

No applicable municipal laws or regulations, nor preservation easements or restrictions were identified relevant to the regulatory framework for the Project or development of the MARTP.

3 HISTORIC PROPERTY INFORMATION

3.1 Historic Properties

This MARTP addresses unavoidable impacts to 13 historic properties of the 52 potential submerged cultural resources identified within the Project's MARA Report (COP Volume 2C Appendix X), as identified below in **Table 3.1.1**. The 13 historic properties are ASLFs (**Figures 3.1.1** and **3.1.2**) identified during geophysical and geotechnical investigations within the Lease Area, EW 1 Submarine ECR, and EW 2 Submarine ECR.

Table 3.1 1. Historic Properties Included in the MARTP.

Name	Project Component Area	Resource Type
Target 31	[redacted]	Ancient Submerged Landform features (ASLF)
Target 33	[redacted]	ASLF
Target 35	[redacted]	ASLF
Target 36	[redacted]	ASLF
Target 39	[redacted]	ASLF
Target 41	[redacted]	ASLF
Target 42	[redacted]	ASLF
Target 45	[redacted]	ASLF
Target 47	[redacted]	ASLF
Target 48	[redacted]	ASLF
Target 49	[redacted]	ASLF
Target 51	[redacted]	ASLF
Target 52	[redacted]	ASLF

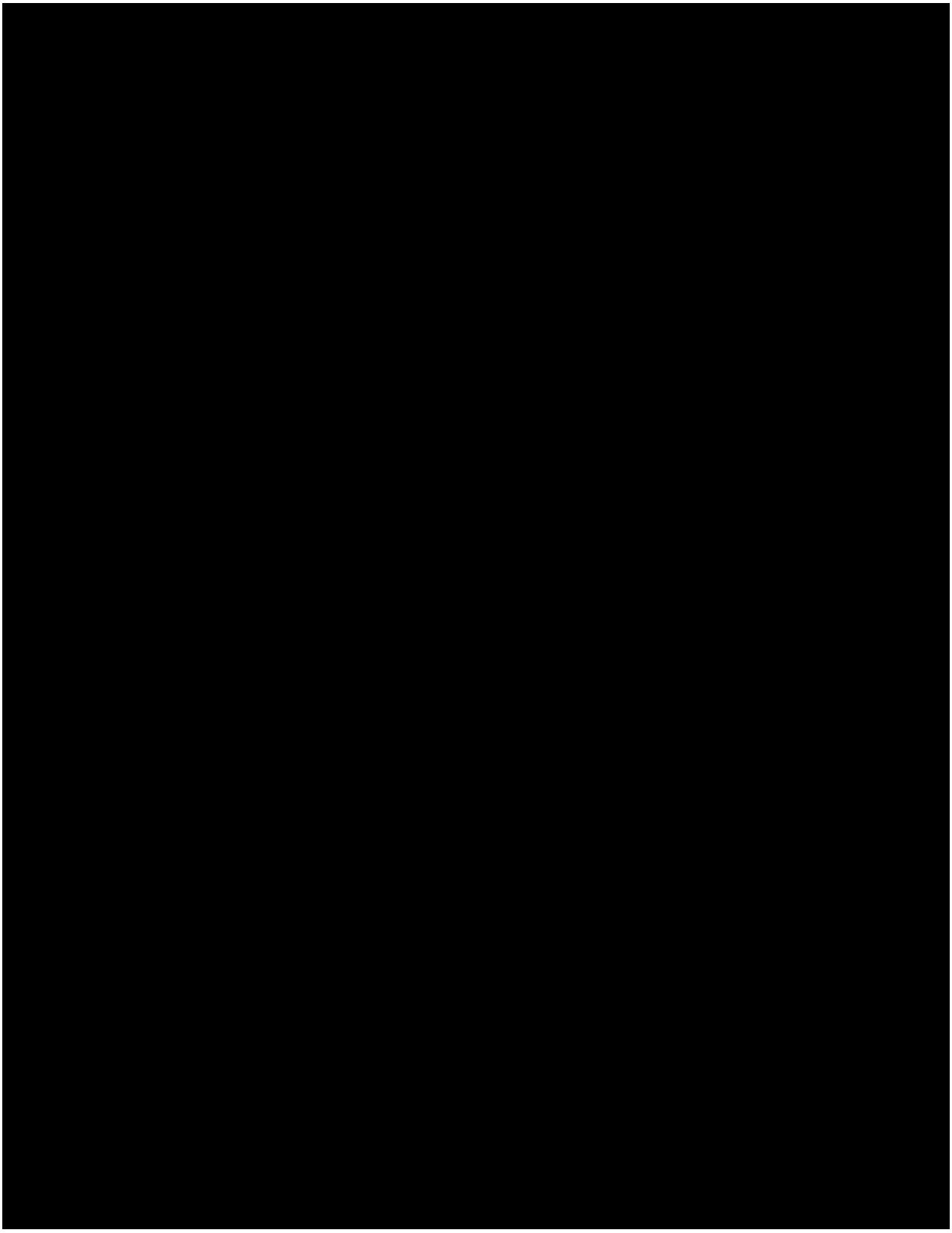

Figure 3.1.1. ASLFs within the Lease Area.

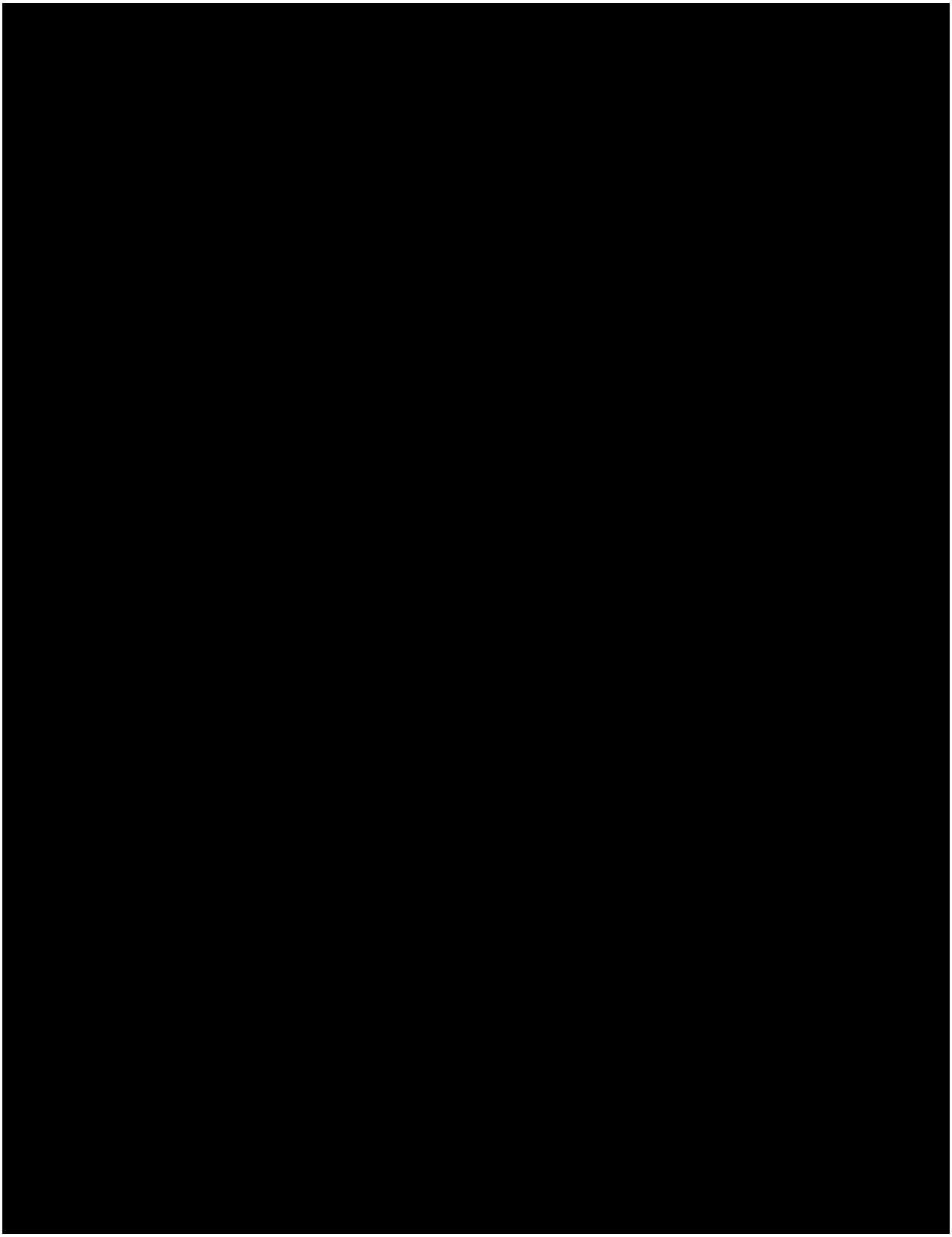

Figure 3.1.2. ASLFs within the EW 1 Submarine ECR and EW 2 Submarine ECR.

3.2 Post-Construction As-Placed/Laid Mapping

For the avoidance of all historic properties, the project proponent or lease holder will provide as-placed and as-laid maps with both the horizontal and vertical extent of all seafloor impacts. These seafloor impacts include anchoring activities (location of all anchors, anchor chains, cables, and wire ropes on the seafloor, including sweep but excluding the vertical extent of anchor penetration of the seafloor), cable installation (including trenching depths and seafloor footprint of the installation vessel), and wind turbine generator (WTG) installation (anchoring and spudding/jack-up vessel placement). The as-built or as-laid position plats should be submitted at a scale of 1-in. = 1,000-ft., with differential global positioning system accuracy demonstrating that these seafloor disturbing activities did not impact the avoidance criteria applied to the historic property. These documents and maps should be submitted to BOEM no later than 90 days after completion of the seafloor disturbing/construction activities for consulting parties to review.

3.3 Assessment of Adverse Effects

3.3.1 Historic Context Historic Targets

New York's geographic location and system of waterways fostered the development of commercial maritime activities and established the city as one of the world's largest and busiest ports. The Lease Area is located roughly 22 nm (25 mi, 40 km) southeast of New York Harbor at its closest point, while EW 1 Submarine ECR will make landfall near Brooklyn and EW 2 Submarine ECR will make landfall near Long Beach. The maritime historical context of the region results in a potential for historic submerged cultural resources to exist. Ship building material is the most prominent factor when assessing the preservation potential of possible historic submerged cultural resources.

Prior to the arrival of Europeans, Native Americans traversed inland and coastal waters not only for resource procurement, but also in support of vast trade networks. Indigenous knowledge of the rivers and seas was tied directly to an inextricable relationship with the natural world that exists within Indigenous Traditional Ecological Knowledge (ITEK) to this day. On water transport included the ubiquitous dugout canoe ranging to open ocean craft. Additionally, knowledge of the maritime landscape encompassed the materials necessary for watercraft construction and maintenance.

Early European exploration that may have crossed the Lease Area employed small, wooden-hull sailing vessels. Increased maritime activity in the region during the seventeenth and eighteenth centuries included larger ocean-going ships and coastal traders. The introduction of steam vessels in the region presents a new category of potential shipwreck in the nineteenth century. The use of iron and steel in hull construction soon followed steam technology in the nineteenth century. The twentieth-century workboat including, but not limited to, barges, freighters, and tankers, is another category of shipwreck that could be expected in the region. The modern recreational vessel, although not typically considered a submerged cultural resource, also could be a vessel type documented in the APE.

3.3.2 NRHP Criteria Historic Targets

The NRHP is:

> …the official list of the Nation's historic places worthy of preservation. Authorized by the National Historic Preservation Act of 1966, the National Park Service's National Register of Historic Places is part of a national program to coordinate and support public and private efforts to identify, evaluate, and protect America's historic and archeological resources… (National Park Service [NPS] 2018:1)

The list includes districts, sites, buildings, structures, and objects significant in American history, architecture, archaeology, engineering, and culture. Properties can be significant at the local, state, or national level.

An assessment should examine three concepts when evaluating a property's eligibility for listing in the NRHP: historic significance, historic context, and integrity. To have historic significance, a property must meet at least one of four significance criteria. As defined by the NPS (2002:2), the quality of significance in American history, architecture, archaeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and:

A. that are associated with events or activities that have made a significant contribution to the broad patterns of our history; or
B. that are associated with the lives of persons significant in our past; or
C. that embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
D. that have yielded, or may be likely to yield, information important in prehistory or history.

Historic context is defined as "information about historic trends and properties grouped by an important theme in the prehistory of a community, state, or the nation during a particular period of time" (NPS 1977:4). Historic context provides the link between the shipwreck and unique, representative, and/or pivotal historic trends.

The definition of integrity, as it relates to listing in the NRHP, is the ability of the property to convey its significance. Although subjective, integrity "must always be grounded in an understanding of the property's physical features and how they relate to its significance" (NPS 2002:44). The seven aspects of integrity include location, design, setting, materials, workmanship, feeling, and association. A property must retain several of these aspects of integrity to convey significance. In the case of an archaeological site, the relevant aspects to consider are location, setting, materials, and association (NPS 2018). NPS National Register Bulletin 15, How to Apply the National Register Criteria for Evaluation further clarifies the steps necessary to assess integrity (NPS 2002). These include:

- Define the essential physical features that must be present for a property to represent its significance;
- Determine whether the essential physical features are visible enough to convey their significance;
- Determine whether the property needs to be compared with similar properties; and,
- Determine, based on the significance and essential physical features, which aspects of integrity are particularly vital to the property being nominated and if they are present.

3.3.3 **Historic Significance and Historic Context**

In addition to the NRHP significance criteria, the NPS National Register Bulletin 20, Nominating Historic Vessels and Shipwrecks to the National Register of Historic Places, provides additional information to consider when assessing the NRHP eligibility of historic shipwrecks (Delgado 1992). Delgado (1992:3) states:

> …the significance of a historic vessel can only be determined through a systematic investigation of the vessel's qualities, associations, and characteristics. A typical investigation for a historic vessel nomination should include:
>
> 1. Identification of the specific type of vessel and documentation based on a physical inspection of the vessel and a documentation of her history.

2. Identification of the historic context(s) associated with the vessel based on a documentation of her history.
3. Determination that the characteristics of the vessel make her either the best, or a good representative of her type.
4. Evaluation of the significance of the vessel based on the National Register criteria.
5. Evaluation of the vessel's integrity and a listing of features that the vessel should retain to continue to possess integrity.
6. Evaluation of a vessel's special characteristics that might qualify her for National Register listing even though she might be less than 50 years old or some aspect of her present condition generally would not qualify her for listing.

The MARA identified 30 potential submerged cultural resources within the preliminary area of potential effects (PAPE) that could represent historic properties. Six of the identified targets were subject to additional Phase Ib remote operated vehicle (ROV) investigation The goal of the investigation was to identify the source(s) of the six targets and determine if a NRHP eligibility determination could be accomplished through ROV documentation only. Three of the six targets investigated during ROV operations were determined to be modern in origin. No avoidance is necessary for these targets. ROV investigation of Target 23 was deemed unsafe and was not undertaken due to the target's location [redacted].

Two targets were recommended for collection of Phase II archaeological data through alternative investigative methods (e.g., scientific diver investigation). The Phase II scientific diver investigation was performed to inform Project siting. Diver investigation determined one target (Target 12) to be modern debris, and one target (Target 17), to be potentially eligible for inclusion in the NRHP.

Current data suggests that Target 17 may be the remains of a historic shipwreck, associated with a historic shipwreck, or a component of the historic maritime cultural landscape of New York Harbor, and potentially eligible for listing in the NRHP under Criterion D for its potential to yield important information about history. Empire has designed an anchor handling plan to avoid impacts to Target 17 and its avoidance buffer (Figure 3.2.1).

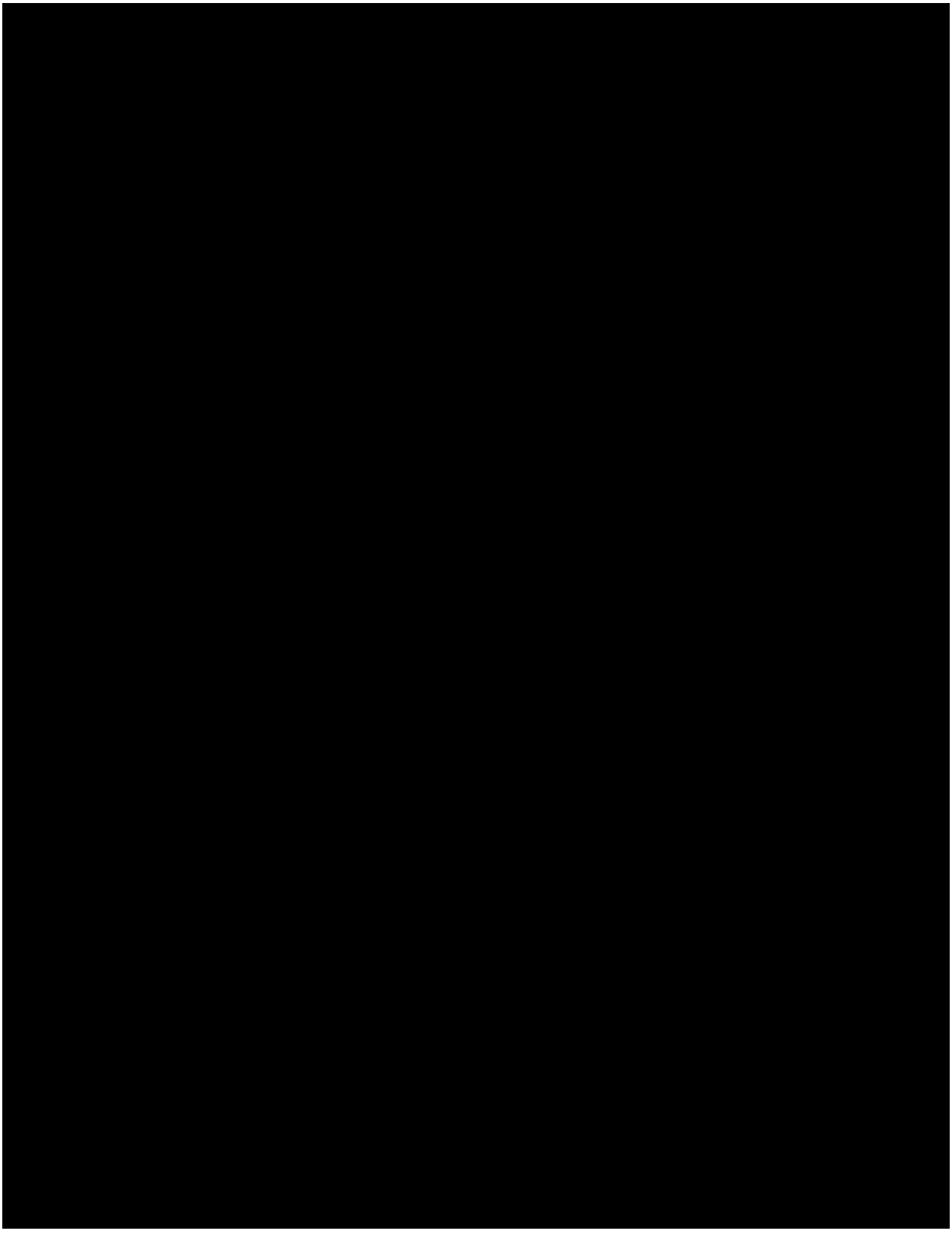

Figure 3.2.1. Proposed Anchoring Pattern near Target 17.

3.3.4 ASLF Contexts

Three major paleochannel complexes exist within the PAPE: the Holocene paleochannels, Pleistocene paleochannels, and the Paleo-Hudson River channel and drainage network. The Holocene and Pleistocene paleochannels represent those available for human occupation based on the current archaeological understood process of peopling of North America. The Paleo-Hudson fluvial complex at its youngest dates to approximately 60,000 cal BP and would not have been available for human occupation based on archaeological understanding of the human habitation of North America. Targets 31–52 represent discontinuous portions of the Holocene and Pleistocene paleochannel complexes that incised the OCS throughout the PAPE. The archaeological timeframes associated with these former subaerial living surfaces are the Paleoindian and Archaic Periods.

Although direct evidence of the former inhabitants does not exist within the current dataset, the paleoenvironmental reconstruction and correlation to similar, known terrestrial archaeological sites suggest the ASLFs are types of locations frequented by indigenous peoples in the region. Paleoindian and early Archaic peoples were highly mobile populations that relied on resource rich areas for survival, such as river valleys. Coastal adaptation during this time is not well-understood due to the nature of marine transgression and limited preservation of coastal sites. It is highly likely that the former coastline now drowned and buried on the OCS also was a locale frequented and utilized by the same indigenous populations.

The ASLFs discussed above represent preserved elements of a former subaerial surface, one that was likely home to the indigenous peoples of North America. These types of features are recognized as having traditional cultural significance to the consulting Tribes/Tribal Nations, many of whom are descendants of the people that once traversed this landscape. Several of the Tribes maintain within their traditions that their people have always been present here. Their Tribal histories possess accounts of their ancestors existing and interacting with these former subaerial surfaces, a place that holds value and importance to their heritage and identity. ITEK will be essential in understanding the significance of the ASLFs to the present day Tribe/Tribal Nations.

3.3.5 NRHP Criteria ASLFs

Based on prior BOEM consultations for the South Fork Wind Farm, Vineyard Wind 1 Wind Farm, and Ocean Wind 1 Offshore Wind Farm undertakings and Empire Wind's assessments, the identified ASLFs are potentially eligible for listing in the National Register of Historic Places under Criterion D for their potential to yield important information about the indigenous settlement of the northeastern United States and development of coastal subsistence adaptations. Each ASLF may also be eligible for listing under Criterion A for their association with and importance in maintaining the cultural identities of multiple Tribes/Tribal Nations.

3.3.6 Adversely Affected ASLFs

Target 31: Target 31 represents a discontinuous portion of the Holocene paleochannels present [redacted]. Covering approximately 95.6 ac (38.7 ha), the acoustic imagery of Target 31 depicts the basal portion of the channel with both banks partially intact. The associated floodplains appear to have been eroded in portions of Target 31. [redacted]. Approximately 29% (27.7 ac [11.2 ha]) of Target 31 is present within the vertical ECR PAPE, and cannot be avoided via micro-siting.

Target 33: Target 33 represents a portion of the Holocene paleochannels present [redacted]. Covering approximately 128.2 ac (51.9 ha), the acoustic imagery of Target 33 depicts a well-preserved floodplain with a relatively shallow thalweg. [redacted]

[redacted]. Approximately 26% (33.0 ac [13.4 ha]) of Target 33 is present within the vertical ECR PAPE, and cannot be avoided via micro-siting.

Target 35: Target 35 represents a series of discontinuous portions of the Holocene paleochannels present [redacted]. Covering approximately 137.8 ac (55.8 ha), the acoustic imagery of Target 35 depicts two channel thalwegs with possible preservation of the interfluve. The right floodplain and margin appear better preserved than the left. [redacted] Approximately 59% (81.5 ac [33.0 ha]) of Target 35 is present within the vertical ECR PAPE, and cannot be avoided via micro-siting.

Target 36: Target 36 represents a series of discontinuous portions of the Holocene paleochannels present [redacted]. Covering approximately 605.4 ac (245.0 ha), the acoustic imagery of Target 36 consists of multiple channel features. The extent of the feature includes five total channel thalwegs. This type of environment could be the remnant of a deltaic environment or represent an anastomosing or well-braided fluvial system. [redacted]. Approximately 21% (128.5 ac [52.0 ha]) of Target 36 is present within the vertical ECR PAPE, and cannot be avoided via micro-siting.

Target 39: Target 39 represents a portion of the Holocene paleochannel complex present [redacted]. Target 39 appears to represent a discontinuous segment of Target 37; however, marine transgression likely eroded the majority of the surface once connecting these two areas. Covering approximately 100.0 ac (40.5 ha), the acoustic imagery of Target 39 depicts a slightly eroded yet preserved paleochannel flank. [redacted]. Approximately 13% (13.0 ac [5.3 ha]) of Target 39 is present within the vertical PAPE of one WTG position and its associated work zone and therefore impacts cannot be avoided due to deep penetration (55m) of the WTG monopile.

Target 41: Target 41 represents a portion of the Holocene paleochannel complex present [redacted]. Covering approximately 307.3 ac (124.4 ha), the acoustic imagery of Target 40 depicts a paleochannel with a preserved flank (left) and possible bank feature (right). Target 41 exists almost entirely within Target 49, evidencing a similar fluvial pattern during the Holocene as was present during the Pleistocene. [redacted] Approximately 11% (33.1 ac [13.4 ha]) of Target 40 is present within the vertical PAPE of one WTG position and its associated work zone and therefore impacts cannot be avoided due to deep penetration (55m) of the WTG monopile.

Target 42: Target 42 represents a portion of the Pleistocene paleochannel complex present [redacted]. Covering approximately 1,061 ac (429.5 ha), the acoustic imagery of Target 42 depicts two relatively shallow channels with an interfluve and channel margins intact. [redacted]. Approximately 18% (193.8 ac [78.4 ha]) of Target 42 is present within the vertical PAPE of three WTG positions, their associated work zones, and two other work zones and therefore impacts cannot be avoided due to deep penetration (55m) of the WTG monopiles.

Target 45: Target 45 represents a portion of the Pleistocene paleochannel complex present [redacted]. Vestiges of the truncated Holocene paleochannel complex are visible above the Pleistocene reflector. Covering approximately 1,864 ac (754.5 ha), the acoustic imagery of Target 45 depicts two main channels with preserved margins. The right bank and interfluve appear to be relatively intact. [redacted]. Approximately 13% (233.2 ac [94.4 ha]) of Target 45 is present within the vertical PAPE of three WTG

locations, their work zones, and five other work zones and therefore impacts cannot be avoided due to deep penetration (55m) of the WTG monopiles.

Target 47: Target 47 represents a portion of the Pleistocene channel complex present [redacted]. Covering approximately 2,217 ac (897.1 ha), the acoustic imagery of Target 47 depicts a meandering channel evidencing a migratory channel. The banks appear relatively intact, and there is noted terracing within the target. [redacted] Approximately 15% (327.3 ac [132.5 ha]) of Target 47 is present within the vertical PAPE of four WTG locations, their work zones, and three other work zones and therefore impacts cannot be avoided due to deep penetration (55m) of the WTG monopiles.

Target 48: Target 48 represents a portion of the Pleistocene paleochannel complex present [redacted]. Covering approximately 2,857 ac (1,156 ha), the acoustic imagery of Target 48 depicts a well-defined channel with a possible tributary. The left margin appears more intact that the right, and the interfluve appears to have in part survived marine transgression. [redacted] Approximately 22% (635.4 ac [257.1 ha]) of Target 48 is present within vertical PAPE of seven WTG locations, their work zones, and four other work zones and therefore impacts cannot be avoided due to deep penetration (55m) of the WTG monopiles.

Target 49: Target 49 represents a portion of the Pleistocene paleochannel complex present [redacted]. Covering approximately 6,705 ac (2,714 ha), the acoustic imagery of Target 49 depicts an overbank and floodplain and minor terracing. [redacted] Approximately 9% (611.5 ac [247.5 ha]) of Target 49 is present within the vertical PAPE of six WTG locations, their work zones, and 14 other work zones and therefore impacts cannot be avoided due to deep penetration (55m) of the WTG monopiles.

Target 51: Target 51 represents a portion of the Holocene paleochannels present [redacted] Covering approximately 372 ac (151 ha), the acoustic imagery of Target 51 depicts a preserved floodplain with thalweg and possible channel migration. [redacted]. Approximately 16% (59.7 ac [24.2 ha]) of Target 51 is present within the vertical ECR PAPE; based on the cable burial risk assessment (CBRA), impacts cannot be avoided.

Target 52: Target 52 represents a portion of the Holocene paleochannels present [redacted]. Covering approximately 117.5 ac (47.6 ha), the acoustic imagery of Target 52 depicts a well-preserved floodplain with a relatively shallow thalweg. [redacted]. Approximately 39% (45.7 ac [18.5 ha]) of Target 52 is present within the vertical ECR PAPE, and cannot be avoided via micro-siting

4 MITIGATION MEASURES FOR HISTORIC TARGETS

This section details the proposed mitigation measures to resolve adverse effects to historic properties stipulated in the MOA, and describes the purpose and intended outcome, scope of work, methodology, standards, deliverables, and funds and accounting for each measure. The content of this section was developed on behalf of Empire Wind by individuals who met Secretary of the Interior (SOI) Qualifications Standards for Archeology and/or History (62 FR 33708) and is consistent with fulfilling the mitigation measures such that they fully address the nature, scope, size, and magnitude of adverse effects to historic targets. This framework should be adapted for application to specific resources. The steps outlined below are based on the current Project status and Project design. Alterations to Project infrastructure, installation methodology, or workspace requirements have the potential to eliminate particular methods or mitigation options proposed herein or require new procedures to adequately approach the mitigation of historic properties. Implementation of the mitigation measures described in the following sections will be led by a Qualified Marine Archaeologist (QMA) pursuant to 30 CFR 585 and who meets SOI Qualifications Standards for Archeology and Historic Preservation (48 FR 44738-44739).

4.1 Purpose and Intended Outcomes

This mitigation measure will consist of additional investigation specifically tailored to each target. The investigation may include additional archival/background research, refinement HRG survey, and/or scientific diver/remotely operated vehicle verification to determine the source(s) of the target as well as associated reporting and potentially public outreach components. Acquired data will be used to assess each target's integrity, significance, and eligibility for listing in the NRHP as a historic property. A single Technical Report on the analyses and interpretations will be developed. The Technical Report will be geared primarily toward technical, BOEM and agency audiences. Consultation with BOEM and appropriate parties with a nexus to the project may result in the development of a public outreach component.

4.2 Methodology

Empire Wind anticipates the anchors and/or ropes will not extend into the recommended avoidance buffer for Target 17, but would avoid both the actual target and its buffer. The below list provides a methodological progression of further archaeological investigation into each target, if warranted.

1. If avoidance of the recommended buffer is not feasible as a result of micrositing challenges, engineering design development, or the route selection process, then Phase II NRHP evaluation may include:
    a. Significance and integrity evaluation of the target source accomplished with scientific diver investigation, which may include limited excavation.
    b. Archival research.
2. Revisit avoidance recommendation based on Phase II results.
3. Consultation with BOEM and other parties to determine significance (NRHP eligibility).
4. If NRHP-eligible, consultations to develop a data recovery research design and/or alternative mitigation.
5. Phase III data recovery accomplished through scientific diver excavation. Level of effort dependent upon consultation but could include:
    a. Limited excavation and data recovery of select sections of the archaeological site.
    b. Recovery and conservation of select diagnostic artifacts for potential use in exhibit or other public outreach program. This would be based on opportunity determined during excavation and mapping (in other words, if there are no worthy artifacts uncovered, then none would be collected).
    c. Alternative mitigation to offset full data recovery (offsite). Examples include a robust archival research project or HRG survey designed to locate a certain vessel loss.

6. Consultation with appropriate parties with a nexus to the project to develop a public outreach component (e.g., digital/media products, education materials, non-technical report, etc.).
7. Technical reports for peer review and dissemination of data at professional conferences/publications.

4.2.1 Scientific Diver

A scientific diver investigation may occur to assess NRHP eligibility. Scientific diving investigation will be directed by a QMA and consist of Phase II NRHP eligibility assessment, and if warranted, a Phase III data recovery. A sufficient portion of the archaeological site would be excavated to collect the following data needed to make the NRHP eligibility assessment (additional excavation may be needed if archaeological investigation proceeds to Phase III data recovery):

- Horizontal and vertical dimensions;
- Composition;
- Integrity;
- Archaeological research potential;
- Age, if possible;
- Identity, if possible;
- Cultural affiliation, if possible;
- NRHP eligibility, if possible; and
- Photographs, if possible.

During a Phase II investigation, temporary recovery of artifacts will only occur if the QMA determines that topside inspection would assist with identifying the target source(s) and/or assist with the NRHP eligibility assessment. Artifacts will be kept wet during topside inspection and be returned to the precise location of recovery immediately following analysis. Topside photography of artifacts will include a scale and descriptive site information. Prior to a Phase III data recovery, consultation will occur to discuss the appropriate level of effort based on current design plans and will include a discussion on artifact recovery. If artifact collection is a component of mitigation, then a conservation and curation plan will be developed before recovery.

In the event artifacts and material culture associated with the pre-contact periods within the coastal and marine environments are identified and recovered during pre-construction, construction, operation, maintenance, and decommissioning of the proposed Project, including for mitigation or resulting from post-review discovery including but not limited to vibracore sampling, those materials, if they are not replaced on the seafloor, will be housed at a curatorial facility in consultation with the Tribes/Tribal Nations. This collection and curation does not apply to the post-construction seafloor inspection mitigation.

In the event artifacts and material culture associated with the pre-contact periods within the coastal and marine environments are identified and recovered from state property during pre-construction, construction, operation, maintenance, and decommissioning of the proposed Project, including for mitigation or resulting from post-review discovery including but not limited to vibracore sampling, those materials, if they are not replaced on the seafloor, may be housed at a curatorial facility in consultation with the Tribes/Tribal Nations and SHPO and local government(s). This collection and curation does not apply to the post-construction seafloor inspection mitigation.

4.2.2 Reporting

The results of survey activities will be incorporated into a technical report, in accordance with BOEM's *Guidelines for Providing Archaeological and Historic Property Information Pursuant to 30 CFR Part 585* (2020). Data will

be processed and interpreted by the QMA. The level of analysis and reporting will be sufficient to support BOEM and the State Historic Preservation Office with the final consultation requirements under Section 106 of the National Historic Preservation Act.

Upon completion of the reporting, Empire Wind will prepare a National Register Registration Form (NPS 10-900), which is used to nominate individual properties and districts. The form(s) will be completed using the information collected during the archival research, HRG survey, ROV, and/or scientific diver investigations. Under this proposal, a National Register Registration Form (NPS 10-900) will be completed for each unavoidable historic target.

Empire Wind will draft the individual National Register Registration Form (NPS 10-900) for the relevant target(s) in consultation with BOEM and other parties with a nexus to the project. Empire Wind will work with BOEM to develop draft NPS 10-900 forms for each historic target. Empire Wind will then submit draft forms to BOEM for review and comment. Based on the feedback and comments from BOEM, Empire Wind will finalize the nomination forms and BOEM will submit the forms to the NPS in Washington, D.C., for final review and listing by the Keeper of the NRHP.

4.3 Standards

The historic target research effort will be conducted in accordance with BOEM's *Guidelines for Providing Archaeological and Historic Property Information Pursuant to 30 CFR Part 585* (2020). The qualified professional archaeologists leading the research will meet the SOI professional qualification standards for archeology (62 FR 33708) and BOEM's standards for Qualified Marine Archaeologists.

4.4 Documentation

The following documentation is to be provided for review by Participating Parties:

- Draft Technical Report;
- Final Technical Report;
- Individual National Register Registration Form (NPS 10-900) (if warranted), and
- Draft Public or Professional Presentations.

4.5 Mitigation Measure Funds and Accounting

Empire Wind will be responsible for funding and implementation of this mitigation measure.

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5 MITIGATION MEASURES FOR ASLF TARGETS

This section details the proposed mitigation measures to resolve adverse effects to historic properties stipulated in the MOA, and describes the purpose and intended outcome, scope of work, methodology, standards, deliverables, and funds and accounting for each measure. The content of this section was developed on behalf of Empire Wind by individuals who met SOI Qualifications Standards for Archeology and/or History (62 FR 33708) and is consistent with fulfilling the mitigation measures such that they fully address the nature, scope, size, and magnitude of adverse effects to historic targets. This framework should be adapted for application to specific resources. The steps outlined below are based on the current Project status and Project design. Alterations to Project infrastructure, installation methodology, or workspace requirements have the potential to eliminate particular methods or mitigation options proposed herein or require new procedures to adequately approach the mitigation of historic properties. Implementation of the mitigation measures described in the following sections will be led by a QMA pursuant to 30 CFR 585 and who meets SOI Qualifications Standards for Archeology and Historic Preservation (48 FR 44738-44739).

5.1 Preconstruction Geoarchaeology

5.1.1 Purpose and Intended Outcomes

This mitigation measure will consist of geotechnical sampling prior to Project construction within the affected portions of each ASLF that was not previously investigated during the 2020 geoarchaeological coring campaign. Geoarchaeological core locations will be selected in consultation with Tribes/Tribal Nations, BOEM, and the NY SHPO, and will be analyzed in collaboration with the Tribes/Tribal Nations to provide a more detailed understanding of ancient, former terrestrial landscapes within the Empire Wind Lease Area, EW 1 Submarine ECR, and EW 2 Submarine ECR and how such settings may have been used by Late Pleistocene-Early Holocene indigenous peoples. Data acquired from this effort is expected to refine the age estimates for each stable landform, the timing and character of ecological transitions evidenced in the MARA report and provide an additional opportunity to recover evidence of ancient indigenous use of each ASLF.

This measure will provide for a more detailed analysis of the stratigraphy, chronology, and evolving ecological conditions at each ancient landform. Two separate reports on the analyses and interpretations will be developed. The first will be focused on content of specific interest to the consulting Tribes/Tribal Nations, including a broad approach to integrating available data collected from other recent archaeological research and surveys on the Atlantic OCS and incorporating ITEK. The specific content and formatting of this report will be refined in consultation with the tribes to align the work product with intended intra- and inter-tribal audiences. The second report will be geared primarily toward technical, Tribal/State Historic Preservation Officer and agency audiences.

5.1.2 Methodology

Empire Wind will conduct the Preconstruction Geoarchaeology in consultation with the Tribes/Tribal Nations, BOEM, and the NY SHPO. Although BOEM and the NY SHPO will be consulted, the research, analyses, and interpretations are intended to be a collaborative effort between Empire Wind and the consulting Tribes/Tribal Nations, who will be invited by Empire Wind to a series of working sessions to:

- Review existing data;
- Develop specific research questions addressing the tribes' interests in the ASLF;
- Select up to two candidate coring locations per unavoidable ASLF;
- Split, document, and sample recovered geotechnical samples in the laboratory;

- Review analytic results and preliminary interpretations; and
- Review draft reporting.

Prior to beginning the geotechnical campaign, Empire Wind will invite representatives from federally recognized Tribes/Tribal Nations to be present on the survey vessel to participate in and observe the geotechnical sampling activities. If Tribes/Tribal Nations decide to have representatives on the vessel, Empire Wind will coordinate with the Tribe/Tribal Nations to ensure Tribal representatives have all of the necessary health and safety training/certification/permissions to be present on the vessel during the sampling campaign. Geotechnical testing will occur within the affected sections of each ASLF and will extend to a maximum depth unique to each feature based on the reflector's burial depth. The cores will be cut on the survey vessel into approximately 1-meter-long sections and sealed to minimize the risk of environmental contamination. The core segments will be logged on the survey vessel and a chain of custody will be maintained to ensure all samples are accounted for and that all samples are transferred to the laboratory for geoarchaeological analyses. Once the core segments are transferred to the onshore laboratory, Empire Wind will invite Tribal representatives to observe/monitor the splitting, documentation, and subsampling of each core.

Each core segment will be split longitudinally into working and archival halves. Subsamples collected from working halves for specific third-party analyses will be packaged in a manner appropriate to the specific analysis for which they are intended. Archival halves will be sealed and stored horizontally on shelves or racks in a climate-controlled facility for at least one year following completion of laboratory analyses. Empire Wind will prioritize reasonable access to archival core segments by consulting parties and researchers when selecting the storage facility. All samples collected from the working halves will be submitted to third party laboratories within approximately 6 months of core transfer to the Qualified Marine Archaeologist facilities.

If requested by Tribes/Tribal Nations, Empire Wind will prepare a presentation of the preliminary results and interpretations for discussion with the Tribes/Tribal Nations (see work session schedule above). Empire Wind will consider the Tribes'/Tribal Nations' comments and suggestions when preparing the draft reports and will seek to resolve any concerns among the parties through supplemental consultations prior to preparing the draft reports. Empire Wind will submit the draft reports to the participating parties for review and comment. Empire Wind will consider all comments received when developing the final reports. Final digital copies of the completed reports will be provided to all participating parties. Hard copies of the final reports will be submitted to the State Historic Preservation Officers, Tribes/Tribal Nations governments or other parties upon request.

Following the one-year retention period, Empire Wind will offer transfer of the archival core segments to the Consulting Tribes, SHPOs and related state agencies, and regional research institutions with an interest in and capacity to conduct further analyses. Empire Wind currently anticipates research institutions with potential interests/capacities may include Columbia University, Princeton University, Rutgers University, New Jersey Institute of Technology, and the University of Rhode Island. Empire Wind will notify the Consulting Parties of its intent to transfer archival core segments to any party at least 45 days prior to initiating such transfer and will consider any comments provided by Consulting Parties before proceeding. If no external parties agree to accept the archival core segments, Empire Wind will water-screen the retained segments to identify and collect potential physical evidence of ancient Native American activity at the ASLFs. In such circumstances, Empire Wind will prepare a technical memorandum summarizing the results of the archival core segment processing and analyses and submit that memorandum to the Consulting Parties.

Upon completion of the geoarchaeological analysis and reporting, Empire Wind will prepare one NRHP Multiple Property Documentation Form (NPS 10-900-b) for the relevant targets. As a result of previous and ongoing consultations with federally recognized Tribes/Tribal Nations, BOEM has determined that ASLFs are

eligible for the NRHP as Traditional Cultural Properties. A traditional cultural property is defined generally as a property eligible for inclusion in the NRHP because of its association with cultural practices or beliefs of a living community that (a) are rooted in that community's history, and (b) are important in maintaining the continuing cultural identity of the community. Federally recognized Tribes/Tribal Nations have repeatedly stated to BOEM that ASLFs are significant to their members as the lands formerly occupied by their ancestors, likely containing burials and human remains, and as such are an important part of Tribal history and cultural identity. The form will be completed using the information collected during the preconstruction geoarchaeological investigations, as well as information collected in previous geophysical and geotechnical investigations, and will be drafted in consultation with participating Tribes/Tribal Nations.

The Multiple Property Documentation Form (NPS 10-900-b) is used to nominate groups of related significant properties that share themes, trends, and patterns of history. The form serves as the basis for evaluating the NRHP eligibility of related properties and it may be used to nominate and register thematically related historic properties simultaneously or establish the registration requirements for properties that may be nominated in the future. Under this proposal, a National Register Registration Form (NPS 10-900) will be completed for each of the 13 identified unavoidable ASLFs along with a single Multiple Property Documentation Form that incorporates all unavoidable ASLFs. The Multiple Property Documentation Form will streamline the NRHP nomination process for all unavoidable ASLFs by allowing information that is common to all ASLFs (NRHP evaluation criteria, historic context description, statement of significance, etc.) to be recorded on the Multiple Property Documentation Form while the unique characteristics of each ASLF (location, integrity, etc.) are completed for each individual ASLF.

Empire Wind will draft the Multiple Property Documentation Form (NPS 10-900-b) and individual National Register Registration Form (NPS 10-900) for the relevant targets in consultation with participating Tribes/Tribal Nations and BOEM. Empire Wind will work with the Tribes/Tribal Nations to develop draft NPS 10-900 forms for each ASLF and the NPS 10-900-b form. Empire Wind will then submit draft forms to the Tribes/Tribal Nations and BOEM for review and comment. Based on the feedback and comments from BOEM and the Tribes/Tribal Nations, Empire Wind will finalize the nomination forms and BOEM will submit the forms to the National Park Service in Washington, D.C., for final review and listing by the Keeper of the NRHP.

5.1.3 Standards

The Preconstruction Geoarchaeology effort will be conducted in accordance with BOEM's *Guidelines for Providing Archaeological and Historic Property Information Pursuant to 30 CFR Part 585* (2020). The qualified professional archaeologists leading the research will meet the SOI professional qualification standards for archeology (62 FR 33708) and BOEM's standards for Qualified Marine Archaeologists.

5.1.4 Documentation

The following documentation is to be provided for review by Participating Parties:

- Draft Tribal Audience Report;
- Draft Technical Report;
- Final Tribal Audience Report;
- Final Technical Report; and
- Draft Public or Professional Presentations.

5.1.5 Mitigation Measure Funds and Accounting

Empire Wind will be responsible for funding and implementation of this mitigation measure.

5.2 Open-Source GIS and Story Maps

5.2.1 Purpose and Intended Outcome

This mitigation measure will consist of the compilation and transfer of relevant geophysical, geotechnical, and geoarchaeological datasets pertaining to the ASLFs to a non-proprietary geographic information system (GIS) system for use by Tribes/Tribal Nations. The datasets will include sub-bottom (seismic) data used to characterize the seabed and ASLFs, the location of all geotechnical/geoarchaeological samples collected, and the vertical and horizontal extents of the affected features or sub-features within each ASLF. The GIS will be, to the extent feasible and practicable, compatible with GIS datasets compiled for other OCS projects to assist in the tribes' on-going research and stewardship efforts. Story Maps or equivalent digital media presentations will be prepared to integrate and present the complex technical data compiled during the MARA and mitigation investigations in a manner best suited for inter- and intra-tribal audiences. Story Map content would be developed in close consultation and collaboration with the consulting Tribes/Tribal Nations.

Incorporation of Empire Wind datasets into a broader GIS framework will allow the Tribes/Tribal Nations to to apply their ITEK to better understand and protect preserved elements of the ASLFs of traditional cultural significance. Empire Wind will incorporate ethnographic studies conducted by Tribes/Tribal Nations into the Story Maps, as appropriate. The intent of this measure is to enhance the Tribes/Tribal Nations understanding of existing conditions for a range of ASLFs located in the northeastern Atlantic OCS. This knowledge would allow for more effective Government to Government consultations regarding similar features that may be affected by future federal undertakings. The value of the GIS will increase as additional datasets are acquired and incorporated. Access to the GIS will support each Tribes' capacity to pursue their own research or intra-tribal educational programs related to the OCS and traditional cultural uses of the now-submerged landscapes of their ancestors.

The combined MARA and Preconstruction Geoarchaeology investigations will provide an important perspective on the preservation of submerged Traditional Cultural Properties within formerly glaciated sections of the OCS and within the footprint of former glacial lakes. Integrated GIS that can accommodate datasets collected from other OCS development projects and surveys would allow for comparisons to areas south of the maximum glacial limits on the OCS to provide a more comprehensive view of the ancient landscapes within the region. Tribal representatives working with Empire Wind on implementation of this measure will receive reasonable compensation for their effort. Story Maps created within the GIS will provide a flexible approach to incorporating media from a variety of sources, including geospatial data, interviews with traditional knowledge-holders, photographs, audio recordings, and archival cartography for a compelling interpretive experience. Story Maps can be tailored for specific tribal audiences and uses and would be developed in consultation with the consulting tribes.

5.2.2 Scope of Work

- The scope of work will consist of the following:
- Consultation with the Tribes/Tribal Nations to determine the appropriate open-source GIS platform;
- Review of candidate datasets and attributes for inclusion in the GIS;
- Data integration;

- Development of custom reports or queries to assist in future research or tribal maintenance of the GIS;
- Work sessions with Tribes/Tribal Nations to develop Story Map content;
- Training session with Tribes/Tribal Nations to review GIS functionality;
- Review of draft Story Maps with Tribes/Tribal Nations;
- Delivery of GIS to Tribes/Tribal Nations; and
- Delivery of final Story Maps.

5.2.3 Methodology

Empire Wind will develop the GIS in consultation with the Participating Parties. At least one work session will be scheduled to refine specific functionality of interest to the Tribes/Tribal Nations. That session will be conducted after the preliminary data analyses for the Preconstruction Geoarchaeology effort has been completed. This will allow for a more focused walk-through of the data and options for organizing and integrating different datasets. Empire Wind will request from the Tribes/Tribal Nations details on any existing open-source GIS systems currently in use by each Tribe/Tribal Nation to minimize any issues with data integration or interoperability.

Once the work session has been conducted, Empire Wind will proceed with development of the GIS, considering the Tribes'/Tribal Nations' comments and suggestions. The draft GIS system will be shared with the Tribes/Tribal Nations in a training session that presents the functions of the GIS and familiarizes the Tribal representatives with the interfaces, data organization, and any custom features developed to enhance useability. Empire Wind will consider any feedback from the Tribes/Tribal Nations on the draft GIS before proceeding with finalizing the system design and implementation. Empire Wind will provide the GIS to the Tribes/Tribal Nations by physical storage media or as a secure digital file transfer, as appropriate to each Tribes/Tribal Nations IT infrastructure and preference. Empire Wind does not intend to be responsible for the upkeep of the GIS database.

Story Map content will be developed with the consulting Tribes/Tribal Nations through one or more scheduled work sessions. Potential options for content intended for youth audiences, tribal governments, and/or general tribal membership will be discussed to refine the conceptual framework and develop draft Story Maps for review by the Tribes/Tribal Nations. Empire Wind will consider all comments and feedback provided by the Tribes when preparing the final Story Maps.

5.2.4 Standards

The GIS developed under this measure will be free to use and free to modify by the Tribes/Tribal Nations. To the extent feasible, all data will be provided in formats that allow for interoperability with other GIS platforms that the tribes may use. All datasets incorporated in the GIS will comply with Federal Geographic Data Committee data and metadata standards.

5.2.5 Documentation

Empire Wind will provide draft descriptions and documentation of the GIS for review by the Participating Parties and will provide a description of the draft Story Maps to the consulting Tribes/Tribal Nations following the initial working sessions.

The following documentation is to be provided for review by Participating Parties:

- Draft Description of the GIS with appropriate schema, data organization, and custom reports/queries;

- Draft Story Map descriptions with details on content, formatting, and intended audiences; and
- Final Technical Description of the GIS with schema, data organization, and custom reports/queries.

5.2.6 Mitigation Measure Funds and Accounting

Empire Wind will be responsible for funding and implementation of this mitigation measure, which will include funding for one or more Tribe/Tribal Nations to conduct an independent ethnographic study, produce technical reports and presentations, and upgrade its technology to view, manage, and update the Open-Source GIS and Story Maps.

5.3 Seafloor Impact Inspection

5.3.1 Purpose and Intended Outcome

Empire Wind proposes a mitigation measure to assess impacts to ASLFs via seafloor inspection following construction activities. This effort will focus on areas of cable installation as this activity is more likely to disturb and redistribute shallow portions of a previously identified ASLFs. Empire Wind will construct a 3D model defining the spatial relationship of project components and installation methodology (e.g., cable installation via trenching or jetting) relative to the ASLFs. The 3D model will identify portions of the ASLFs within the vertical APE that will be impacted and possess a high preservation potential for evidence of human occupation. Empire Wind will coordinate with BOEM and Tribes/Tribal Nations on the results of this effort to select locations for post-construction visual inspection. Up to four ASLFs will be selected for visual inspection of post-construction impacts to areas of high preservation potential based on an assessment of the 3D ground-model.

Empire Wind's QMA will design and direct the visual inspection of the seafloor at the selected locations identified through the above process to assess for the presence/absence of displaced cultural materials from the ASLF. BOEM, Empire Wind, and the QMA will work together to determine the methodology used to conduct the visual inspection. Various factors, including but not limited to environmental conditions, health and safety risks, the spatial extent of impacts, and the unique characteristics of each selected ASLF will be considered before mobilization to conduct the visual inspection. Empire acknowledges Tribes/Tribal Nations possess indigenous traditional ecological knowledge, and intends to collaborate with Tribal Nations during post-construction seafloor inspections. Tribes/Tribal Nations will be afforded the opportunity to participate as monitors during the seafloor inspections either via live video feed or on the vessel, depending upon vessel space, monitors' offshore safety training and certification, and health and safety concerns.

This mitigation measure must be completed no later than 60 calendar days post-final cable burial. If unanticipated issues arise during the course of offshore construction that prevent this measure from being completed within calendar 60 calendar days post-final cable burial, the Lessee must notify BOEM, propose an alternate completion timeframe, and reach agreement with BOEM on the timeframe.

5.3.2 Scope of Work

The scope of work will consist of the following:

- Selection of ASLFs for 3D modeling;
- Development of 3D model throughout ASLFs designated for review;
- Consultation with BOEM to determine the method of seafloor impact assessment;
- Seafloor impact assessment;

- Draft technical report;
- Draft open-source GIS deliverables including 3D model;
- Complete open-source GIS deliverables including 3D model;
- And final technical report.

5.3.3 Methodology

To be determined in consultation with BOEM.

5.3.4 Standards

To be determined in consultation with BOEM.

5.3.5 Documentation

Empire Wind will provide appropriate Tribes/Tribal Nations draft and final technical reports including the development of the 3D models and any resulting seafloor impact assessments.

5.3.6 Funds and Accounting

Empire Wind will be responsible for funding and implementation of this mitigation measure.

5.4 Ethnographic Studies

Ethnographic Studies with the Delaware Tribe of Indians, the Shinnecock Nation, and the Stockbridge-Munsee Community Band of Mohican Indians. The Lessee will fulfill the following commitments in accordance with Attachment 8 of the MOA: funding ethnographic researcher selected by each Tribe/Tribal Nation for 2-year period; funding for each researcher travel for research and site visits; funding for each of the Tribe/Tribal Nation's technology upgrades associated with analysis and interpretation of non-proprietary or otherwise regulatory protected GIS data; funding for each of the Tribe/Tribal Nations historic preservation oversight and indirect costs; funding for each of the Tribe/Tribal Nation Tribal Historic Preservation Officers (THPOs) collaboration; provide relevant ASLF GIS data layers to the Tribe/Tribal Nations for use in this study as well as provide a tutorial on the data; hold quarterly progress update calls lasting approximately one-half hour with each of the Tribe/Tribal Nations until the final technical report is issued; delivery of final deliverables consisting of one confidential report for each Tribe/Tribal Nation that may contain sensitive resource information and one report that could be made available to the public (both reports will be distributed by the Tribe/Tribal Nations, at their discretion); and funding for a presentation to highlight the results of the study to be coordinated and executed by each Tribe/Tribal Nation. Signatories and Tribe/Tribal Nations will be notified of completion of this measure. This measure may be completed pre, during, or post-construction, and must be completed within five years after the MOA is executed.

5.5 Tribal Capacity Associated with Monitoring of ASLFs

Funding Tribe/Tribal Nation capacity activities as determined by the Delaware Nation, and the Mashantucket (Western) Pequot Tribal Nation associated with monitoring of the ASLFs, including, but not limited to, technology upgrades and training associated with interpretation and analysis of non-proprietary or otherwise regulatory protected GIS data; and provide relevant ASLF GIS data layers to the relevant Tribe/Tribal Nations for use in applicable studies (Stipulation III.A.1.v-vi) as well as provide a tutorial on the data. This measure may be completed pre, during or post-construction, and must be completed within five years after the MOA is

executed. The Tribe/Tribal Nations will determine priority Tribal capacity needs and initiatives associated with the monitoring of ASLFs. This will be funded as referenced in Attachment 8 of the MOA.

5.6 Regional Analysis of Watersheds in the Project Area with the Mashpee Wampanoag Tribe

Funding for a desktop assessment of archaeological assemblages for a regional settlement pattern analysis and assessment of associated watershed systems; GIS data layers indicating site locations; digital copies of site maps, reports, and literature relevant to the study (this may require additional consultation between the Tribal Nations, contractor and SHPO); funding the Tribal Nation's technology upgrades associated with analysis and interpretation non-proprietary or otherwise regulatory protected of GIS data; funding for the Mashpee Wampanoag Tribe's historic preservation participation and indirect costs; funding for the Mashpee Wampanoag Tribe's THPOs collaboration; providing relevant GIS data layers to the Tribes/Tribal Nations for use in this study as well as provide a tutorial on the data; holding quarterly progress update calls lasting approximately one-half hour with the Mashpee Wampanoag Tribe until the final technical report is issued; and delivering the final deliverables consisting of one confidential report for each Tribe/Tribal Nation that may contain sensitive resource information and one report that could be made available to the public (both reports may be distributed by the Mashpee Wampanoag Tribe, at their discretion). These reports may also be shared by the Mashpee Wampanoag Tribe with any other Tribes/Tribal Nations if requested at the Tribe's discretion. This measure may be completed pre, during, or post-construction, and must be completed within four years after the MOA is executed. The region for assessment consists of coastal and marine environments from New Jersey to Massachusetts.

6 TREATMENT PLAN IMPLEMENTATION

6.1 Schedule

The timeline for implementation of the mitigation measures will be determined in consultation with consulting parties based on the agreed upon mitigation measures described in the final version of this MARTP. This MARTP will be reviewed by and further developed in consultation with consulting parties as part of BOEM's NHPA Section 106 consultation and NEPA review schedule for the Empire Wind Project, which is currently anticipated to include the following:

- September 12, 2022: First meeting of consulting parties
- December 9, 2022: Second meeting of consulting parties
- November 18, 2022: Publication of the Draft Environmental Impact Statement
- June 23, 2023: [Third meeting of consulting parties]
- August 15, 2023: [Fourth meeting of consulting parties]
- September 15, 2023: Publication of the Final Environmental Impact Statement
- September 28, 2023: [Fifth meeting of consulting parties]
- November 21, 2023: Record of Decision

The final version of this MARTP included in the FEIS will include a timeline for implementation of the final/agreed upon mitigation measures described herein. It is anticipated that the mitigation measure identified in Sections 4.0 and 5.0 will commence within 2 years of ROD issuance or execution of a project specific MOA unless otherwise agreed by the consulting parties and accepted by BOEM. All infield documentation, investigation, and/or sampling activities detailed in Section 4.0 and 5.0 will be completed prior to Empire Wind conducting any activities that could impact the marine archaeological historic properties in question. Seafloor disturbing activities can, however, commence once all infield data collection activities have been completed to the satisfaction of BOEM, the ACHP, and consulting parties and prior to the completion of associated laboratory analysis, data review, reporting, and deliverable development. Empire Wind assumes that the proposed scope of work, including finalization of all deliverables described in Sections 4.0 and 5.0, will be completed within 5 years of ROD issuance or execution of the MOA, unless a different timeline is agreed upon by consulting parties and accepted by BOEM.

6.2 Roles and Responsibilities

6.2.1 Bureau of Ocean Energy Management

- BOEM remains responsible for making all federal decisions and determining compliance with Section 106 of the NHPA;
- BOEM, in consultation with the Participating Parties, will ensure that mitigation measures adequately resolve adverse effects, consistent with the NHPA;
- Work with Empire Wind, the SHPO, federally recognized Tribes/Tribal Nations with cultural and/or historic ties to the Project development area, and the ACHP using the MARTP framework;
- Review and provide feedback on draft MARTP;
- BOEM must accept the final MARTP before Empire Wind may commence any of the actions included in the MARTP;
- BOEM will be responsible for sharing the annual summary report with consulting parties;
- BOEM is responsible for consultation related to dispute resolution; and
- If parties cannot reach concurrence, consult with ACHP and non-concurring party(s) to make final decision.

6.2.2 State Historic Preservation Office(s)

- Work with BOEM, Empire Offshore Wind LLC, federally recognized Tribes/Tribal Nations with cultural and/or historic ties to the Project development area, and the ACHP using the MARTP framework; and
- Review and provide feedback on draft MARTPs.

6.2.3 Advisory Council on Historic Preservation (if applicable)

- Work with BOEM, Empire Wind, the SHPO, and federally recognized Tribes with cultural and/or historic ties to the Project development area using the MARTP framework; and
- If parties cannot reach concurrence, consult with BOEM and non-concurring parties to make final decision.

6.2.4 Empire Wind

- Empire Wind will be responsible for funding the mitigation measures as required in the ROD and/or MOA and the final MARTP;
- Work with BOEM, the SHPO, federally recognized Tribes with cultural and/or historic ties to the Project development area, and the ACHP using the MARTP framework;
- Considering the comments provided by the Participating Parties in the development of this MARTP;
- Funding the mitigation measures specified in Sections 5.0 and 6.0;
- Completion of the scope/s of work in Sections 5.0 and 6.0;
- Ensuring all Standards in Sections 5.0 and 6.0 are met;
- Providing the Documentation in Sections 5.0 and 6.0 to the Participating Parties for review and comment;
- Annual Reporting to BOEM; and
- Empire Offshore Wind LLC will be responsible for ensuring that all work that requires consultation with Tribal Nations are performed by professionals who have demonstrated professional experience consulting with federally recognized Tribes.

6.2.5 Federally Recognized Tribes with Cultural and/or Historic Ties to the Project Development Area

- Work with BOEM, Empire Offshore Wind LLC, the SHPO, and the ACHP using the MARTP framework;
- Review and provide feedback on draft MARTP;
- Participate in all activities outlined in Sections 5.0 and 6.0 and complete all associated reviews, comments, requests for feedback/input in agreed upon timeframes.

6.2.6 Consulting Parties

Empire Offshore Wind LLC does not anticipate participation by any other NHPA Section 106 consulting parties beyond those listed in this MARTP. If BOEM determines additional consulting parties will participate in this plan, the plan will be updated to include those parties.

6.2.7 Participating Party Consultation

Participating Parties will be provided opportunity for review and comment on the MARTP concurrent with BOEM's anticipated NHPA Section 106 review schedule for Empire Wind (see Section 7.1) Empire Offshore Wind LLC will provide this draft MARTP to BOEM for inclusion in the DEIS for review by consulting parties as part of BOEM's NHPA Section 106 review to provide meaningful input on the proposed mitigation

measures to resolve adverse effects to historic properties. Empire Offshore Wind LLC anticipates that further coordination to refine the MARTP may include meetings, conference calls, MARTP draft reviews and document exchanges, or similar means of communication of information.

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7 PLAN COMPLETION AND REPORTING

Empire will prepare and, following BOEM review and approval, provide all signatories, invited signatories, and consulting parties to the MOA a summary report detailing work undertaken pursuant to the MOA consistent with any MOA stipulation measures relative to monitoring and reporting, including the mitigation measures outlined in the final MARTP. This report will be prepared, reviewed, and distributed by January 31 of each year in which MOA/MARTP activities are taking place, and summarize the work undertaken during the previous year. Empire will continue to generate and distribute this yearly report until all activities required under the MOA are completed.

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8 REFERENCES

Bureau of Ocean Energy Management (BOEM)
2020 Guidelines for Providing Archaeological and Historical Property Information Pursuant to 30 CFR Part 585. United States Department of the Interior, Office of Renewable Energy Programs.

Delgado, James P.
1992 National Register Bulletin 20, Nominating Historic Vessels and Shipwrecks to the National Register of Historic Places, US Department of the Interior National Park Service Interagency Resources Division.

National Oceanic and Atmospheric Administration (NOAA)
2013 Hydrographic Survey Descriptive Report H12604, New York Harbor and Approaches, Project Number OPR-B310-KR2-13.

National Park Service (NPS)
2002 National Register Bulletin 15, How to Apply the National Register Criteria for Evaluation. Electronic document, https://www.nps.gov/nr/publications/bulletins/nrb15/nrb15_8.htm, accessed July 14, 2019.
1977 National Register Bulletin 16, How to Complete the National Register Form. Electronic Document, https://www.nps.gov/nr/publications/bulletins/nrb16a/, Accessed July 15, 2019.
2018 National Register of Historic Places. Electronic document, https://www.nps.gov/subjects/nationalregister/index.htm, accessed February 25, 2019.

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ATTACHMENT 4 – TREATMENT PLAN FOR ABOVE-GROUND HISTORIC PROPERTIES SUBJECT TO ADVERSE VISUAL EFFECT

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Empire Offshore Wind: Empire Wind Project (EW 1 and EW 2)

DRAFT

Historic Properties Treatment Plan for Above-Ground Properties Subject to Adverse Visual Effect

Prepared for:

Empire Offshore Wind LLC
600 Washington Blvd, Suite 800
Stamford, CT 06901, USA

Prepared by:

10 Post Office Square, Suite 1100
Boston, MA 02109

October 2023

TABLE OF CONTENTS

FIGURES

TABLES

ACRONYMS AND ABBREVIATIONS

APE	Area of Potential Effect
AVEHAP	Analysis of Visual Effects to Historic and Architectural Properties
BOEM	Bureau of Ocean Energy Management
COP	Construction and Operations Plan
CRIS	Cultural Resource Information System
Empire	Empire Offshore Wind LLC
EW	Empire Wind
FEMA	Federal Emergency Management Agency
ft	foot
HABS/HAER/HALS	Historic American Buildings Survey/Historic American Engineering Record/Historic American Landscapes Survey
km	kilometer
m	meter
mi	mile
NEPA	National Environmental Policy Act
NFHL	National Flood
NHL	National Historic Landmark
NJDEP	New Jersey Department of Environmental Protection
NJ HPO	New Jersey Historic Preservation Office
NPS	National Park Service
NRHP	National Register of Historic Places
NY SHPO	New York State Historic Preservation Office
OCS	Outer Continental Shelf
PAPE	Preliminary APE
PIP	Phased Identification Plan
POI	Point of Interconnection
Project	The offshore wind project for OCS A-0512 proposed by Empire Offshore Wind LLC consisting of Empire Wind 1 (EW 1) and Empire Wind 2 (EW 2).
RSL	Romer Shoal Lighthouse
SHPO	State Historic Preservation Office
SOI	Secretary of the Interior
Tetra Tech	Tetra Tech, Inc.
U.S.C.	United States Code
VIA	Visual Impact Assessment

1. INTRODUCTION

This Historic Properties Treatment Plan (HPTP) was prepared to support fulfillment of stipulations of the Memorandum of Agreement (MOA) Among the Bureau of Ocean and Energy Management, the State Historic Preservation Officers of New York and New Jersey, and the Advisory Council on Historic Preservation Regarding the Empire Wind Offshore Wind Project. This HPTP presents background information, resource descriptions, and recommendations on actions to mitigate visual adverse effects of the Project on 23 historic properties identified in the *Analysis of Visual Effects to Historic and Architectural Properties* (AVEHAP) included as Appendix Z of the Project's Construction and Operations Plan (COP, Tetra Tech 2022). Twelve (12) adversely affected historic properties were identified in New York in the AVEHAP as part of the desktop analysis performed. In addition, 11 adversely affected historic properties were identified in New Jersey as part of the desktop analysis conducted for the AVEHAP. Three of the 11 adversely affected historic properties in New Jersey (Berkeley-Carteret Hotel, Asbury Park Convention Hall, and Asbury Park Casino/Carousel) are finalizing proposed mitigation projects and will be funded via the Mitigation Fund. Therefore, they are not further discussed in this document.

The recommended mitigation measures described in this document were developed, in part, through engagement with the parties that manage, oversee, or own the historic properties identified herein. Empire Offshore Wind LLC (Empire) initiated engagement with the responsible parties of the resources located in New York State between March and October 2021. During this same period, Empire engaged with representatives of the following resources and towns in New Jersey: Fort Hancock & Sandy Hook Proving Ground Historic District/Sandy Hook Lighthouse (National Park Service [NPS]), Ocean Grove Camp Meeting Association Historic District, Romer Shoal Light Station, Allenhurst Residential Historic District/Borough of Allenhurst, and Middletown Township. Empire presented each party an opportunity to learn about the Project, the methods of analysis that identified the historic resources and how an assessment of effect was reached. Empire also solicited from each party proposals to mitigate the identified adverse effects. Empire engaged with NPS in May 2021 on adverse effects to NPS-managed properties in New York and New Jersey. Further discussions about adverse effects with NPS occurred during the Consulting Parties #2 Meeting on December 9, 2022. The identification and recommendation of adverse effects to the resources located in New York and the above referenced New Jersey resources are the result of desktop analysis alone.

Each recommended mitigation measure will meet the Secretary of the Interior's (SOI's) Standards for Treatment of Historic Properties. Mitigation for the adversely affected properties located in New York will be subject to New York State Historic Preservation Office (NY SHPO) review and approval, and mitigation for the properties located in New Jersey will be subject to New Jersey Historic Preservation Office (NJ HPO) review and approval.

This HPTP is organized into the following six sections:

- Section 1 – Introduction,
- Section 2 – Background Information,
- Section 3 – Existing Conditions and Historic Significance,
- Section 4 – Mitigation Measures,
- Section 5 – Implementation, and
- Section 6 – References Cited.

2. BACKGROUND INFORMATION

2.1 Project Description

The Project consists of an offshore wind farm to be located in the designated U.S. Bureau of Ocean Energy Management (BOEM) Renewable Energy Lease Area Outer Continental Shelf (OCS)-A 0512 (Lease Area), submarine export cables, and onshore ancillary facilities required to convey power produced by the wind farm to the regional electric transmission system. The Lease Area is approximately 14 statute miles (mi) (12 nautical miles [nm], 23 kilometers [km])[1] south of Long Island, New York, and 19.5 mi (16.9 nm, 31.4 km) east of Long Branch, New Jersey (**Figure 3-1**). The Project includes the construction of up to 147 wind turbines (the total number across both EW 1 and EW 2) at up to 174 locations, two offshore substations, and foundations for the wind turbines and offshore substations within the Lease Area. The wind turbines will be connected via interarray cables to the offshore substations. The offshore substations will collect the power generated by the wind turbines and transport it to the Project's onshore substations via submarine export cables. The onshore substations will transmit the energy generated for connection to the Points of Interconnection (POIs) in New York.[2] The interarray cables and submarine export cables will be located subsea; therefore, these will not be visible components of the Project and were not evaluated as part of the Project visual impact assessment. Empire proposes to develop the Lease Area in two wind farms.

The Project COP Volume 2c (Section 6.3.2) and its Appendix Z (AVEHAP) concluded that the onshore components of the Project would have no adverse effect on aboveground historic and architectural properties. Therefore, the focus of the HPTP is on effects from offshore Project components.

A Phased Identification Plan (PIP) was implemented through fieldwork in Manhattan. Fieldwork was undertaken to document potential project effects to National Register Historic Places (NRHP)-listed properties and National Historic Landmarks (NHLs) in January and February 2023. The results are included in the *Supplemental Visual Impact Assessment of National Register Listed Properties in Manhattan* (Tetra Tech 2023), which determined that an unobstructed view of the open Atlantic Ocean is not an important part of the historic significance for any of the resources surveyed. Therefore, Tetra Tech recommends that there will be no adverse impacts to any of the NHLs or NRHP-listed properties or districts in Manhattan attributable to the Project. Consequently, no treatment plan is recommended to mitigate impacts to built environment resources in Manhattan. The historic context, methodology, field survey, and results are included in the *Supplemental Visual Impact Assessment of Historic Properties in Manhattan* report (Tetra Tech 2023).

Empire developed and implemented a PIP to identify and document historic properties in Monmouth and Ocean counties, New Jersey within the preliminary areas of potential effects (PAPE). The PIP also included an assessment of visual effects to NHL and NRHP-listed properties in the Borough of Manhattan, New York City and New York Harbor. The Section 106 PIP serves as a process document detailing Empire's steps to complete the required cultural resources surveys following issuance of the Draft Environmental Impact Statement by BOEM. Tetra Tech and Empire submitted the PIP to BOEM in November 2022.

2.2 Regulatory Context

Several federal, state, and local agencies have regulatory authority over the Project based on the location of the different Project components. The wind turbines and offshore substations are to be located entirely within

[1] Distances were originally presented throughout the AVEHAP as statute miles (mi) or nautical miles (nm) as appropriate, with kilometers in parentheses. For reference, 1 mi equals approximately 0.87 nm or 1.6 km.
[2] The Project Design Envelope proposes the construction and installation of two onshore substations to support the Project. The onshore substations will be used to connect the export cables to the POIs in New York.

federal waters of the United States and the OCS and are under the jurisdiction of BOEM. Onshore facilities, including the onshore substations, will be located in Brooklyn, New York (EW 1) and the City of Long Beach and Town of Hempstead, New York (EW 2).

The Project is subject to regulation by BOEM under provisions of the Outer Continental Shelf Renewable Energy Program authorized by the Energy Policy Act of 2005 (42 United States Code [U.S.C.] §§13201 *et seq.*). Assessments of effects on historic architectural resources are required to support BOEM's National Environmental Policy Act (NEPA) review process and the review performed under Section 106 of the National Historic Preservation Act (NHPA; 54 U.S.C. § 306108). In its COP Guidelines, BOEM recommends approaches for assessing historic architectural resources during the permitting phase of offshore wind projects (BOEM 2017). BOEM directs that an AVEHAP should be conducted in a manner acceptable to the relevant State Historic Preservation Office (SHPO) for the state with the onshore viewshed. For the purposes of this Project, the affected areas fall within the states of New York and New Jersey.

In 2016, BOEM executed a Programmatic Agreement with the SHPOs of New York and New Jersey, the Shinnecock Indian Nation, and the Advisory Council on Historic Preservation to formalize agency jurisdiction and coordination for the review of offshore renewable energy development regarding cultural resources (BOEM 2016). The Programmatic Agreement recognized that issuing renewable energy leases on the OCS constituted an undertaking subject to Section 106 of the NHPA. BOEM, as the lead federal agency in this process, initiated consultations with the SHPOs, and with interested Native American Tribes. Empire continues to engage with stakeholders with regards to potential impacts to architectural properties.

BOEM has determined that construction, operations and maintenance, and decommissioning of the Empire Wind Offshore Wind Project, as described in the Empire Wind Construction and Operations Plan, constitutes an undertaking subject to Section 106 of the National Historic Preservation Act (54 U.S.C. § 306108) and its implementing regulations (36 CFR §800), and that the activities proposed under the COP have the potential to affect historic properties.

Physical changes to historic properties may require approvals from local cities, towns, or commissions, including building permits, zoning or land use applications, design review boards, or historic preservation commissions. However, Empire is not proposing physical changes to historic properties; therefore, applicable municipal laws or regulations preservation are not directly relevant to the regulatory framework for the development of this HPTP. Where funding of rehabilitation may be a proposed mitigation measure, municipal laws or regulations may be applicable to the project being funded.

The Study Area is situated at the northernmost extent of the Atlantic Coastal Plain physiographic province, a region of low relief and diverse ecological habitats. The southern shore of Long Island and the New Jersey shoreline are characterized by barrier islands, bayside salt marsh lagoons, and sand beaches.

Coastal New York and New Jersey are areas with extensive historical value and a tradition of historical commemoration resulting in numerous cultural resources that are listed in and determined to be eligible for the NRHP (i.e., historic properties) within the Project's Area of Potential Effects (APE). As defined by 36 Code of Federal Regulations § 800.16(d), the APE is "the geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist."

As the lead federal agency for the NHPA Section 106 review, BOEM has defined the APE for the undertaking as:

- The depth and breadth of the seabed potentially impacted by any bottom-disturbing activities;

- The depth and breadth of terrestrial areas potentially impacted by any ground-disturbing activities;
- The viewshed from which renewable energy structures, whether located onshore or offshore, would be visible; and
- Any temporary or permanent construction or staging areas, both onshore and offshore.

Empire Wind prepared the AVEHAP included as Appendix Z of the Project's Construction and Operations Plan to support BOEM's identification of historic properties in the APE. **Table 2-1, Figure 3-1** and **Figure 3-2** present information on the historic and architectural properties adversely affected by the Project.

Table 2-1 Historic and Architectural Properties Adversely Affected by Project

Resources	NRIS No./ SHPO No.	NR Status	NR Criterion	Town/County
New York (west to east)				
West Bank Light Station	06001230	NR Listed	A, C (engineering)	Staten Island/ Richmond
Silver Gull Beach Club Historic District	08101.012423	NR Eligible	A, C	Breezy Point/ Queens
Breezy Point Surf Club Historic District	08101.011499	NR-Eligible	A, C	Breezy Point/ Queens
Fort Tilden Historic District	84002917	NR Listed	A, C	Far Rockaway/ Queens
Jacob Riis Park Historic District	81000081	NR Listed	C	Far Rockaway/ Queens
Jones Beach State Park, Parkway and Causeway System	05000358	NR Listed	A, C	Hempstead/ Nassau
Gilgo State Park	10301.000084	Recommended NR Eligible	-	Babylon/ Suffolk
Robert Moses State Park	10305.001592	NR Eligible	A, C	Babylon/ Suffolk
Fire Island Lighthouse	81000082	NR Listed	A, C	Islip/ Suffolk
Fire Island Lighthouse Historic District	09001288	NR Listed	A, C, D	Islip/Suffolk
Carrington House	13001057	NR-Listed	A, C	Brookhaven/ Suffolk
Point O'Woods Historic District	10302.003470	NR Eligible	A, C	Brookhaven/ Suffolk
New Jersey (north to south)				
Romer Shoal Light Station	06001304	NR Listed	A, C	Highlands Borough/ Monmouth
Fort Hancock and Sandy Hook Proving Ground Historic District	80002505	NR Listed	A, C, D	Middletown/ Monmouth
Sandy Hook Light	66000468	NHL	A	Middletown/ Monmouth
Fort Hancock U.S. Life Saving Station #2	81000080	NR Listed	A, C	Middletown/ Monmouth

Resources	NRIS No./ SHPO No.	NR Status	NR Criterion	Town/County
Water Witch (Monmouth Hills) Historic District	04000147	NR Listed	A, B, C	Middletown/ Monmouth
Navesink Light Station	70000389	NHL	A, C	Highlands/ Monmouth
Allenhurst Residential Historic District	10000353	NR Listed	C	Allenhurst/ Monmouth
Ocean Grove Camp Meeting Association District	76001170	NR Listed	A, C	Ocean Grove/ Monmouth

BOEM has consulted with the Advisory Council on Historic Preservation (ACHP), State Historic Preservation Officers and staff from New Jersey and New York, federally recognized Tribal Nations, and other NHPA Section 106 consulting parties on ways to avoid, minimize, or mitigate adverse effects to historic properties. BOEM has decided to execute a project-specific MOA pursuant to 36 CFR § 800.8(c) to record the terms and conditions agreed upon to resolve adverse effects of the undertaking.

The mitigation measures agreed upon by BOEM, the ACHP, NJ HPO, and NY SHPO to resolve adverse effects to historic properties, including this HPTP, will be recorded in the Memorandum of Agreement Among the Bureau of Ocean and Energy Management, the State Historic Preservation Officers of New Jersey and New York, and the Advisory Council on Historic Preservation Regarding the Empire Wind Offshore Wind Energy Project.

Pursuant to the terms and conditions of the MOA, Empire Wind will implement applicant-proposed environmental protection measures to avoid or minimize potential visual impacts to above-ground historic properties. This HPTP was developed by the applicant to fulfill stipulations of the MOA to resolve adverse effects to a total of 20 above-ground historic properties (12 in New York and 8 in New Jersey).

3. EXISTING CONDITIONS AND HISTORIC SIGNIFICANCE

The AVEHAP identified 12 resources in New York that are likely to be subject to adverse effects due to introduction of visual changes from Project construction or operations. As previously stated, no additional historic properties were determined to be adversely affected by the Project in Manhattan based on the results of the *Supplemental Visual Impact Assessment of National Register Listed Properties in Manhattan* (Tetra Tech 2023. In New Jersey, 11 historic properties that will be adversely affected by the Project across the Project's PAPE were identified, but only eight of the properties are discussed in this document. These 20 properties identified in New York and New Jersey, and discussed in this document, fall within five broad types of cultural resources, all of which owe their existence to the proximity of the Atlantic Ocean and acquiring their historic significance through interaction with the littoral environment. The five types of cultural resources include:

- Maritime Safety:
  - Sandy Hook Light NHL (NR No. 66000468)
  - Fire Island Lighthouse and Historic District (NR No. 81000082 and 09001288)
  - Navesink Light Station National Historic Landmark (NR No. 70000389)
  - Romer Shoal Light Station (NR No. 06001304)
  - West Bank Light Station (NR No. 06001230)
  - Fort Hancock U.S. Life Saving Station (NR No. 81000080)
  - Fort Tilden Historic District (NR No. 84002917)

- Parks:
  - Jones Beach State Park/Jones Beach State Park, Causeway and Parkway System (NR No. 05000358)
  - Gilgo State Park (NY CRIS No. 10301.000084)
  - Robert Moses State Park (NY CRIS No. 10305.001592)
  - Jacob Riis Park Historic District (NR No. 81000081)
  - Fort Hancock and Sandy Hook Proving Ground Historic District (Sandy Hook Unit - Gateway National Recreation Area (NR No. 80002505)

- Residential Communities or Districts:
  - Allenhurst Residential Historic District (NR No. 10000353)
  - Water Witch Historic District (NR No. 04000147)
  - Point O'Woods Historic District (CRIS No. 10302.003470)
  - Ocean Grove Camp Meeting Association Historic District (NJ HPO No. 2036)

- Individual Residence:
  - Carrington House (NR No. 13001057)

- Seaside Attractions:
  - Silver Gull Beach Club Historic District (NY CRIS No. 08101.012423)
  - Breezy Point Surf Club Historic District (NY CRIS No. 08101.011499)

Brief descriptions of the existing conditions and historic significance of each of these properties adversely affected by visual impacts of the Project are presented below.

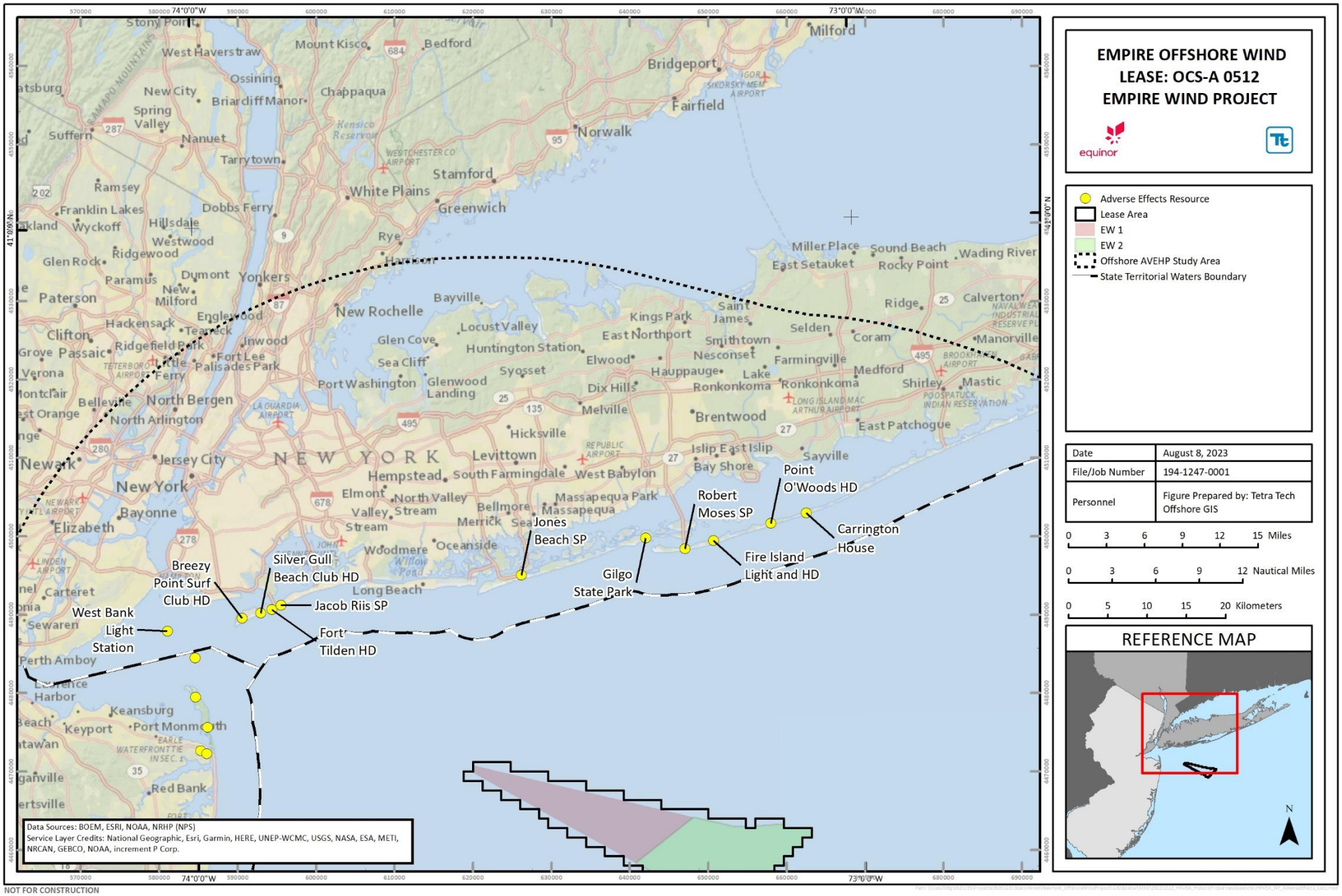

Figure 3-1 Recommended Adversely Affected Historic and Architectural Properties within the Offshore AVEHAP PAPE in New York

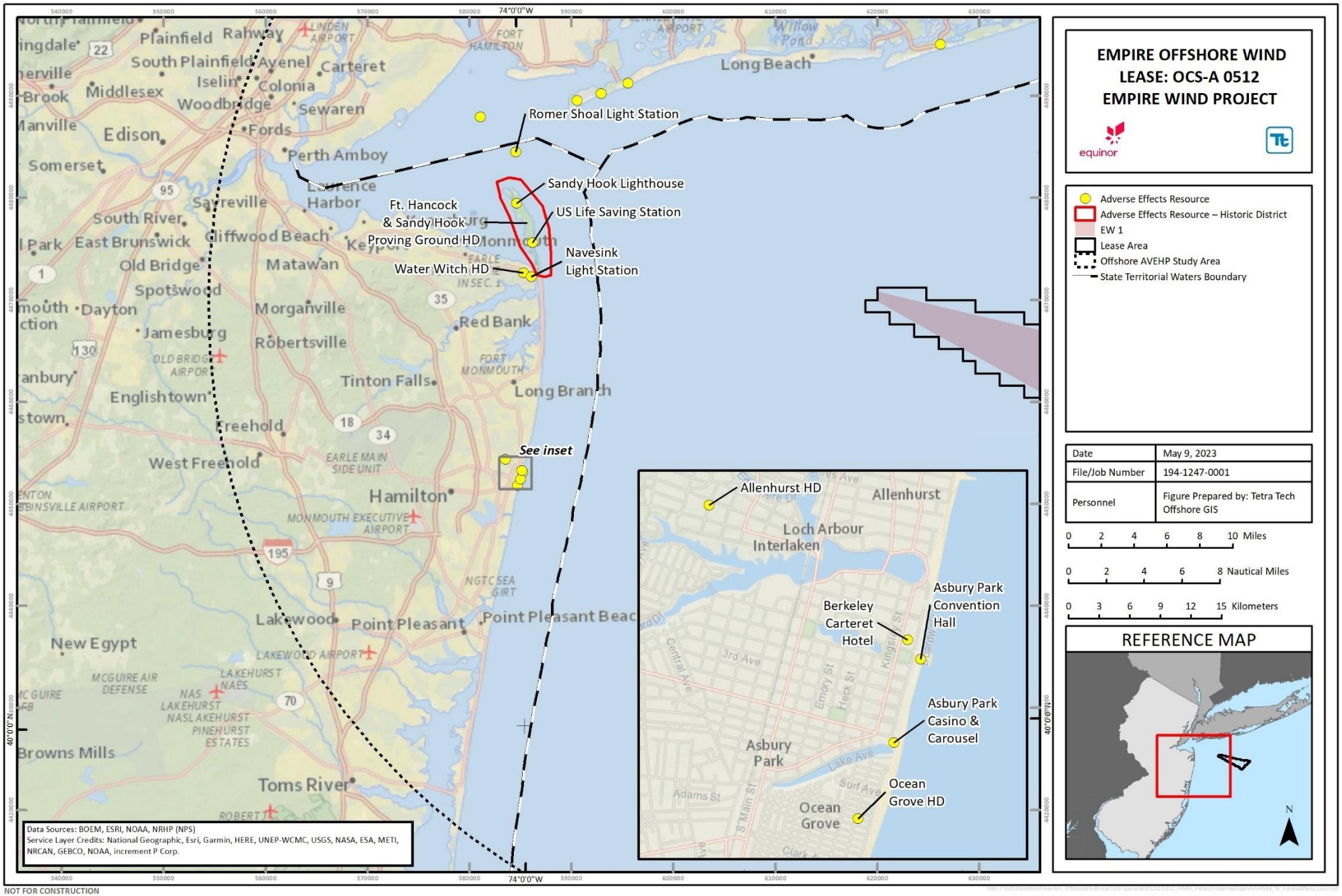

Figure 3-2 Recommended Adversely Affected Historic and Architectural Properties within the Offshore AVEHAP PAPE in New Jersey

3.1 New York

3.1.1 Maritime Safety

3.1.1.1 West Bank Light Station (NR No. 06001230)

The West Bank Light Station is an important maritime navigational aid located in Lower New York Bay, approximately 3 nm (5.6 km) east of New Dorp Beach, Staten Island (**Figure 3-3**). Built in 1901 in water 21 feet deep, the light station was constructed of a cast iron caisson expanding in trumpet shape to form a gallery above which supports an iron conical tower surmounted by a black lantern. Hundreds of tons of riprap encircle the station and form a small anchorage for boats. When installed, the light station contained a 4th order Fresnel lens and was visible for approximately 12 nm (22 km). Automated in the 1980s, the light station's period of significance is 1901-1971 (NARA 2022a).

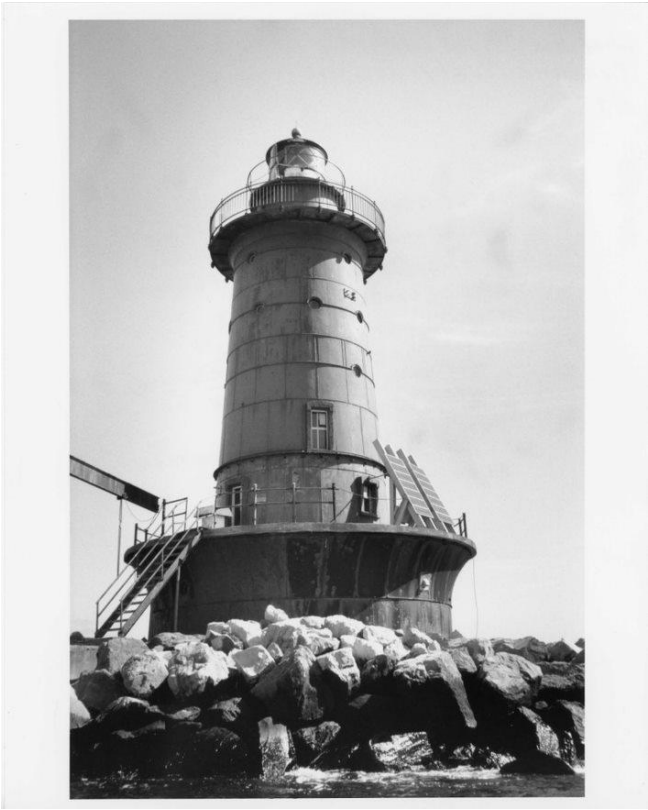

Figure 3-3 West Bank Light Station (Source: National Park Service)

The West Bank Light Station was listed in the NRHP in 2006 under Criterion A for its association with the federal program of coastal maritime safety, and Criterion C as an excellent example of maritime-related architecture. The property is listed as part of the Light Stations of the United States multiple property submission. Its existing configuration and appearance accurately reflect its character during the period of significance; however, the corrosive effects of its marine environment and storm damage have severely impacted the property's condition. The Project will be visible from the light station, which is located near the entrance to New York Harbor with a relatively unobstructed view towards the Project between Sandy Hook and Rockaway Point. The setting of this historic aid to navigation is important to understanding its significance. The introduction of the Project will likely change the sense of the ocean's expanse during periods of visibility, diminishing the apparent prominence of the light station. Criteria A and C are readily interpreted to mean that

an expansive and unimpeded ocean view is integral to the light station's character and setting. Tetra Tech recommends that the introduction of the Project would diminish this character and result in an adverse effect to the West Bank Light Station.

3.1.1.2 Fort Tilden Historic District (NR No. 84002917)

Fort Tilden was an important coastal defense installation from the First World War through the Cuban Missile Crisis (**Figure 3-4**). Construction began in 1917 with the emplacement of six-inch gun batteries, however, all extant features of the historic district date to the Second World War. Surviving components include concrete casemates for shore batteries, ammunition magazines, and operations bunkers. Fort Tilden was organized as a subordinate post to Fort Hancock on Sandy Hook, along with Forts Hamilton and Wadsworth, which were all vital components of the harbor defense for New York. At Fort Tilden, Battery Harris comprised a casemated 16-inch gun, the largest type of artillery gun available to American forces. During the Cold War in the 1950s, the Department of Defense emplaced Nike missile silos and control facilities at Fort Tilden. These weapons were removed in the mid-1960s. The introduction of intercontinental ballistic missiles into the superpower arsenal rendered Nike missiles obsolete, and Fort Tilden's air defense silos and command and control facilities were deactivated in 1967. The period of significance is 1917-1967. The post was turned over to the National Park Service as part of Gateway National Recreation Area in 1972 (NPS 1984).

The Fort Tilden Historic District, which is 20.9 mi (33.6 km) from the Project, is NRHP listed under Criterion A within the context of military history for the period 1916-1967. Although eroded by surf and storms, especially from Hurricane Sandy in 2012, it retains sufficient integrity to remain listed. The historic district contains 21 NRHP-listed and 45-eligible buildings and structures that are contributing resources to the district, including the Administration Building, which is 20.9 mi (33.6 km) from the Project, and Commanding Officer Quarters, which is 20.8 mi (33.5 km) from the Project. The property will have a view of the Project during daytime and nighttime periods. The district depends on its maritime proximity as associative and locational qualities for its eligibility to the NRHP and is expected to experience a loss of integrity through the introduction of Project views. It was assessed that Project-related visual effects will diminish the significance of the character-defining elements for this resource and result in an adverse effect to the Fort Tilden Historic District.

Figure 3-4 Battery Harris casemate, Fort Tilden Historic District (Source: Wikipedia)

3.1.1.3 Fire Island Lighthouse and Historic District (NR No. 81000082 and 09001288)

The Fire Island Lighthouse was built in 1858, rises 150 ft high, and became the most important maritime navigational aid on the eastern seaboard because it marked the first landfall for ships approaching New York Harbor on the trans-Atlantic routes (**Figure 3-5**). The present lighthouse replaced one built in 1826. The lighthouse's hollow central column of cast iron is clad in brick and covered with a cement wash. The original lamp, with its 1st order Fresnel lens, was visible for 21-23 nm and filled the gap between Montauk Point Light to the east and Sandy Hook Light to the west. Various lamp fuels were utilized, including lard, whale oil, kerosene, and incandescent oil vapor, until electrification occurred in 1939. The historic district includes the lighthouse and the keeper's house, in addition to 14 other contributing buildings, sites, and structures. The district's period of significance is 1825-1960, encompassing the period of the first Fire Island lighthouse to the construction of the U.S. Coast Guard Garage, the last major structure added to the district (NARA 2022f).

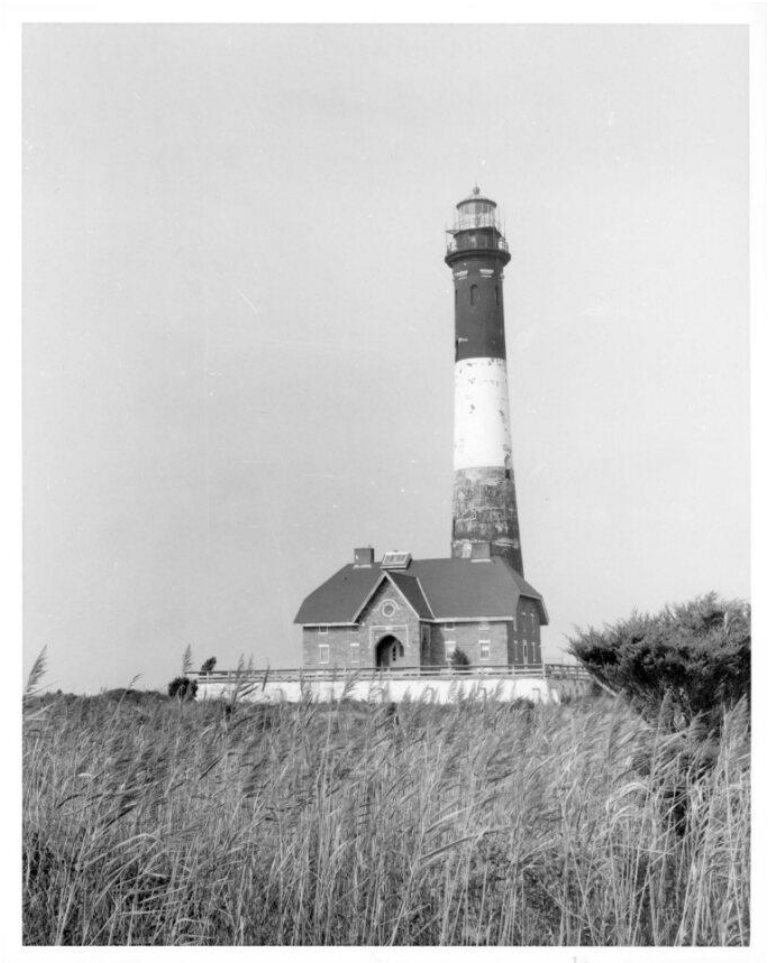

Figure 3-5 Fire Island Lighthouse and Historic District. (Source: National Park Service).

The historic district was listed in the NRHP in 1981 under Criterion A for its association with the early federally sponsored program of maritime navigational aids along the eastern seaboard and is significant in the areas of maritime history, transportation, communication, commerce, and military. The district is listed under Criterion C as an outstanding example of mid-nineteenth century lighthouse engineering and architecture. The district is also listed under Criterion D for its potential to contain significant post-contact period archaeological deposits. The district was expanded in 2009 to include the lighthouse and ancillary buildings and tracts. Observations made by the Project team in 2019 indicate that the Fire Island Lighthouse Historic District currently retains its significance and integrity. The lighthouse and historic district are located on an undeveloped stretch of the barrier beach to the west of the communities of Fire Island. Although the NRHP nomination does not explicitly note the significance of the view to the ocean, the setting of this historic aid to navigation, specifically the unimpeded views of the Atlantic Ocean, is important to understanding its significance. Tetra Tech recommends that the introduction of the Project would diminish this character and result in an adverse effect to the Fire Island Lighthouse and Historic District.

3.1.2 Parks

3.1.2.1 Jacob Riis Park Historic District (NR No. 81000081)

Jacob Riis Park Historic District comprises a 1-mi long section of the Rockaway Peninsula in Queens County, New York, fronting the Atlantic Ocean and backing Rockaway Inlet (**Figure 3-6**). The park was created in

1932 under the direction of New York City Parks Commissioner, Robert Moses, who also oversaw the construction of Marine Parkway Bridge linking the peninsula to Brooklyn, New York. In addition to swimming and sunbathing, Jacob Riis Park provides a variety of recreational activities including fishing, hiking, boating, and ball fields. Park buildings were rendered in the recreational architectural style popular in the 1930s, with the Art Deco main bathhouse a prime example. Park buildings have been largely unaltered since their construction in the 1930s and reflect the character of the property's period of significance, 1932-1937 (NARA 2022c).

Figure 3-6 Jacob Riis Park Historic District. (Source: National Park Service).

Jacob Riis Park Historic District was listed in the NRHP in 1981 under Criterion A for its association with important social and government programs during the presidency of Franklin Roosevelt, including the Works Progress Administration (WPA). The district is also listed under Criterion C as an example of the prevalent aesthetic design of the 1930s, much of it undertaken by the WPA, and also as an important example of planned seaside recreational use. Observations made by the Project team in 2019 indicate that Jacob Riis Park currently retains its significance and integrity. The Project will be visible from most lines of sight within the property. The primary focus of the park, both in terms of purpose and visual orientation, is the ocean. Whether in the water or on the beach, observers are drawn to the ocean by the sound of the surf, the kinetic motion of the waves, and the sensory effects of sand, salt, and water. Tetra Tech recommends that the introduction of the Project would diminish this character and result in an adverse effect to the Jacob Riis Park Historic District.

3.1.2.2 Jones Beach State Park/Jones Beach State Park, Causeway and Parkway System (NR No. 05000358)

Jones Beach was envisioned in the early 1920s by Robert Moses as an expansive seaside recreational destination for middle class urban dwellers (**Figure 3-7**). Construction began in 1925 and continued through the mid-1950s, bookending its period of significance from 1925-1955. The park incorporated ocean and bay fronts,

landscaped roads and paths, a boardwalk, and a large building complex housing bathhouses and service and recreational facilities. The bathhouses can accommodate up to 15,000 people. Moses created the park as an extensive naturalistic landscape and transportation network that included highways and bridges (NARA 2022d).

Figure 3-7 Jones Beach State Park. (Source: National Park Service)

The Jones Beach State Park/Jones Beach State Park Causeway and Parkway System was listed in the NRHP as a historic district in 2005 under Criterion A for its association with the development of public oceanside recreational facilities on Long Island, and under Criterion C for both its Beaux Arts design with use of Art Deco motifs and its large-scale beach development created to allow public access to oceanside recreation in New York. Observations made by the Project team in 2019 indicate that Jones Beach State Park/Jones Beach State Park, Causeway and Parkway System retains its significance and integrity. The Project will be visible from many lines of sight within the park. The primary focus of the park, both in terms of purpose and visual orientation, is the ocean. The park draws visitors who wish to experience the sights, sounds, and tactile sensations of the ocean, open sky, and sandy beach. The expansive, unimpeded views of the Atlantic Ocean are integral to the property's character and setting. Visual impacts of the Project are likely to diminish the characteristics for which the property is listed in the NRHP. Tetra Tech recommends that the introduction of the Project would diminish this character and result in an adverse effect to the Jones Beach State Park/Jones Beach State Park, Causeway and Parkway System.

3.1.2.3 Gilgo State Park (CRIS No. 10301.000084)

Gilgo State Park, located within the eastern half of Jones Beach Island, is a recorded and unevaluated property in CRIS (**Figure 3-8**).

Established in 1926, the park contains oceanside beaches, a channel-side marina, and bath house facilities for the public. The period of significance is 1926-1935. Gilgo State Park is recommended NRHP eligible under Criterion A for its association with the early twentieth century development of public-access recreation along Long Island's south shore (NY SHPO 2022a).

The Project will be visible from the property. The most striking characteristic of the park is its setting as an undeveloped beach with expansive and unobstructed views of the Atlantic Ocean. Tetra Tech recommends that the introduction of the Project would diminish this character and result in an adverse effect to the Gilgo State Park.

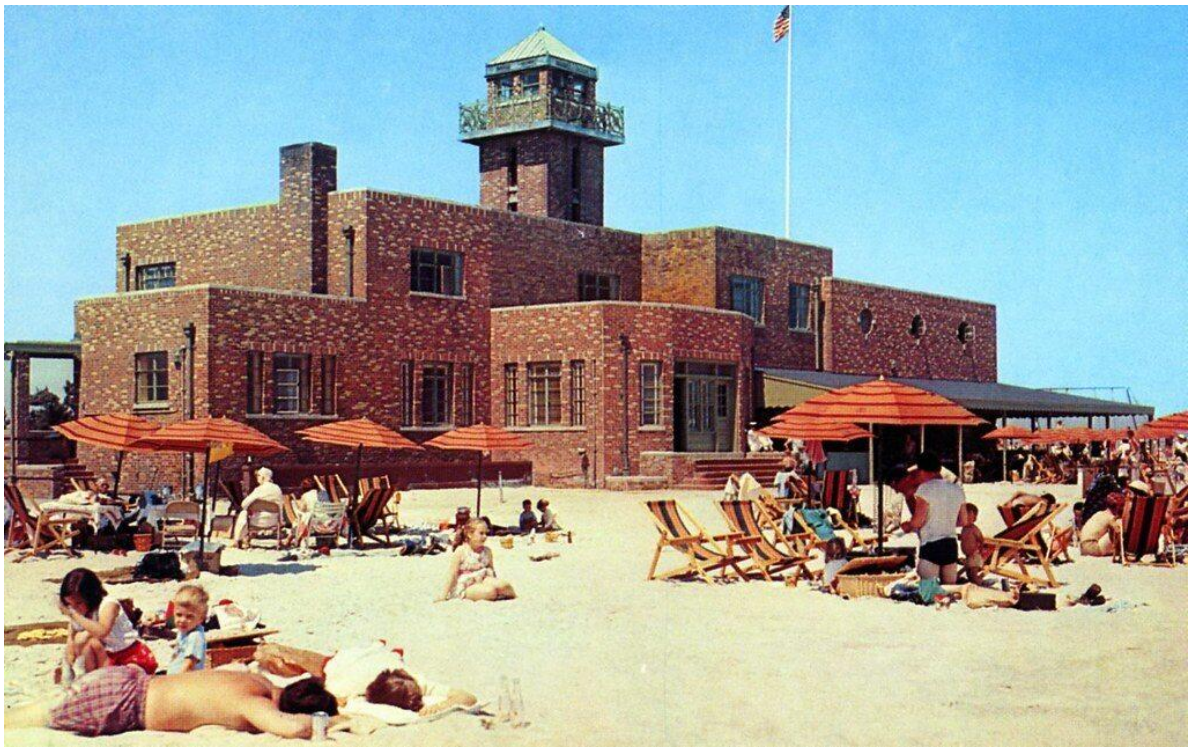

Figure 3-8 Gilgo State Park. (Source: Flickr)

3.1.2.4 Robert Moses State Park (CRIS No. 10305.001592)

Robert Moses State Park, located at the western end of Fire Island, was established in 1908 as Fire Island State Park, the first state park on Long Island (**Figure 3-9**). Prior to the construction of the Robert Moses Causeway from Long Island to Fire Island in 1964, the park was accessible only by ferry or private boat. The causeway greatly increased attendance at the park. In 1964 the park was renamed Robert Moses State Park to honor the chairman of the Long Island State Park Commission who oversaw much of the planning and development of the various state parks along Long Island's south shore, including Jacob Riis, Jones Beach, Gilgo, and Captree. The period of significance is 1908-1964, marking the completion of the causeway and construction of Field #2 Bathhouse. Robert Moses State Park is NRHP eligible as a Building District under Criterion A for its association with the development of Long Island's south shore as a recreational destination for urban and suburban dwellers, and under Criterion C for its recreation architecture. The Field #2 Bath House is also individually NRHP eligible for its mid-century modern architecture (NARA 2022e).

The Project will be visible from this property. Unobstructed views of the Atlantic Ocean are integral to the character and setting of this park, and thus its NRHP eligibility. Tetra Tech recommends that the introduction of the Project would diminish this character and result in an adverse effect to the Robert Moses State Park.

Figure 3-9 Robert Moses State Park. (Source: marinas.com)

3.1.3 Residential Communities or Districts

3.1.3.1 Point O'Woods Historic District (CRIS No. 10302.003470)

Point O'Woods was established in 1894 by the Long Island Chautauqua Assembly Association as a Methodist community offering spiritual, recreational, and educational advancement (**Figure 3-10**). Located in the isolated central portion of Fire Island, Point O'Woods includes 133 residential buildings, plus community structures, and maintenance facilities, nearly all rendered in the Shingle style popular among shore communities dating from the late nineteenth century. The period of significance is 1894 to circa 1962, when the Fire Island National Seashore was created. In contrast to other communities on Fire Island, Point O'Woods has avoided an over-reliance on a rectangular grid plan, making use of curved roads and paths (NY SHPO 2022b).

The Point O'Woods Historic District on Fire Island is NRHP eligible under Criterion A for its association with the Chautauqua movement and development of private beach communities during the early twentieth century. It is also eligible under Criterion C for its comprehensive and innovative design as a beach community. The district is a gated community to which the Project team did not have access. Nonetheless, current imagery appears to confirm that the Point O'Woods Historic District retains the appearance and setting reflecting its period of significance. Point O'Woods sought to provide members with seaside recreation and unobstructed ocean views as a refuge from the city and as an avenue for spiritual cultivation. Tetra Tech recommends that the introduction of the Project would diminish this character and result in an adverse effect to the Point O'Woods Historic District.

Figure 3-10 Point O'Woods Historic District Fire Island Lighthouse and Historic District (Source: ataltitudegallery.com)

3.1.4 Seaside Attractions

3.1.4.1 Silver Gull Beach Club Historic District (CRIS No. 08101.012423)

Silver Gull Beach Club Historic District is a significant local example of a seaside beach club that served an urban population in the post-Second World War period (**Figure 3-11**). The beach club comprises adjoining rows of cabanas, a club house, pool, athletic facilities, and ocean beach located on the Rockaway Peninsula. Built in 1962 as a private club offering seaside recreational amenities, the period of significance is 1962–1963 (NARA 2022b). The historic district lies within the Gateway National Recreation Area, which leases the club facilities to its operators. Though suffering storm damage from Hurricane Sandy in 2012, the beach club has remained largely unaltered in appearance from its origins. The property is NRHP eligible under Criterion A for its association with the development of seaside recreation and entertainment in the post-Second World War period, and under Criterion C as a nearly intact example of oceanfront recreational architecture. The property's existing configuration and appearance accurately reflects its character during the period of significance. The beach club offers its members and guests expansive views of the Atlantic Ocean in one of New York City's last undeveloped locations. The introduction of the Project within sight of the beach and cabanas that comprise the historic district will likely diminish the sense of separation from the urbanized world that lies just beyond the district. Tetra Tech recommends that the introduction of the Project would diminish this character and result in an adverse effect to the Silver Gull Beach Club Historic District.

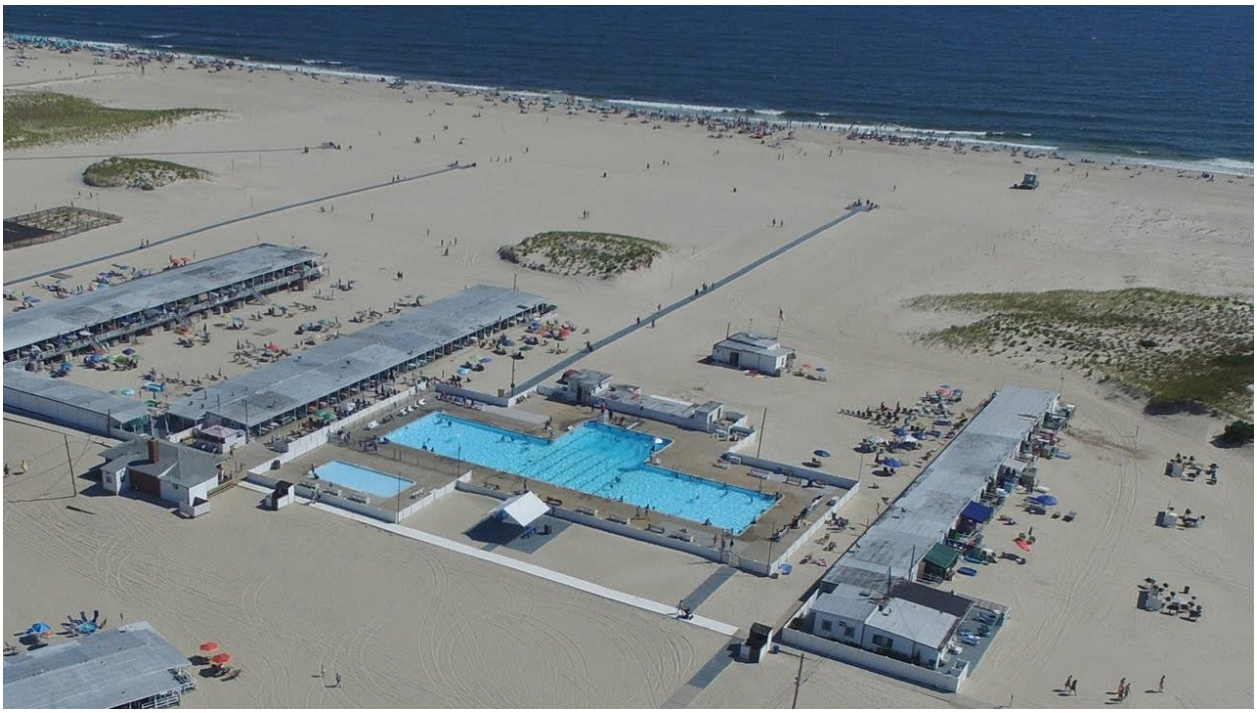

Figure 3-11 Silver Gull Beach Club Historic District. (Source: Gallery - Silver Gull Beach Club (nysilvergull.com)

3.1.4.2 Breezy Point Surf Club Historic District (CRIS No. 08101.011499)

The Breezy Point Surf Club Historic District encompasses New York City's oldest and largest beach cabana club, located near the western tip of the Rockaway Peninsula in the Borough of Queens (**Figure 3-12**). Opened as a private club in 1937, it offered seaside recreation for middle-class urban clientele who did not have the means to purchase summer homes elsewhere along the shore. The club consisted of small, rather spartan cabanas, pool and sports facilities, a restaurant, and ocean beach. The western margin of the Rockaway Peninsula accretes sand from longshore currents, and by the 1950s, the original cabanas had become distant from the beach, causing the club to construct a second set of cabanas and club facilities nearer the ocean. Presently, due to continual accreting processes, the second-generation cabanas find themselves about a quarter-mile from the beach. In its heyday in the post-Second World War period, the club had a largely Irish and Italian ethnic make-up, with as many as a few thousand people visiting on summer days. The success of the club was due in no small part to the increasing ownership by the middle-class of automobiles and by the construction of New York City's parkway system that allowed access to the otherwise isolated Breezy Point section of the Rockaways.

The Breezy Point Surf Club Historic District retains a large measure of integrity and original design content reflecting its period of significance from 1937 to 1963. The district is NRHP-eligible under Criterion A for its association with the development of seaside recreation in New York City during the Great Depression. It is also eligible under Criterion C as an example of mid-twentieth century beach club cabana complex. The district offers its members an expansive view of the Atlantic Ocean from its beach, an isolated setting that is one of the last undeveloped tracts in the city. This characteristic, important to its eligibility in the area of recreation, would likely be altered or diminished by the introduction of an entirely new daytime and nighttime vista by the Project. The Project will be visible during daytime and nighttime periods. Tetra Tech recommends that the

introduction of the Project would diminish this character and result in an adverse effect to the Breezy Point Surf Club Historic District.

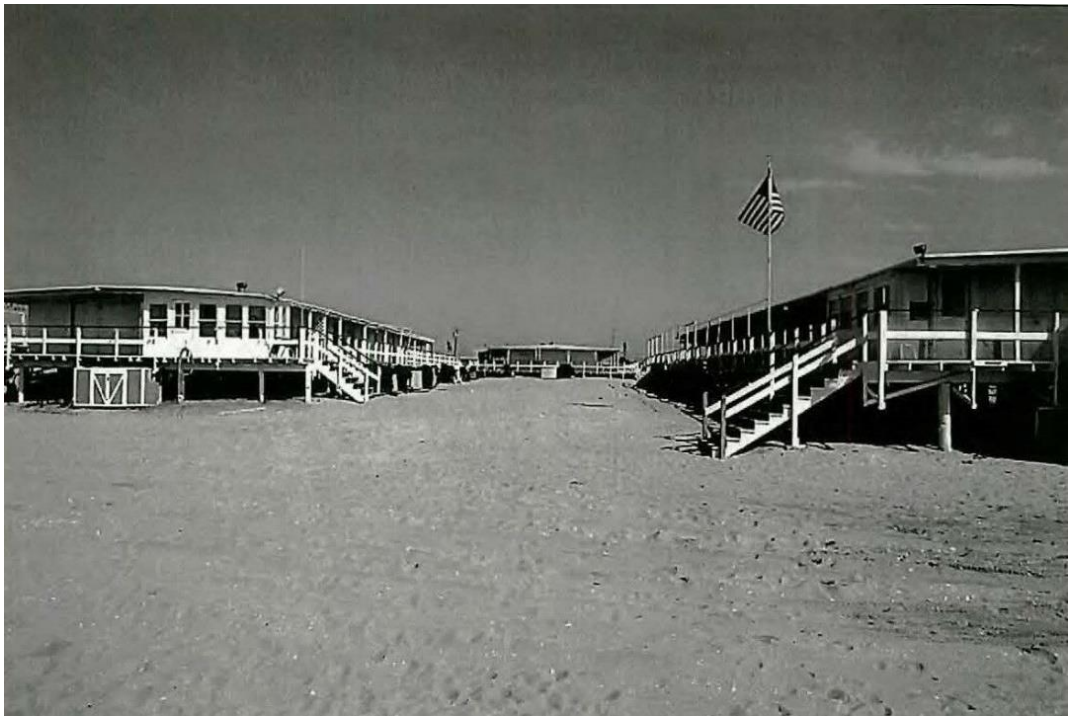

Figure 3-12 Breezy Point Surf Club Historic District (Source: NY CRIS)

3.1.5 Individual Residences

3.1.5.1 Carrington House (NR No. 13001057)

The Carrington House is an early twentieth century beach house on Fire Island, in the Town of Brookhaven, New York (**Figure 3-13**). Built circa 1912 and enlarged in the 1930s or 1940s, the house is an early, intact example of residential structures that characterized Fire Island as a resort community. The house is a wood shingle-clad bungalow with some Craftsman-style details, such as exposed rafter ends, and is set between two parallel beach dunes surrounded by short pines and scrub vegetation. About 60 feet to the east sits a small guest house composed of two sections of the former Lone Hill Lifesaving Station that were moved onsite in the early 1940s and cobbled together as a single unit. The main house was built by Frederick Marquet as a vacation home and was purchased in 1927 by Frank Carrington, a noted theater director. It is through Carrington that the property acquired a reputation as a salon for gay artists, actors, and writers over the next few decades, one of several such residences in the Fire Island communities of Cherry Grove and the Pines.

The period of significance of the resource is from 1912 to 1969, when Carrington deeded the property to the National Park Service (NPS). The property is NRHP-listed under Criterion A in the area of recreation for its association with the development of Fire Island as a vacation community in the early twentieth century which focused on the immediacy of the ocean setting and the isolated landscape and was also eligible under Criterion A for the encouragement and growth of gay cultural life in the local community from the 1930s to the 1960s. As an intact example of beach bungalow architecture, the Carrington House is significant under Criterion C. The resource will have views of the Project during daytime and nighttime periods. Tetra Tech recommends

that the introduction of the Project would diminish this character and result in an adverse effect to the Carrington House.

Figure 3-13 Carrington House. (Source: Wikipedia contributor Leah Fallica)

3.2 New Jersey

The following is a description of the eight historic properties discussed in this document that were determined to be adversely affected through the AVEHAP. The detailed analyses are presented in the AVEHAP.

3.2.1 Maritime Safety

3.2.1.1 Romer Shoal Light Station (NR No. 06001304)

The Romer Shoal Light Station was built in 1898 by the federal government as an aid to maritime navigation at the entry to New York Harbor (**Figure 3-14**). The station, located 4 mi north of Sandy Hook, consists of a 30-ft diameter cast-iron, cylindrical caisson filled with rock and concrete that supports a 4-story cast iron tower. Above is a circular watch room surrounded by a gallery, surmounted by the lantern. The lantern originally contained a 4th order Fresnel lens and has been automated since 1966. The period of significance covers the period 1898-1966. The light station remains in its original location, and its design, materials, and setting reflect the period of significance (NARA 2022g).

Romer Shoal Light Station was listed in the NRHP in 2006 under Criterion A for its association with the late nineteenth century federal program to provide an integrated system of navigational aids throughout the United States and to promote maritime safety in the vicinity of New York Harbor and under Criterion C as an intact example of maritime-related engineering and architecture that incorporated important innovations at the turn of the twentieth century. Although suffering from deterioration caused by the salt-water environment and storms, reviews of aerial photographs and interviews with members of a friends of the lighthouse association, suggest that the Romer Shoal Light Station currently retains its significance and integrity. The Project will be visible from the Romer Shoal Light Station. Although the NRHP nomination does not explicitly note the significance of the view to the ocean, the setting of this historic aid to navigation is important to understanding its significance. Criteria A and C are readily interpreted to mean that an expansive, unimpeded ocean view is

integral to the light station's character, setting, feeling, and association. The introduction of the Project will likely change the sense of the ocean's expanse during periods of visibility, altering the apparent prominence of the light. Tetra Tech recommends that the introduction of the Project would diminish this character and result in an adverse effect to the Romer Shoal Light Station.

Figure 3-14 Romer Shoal Light Station. (Source: us-lighthouses.com)

3.2.1.2 Sandy Hook Light National Historic Landmark (NR No. 66000468)

The Sandy Hook Light, built in 1764, is the oldest extant lighthouse in the United States (**Figure 3-15**). Standing 103 ft tall, the octagonal brick structure tapers upward from a base diameter of 29 ft to 15 ft at the top. The lantern and catwalk are accessible by a spiral, cast-iron staircase. The property's period of significance is 1764-1799. The lighthouse largely has been unaltered in appearance and materials since its construction, and accurately reflects the character of the property during its period of significance. Areas of significance include commerce and transportation (NARA 2022h).

Sandy Hook Light was designated a National Historic Landmark in 1964 and was listed in the NRHP in 1966 under Criterion A for its association with the colonial program to promote maritime safety along the eastern seaboard. Observations made by the Project team in March 2023 indicate that the Sandy Hook Light currently retains its significance and integrity. Although the NRHP nomination does not explicitly note the significance of the view to the ocean, the setting of this historic aid to navigation is important to understanding its significance. Criterion A is readily interpreted to mean that an expansive, unimpeded ocean view is integral to the light station's character, setting, feeling, and association. The introduction of the Project will likely change the sense of the ocean's expanse during periods of visibility. Tetra Tech recommends that the introduction of the Project would diminish this character and result in an adverse effect to the Sandy Hook Light.

Figure 3-15 Sandy Hook Light. (Source: Tetra Tech)

3.2.1.3 Navesink Light Station National Historic Landmark (NR No. 70000389)

The Navesink Light Station (Twin Lights) National Historic Landmark, located on the Atlantic Highlands in Monmouth County, New Jersey, was built in 1826-1827 as separate structures, and reconstructed and joined in 1862 amidst a fortress-like masonry structure. The twin towers stand 73 ft high and reach 254 ft above mean sea level. The north tower is octagonal, the south square to allow mariners clear indication of their relative positions (**Figure 3-16**). The current lights are the latest in a series of lighthouses present on the spot since 1746. The south tower housed the first Fresnel lens installed in the United States, and the first electric arc lamp in a lighthouse in the United States in 1898. In 1899, Guglielmo Marconi set up a wireless station at the lights to receive news of the America's Cup races being held off the Jersey shore (NARA 2023a).

Navesink Light Station was listed in the NRHP in 1970 under Criterion C. The property is listed as a National Historic Landmark for its unusual twin light design. Observations made by the Project team in March 2023 indicate that Navesink Light Station currently retains its significance and integrity. The property will have a view of the Project during daytime and nighttime periods. Given this property's elevated position and unobstructed views from the maritime approaches to New York Bay, the Project will introduce significant visual elements to the established viewshed of the light station. It was assessed that Project-related visual effects will diminish the significance of the character-defining elements for this resource and result in an adverse effect.

Figure 3-16 Navesink Light Station. (Source: Tetra Tech)

3.2.1.4 Fort Hancock U.S. Life Saving Station – Gateway National Recreation Area (NR No. 81000080)

The Fort Hancock U.S. Life Saving Station was established on Sandy Hook, New Jersey in 1894 and deactivated in 1949, bookending the period of significance between these dates. This station was one of six original U.S. Life Saving Service sites in New Jersey. The lifesaving station was built in the Shingle style, while railings and framing principals exhibit Craftsman influence (**Figure 3-17**). Since 1974, the building has served as a visitor's center for Gateway National Recreation Area. Relatively unaltered since its construction, the property accurately reflects the character of the station during its period of significance (NARA 2023b).

The Fort Hancock Life Saving Station was listed in the NRHP in 1981 under Criterion A for its association with the earliest federally sponsored efforts to save life and property from coastal shipwrecks, and under Criterion C as an example of late-nineteenth-century New Jersey coastal utilitarian architecture. Observations made by the Project team in March 2023 indicate that the Fort Hancock, U.S. Life Saving Station currently retains its significance and integrity (**Figure 3-17**). Its historic viewshed during the period of significance would have been a broad vista of beach to the north and south and unobstructed views of the ocean between them. The expansive character of this viewshed was intrinsic to the function of the life-saving station, and construction of the Project will introduce new elements to this viewshed that are likely to alter the character of the resource's historic setting, diminishing the significance of the character-defining elements for which the property has been listed in the NRHP. The resource will have views of the Project during daytime and nighttime

periods. Therefore, the introduction of the Project would diminish this character and result in an adverse effect to the Fort Hancock U.S. Life-Saving Station.

Figure 3-17 Fort Hancock U.S. Life Saving Station. (Source: Tetra Tech)

3.2.2 Parks

3.2.2.1 Fort Hancock and Sandy Hook Proving Ground Historic District (NR No. 80002505)

The Fort Hancock and Sandy Hook Proving Ground Historic District encompasses 380 acres on Sandy Hook that was utilized by the U.S. Army as a weapons testing area during the period 1874-1919 (**Figure 3-18**). The proving ground included firing ranges, gun platforms, and instrument housings. Innovative testing undertaken at Fort Hancock included rifling smooth bore cannon, breech-loading guns, rapid fire guns, and armor-piercing shot. Between 1885 and 1907, large-scale enhancement of the nation's coastal defenses was recommended and implemented by the Endicott Board, a presidential-appointed military and civilian board headed by Secretary of War William Endicott. Fort Hancock was designated as the principal outpost for the defense of New York Harbor, and became superordinate to Forts Wadsworth, Hamilton, and Tilden. Fortifications at Fort Hancock were completed in 1895 and the first garrison of artillerists arrived there in 1898. The period of significance for the proving ground historic district is 1874-1919, when weapons testing ended at Fort Hancock and shifted to other military reservations (NARA 2023c). The district includes 89 contributing resources, including individually listed Sandy Hook Light and Fort Hancock U.S. Life-Saving Station.

The property was listed in the NRHP in 1980 under Criterion A for its association as the key fortification guarding the approaches to America's most important harbor and its largest metropolis in the late nineteenth

and early twentieth centuries, and for the key role in the development of the weapons employed by the U.S. Coast Artillery and U.S. Field Artillery during the years that the United States emerged as a world power. Observations made by the Project team in February 2023 indicate that the Fort Hancock and Sandy Hook Proving Ground Historic District currently retains its significance and integrity. The property will have a view of the Project, which is 22.4 mi (36.0 km) away, during daytime and nighttime periods. It was assessed that Project-related visual effects will diminish the significance of the character-defining elements for this resource.

Figure 3-18 Fort Hancock and Sandy Hook Proving Ground District. (Source: Tetra Tech)

3.2.3 Residential Communities or Districts

3.2.3.1 Water Witch (Monmouth Hills) Historic District (NR No. 04000147)

The Water Witch (Monmouth Hills) Historic District was listed in the NRHP in 2004 under Criterion A for its association with the development of the Atlantic Highlands as a summer community for the professional class during the late-nineteenth and early-twentieth centuries; under Criterion B for its association with the life of Frederick P. Hill, a well-known architect who designed and resided in the community; and under Criterion C for its contribution to community planning, construction techniques, and architecture (**Figure 3-19**). It is significant as an example of a late nineteenth and early twentieth century romantically designed summer community set among winding gravel roads, with vegetated lots and hills offering scenic views of the Atlantic Ocean, Raritan Bay, and Sandy Hook. Included in the district is the individually listed Water Witch Club Casino (NR No. 90001219) (NARA 2022i).

Observations made by the Project team in 2021 indicate that Water Witch (Monmouth Hills) Historic District currently retains its significance and integrity. The Project will be visible from this property. The district is cited for its picturesque siting of buildings and landscaping that offer excellent views of the Atlantic Ocean. Tetra Tech recommends that the introduction of the Project would diminish this character and result in an adverse effect to the Water Witch Historic District.

Figure 3-19 Water Witch (Monmouth Hills) Historic District. (Source: Tetra Tech)

3.2.3.2 Allenhurst Residential Historic District (NR No. 10000353)

The Allenhurst Residential Historic District comprises 290 residences, 202 outbuildings, a municipal building, a church, a restaurant, and the Allenhurst Beach Club complex (**Figure 3-20**). Most of the residences were built by the Coast Land Improvement Company around the turn of the twentieth century, as a seaside residential community designed to attract upper middle-class professionals. A number of architectural styles were employed, including Tudor Revival, Gothic Revival, Queen Anne, Prairie, Mission, Shingle, and Craftsman. The period of significance is 1895-1930, when the trolley lines to the district ceased running and development in the area slowed (NARA 2022j).

The district is NRHP listed under Criterion C as an example of late nineteenth and early twentieth century community development that employed an assemblage of revival styles. Observations made by the Project team in February 2023 indicate that the Allenhurst Residential Historic District retains its significance and integrity. The community was built to take advantage of the unobstructed ocean views. The introduction of the Project will likely change the relationship of sea and land that serves as a proscenium arch between the community and the Atlantic Ocean. Tetra Tech recommends that the introduction of the Project would diminish this character and result in an adverse effect to the Allenhurst Residential Historic District.

Figure 3-20 Allenhurst Residential Historic District. (Source: Tetra Tech)

3.2.3.3 Ocean Grove Camp Meeting Association Historic District (NR No. 76001170)

The community of Ocean Grove, New Jersey was established by the Methodist Church in 1870 as a seaside resort, religious assembly, and spiritual haven for congregants (**Figure 3-21**). The Ocean Grove Camp Meeting Association owns all property in the community, letting long-term leases on residences, and formally functioning as the municipal authority. Comprising nearly one thousand buildings, nearly three-quarters are stick-style design. The period of significance is 1870-1894, when the Great Auditorium was completed (NARA 2022k).

The Ocean Grove Camp Meeting Association Historic District was listed in the NRHP in 1976 under Criterion A for its association with the religious camp meeting as a planned community, for its vernacular architecture, and for the nineteenth century acoustical science and ventilation system demonstrated by the Great Auditorium. Observations made by the Project team in February 2023 indicate that the Ocean Grove Camp Meeting Association Historic District currently retains its significance and integrity. The Project will be visible from the historic district. The district's setting along the then-undeveloped Atlantic Ocean shoreline was chosen by the community founders to encourage spiritual renewal among parishioners. The introduction of the Project onto the views enjoyed by Ocean Grove will diminish the sense of expansive grandeur offered by the Atlantic Ocean views. Tetra Tech recommends that the introduction of the Project would diminish this character and result in an adverse effect to the Ocean Grove Camp Meeting Association Historic District.

Figure 3-21 Ocean Grove Camp Meeting Association Historic District. (Source: Tetra Tech)

4. MITIGATION MEASURES

The recommended mitigation measures presented in this HPTP are the outcome of engagement with the interested parties combined with best management practices in the field of historic preservation. Measures to mitigate adverse effects to historic properties should relate to historic preservation and should result in a benefit to the whole community, not just to individual properties or property owners. Preliminary proposals presented by some of the interested parties have been incorporated into the mitigation measures provided herein. The content of this section was developed on behalf of Empire by individuals who met Secretary of the Interior (SOI) Qualifications Standards for Archeology and/or History (62 FR 33708) and is consistent with fulfilling the mitigation measures such that they fully address the nature, scope, size, and magnitude of adverse effects to historic properties. Effective historic preservation planning requires property-specific information as an initial step in developing appropriate mitigation measures, as different types of resources require different approaches. Five types of historic resources are represented by the 23 adversely affected properties: maritime safety, parks, residential communities or districts, individual residences, and seaside attractions. All mitigation for the properties located in New York is subject to NY SHPO review and approval, and all mitigation for the properties located in New Jersey is subject to NJ HPO review and approval.

4.1 Maritime Safety

- Sandy Hook Lighthouse, Middletown, Monmouth County, NJ (NR No. 66000468)

- Fire Island Lighthouse, Islip, Suffolk County, NY (NR No. 81000082) and Fire Island Lighthouse Historic District, Islip, Suffolk County, NY (NR No. 09001288)
- Navesink Light Station, Highlands, Monmouth County, NJ (NR No. 70000389)
- Romer Shoal Light Station, Middletown, Monmouth County, NJ (Lower NY Bay) (NR No. 06001304)
- West Bank Light Station, Richmond County, NY (Lower NY Bay) (NR No. 06001230)
- Fort Hancock U.S. Life Saving Station, Middletown, Monmouth County, NJ (NR No. 81000080)
- Fort Tilden Historic District (NR No. 84002917)

Typically situated on a headland along the shoreline, lighthouses have served as navigational aids for mariners and their ships since antiquity. The Project will adversely affect three land-based lighthouses (Sandy Hook Lighthouse, Navesink Light Station, and Fire Island Lighthouse) and two open-water light stations (Romer Shoal Light Station and West Bank Light Station). By the mid-nineteenth century, lightships or stationary light stations were positioned in open waters at critical navigational passages, such as Ambrose Channel entering Lower New York Bay. Lighthouses and light stations are susceptible to a variety of environmental impacts, including continuous exposure to salt, waves, and wind. In 2012, Hurricane Sandy dislodged portions of the rip rap anchorages at Romer Shoal Light Station and West Bank Light Station and flooded their lower stories. The Sandy Hook Lighthouse, Fire Island Lighthouse, Fire Island Lighthouse Historic District, and Fort Tilden Historic District are located on federal lands administered by the NPS. Navesink Light Station is owned by the state of New Jersey and operated as Twin Lights State Historic Site. In contrast to the Romer Shoal Light Station and West Bank Light Station, these five properties are accessible to the public and function as important landmarks in their respective locales.

4.1.1 Sandy Hook Lighthouse (NR No. 66000468)

Empire will provide funding for Climate Resiliency, Education, Interpretation, Maintenance, Public Access, Restoration, Rehabilitation, or Visitor Experience for the NPS units. The Lessee will: determine priority projects in collaboration with the representatives for each NPS unit; use already available plans or develop plans appropriate to the identified project, and ensure the plans submitted for review are prepared by professionals meeting Secretary of the Interior (SOI) Professional Qualifications for Architecture or Architectural History with experience applying the SOI Standards for the Treatment of Historic Properties; ensure the project is carried out by qualified contractors who will execute plans; and take necessary steps to ensure planned work is completed. Mitigation measures will also comply with SOI Standards for Treatment of Historic Properties.

4.1.2 Fire Island Lighthouse and Historic District (NR No. 81000082 and 09001288)

Empire will provide funding for Climate Resiliency, Education, Interpretation, Maintenance, Public Access, Restoration, Rehabilitation, or Visitor Experience for the NPS units. The Lessee will: determine priority projects in collaboration with the representatives for each NPS unit; use already available plans or develop plans appropriate to the identified project, and ensure the plans submitted for review are prepared by professionals meeting SOI Professional Qualifications for Architecture or Architectural History with experience applying the SOI Standards for the Treatment of Historic Properties; ensure the project is carried out by qualified contractors who will execute plans; and take necessary steps to ensure planned work is completed. Mitigation measures will also comply with SOI Standards for Treatment of Historic Properties.

4.1.3 Navesink Light Station National Historic Landmark (NR No. 70000389)

As per suggestions received from the New Jersey Department of Environmental Protection (NJDEP), Empire will fund the following improvements/repairs at the Navesink Light Station:

- Repairs to Bivalve lens by certified Lampist to return it to rotating basis;
- Fresnel Lens reproduction to attach to the clockwork drive in Gallery 1;
- Repairs/repointing to North and South tower tops to make the towers waterproof;
- Reproduction brass vent covers to replace missing ones on the towers;
- Arched storm windows for the front of the lighthouse to replace the square ones to show the windows in their intended configuration;
- New roof on main building; and,
- South Tower Excavation Exhibit.

Empire proposes to support NJDEP's suggested mitigation through direct funding. Mitigation measures will also comply with SOI Standards for Treatment of Historic Properties.

4.1.4 Romer Shoal Light Station (NR No. 06001304)

Empire met with Romer Shoal Light in April and October of 2021 and again in August 2023 to discuss the Project and potential mitigation measures. Keith Kilgannon (President) explained that while Romer Shoal is in need of many repairs, that the primary concern is safe access to the light, so that materials and crew can be safely brought on site to conduct further restoration work. Work on the landing is currently partially funded but there are several other access elements that Romer Shoal will need assistance with. Empire proposes to partially fund elements associated with restoring safe and functional boat access to Romer Shoal Light Station. Mitigation measures will also comply with SOI Standards for Treatment of Historic Properties.

4.1.5 West Bank Light Station (NR No. 06001230)

On July 7, 2021, Empire met with Sheridan Reilly, then owner of West Bank Light Station, and presented an overview of the Project and potential visual adverse effects to the light station. Subsequent to the July 7, 2021 meeting, Romer Shoal Light, a 501c3 non-profit organization, took over ownership of West Bank Light and correspondence regarding West Bank Light Station has since occurred with Keith Kilgannon, President of the non-profit organization. Mitigation of adverse effects to the West Bank Light Station includes funding from Empire for a structure survey of the resource to be conducted by an SOI qualified historic architect, to identify preservation-related issues. From a list of priorities generated by a structural survey, Empire will fund restoration of elements of West Bank Light, as chosen by the executive board of Romer Shoal Lighthouse, in concert with BOEM, NY SHPO, and NY City Landmarks Commission as appropriate. Mitigation measures will also comply with SOI Standards for Treatment of Historic Properties.

4.1.6 Fort Hancock U.S. Life Saving Station – Gateway National Recreation Area (NR No. 81000080)

Empire will provide funding for Climate Resiliency, Education, Interpretation, Maintenance, Public Access, Restoration, Rehabilitation, or Visitor Experience for the NPS units. The Lessee will: determine priority projects in collaboration with the representatives for each NPS unit; use already available plans or develop plans appropriate to the identified project, and ensure the plans submitted for review are prepared by professionals meeting SOI Professional Qualifications for Architecture or Architectural History with experience applying the SOI Standards for the Treatment of Historic Properties; ensure the project is carried out by qualified contractors who will execute plans; and take necessary steps to ensure planned work is completed. Mitigation measures will also comply with SOI Standards for Treatment of Historic Properties.

4.1.7 Fort Tilden Historic District (NR No. 84002917)

Empire will provide funding for Climate Resiliency, Education, Interpretation, Maintenance, Public Access, Restoration, Rehabilitation, or Visitor Experience for the NPS units. The Lessee will: determine priority projects in collaboration with the representatives for each NPS unit; use already available plans or develop plans appropriate to the identified project, and ensure the plans submitted for review are prepared by professionals meeting SOI Professional Qualifications for Architecture or Architectural History with experience applying the SOI Standards for the Treatment of Historic Properties; ensure the project is carried out by qualified contractors who will execute plans; and take necessary steps to ensure planned work is completed. Mitigation measures will also comply with SOI Standards for Treatment of Historic Properties.

4.2 Parks

- Jones Beach State Park/Jones Beach State Park, Causeway and Parkway System, Nassau County, NY (NR No. 05000358)
- Gilgo State Park, Suffolk County, NY (NY CRIS No. 10301.000084)
- Robert Moses State Park, Suffolk County, NY, (NY CRIS No. 10305.001592)
- Jacob Riis Park Historic District, Queens County, NY (NR No. 81000081)
- Fort Hancock and Sandy Hook Proving Ground Historic District (Sandy Hook Unit - Gateway National Recreation Area, Monmouth County, NJ (NR No. 80002505)

The New York State Park resources include Jones Beach State Park/Jones Beach State Park, Causeway and Parkway System; Robert Moses State Park; and Gilgo State Park. Components of Gateway National Recreation Area include Jacob Riis Park Historic District and Fort Hancock and Sandy Hook Proving Ground Historic District.

4.2.1 New York State Parks

Empire will sponsor funding for Climate Resiliency, Education, Interpretation, Maintenance, Public Access, Restoration, Rehabilitation, or Visitor Experience. The New York State Parks will: (1) determine priority projects in collaboration with the representatives for each New York State Park unit; (2) use already available plans or develop plans appropriate to the identified project, and ensure the plans submitted for review are prepared by professionals meeting SOI Professional Qualifications for Architecture or Architectural History with experience applying the SOI Standards for Treatment of Historic Properties; (3) ensure the project is carried out by qualified contractors who will execute plans; and, (4) take necessary steps to ensure planned work is completed.

All mitigation measures will be subject to NY SHPO review. Mitigation measures will also comply with the SOI Standards for the Treatment of Historic Properties.

4.2.2 Gateway National Recreation Area (Jacob Riis Park Historic District; Fort Hancock and Sandy Hook Proving Ground Historic District)

Empire will provide funding for Climate Resiliency, Education, Interpretation, Maintenance, Public Access, Restoration, Rehabilitation, or Visitor Experience for the NPS units. The Lessee will: (1) determine priority projects in collaboration with the representatives for the Jacob Riis Historic District and the Fort Hancock and Sandy Hook Proving Ground Historic District.; (2) use already available plans or develop plans appropriate to the identified project, and ensure the plans submitted for review are prepared by professionals meeting SOI Professional Qualifications for Architecture or Architectural History with experience applying the SOI

Standards for the Treatment of Historic Properties; (3) ensure the project is carried out by qualified contractors who will execute plans; and, (4) take necessary steps to ensure planned work is completed.

4.3 Residential Communities or Districts

- Allenhurst Residential Historic District, Monmouth County, NJ (NR No. 10000353)
- Water Witch (Monmouth Hills) Historic District, Monmouth County, NJ (NR No. 04000147)
- Point O'Woods Historic District, Suffolk County, NY (NY CRIS No. 10302.003470)
- Ocean Grove Camp Meeting Association Historic District (NR No. 76001170)

4.3.1 Allenhurst Residential Historic District (NR No. 10000353)

Empire hosted a teleconference with officials from the Borough of Allenhurst on September 14, 2023 to discuss potential mitigation measures to offset the visual adverse effects expected from the Project. Officials expressed a need for repairs to the municipal and beach club buildings which are listed on the National Register. Empire proposes to partially fund one or more of these elements in cooperation with designated representatives for the Allenhurst Historic District. Mitigation measures will also comply with SOI Standards for Treatment of Historic Properties.

4.3.2 Water Witch Historic District (NR No. 04000147)

Empire hosted a teleconference with members of the Water Witch Historic District, also known as Monmouth Hills, on August 24, 2023, to discuss potential mitigation measures to offset the visual adverse effects expected from the Project. Letters received from the Board of Directors dated August 31, 2023 and October 15, 2023 identify the need for funding towards restoration of the Water Witch Clubhouse slate roof and widow's walk and repairs to the retaining wall of the Clubhouse. Empire proposes to partially fund one or more of these elements in cooperation with designated representatives of the Monmouth Hills/Water Witch Historic District. Mitigation measures will also comply with SOI Standards for Treatment of Historic Properties.

4.3.3 Point O'Woods Historic District (NY CRIS No. 10302.003470)

The identification of historic landscapes as a research discipline derives from many sources, including landscape archaeology, the Beautification Movement of the early twentieth century, and late twentieth century environmentalism, among others. The restoration of historic landscape features, such as paths, hedges, plantings, and benches, is an appropriate approach to mitigate adverse effects at the Point O'Woods Historic District. Research would include but not be limited to inspection of documents maintained by local libraries, historical societies, state archives, and the administrative records of Point O'Woods. Empire proposes to fund restoration of historic landscape features, including paths, benches, plantings, rock walls, and roads at the Point O'Woods Historic District. Mitigation measures will also comply with SOI Standards for Treatment of Historic Properties.

4.3.4 Ocean Grove Camp Meeting Association Historic District (NR No. 76001170)

In 2021, Ocean Grove Camp Meeting Association (OGCMA) was amenable to in-depth engagement with Empire on the topic of potential mitigation. These discussions led to a signed Memorandum of Understanding between OGCMA and Empire, dated July 13, 2021, whose purpose was "to collaborate on a potential mitigation solution with regards to the potential for indirect effects on the Ocean Grove Camp Meeting Association Historic District associated with the visibility of [the Project]." The OGCMA presented a proposal to Empire to mitigate the expected visual impacts by funding "an aesthetically appealing fitness path to bolster community opportunities for outdoor recreation" and presented "…a nexus between preserving clean air,

outdoor exercise, improved pedestrian safety, and Ocean Grove's historic responsibility to have a peaceful beachfront viewshed." Further engagement with OGCMA occurred on August 17, 2023, with Michael Badger, President of OGCMA, confirming that a fitness path as a mitigation measure remained a viable solution to offset the visual adverse effects expected from Project construction and operation.

Empire proposes to fund, at least in part, the installation of a fitness lane in proximity to the Ocean Grove boardwalk. The purpose and intended outcome of this mitigation measure would be to provide mitigation for adverse effects that would benefit and satisfy the local interested parties and overall community. Mitigation measures will also comply with SOI Standards for Treatment of Historic Properties.

4.4 Individual Residence

- Carrington House – Fire Island National Seashore, Sayville, Suffolk County, NY (NR No. 13001057)

Empire will provide funding for Climate Resiliency, Education, Interpretation, Maintenance, Public Access, Restoration, Rehabilitation, or Visitor Experience for the NPS units. The Lessee will: determine priority projects in collaboration with the representatives for each NPS unit; use already available plans or develop plans appropriate to the identified project, and ensure the plans submitted for review are prepared by professionals meeting SOI Professional Qualifications for Architecture or Architectural History with experience applying the SOI Standards for the Treatment of Historic Properties; ensure the project is carried out by qualified contractors who will execute plans; and take necessary steps to ensure planned work is completed.

4.5 Seaside Attractions

- Silver Gull Beach Club Historic District – Gateway National Recreation Area, Queen County, NY (CRIS No. 08101.012423)
- Breezy Point Surf Club Historic District – Gateway National Recreation Area, Queens County, NY (CRIS No. 08101.011499)

4.5.1 Silver Gull Beach Club Historic District – Gateway National Recreation Area (CRIS No. 08101.012423)

Empire will provide funding for Climate Resiliency, Education, Interpretation, Maintenance, Public Access, Restoration, Rehabilitation, or Visitor Experience for the NPS units. The Lessee will: determine priority projects in collaboration with the representatives for each NPS unit; use already available plans or develop plans appropriate to the identified project, and ensure the plans submitted for review are prepared by professionals meeting SOI Professional Qualifications for Architecture or Architectural History with experience applying the SOI Standards for the Treatment of Historic Properties; ensure the project is carried out by qualified contractors who will execute plans; and take necessary steps to ensure planned work is completed. Mitigation measures will also comply with SOI Standards for Treatment of Historic Properties.

4.5.2 Breezy Point Surf Club Historic District – Gateway National Recreation Area (CRIS No. 08101.011499)

Empire will provide funding for Climate Resiliency, Education, Interpretation, Maintenance, Public Access, Restoration, Rehabilitation, or Visitor Experience for the NPS units. The Lessee will: determine priority projects in collaboration with the representatives for each NPS unit; use already available plans or develop plans appropriate to the identified project, and ensure the plans submitted for review are prepared by professionals meeting SOI Professional Qualifications for Architecture or Architectural History with experience applying the SOI Standards for the Treatment of Historic Properties; ensure the project is carried out by qualified

contractors who will execute plans; and take necessary steps to ensure planned work is completed. Mitigation measures will also comply with SOI Standards for Treatment of Historic Properties.

5. IMPLEMENTATION

Upon approval of the mitigation measures outlined in this HPTP by BOEM and the consulting parties, Memoranda of Agreement (MOA) will be developed. Once agreed upon by BOEM, SHPOs and the consulting parties, the approved measures will be published by BOEM as part of the Project Record of Decision (ROD). Once the MOAs are negotiated and signed and following the public comment period, BOEM will consider responses. If needed, the HPTP will be modified in response to input from BOEM, SHPOs, and consulting parties. Once the MOA is finalized and signed, Empire will begin implementation within two years of the issuance of the ROD.

5.1 Schedule

The timeline for implementation of the mitigation measures will be determined in consultation with consulting parties based on the agreed upon mitigation measures described in the final version of this HPTP. This HPTP will be reviewed by and further developed in consultation with consulting parties as part of BOEM's NHPA Section 106 consultation and NEPA review schedule for the Empire Wind Project.

The final version of this HPTP included in the FEIS will include a timeline for implementation of the final/agreed-upon mitigation measures described herein. Mitigation measures identified in Section 4.0 must be completed within four years of MOA execution, unless a different timeline is agreed upon by interested consulting parties and accepted by BOEM, and may be completed simultaneously, as applicable.

5.2 Roles and Responsibilities

This section presents the roles and responsibilities of each party. If any of these roles or responsibilities conflict with the executed MOA, the MOA will take precedence and this HPTP will be amended.

5.2.1 Bureau of Ocean Energy Management

- BOEM remains responsible for making all federal decisions and determining compliance with Section 106 of the NHPA;
- BOEM, in consultation with the Participating Parties, will ensure that mitigation measures adequately resolve adverse effects, consistent with the NHPA;
- Work with Empire, the SHPO, the ACHP and other Participating Parties using the HPTP framework;
- Review and provide feedback on draft HPTP;
- BOEM must accept the final HPTP before Empire may commence any of the actions included in the HPTP;
- BOEM will be responsible for sharing the annual summary report with consulting parties;
- BOEM is responsible for consultation related to dispute resolution; and
- If parties cannot reach concurrence, consult with ACHP and non-concurring party(s) to make final decision.

5.2.2 State Historic Preservation Office(s)

- Work with BOEM, Empire, the ACHP and other Participating Parties using the HPTP framework;
- Review and provide feedback on draft HPTPs; and

- Review and provide feedback on products that result from HPTP implementation (included but not limited to HABS/HAER recordation, designs and content of signage for public interpretation, and architectural/engineering plans and specifications).

5.2.3 Advisory Council on Historic Preservation (if applicable)

- Work with BOEM, Empire, the SHPO, and other Participating Parties using the HPTP framework; and
- If parties cannot reach concurrence, confer with BOEM and non-concurring parties to make final decision.

5.2.4 Empire

- Empire will be responsible for funding the mitigation measures as required in the ROD and/or MOA and the final HPTP;
- Work with BOEM, the SHPO, the ACHP and other Participating Parties using the HPTP framework;
- Consider the comments provided by the Participating Parties in the development of this HPTP;
- Fund the mitigation measures specified in Section 4;
- Complete the scope(s) of work in Section 4;
- Provide the Documentation in Section 4 to the Participating Parties for review and comment; and
- Provide Annual Status Reports to BOEM.

5.2.5 Consulting Parties

Empire does not anticipate participation by any NHPA Section 106 consulting parties other than those listed in Sections 5.2.1 through 5.2.4 and those who own or manage the affected properties detailed above. If BOEM determines additional consulting parties will participate in this plan, the plan will be updated to include those parties.

5.2.6 Participating Party Consultation

Participating Parties will be provided opportunity for review and comment on the HPTP concurrent with BOEM's anticipated NHPA Section 106 review schedule for the Project (see Section 5.1) Empire will provide this draft HPTP to BOEM for inclusion in the Draft Environmental Impact Statement for review by participating parties as part of BOEM's NHPA Section 106 review to provide meaningful input on the proposed mitigation measures to resolve adverse effects to historic properties. Empire anticipates that further coordination to refine the HPTP may include meetings, conference calls, HPTP draft reviews and document exchanges, or similar means of communication of information.

5.3 Plan Completion and Reporting

Empire will prepare and, following BOEM review and approval, provide all signatories, invited signatories, and consulting parties to the MOA a summary report detailing work undertaken pursuant to the MOA consistent with any MOA stipulation measures relative to monitoring and reporting, including the mitigation measures outlined in the final HPTP. This report will be prepared, reviewed, and distributed by January 31 of each year in which MOA/HPTP activities are taking place, and summarize the work undertaken during the previous year. Empire will continue to generate and distribute this yearly report until all activities required under the MOA are completed. The distribution of documents will follow the process detailed in Stipulation V (Review Process for Documents) of the MOA.

6. REFERENCES

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2023. Supplemental Visual Impact Assessment of National Register Listed Properties in Manhattan. Empire Offshore Wind: Empire Wind Project (EW 1 and EW 2). Prepared for Empire Wind US LLC, Stamford, CT.

ATTACHMENT 5 – SECTION 106 PHASED IDENTIFICATION PLAN

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Empire Offshore Wind: Empire Wind Project

(EW 1 and EW 2)

Section 106 Phased Identification Plan

Prepared for:

Empire Offshore Wind LLC
600 Washington Blvd, Suite 800
Stamford, CT 06901, USA

Prepared by:

10 Post Office Square, Suite 1100
Boston, MA 02109

August 2023

NOTE:

This document was first submitted on October 28, 2022. It was subsequently revised and updated on November 3, 2022, and March 10, 2023.

Many of the activities described in this plan were completed before the current revision was generated on August 7, 2023.

TABLE OF CONTENTS

TABLES

FIGURES

ATTACHMENTS

ACRONYMS AND ABBREVIATIONS

APE	Area of Potential Effect
AVEHAP	Analysis of Visual Effects to Historic and Architectural Properties
BOEM	Bureau of Ocean Energy Management
CFR	Code of Federal Regulations
COP	Construction and Operations Plan
Empire	Empire Offshore Wind LLC
EW	Empire Wind
FEMA	Federal Emergency Management Agency
ft	foot
GPS	global positioning system
HRVEA	Historic Resources Visual Effects Assessment
km	kilometer
Lease Area	designated Renewable Energy Lease Area OCS-A 0512
mi	mile
NEPA	National Environmental Policy Act
NHL	National Historic Landmark
NHPA	National Historic Preservation Act
NJ HPO	New Jersey Historic Preservation Office
nm	nautical mile
NPS	National Park Service
NRHP	National Register of Historic Places
NYSERDA	New York State Energy Research and Development Authority
NY SHPO	New York State Historic Preservation Office
O&M	Operations and Maintenance
OCS	Outer Continental Shelf
PAPE	Preliminary APE
POI	Point of Interconnection
Project	The offshore wind project for OCS A-0512 proposed by Empire Offshore Wind LLC consisting of Empire Wind 1 (EW 1) and Empire Wind 2 (EW 2).
SHPO	State Historic Preservation Office
Tetra Tech	Tetra Tech, Inc.
U.S.C.	United States Code

1.0 INTRODUCTION

Empire Offshore Wind LLC[1] (Empire) is proposing to develop the Empire Offshore Wind: Empire Wind (EW 1 and EW 2) Project. The Project consists of an offshore wind farm to be located in the designated U.S. Bureau of Ocean Energy Management (BOEM) Renewable Energy Lease Area Outer Continental Shelf (OCS)-A 0512 (Lease Area), as well as submarine export cables and onshore ancillary facilities required to convey power produced by the wind farm to the regional electric transmission system. The Lease Area is approximately 14 statute miles (mi) (12 nautical miles [nm], 23 kilometers [km])[2] south of Long Island, New York, and 19.5 mi (16.9 nm, 31.4 km) east of Long Branch, New Jersey (**Figure 1**).

In support of the Project Construction and Operations Plan (COP) submitted to BOEM, Tetra Tech, Inc. (Tetra Tech) was contracted to complete an Analysis of Visual Effects to Historic and Architectural Properties (AVEHAP), which can also be called a Historic Resources Visual Effects Assessment (HRVEA). The purpose of the AVEHAP is to assess the potential visual effects of the construction and operations of the Project from above-ground historic properties (e.g., cultural properties, districts, buildings, structures, or objects that are 45 years old or older and are listed or eligible for listing in the National Register of Historic Places [NRHP]) that will have views or partial views of Project components. For the purposes of this report, the historic properties of concern are of an architectural or landscape character and will be referred to herein as architectural properties. The Area of Potential Effect (APE) will be defined by BOEM through the Section 106 process; therefore, the AVEHAP and this plan describes the preliminary APE (PAPE), as identified by Tetra Tech.

Section 106 regulations (36 Code of Federal Regulations [CFR] § 800.4 (b)(2)) provide for phased identification of historic properties. Typically, phased identification is implemented for projects where alternatives under consideration consist of corridors, large land areas, or where access to properties is restricted. Phasing Section 106 adjusts the standard Section 106 timeline so that identification and evaluation of historic properties may be completed after completing an environmental review of the project, but before project implementation occurs. As described in this plan, phased identification occurred in the Borough of Manhattan prior to issuance of the Record of Decision (ROD), and phased identification in New Jersey will be completed post-ROD.

[1] Empire is a direct, wholly owned subsidiary of Empire Offshore Wind Holdings LLC ("Empire HoldCo"). Empire HoldCo is jointly owned by (1) an indirect, wholly owned subsidiary of Equinor ASA (collectively, "Equinor"); and (2) an indirect, wholly owned subsidiary of BP Wind Energy North America In. ("BP"). BP acquired ownership interest in Empire HoldCo in a transaction that closed on January 29, 2021.

[2] Distances are provided as statute miles (mi) or nautical miles (nm) as appropriate, with kilometers (km) in parentheses. For reference, 1 mi equals approximately 0.87 nm or 1.6 km.

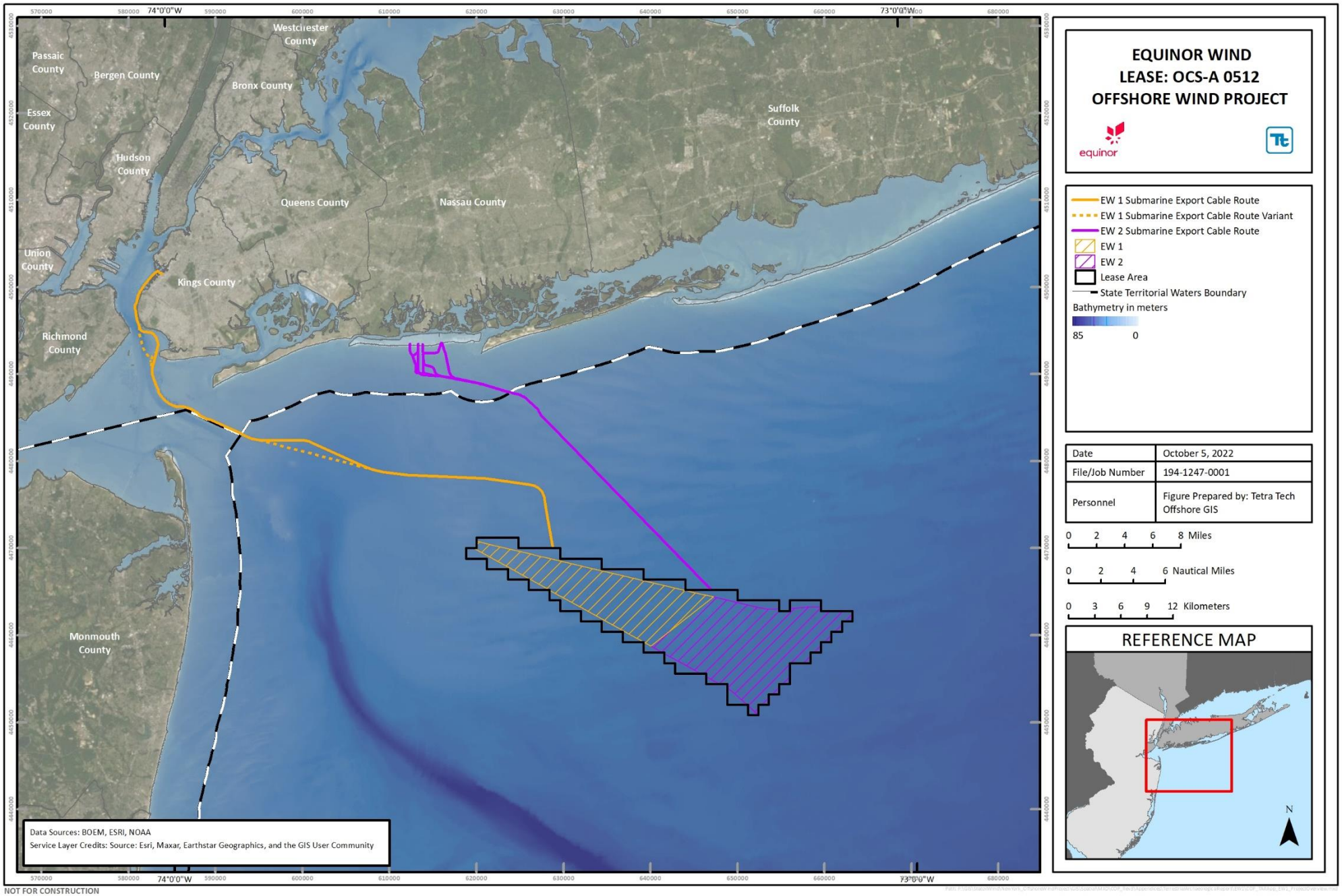

Figure 1 Project Area

1.1 Description of the Undertaking and Project Design Envelope

The Project Design Envelope (PDE) is an approach to permitting that "…allows a project description to be broadly defined, within several agreed parameters, for the purposes of a permit application… the PDE identifies the range of potential project design values for all relevant components of a development" (Rowe et. al. 2017). Empire proposes to develop the Lease Area in two wind farms. EW 1 and EW 2 will be electrically isolated and independent from each other. The Project includes the construction of up to 147 wind turbines (the total number across both EW 1 and EW 2) at up to 174 locations, two offshore substations, and foundations for the wind turbines and offshore substations within the Lease Area (see **Table 1**). The wind turbines will be connected via interarray cables to the offshore substations. The offshore substations will collect the power generated by the wind turbines and transport it to the Project's onshore substations via submarine export cables. The onshore substations will transmit the energy generated for connection to the Points of Interconnection (POIs) in New York. An overview of the offshore Project facility locations is provided in **Figure 1**. The interarray cables and submarine export cables will be located subsea; therefore, these will not be visible components of the Project and were not assessed as part of the AVEHAP.

Table 1 Summary of the Parameters for the Representative Wind Turbine

Parameter	Representative Wind Turbine
Total Number	147
Hub Height above Highest Astronomical Tide (HAT)	525 ft (160 m)
Upper Blade Tip above HAT	951 ft (290 m)
Lower Blade Tip above HAT	85 ft (26 m) a/
Rotor Diameter	853 ft (260 m)

Note:
a/ For this parameter, the minimum value represents the maximum Project Design Envelope value.

1.2 Federal, State, and Local Permits

Several federal, state, and local agencies have regulatory authority over the Project based on the location of the different Project components. The wind turbines and offshore substations are to be located entirely within federal waters of the United States and the OCS and are under the jurisdiction of BOEM. Onshore facilities, including the onshore substations, will be located in Brooklyn, New York (EW 1) and the City of Long Beach and/or Town of Hempstead, New York (EW 2).

The Project is subject to regulation by BOEM under provisions of the OCS Renewable Energy Program authorized by the Energy Policy Act of 2005 (42 United States Code [U.S.C.] §§13201 *et seq.*). Assessments of effects on historic architectural resources are required to support BOEM's National Environmental Policy Act (NEPA) review process and the review performed under Section 106 of the National Historic Preservation Act (NHPA; 54 U.S.C. § 306108). Under Section 110 of the NHPA (54 U.S.C. 306107), federal agencies assume responsibility for the preservation of historic properties or resources that fall under the agency's jurisdiction, Prior to approving any federal undertaking that may directly adversely affect a National Historic Landmark (NHL), the responsible federal agency must minimize harm to the landmark and afford the Advisory Council on Historic Preservation an opportunity to comment on the undertaking.

In the COP guidelines, BOEM provides recommended approaches for assessing historic architectural resources during the permitting phase of offshore wind projects (Rowe et. al. 2017). BOEM directs that an AVEHAP or HRVEA should be conducted in a manner acceptable to the relevant State Historic Preservation Office (SHPO)

for the state with the onshore viewshed. For this Project, the affected areas fall within the states of New York and New Jersey.

1.3 Agency and Public Outreach

In 2016, BOEM executed a Programmatic Agreement with the SHPOs of New York and New Jersey, the Shinnecock Indian Nation, and the Advisory Council on Historic Preservation to formalize agency jurisdiction and coordination for the review of offshore renewable energy development regarding cultural resources (BOEM 2016). The Programmatic Agreement recognized that issuing renewable energy leases on the OCS constituted an undertaking subject to Section 106 of the NHPA. BOEM, as the lead federal agency in this process, has authority to initiate consultations with the SHPOs, and to consult with interested Native American Tribes.

The scope and approach to the AVEHAP were supported through engagement with federal and state agencies. Empire met with BOEM and the National Park Service (NPS) on August 29, 2018, to discuss approaches to the historic architectural survey and visual impact analysis. Empire initiated discussions with the New York State Historic Preservation Office (NY SHPO) and with the New Jersey Historic Preservation Office (NJ HPO) via letters dated December 13, 2018[3]. The NY SHPO concurred with the approach in a letter dated December 27, 2018, and NJ HPO concurred with the approach in a letter dated January 8, 2019. As the Project evolved, Empire provided NY SHPO with a Project Update letter on August 22, 2019, and met with NY SHPO on September 26, 2019, to describe the most recent preferred locations for the EW 1 and EW 2 onshore electrical systems. Empire provided NJ HPO with a Project update via videoconference on September 24, 2020. Empire also provided a Project update letter to the NY SHPO, introducing the additional EW 2 onshore export and interconnection cable routes and EW 2 Onshore Substation A site in April 2021. NY SHPO confirmed receipt of the update and had no comments at the time. Empire provided a supplemental NY Project update letter introducing an additional landfall site (Landfall E) and additional EW 2 onshore export and interconnection cable routes on May 10, 2022. Empire continues to engage with stakeholders with regards to potential impacts to architectural properties.

Through consultations with Empire, BOEM determined a Section 106 Phased Identification Plan was appropriate for the Project, subsequent to BOEM's initial review of the AVEHAP. This Section 106 Phased Identification Plan serves as a process document detailing the steps Empire will take to complete the required cultural resources surveys following issuance of the Draft Environmental Impact Statement (DEIS) by BOEM.

2.0 PRELIMINARY AREA OF POTENTIAL EFFECTS (PAPE)

The Offshore and Onshore AVEHAP PAPEs are those areas, on land or sea, where views of the Project's components would be visible. As defined by 36 CFR § 800.16(d), the APE is "the geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist". The APE will be defined by BOEM through the Section 106 process; therefore, the Project's COP describes the PAPE, as identified by Tetra Tech. The process of defining the PAPEs involved modeling the preliminary viewshed.

Based on discussions with BOEM, the modeled AVEHAP Offshore viewshed was delimited by a 40-mi (64-km) buffer, or Study Area, around the Lease Area. This AVEHAP Offshore Study Area consists of western Long Island including all of Kings, Queens, Bronx, Richmond, and Nassau counties and the western half of

[3] The area encompassed by the EW 2 Onshore Substation C site was included in this original submission to NY SHPO as part of the onshore export cable route.

Suffolk County, and the southern portion of Westchester County. In New Jersey, the Study Area encompasses all of Hudson County, most of Monmouth County, northeastern Ocean County, and portions of Bergen, Passaic, Essex, Union, and Middlesex counties. The Offshore AVEHAP PAPE was developed within the Study Area, as detailed in the AVEHAP (Empire Wind Project COP Appendix Z) and summarized below.

2.1 Offshore AVEHAP PAPE

An initial analysis was conducted using ESRI ArcGIS Pro 2.2.0 software with the Spatial Analyst extension to process 10-meter Digital Elevation Models based on the National Elevation Dataset and height zones of visible components of the wind turbines (hub height and maximum blade tip). The initial topographic viewshed assumed "bare earth" conditions and was developed from wind turbine locations looking back toward land to determine areas with potential visibility. The viewshed accounted for both curvature of the earth and refraction, using the default values identified in the software.

To supplement the initial topographic viewshed analysis, a viewshed accounting for building heights and vegetation was also developed to identify areas where potential screening may be provided by buildings and vegetation. This viewshed model helped to focus inventory and field visit efforts based on existing conditions within the landscape. The viewshed model accounting for building heights and vegetation was derived using a similar process as the initial topographic viewshed described above. However, for this viewshed model, building footprints for New York City, Suffolk County, and Nassau County in New York and Monmouth County in New Jersey were incorporated into the digital elevation model to represent surface elevations. The building footprint information obtained for New York City contained building heights. Other data sources obtained did not contain building height information. For data sets that did not contain building heights, an assumed height of 17 ft (5.2 m) was used to represent a conservative height of an approximately one-story building across the building footprints. The resulting viewshed model accounting for building heights was taken to approximate the Offshore AVEHAP PAPE.

2.2 Identification of Historic Properties

Historic and architectural property data within the Study Area were acquired from the National Park Service-National Register, New York SHPO's Cultural Resource Information System, and New Jersey Historic Preservation Office's LUCY databases. A supplemental dataset of buildings with build dates of 1972 and older was acquired from the Monmouth County (New Jersey) tax parcel database. Within the Study Area, 16,515 historic and architectural properties were identified in New Jersey and 2,353 historic and architectural properties were identified in New York. All of these 18,868 properties were subjected to viewshed analysis.[4]

2.2.1 Summary of Completed Historic Property Identification to Date

Table 2 presents the counts of all historic and architectural properties identified within the viewshed, enumerated by state and NRHP status.

[4] As per the Programmatic Agreement regarding renewable energy activities offshore New Jersey and New York, BOEM administratively treats all potentially eligible historic properties as eligible (BOEM 2016). In the AVEHAP, any unevaluated property within the Offshore AVEHAP PAPE is treated as if it is potentially NRHP-eligible.

Table 2 Identified Historic and Architectural Properties within Offshore AVEHAP PAPE

NRHP Status	New York	New Jersey	TOTAL
National Historic Landmark	7	5	**12**
National Register Listed	325	45	**370**
National Register Eligible	117	77	**194**
Historic Districts	68	13	**81**
Contributing Resources	208	1,352	**1,560**
Unevaluated	100	513 a/	**613**
TOTAL	**825**	**2,005**	**2,830**

Notes:
a/ Additional unevaluated properties 50 years old or older may exist within the portions of the Offshore AVEHAP PAPE in Ocean and Middlesex counties in New Jersey. These will be evaluated through the phased identification process.

The viewshed model represents a best management practices approach to delineating the PAPE. The computer-generated viewshed is a close approximation of zones of Project visibility and is considered to conservatively define the PAPE. However, the viewshed model inherently displays some misrepresentation of actual Project views due to an imperfect rendering of existing conditions on the ground. To better understand this gap between modeled views and actual views, and to delineate areas of the PAPE that would be most likely to contain historic properties vulnerable to visual adverse effects, the AVEHAP team conducted an additional analysis. This analysis consisted of Google Earth Street View examination of Project-facing views along regularly spaced transects. These transects followed streets in New Jersey moving westward from the shoreline and in New York, generally moving northward from the shoreline. NRHP-listed eligible and unevaluated properties were used as station points along each transect with the objective of determining the most inland point along a transect that would have an ocean view, and thus, a possible Project view.

Thirty-seven transects, arrayed around the PAPE, were employed in this fashion, allowing an analytical process that would help to delineate a more realistic zone of visibility, and thus, a more accurate representation of where visual effects might occur (**Table 3**). Other station points examined in addition to transects were at Fort Wadsworth Historic District, Floyd Bennett Field Historic District, Fort Tilden Historic District, Fire Island Lighthouse Historic District, Fort Hancock and Sandy Hook Proving Ground Historic District, and Miller Army Air Field Historic District.

Focused field visits to specific locations also occurred. An initial field visit was conducted between November 4 and November 13, 2018. An additional field visit was conducted between June 3 and June 6, 2019. The site visits and assessments were performed by a two-person team made up of a Secretary of the Interior-qualified architectural historian and a visual assessment specialist. Both team members had completed the Bureau of Land Management's Visual Resource Management training.

Table 3 Street Transects Examined for Ocean Views

New Jersey	New York
Asbury Park: 3rd Avenue, 7th Avenue, Ocean Avenue	*Coney Island*: Brighton Beach Avenue, Ocean Avenue
Avon-on-the-Sea: Garfield Avenue	*Long Beach*: Cleveland Avenue, Florida Street, Laurelton Boulevard, Lindell Boulevard, Wisconsin Street
Belmar: 9th Avenue	*Rockaway*: Rockaway Beach Boulevard, Beach 84th Street
Bradley Beach: Park Place, 2nd Avenue	*Staten Island*: Maple Terrace, Neutral Avenue, Seaview Avenue, Wiman Avenue
Deal: Roosevelt Avenue	
Highlands: Highland Avenue, Shore Drive, Navesink Avenue	
Long Branch: Atlantic Avenue, Avery Avenue, Chelsea Avenue, Park Avenue	
Monmouth Beach: Valentine Avenue	
Rumson: Rumson Avenue	
Sea Girt: Beacon Boulevard	
Spring Lake: Madison Avenue, Salem Avenue	

The modeled viewshed is an accurate, if somewhat imperfect, representation of actual Project visibility from every location within the Study Area. The light detection and ranging (LiDAR) data that the model is based on represents ground conditions at a single point in time, which may not capture new construction, tree growth, and certain intangibles of the computer-generated imagery that can lead to false positive or false-negative results. To gauge the degree of this occurrence, a sample of 157 properties along the transects listed in **Table 3** was selected for street-level desktop analysis to ground-truth the modeled viewshed. This sample included 104 properties in New Jersey and 53 properties in New York, comprising six NHLs, 26 NRHP-listed properties, 31 NRHP-eligible properties, 93 unevaluated properties, and 1 non-contributing property (COP Appendix Z Attachments Z-1, Z-2, and Z-3 Historic Properties in Offshore AVEHAP PAPE). In general, this exercise confirmed the overall accuracy of the model while indicating that some individual properties within the PAPE are likely to have only partial or rooftop views. As distance from the shoreline increases, the predominant Project view becomes those from rooftops or upper stories in tall buildings. Increased distance also lessens direct associations with maritime settings and introduces previously altered foreground viewsheds that represent only small, incremental change compared with existing conditions. The ground-truthing indicated that the portion of the PAPE with the clearest views of the ocean in the direction of the Project tends to extend from the shoreline inland a distance of approximately 0.3 to 0.5 mi (0.5 to 0.8 km), depending on location. Sections of the Ronkonkoma and Harbor Hill terminal moraines on Long Island, and the bedrock-cored hills of Washington Heights in Manhattan and High Bridge section in the Bronx, have been identified as containing historic and architectural properties with attenuated, or partial Project views.

Coastal New York and New Jersey are areas with extensive historical value and a tradition of historical commemoration resulting in numerous cultural resources that are listed in and determined to be eligible for the NRHP (i.e., historic properties), some within the recommended Offshore and Onshore PAPEs. The AVEHAP

focuses on historic properties and architectural properties within the Offshore and Onshore PAPEs that may be affected by the construction and operations of the Project. Each AVEHAP PAPE is defined as the area in which there may be visibility of the Project. Historic properties are defined as properties listed on the NRHP or determined NRHP-eligible. Architectural property is the term used here to denote an above-ground building, structure, or object, 50 years old or older, that has not been evaluated for NRHP eligibility.

The historic and architectural properties that have views of the Project within the Study Area include those situated at or near sea level in proximity to the shoreline, as well as some located at a distance from the ocean shoreline and consisting of tall buildings or structures situated on elevated terrain. The Study Area contains elevated terrain in several locales, including the Atlantic (Navesink) Highlands in Monmouth County, New Jersey, the Ronkonkoma and Harbor Hill moraines that form the east-west ridge of hills on Long Island, and bedrock formations in northern Manhattan. Historic and architectural properties with tall elevations or located on elevated terrain would possess somewhat strongly attenuated Project views where integrity of the foreground historic viewshed is already substantially altered such that addition of wind turbines in the background represents a small, incremental change relative to existing conditions. In contrast, properties proximal to the ocean would be likely to have views of the Project that are direct and unmediated by foreground or middleground vistas of the built-environment, vegetation, or topography. Properties proximal to the ocean, which may have unmediated views and maritime settings, would be most susceptible to adverse effects caused by view of Project construction and operations, and therefore, such properties received the focus of attention in the AVEHAP. Properties with elevated viewpoints, primarily located in Lower and midtown Manhattan, are the focus of discussion in this Phased Identification Plan. This plan also discusses other portions of the PAPE (e.g., portions of New Jersey) that contain properties that have not been assessed on an individual basis.

3.0 PHASED IDENTIFICATION

3.1 Scope of Phased Identification

As previously stated in Section 2, a viewshed analysis and historic properties assessment has already been completed for much of the PAPE. In addition, individual analysis of properties in Manhattan and the Statue of Liberty has also been completed. However, individual analysis of properties in portions of the PAPE, including Monmouth County, New Jersey, and portions of Ocean and Middlesex counties, New Jersey, has yet to be completed. **Figure 2** and **Figure 3** show the properties for which identification has been completed. **Figure 4** shows an overview of which portions of the PAPE in New Jersey will be analyzed according to this Phased Identification Plan. **Attachment 1** provides 1:24,000-scale maps of the portions of the PAPE in New Jersey that will be analyzed according to this Phased Identification Plan. Detailed maps of the entire Offshore AVEHAP PAPE and individual properties can be seen at 1:24,000 scale in **Attachments 2** and **3**.

The total number of parcels within the Offshore AVEHAP PAPE in New Jersey is 54,545. Therefore, an approach to filtering this population of properties is necessary to focus further effort on properties that may require individual evaluation. Tetra Tech's approach to phased identification in New Jersey will be based on an approach outlined in a Project overview letter, dated December 13, 2018, that Tetra Tech submitted to the NJ HPO. This letter summarized the approaches to be taken for marine archaeological, terrestrial archaeological, and historic properties assessments. As described, the approach for historic properties visual effects assessment assumed that:

> "The actual APE for historic architecture is anticipated to be within 0.5 km (0.3 mile) of shorelines within the Visual Study Area [then, a 35-mi radius from the Lease Area; currently a 40-mi radius] where at least the hub of the turbines and above are visible. Properties most likely to be affected within the APE would likely comprise aboveground cultural resources listed in, eligible to, or potentially eligible

> to the NRHP that are associated with maritime settings. These cultural resources would be the focus of inventory and evaluation by the team's architectural historian."

On January 8, 2019, NJ HPO concurred with this approach (**Attachment 4**). Subsequent ground-truthing of the viewshed model, described above in Sections 2.1 and 2.2, indicated that actual Project visibility may extend further than 0.3 mi (0.5 km) in some locations, to approximately 0.5 mi (0.8 km) landward from the shoreline. Therefore, the geographic scope of phased identification will be broadened to match this approximate zone of actual Project views and to capture historic properties situated on elevated terrain in the Atlantic Highlands area of Monmouth County (**Figure 4**).

The NJ HPO LUCY database was queried to identify historic and architectural properties that have already been inventoried. Data acquired from LUCY identified 6,087 historic properties within 0.5 mi of shore, of which 751 properties are within the PAPE. The breakdown of properties from LUCY by NRHP status includes:

- 1 National Historic Landmark (Twin Lights)
- 1 National Historic Landmark District (Fort Hancock and Sandy Hook Proving Ground Historic District)
- 15 Listed properties
- 428 Listed, Contributing Resources
- 12 Eligible properties
- 75 Eligible, Contributing Resources
- 159 Identified Unevaluated properties

Parcel data from New Jersey county databases were also queried to identify unevaluated properties that may potentially be eligible for listing on the NRHP. Acquisition of Monmouth County parcel data from the Monmouth County Open Public Records Search System (OPRS) identified 19,353 parcels within 0.5 mi of shore that had build dates of 1972 or older, or, where build dates were blank, were assumed to be 50 years old or older; of these parcels in Monmouth County, 5,416 are located within the PAPE (**Table 4**). Middlesex County parcel data also available from OPRS identified 2,961 parcels within the PAPE that had build dates of 1972 or older or where build dates were blank, 813 of which are within 0.5 mi of shore. Ocean County parcel data identified 7,385 parcels within the PAPE that had build dates of 1972 or older or where build dates were blank, 3,392 of which are within 0.5 mi of shore. The total number of parcels in the New Jersey portion of the PAPE within 0.5 mi of shore that had build dates of 1972 or older or where build dates were blank is 9,621 (**Table 4**). It is assumed that the properties identified in the LUCY database are also included in the county parcel data.

Table 4 Counts of Parcels in New Jersey Considered for Analysis through Phased Identification

Category	Count
Parcels within the Offshore AVEHAP PAPE in New Jersey within 0.5 miles of shore and 50 years old or older in Monmouth County	5,416
Parcels within the Offshore AVEHAP PAPE in New Jersey within 0.5 miles of shore and 50 years old or older in Middlesex County	813
Parcels within the Offshore AVEHAP PAPE in New Jersey within 0.5 miles of shore and 50 years old or older in Ocean County	3,392
TOTAL	**9,621**

Those parcels in New Jersey that could be characterized as associated with maritime settings constitute a subset of the 9,621 parcels within 0.5 miles of shore and 50 years old or older within the PAPE and are estimated to number approximately 1,000 based on an initial review of current aerial imagery. The number of recorded historic properties with maritime settings is estimated around several hundred, of which many would be contributing resources to historic districts. Generally, contributing resources to districts would not be individually documented for eligibility status or for assessment of effects, but would be subsumed under an evaluation of each district as a whole. In addition, it is a reasonable assumption that of the roughly 1,000 parcels exhibiting a maritime setting, only a small percentage, perhaps less than 10 percent, would possess qualities of significance that would justify their eligibility for listing in the NRHP. Thus, the number of properties that would need to be assessed for potential effects arising from Project construction and operation is estimated to be on the order of 100 to 200. The precise number of properties in New Jersey requiring such an assessment, including intensive survey, will be determined through initial field investigations prior to intensive level surveys, as described in Section 3.2.

In the Borough of Manhattan, New York City, the modeled viewshed indicated that 149 listed or eligible historic properties would have a view of the Project (**Figure 5**). Street-level views of the Atlantic Ocean from Manhattan were completely screened by the intervening landmass of Brooklyn, in particular the ridges of the Ronkonkoma terminal moraine, and thus would be considered outside the PAPE. However, Manhattan's spatial dimension is also vertical; therefore, Project views were anticipated, and were modeled to be present, from elevated perspectives among the many tall buildings that are clustered in lower and midtown Manhattan, as well as from some locations as far as Washington Heights in northern Manhattan. Given the number and density of unevaluated architectural properties in Manhattan, Tetra Tech recommended that only previously recorded historic properties be included in any survey to be undertaken there. While the PAPE encompasses many unevaluated (and therefore, potentially eligible) properties, it appeared unlikely that the Project would result in adverse effects to any Manhattan building or structure because, in general, their character-defining features are not tied to an area of significance, such as seaside recreation or maritime history, that would be altered or diminished by the introduction of the Project into their historic viewsheds. The methods for evaluating these 149 historic properties in Manhattan are described in Section 3.2.

The Statue of Liberty also received an individual assessment of effects, per a request from the National Park Service.

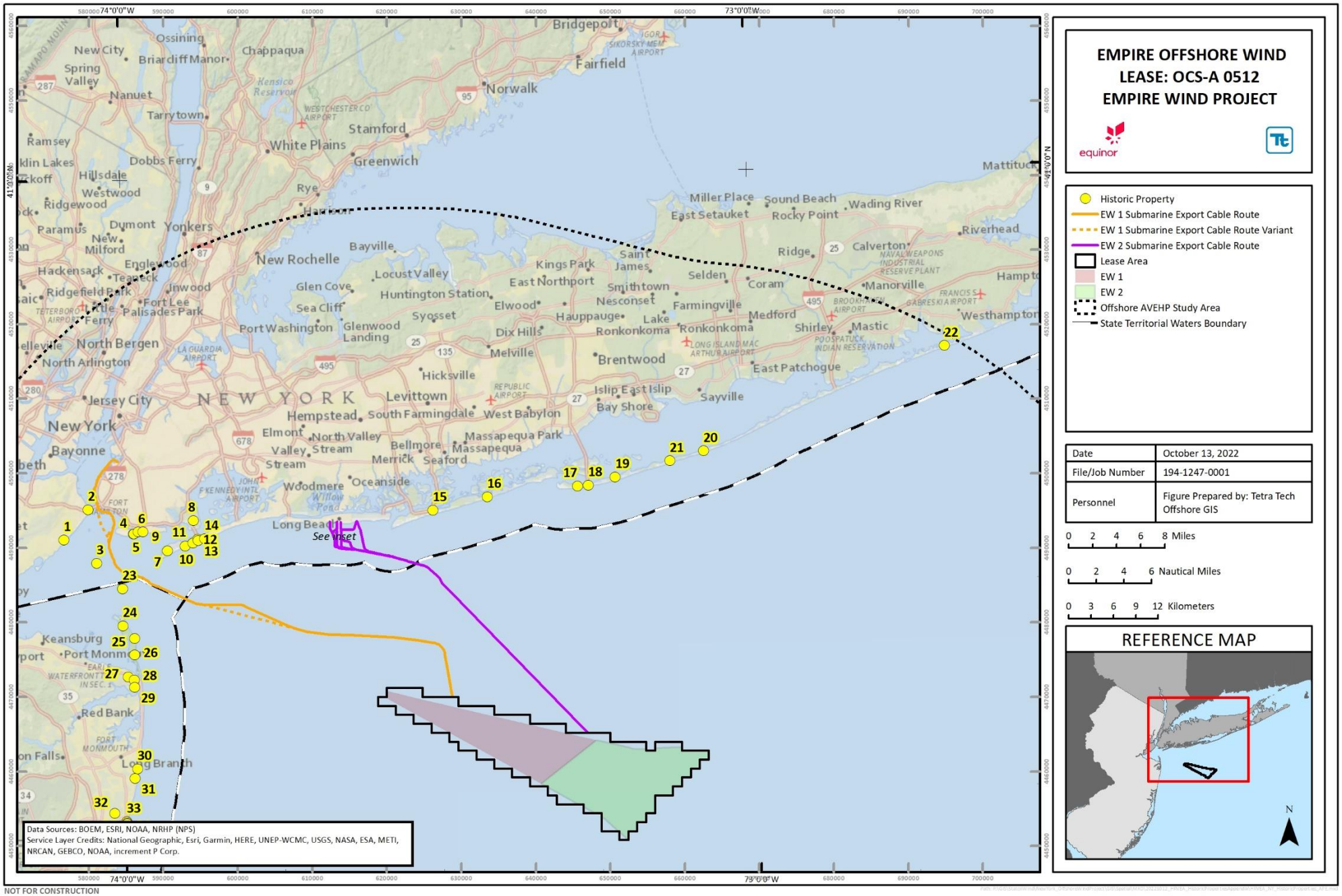

Figure 2 Identified Historic and Architectural Properties within the Offshore AVEHAP PAPE in New York

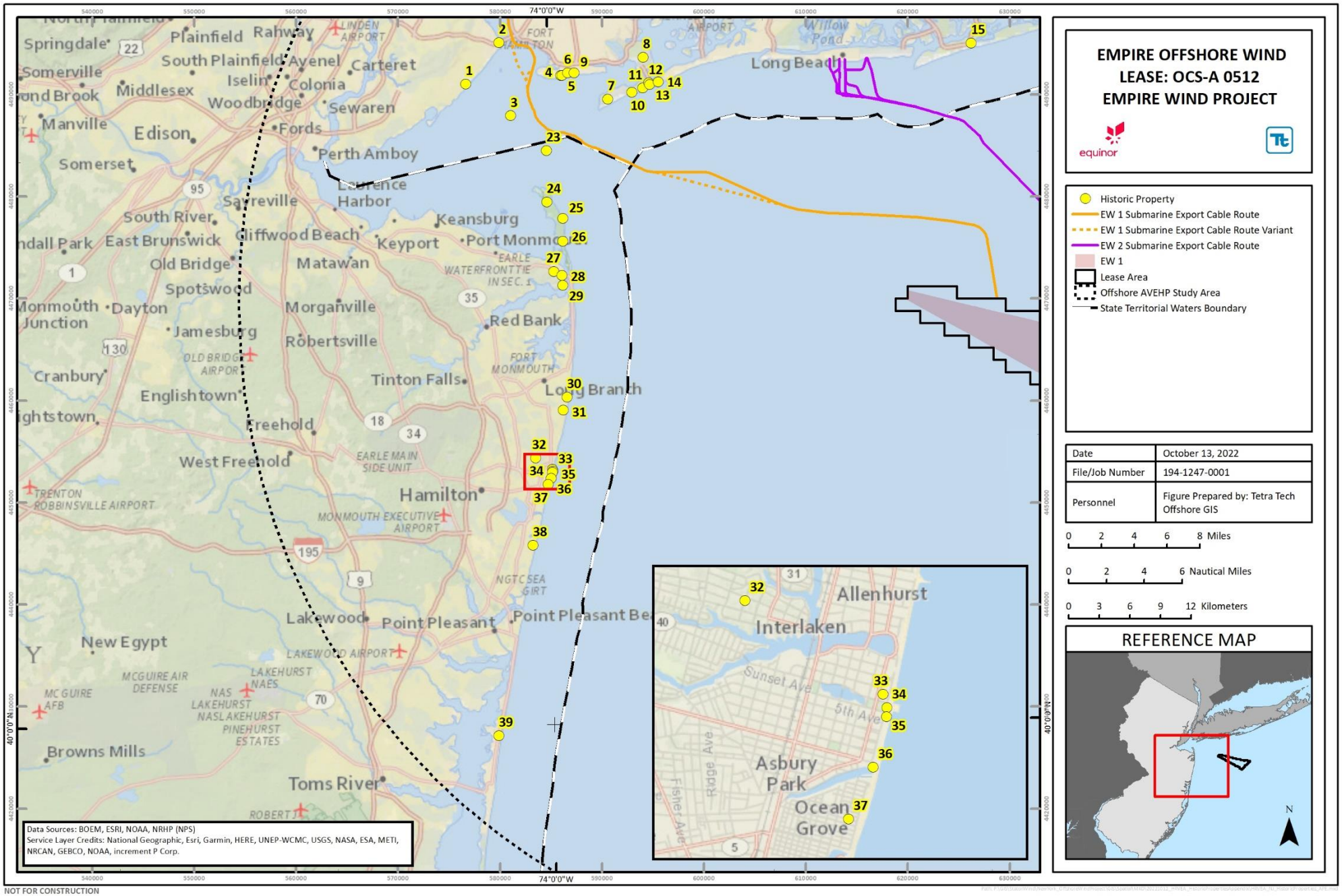

Figure 3 Identified Historic and Architectural Properties within the Offshore AVEHAP PAPE in New Jersey

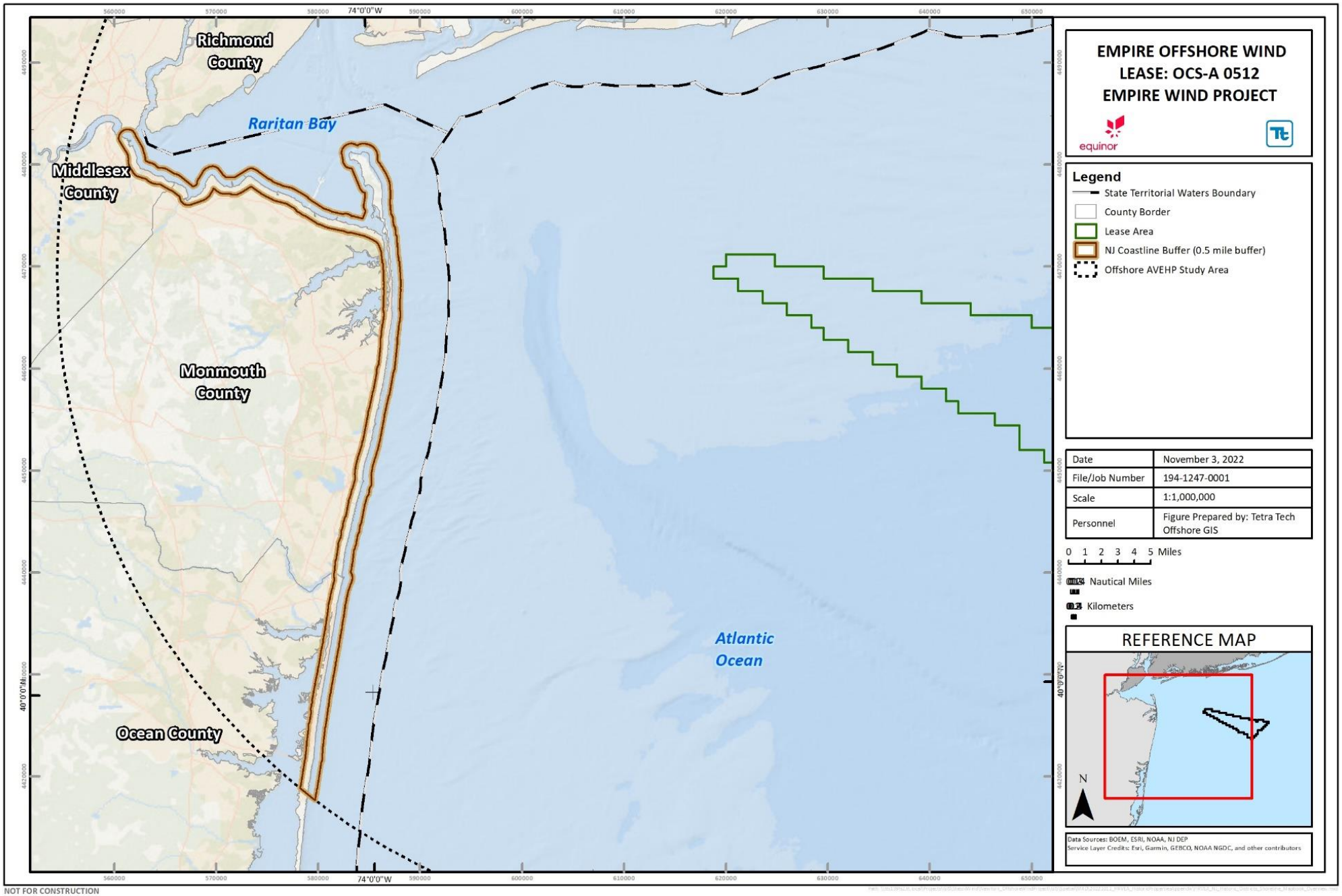

Figure 4 Overview of Portions of the PAPE in New Jersey to be Analyzed through Phased Identification

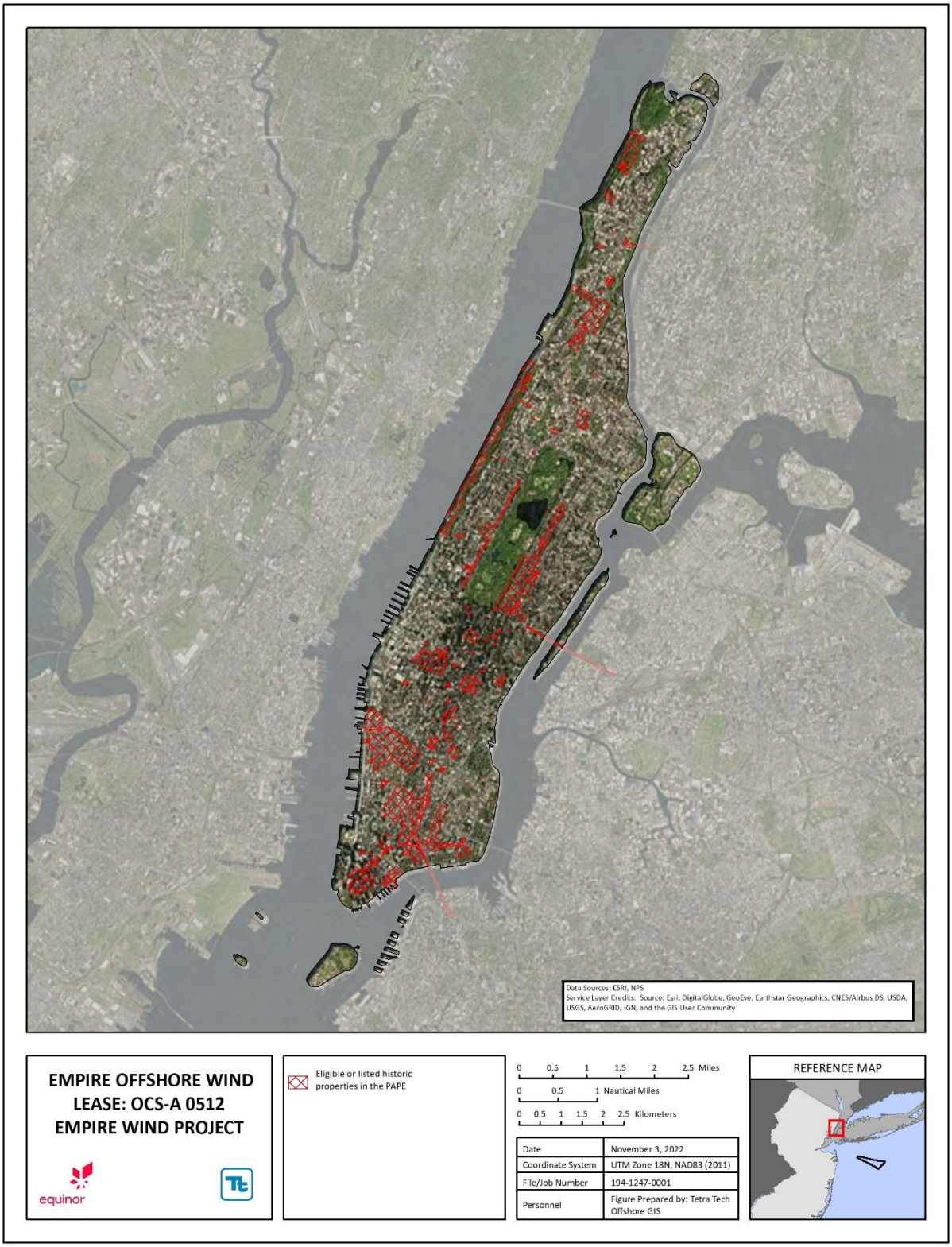

Figure 5 Portions of the PAPE in Manhattan to be Analyzed through Phased Identification

3.2 Additional Studies

To accurately determine the scale of adverse effects (if any) to the properties not yet assessed, additional historic resource surveys were required. The surveys were undertaken in accordance with:

- BOEM's Guidelines for Providing Archaeological and Historic Property Information Pursuant to 30 CFR Part 585 (BOEM 2020);
- The Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation, as amended (48 Federal Register 44716);
- The New York State Historic Preservation Act of 1980 (Section 14.09), for properties in New York; and
- The NJ HPO Guidelines for Architectural Survey, for properties in New Jersey.

Under this Phased Identification Plan, the surveys consist of an intensive level historic resources survey in New Jersey and an additional visual impact assessment in the Borough of Manhattan. The Supplemental Visual Impact Assessment in Manhattan occurred in January through February of 2023 (after publication of the Draft Environmental Impact Statement) and the results were presented in March 2023. The results of the intensive level survey in New Jersey will be provided post-ROD. Empire coordinated with the NY SHPO on the Manhattan survey and is coordinating with the NJ HPO on the New Jersey survey.

3.2.1 Phase I: Preliminary Field Investigation

To narrow down the 9,621 historic and architectural properties in the New Jersey portion of the PAPE within 0.5 mi of shore to a reasonable number for individual evaluation, Tetra Tech conducted initial field visits to delineate portions of the PAPE that exhibit low potential for the presence of significant historic properties. Conditions that might indicate low potential for the presence of significant historic properties in a locale include the loss of integrity due to alterations in fabric, footprint, or design, the absence of distinctive architectural features or known historical associations, and the presence of common, or typical building forms that have been recorded elsewhere in the vicinity and that do not represent significant additions to the archived dataset of properties maintained by HPO. The field visits will also be utilized to ground-truth the modeled viewshed and delineate locales that do not contain actual Project views. Identifying locales that can be appropriately excluded from intensive level survey either because of the absence of significant properties or an absence of actual Project views are expected to reduce the number of properties that need to be surveyed at the intensive level.

3.2.2 Phase II: Supplemental and Intensive Level Surveys of PAPE

Tetra Tech will undertake intensive-level surveys of historic and architectural properties associated with maritime settings occurring within the New Jersey portion of the PAPE within 0.5 mi of shore, with the exclusion of locales identified in Phase I.

The Supplemental Visual Impact Assessment in Manhattan included all 149 listed or eligible historic buildings identified within the PAPE. These identified properties were field visited and photographed, with documentation of exterior conditions, integrity, material fabric, settings, and other considerations of physical appearance and cultural associations. The Supplemental Visual Impact Assessment of the 149 listed or eligible historic buildings in Manhattan required access to a viewpoint from an upper floor of the building. In the event that Tetra Tech was unable to gain access to a building during the survey, a proposed alternate procedure was used. The alternative procedures are described below in Section 3.2.6 *Phase IIa, IIIa, and IVa: Alternative Survey Methods.*

3.2.3 Phase III: Evaluation of NRHP Eligibility

Documented properties are evaluated for initial NRHP eligibility if not yet determined, or for possible changes in their established eligibility resulting from modifications to their fabric or setting that would substantially alter their character-defining features and diminish or eliminate their significance as historic resources.

3.2.4 Phase IV: Assessment of Project Effects

Each documented property is then assessed for potentially adverse effects due to the introduction of the Project into its viewshed. Photographs taken from the building viewpoints toward the Project are compiled to create a panoramic view towards the Project area. Turbines are then digitally rendered into the panoramas to achieve an accurate prediction of the viewshed with the proposed Project layout. In addition, analyses are run to determine the visibility of the Project during different stages of daylight and weather patterns. These visual simulations help demonstrate the range at which views of the Project would be faint or no longer visible. For example, the actual range of visual impacts may be less than the 40-mi Study Area, depending on the height of the viewpoint. At a range where views of the Project are faint or no longer visible, properties would not experience an adverse effect. These additional visual simulations help demonstrate why it may not be necessary to survey historic properties past a certain distance, including taller properties or those with elevated views.

For example, Tetra Tech produced visual simulations using photographs from the 102nd floor of the Empire State Building, which is the highest viewpoint from a historic property in the Study Area (**Attachment 5** Visual Simulations from the Empire State Building and Statue of Liberty Pedestal). Any view of the Project from buildings shorter than the Empire State Building or farther from the Project would be expected to be harder to discern than views from the Empire State Building. Such views, where integrity of the foreground historic viewshed is already substantially altered such that the introduction of the Project in the background viewshed, would represent only small, incremental changes relative to the existing conditions and would, likely, not be considered to embody adverse effects to the resource. Visual simulations from the pedestal of the Statue of Liberty, which stands 154 feet above ground level, demonstrate that the foreground completely obscures any view of the Project from this viewpoint (**Attachment 5**) and suggest that views from other historic architectural properties of equal or lesser height may be similarly obscured and therefore may not merit individual evaluation. The view from the crown of the Statue of Liberty was evaluated using visual simulations and considered in the assessment of effects on this property.

3.2.5 Phase V: Reporting

The results of the historic resources survey in New Jersey and the Supplemental Visual Impacts Assessment in Manhattan will be compiled into two separate, formal reports. Components of the reports will include:

- Description of the undertaking;
- Overview of previous surveys and reports completed to that point;
- Brief cultural and topographical history of the area surveyed;
- Review of field survey and methods;
- All known historic resources within the PAPE will be identified by name and location;
- Recommendations regarding the eligibility of previously unidentified resources; and
- Report of each building including a historical background, architectural description, reassessment of NRHP eligibility, assessment of visual impacts, and a recommendation as to adverse effects. Relevant photographs, figures, and simulations will also be included.

The NPS maintains the NRHP and defines four criteria for evaluating a cultural resource to be eligible to the NRHP. A cultural resource must meet at least one of the criteria for NRHP eligibility listed below.

The quality of significance in American history, architecture, archeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and:

A. That are associated with events that have made a significant contribution to the broad patterns of our history;
B. That are associated with the lives of persons significant in our past;
C. That embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
D. That have yielded, or may be likely to yield, information important in prehistory or history (NPS 1997).

In addition to meeting at least one of the criteria, a property must also retain sufficient integrity to convey its significance. Integrity is assessed on the following aspects: location, design, setting, materials, workmanship, feeling, and association (NPS 1997).

3.2.6 Phase IIa, IIIa, and IVa: Alternative Survey Methods

To gather the most accurate data possible, Tetra Tech attempted to gain access to all privately owned buildings during the surveys. However, access was denied to several buildings during the Manhattan survey. In this case, Tetra Tech used the following alternate survey methods to gather the minimum amount of information needed to determine NRHP eligibility and assess for impacts.

- *Phase IIa and IIIa:* Photographs of the exterior of the building were taken from the public right-of-way and captured as many elevations as possible. Attention was taken to document exterior character-defining features and any recent modifications to the building. Any potentially accessible viewpoints apparent from street level was also documented.
- *Phase IVa:* If there were nearby buildings with similar viewsheds that are publicly accessible, representative photographs were taken from those viewpoints to substitute for the inaccessible building. If no alternative viewpoints were available, Tetra Tech conducted further research to locate relevant imagery available for substitution. If no images were found, Tetra Tech extrapolated available data to create a written viewshed description and assess potential effects based on the information gathered and previous simulations.

3.3 Schedule

The phased identification process began in November 2022 and is still ongoing in New Jersey. Field surveys occurred from December 2022 through March 2023. Data analysis and reporting are complete for the Manhattan survey but are still in process for the New Jersey survey. The results of the Manhattan survey were provided in March 2023 and the New Jersey survey results will be provided post-ROD.

4.0 REFERENCES

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ATTACHMENT 1
MAPBOOK OF PORTIONS OF THE PAPE TO BE ANALYZED IN NEW JERSEY

EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

equinor

Legend

- City
- State Territorial Waters Boundary
- County Border
- NJ Coastline Buffer (0.5 mile buffer)
- Offshore AVEHP Study Area

PAPE (viewshed intensity at 290 m height)

High : 174

Low : 0

Date	November 3, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.1 0.2 0.3 0.4 Kilometers

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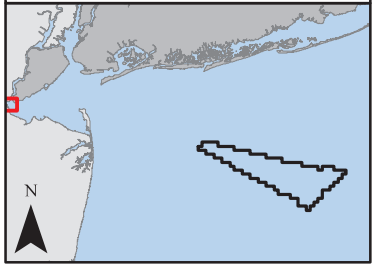

Data Sources: BOEM, ESRI, NOAA, NJ DEP
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

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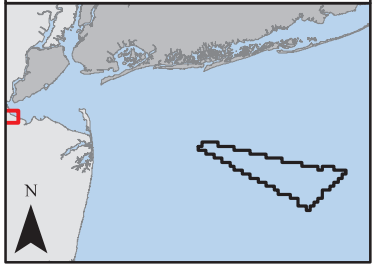

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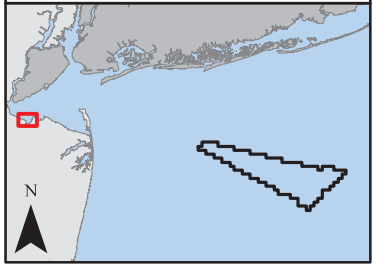

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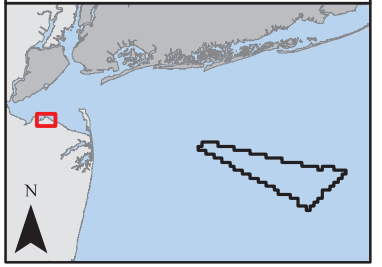

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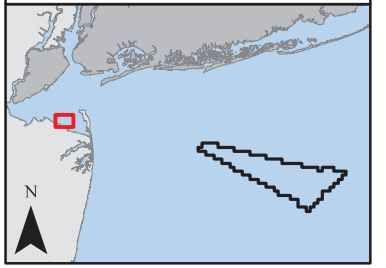

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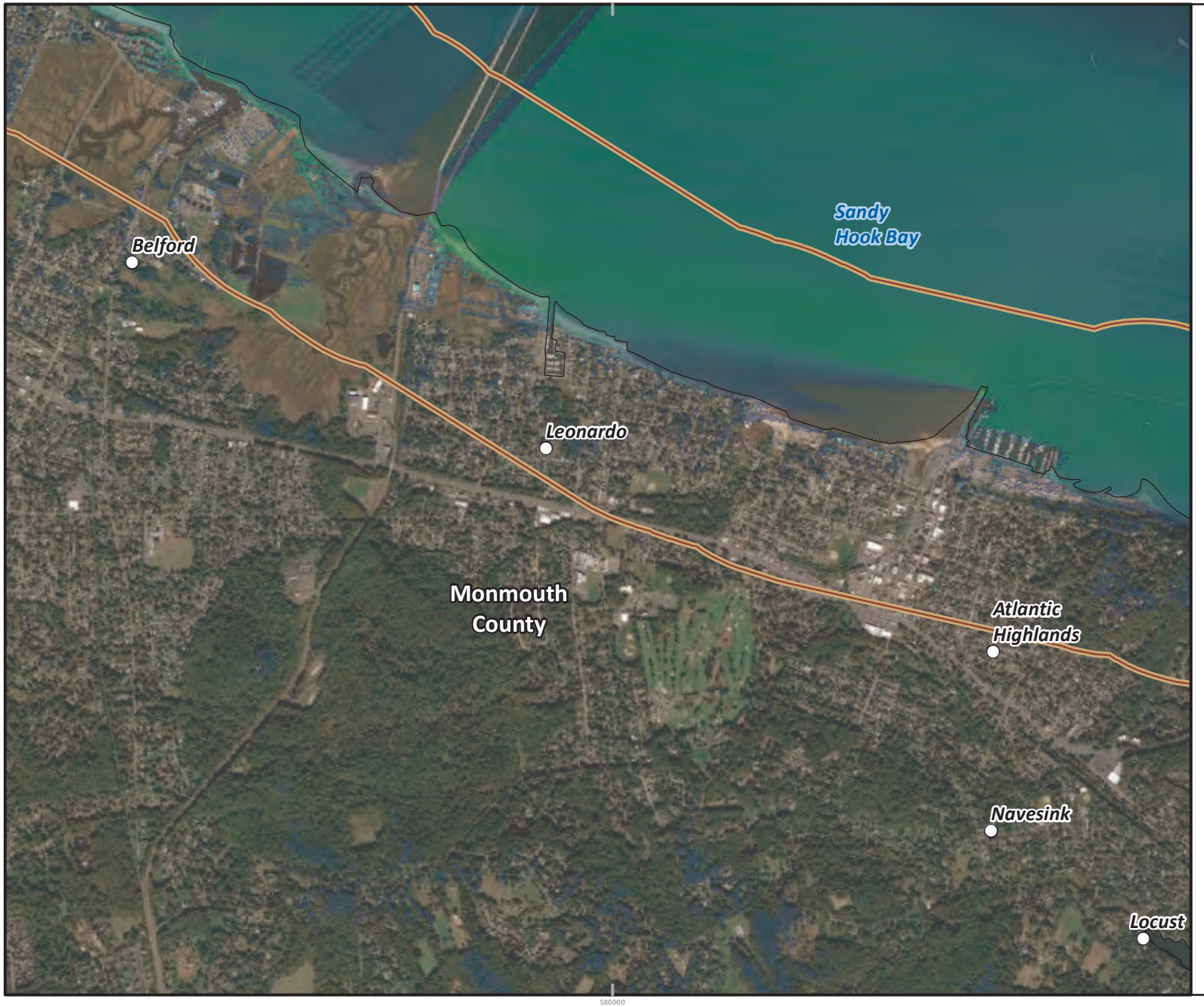

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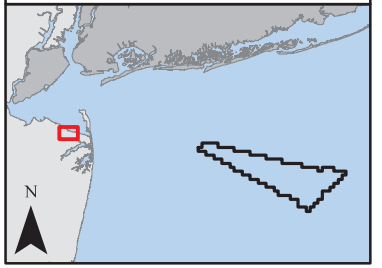

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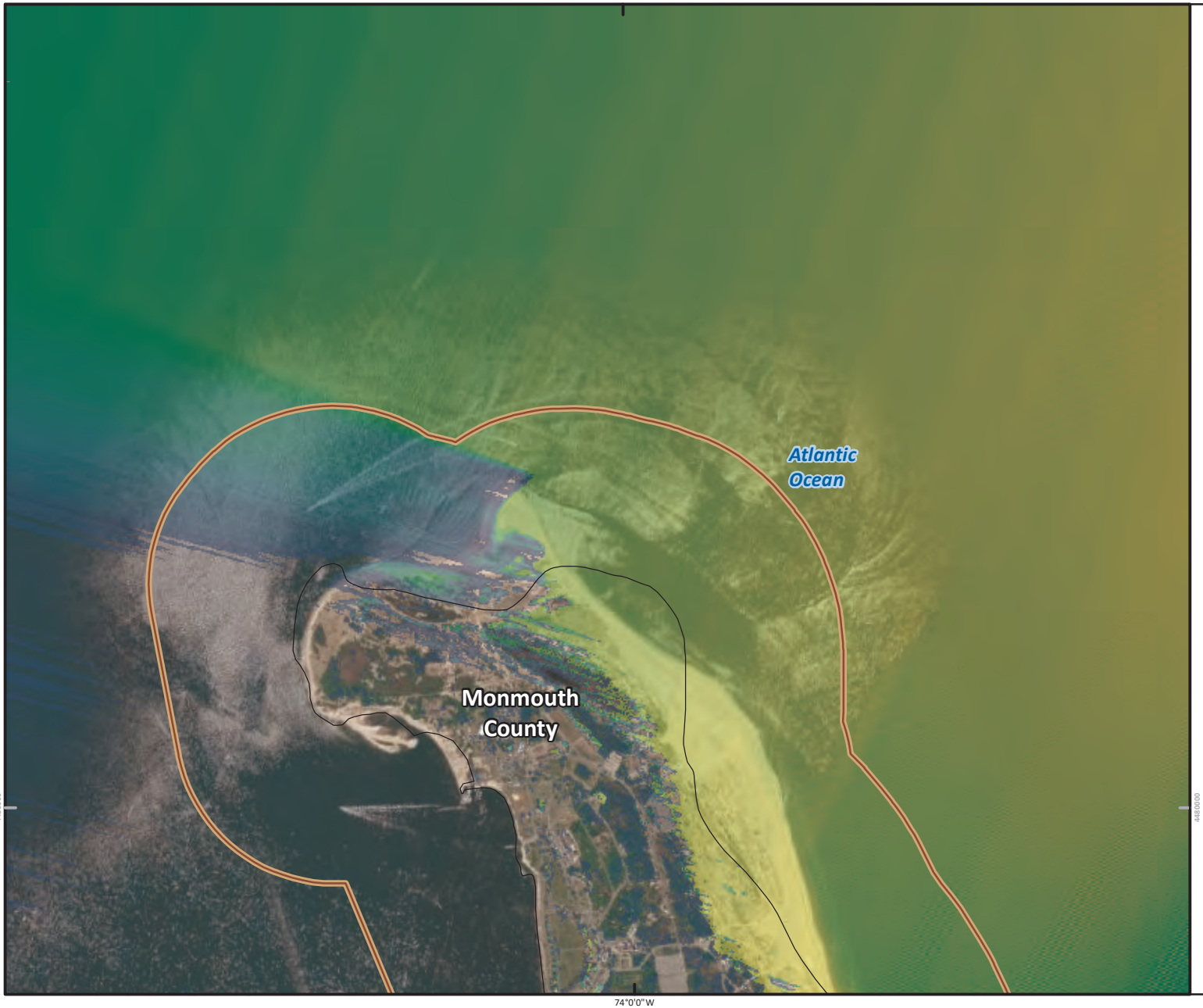

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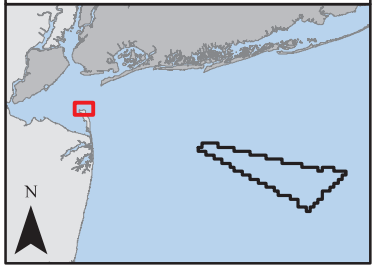

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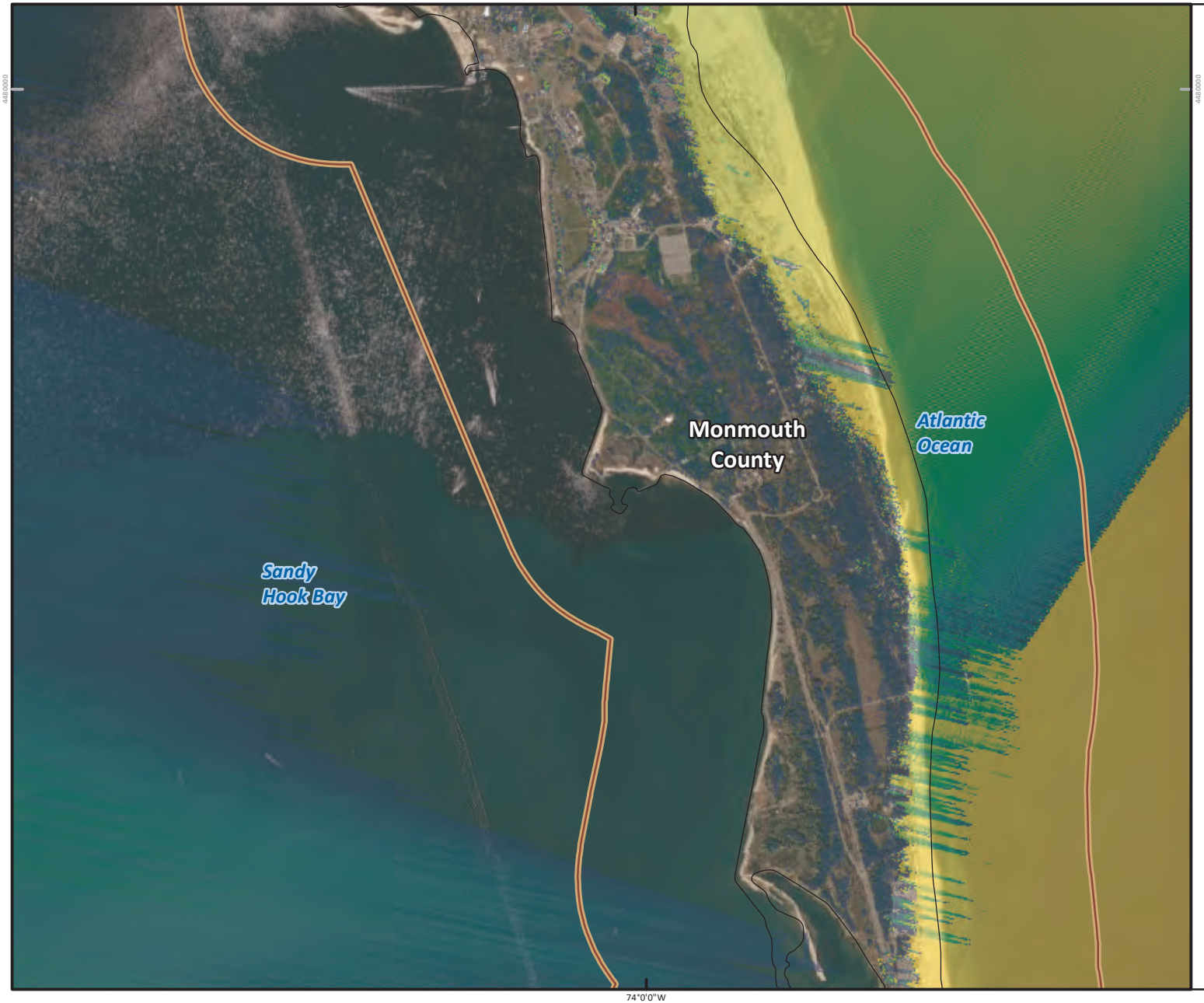

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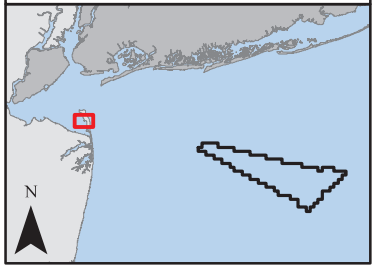

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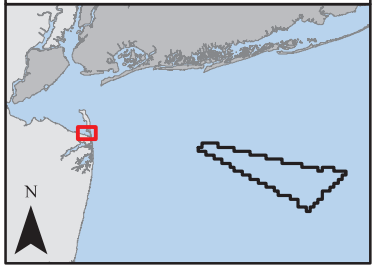

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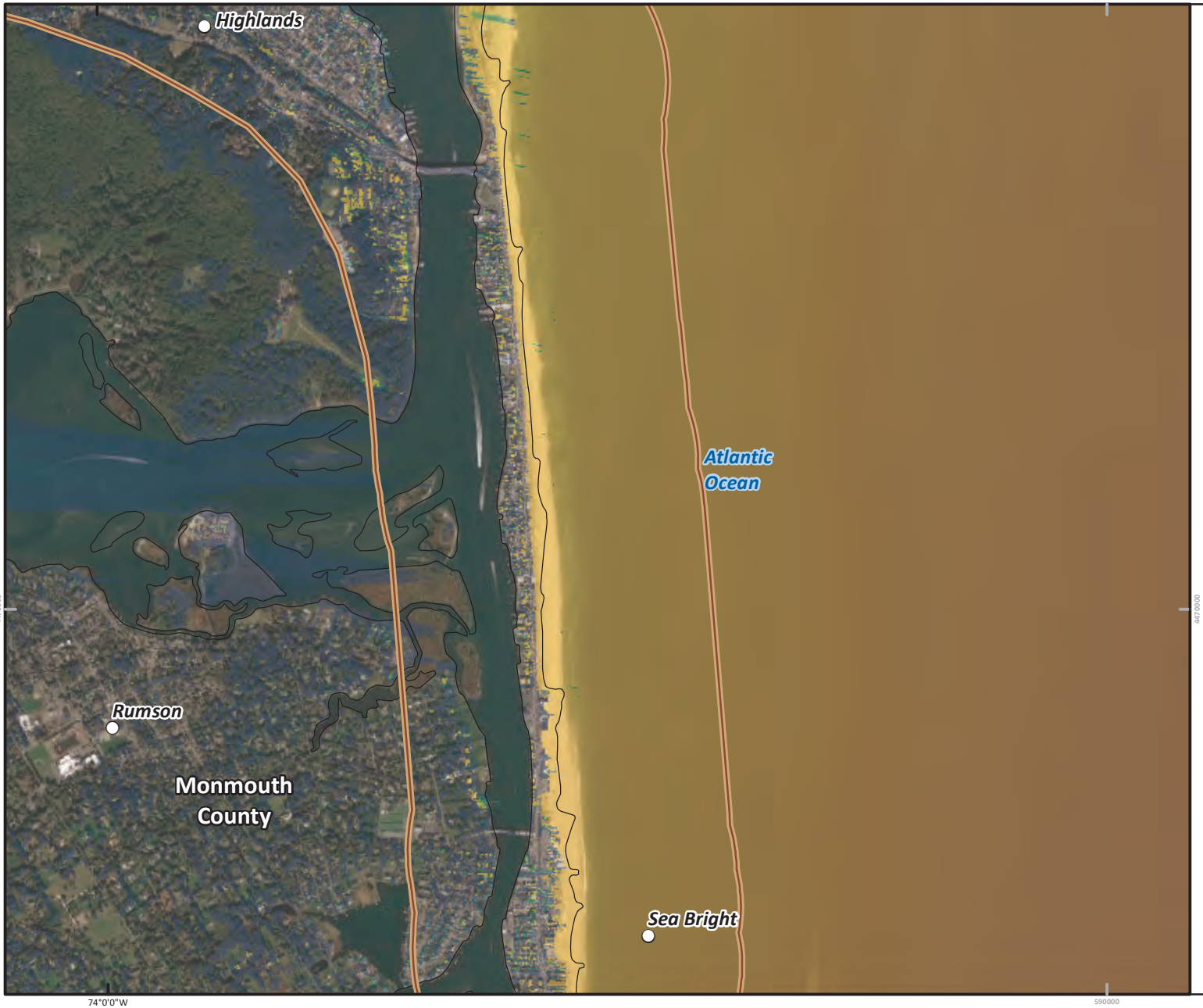

EMPIRE OFFSHORE WIND LEASE: OCS-A 0512 EMPIRE WIND PROJECT

equinor

Legend

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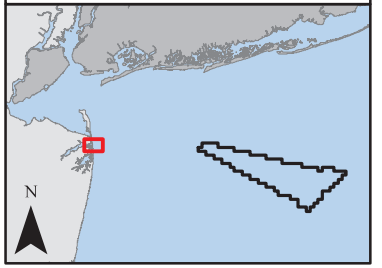

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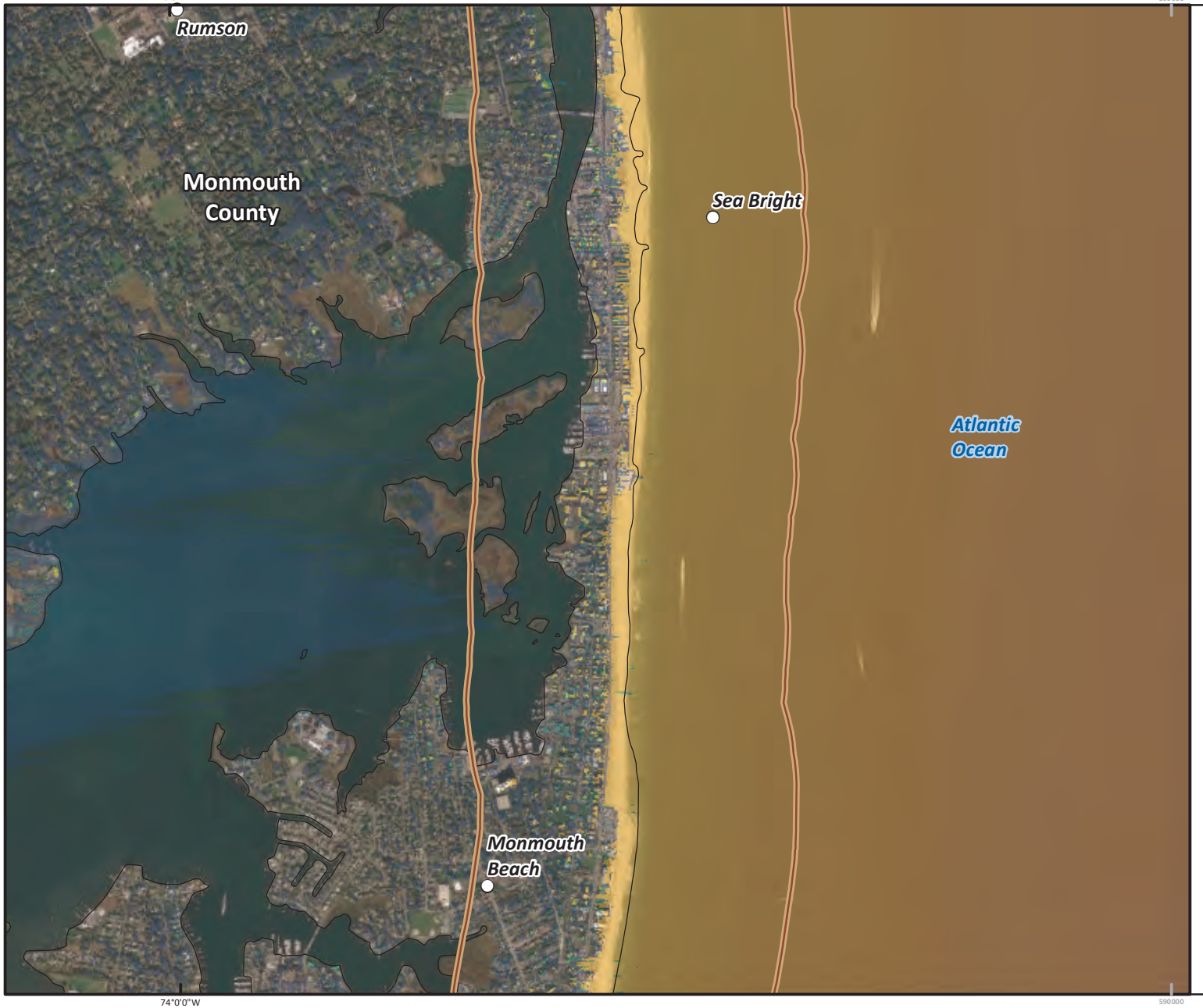

EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

equinor

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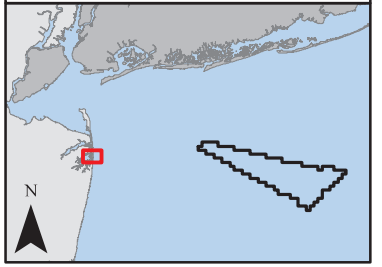

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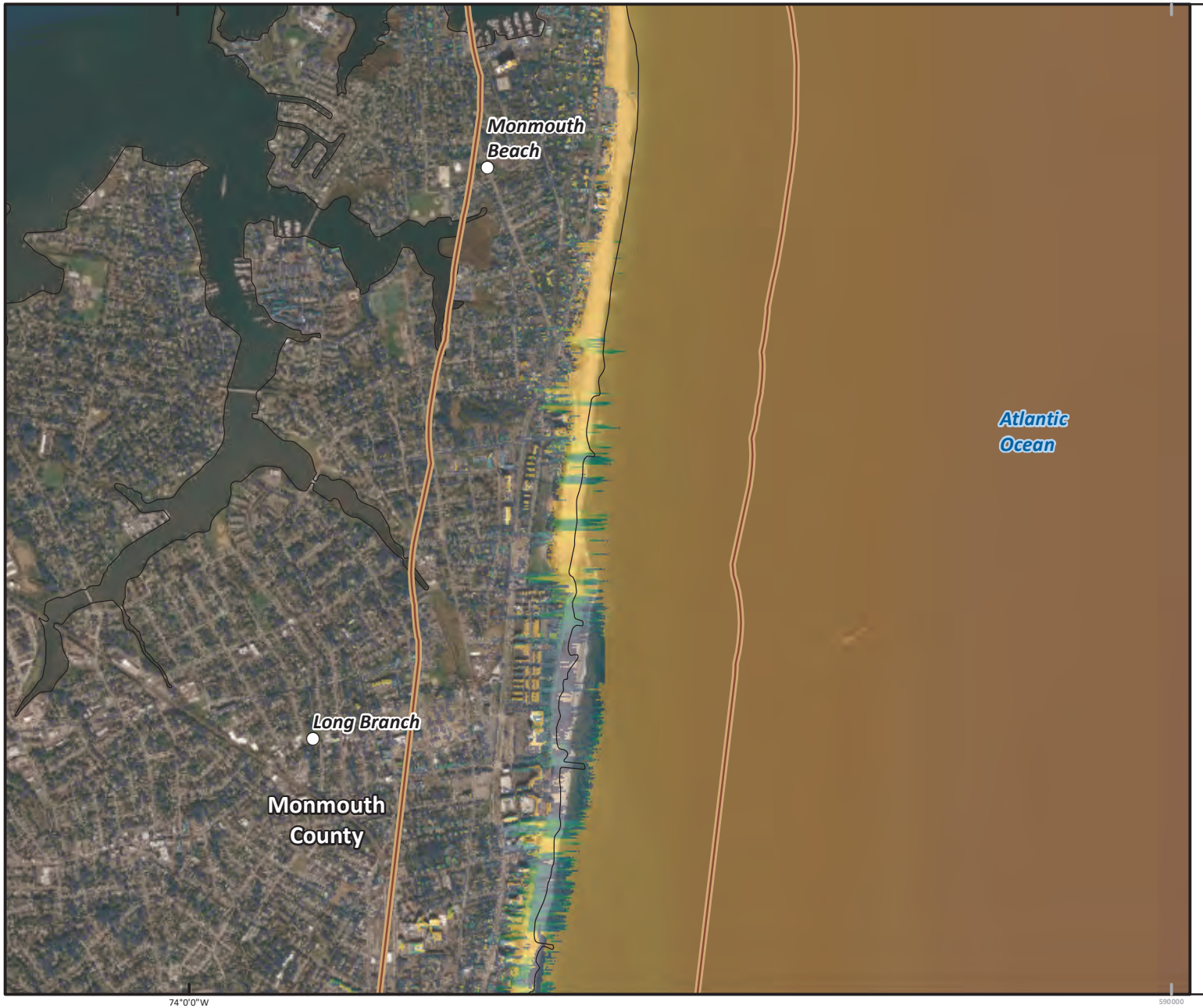

EMPIRE OFFSHORE WIND LEASE: OCS-A 0512 EMPIRE WIND PROJECT

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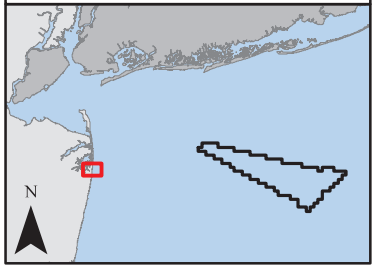

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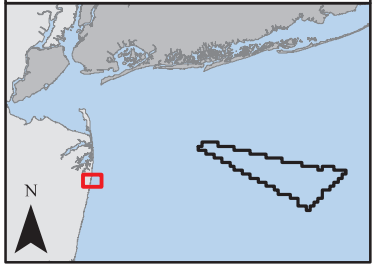

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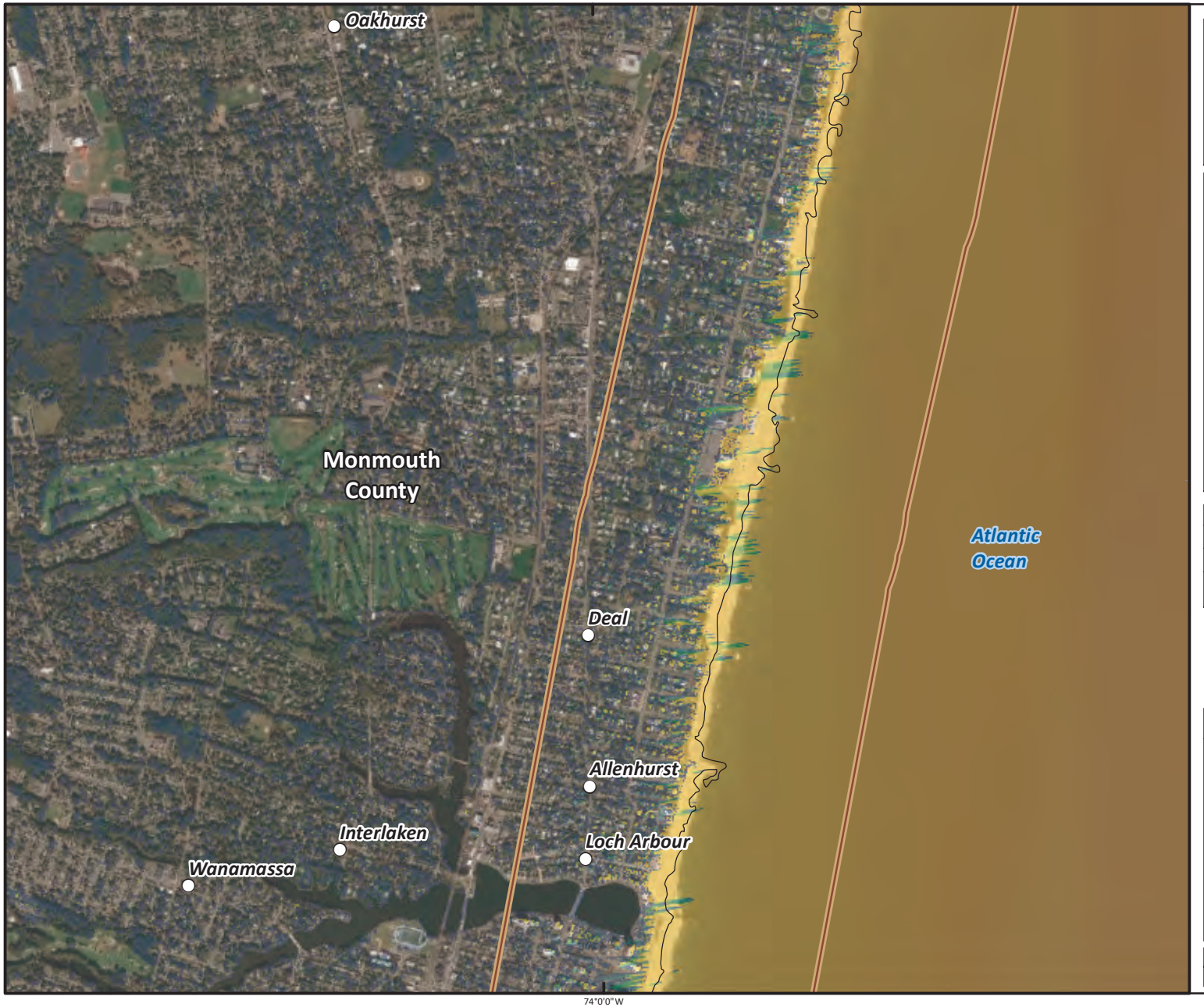

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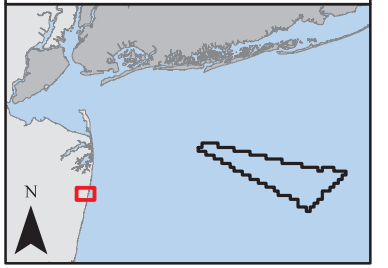
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

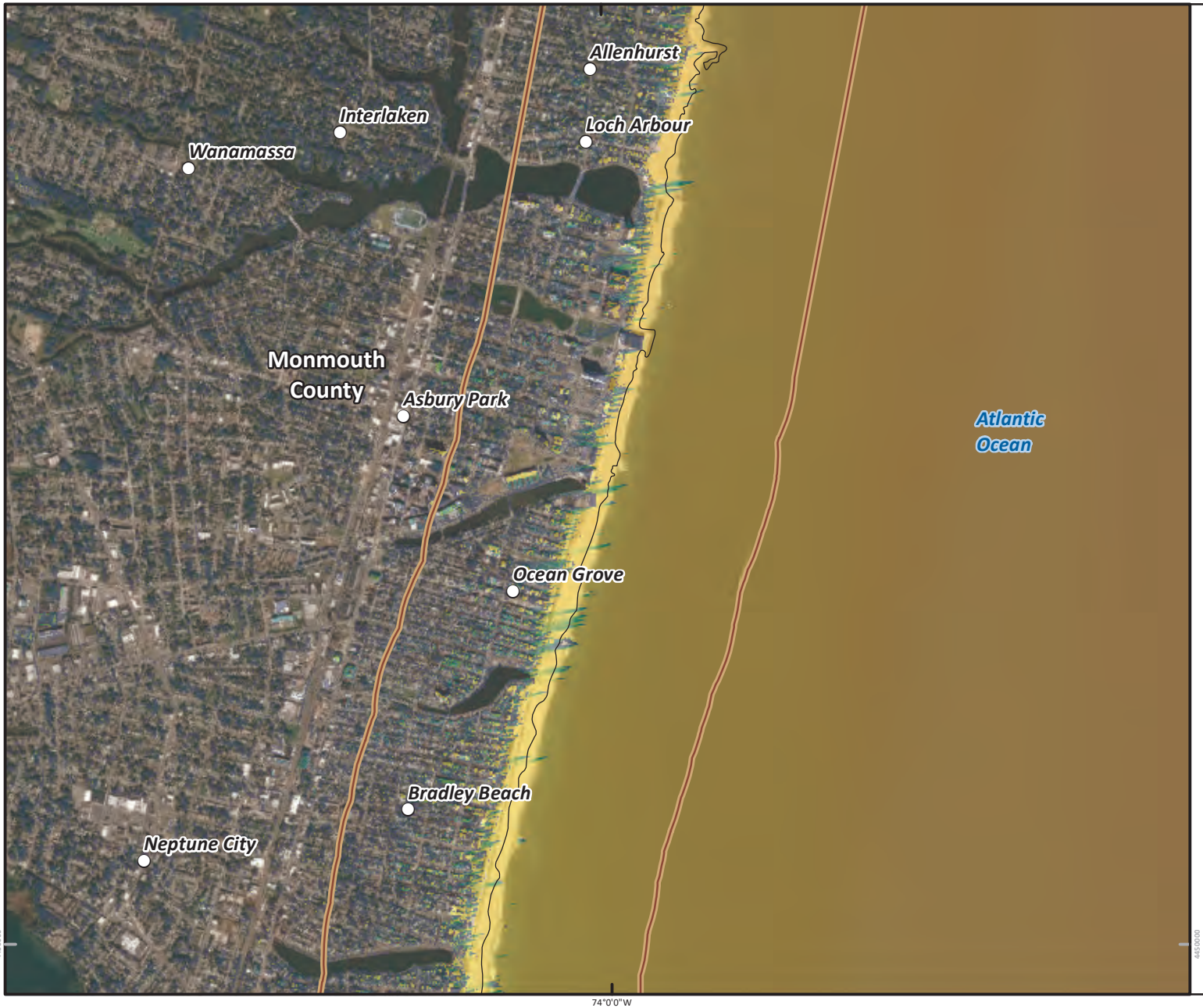
0 0.1 0.2 0.3 0.4 Kilometers

REFERENCE MAP



Data Sources: BOEM, ESRI, NOAA, NJ DEP
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

NOT FOR CONSTRUCTION



EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

equinor

Legend

- City
- State Territorial Waters Boundary
- County Border
- NJ Coastline Buffer (0.5 mile buffer)
- Offshore AVEHP Study Area

PAPE (viewshed intensity at 290 m height)

High : 174

Low : 0

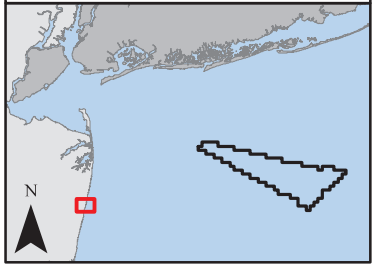
Date	November 3, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.1 0.2 0.3 0.4 Kilometers

REFERENCE MAP



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NOT FOR CONSTRUCTION

EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

equinor

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Low : 0

Date	November 3, 2022
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Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

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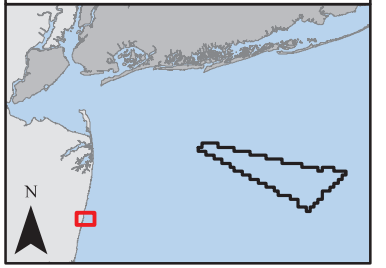
0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.1 0.2 0.3 0.4 Kilometers

REFERENCE MAP



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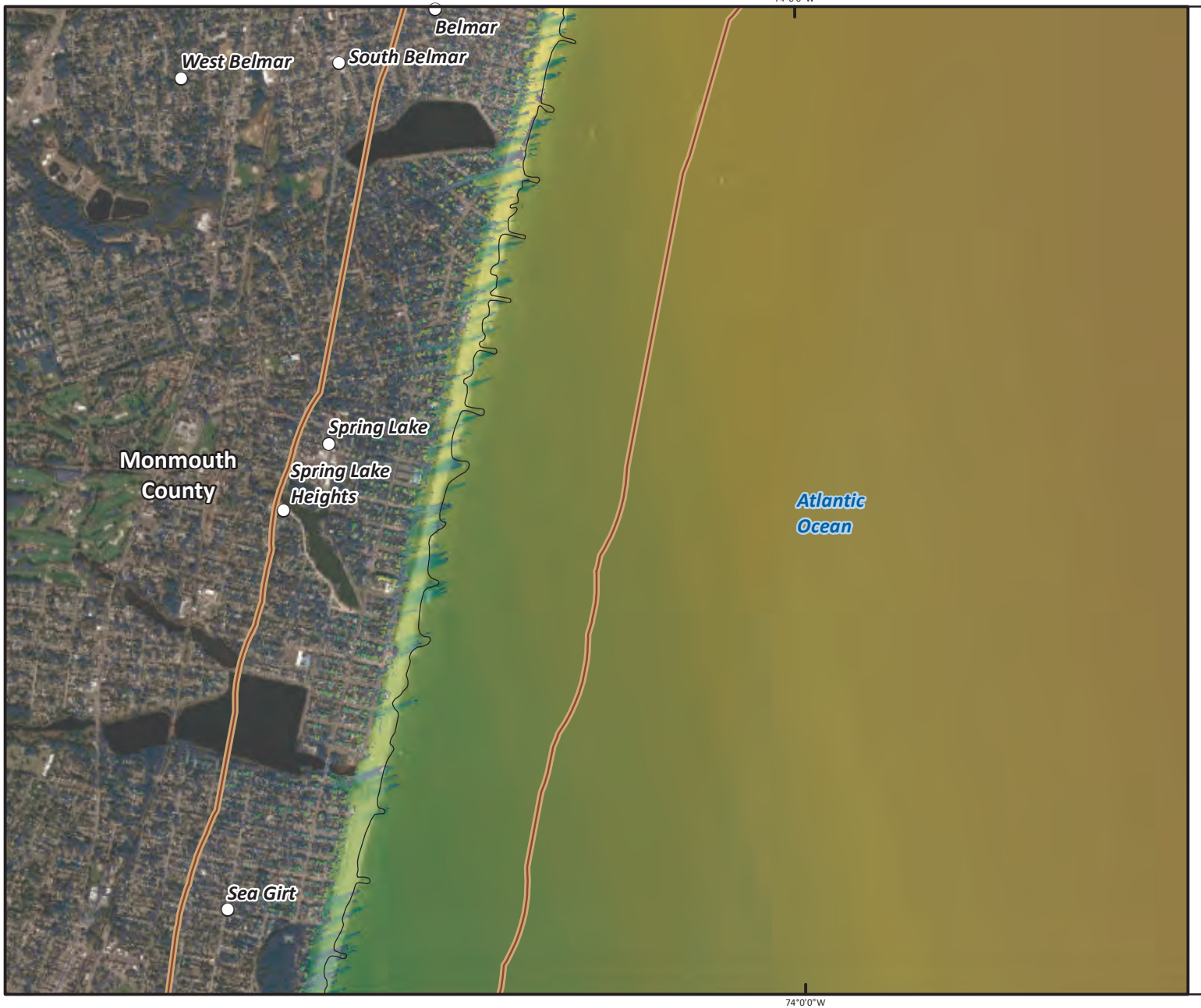

EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

equinor

Legend

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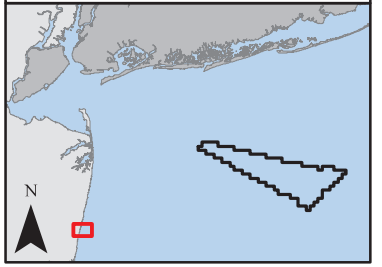
Date	November 3, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.1 0.2 0.3 0.4 Kilometers

REFERENCE MAP



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NOT FOR CONSTRUCTION

EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

equinor

Legend

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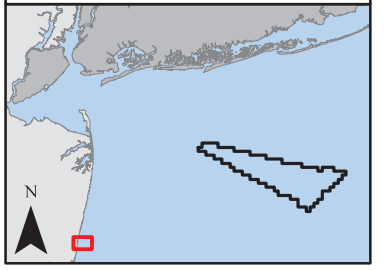
REFERENCE MAP



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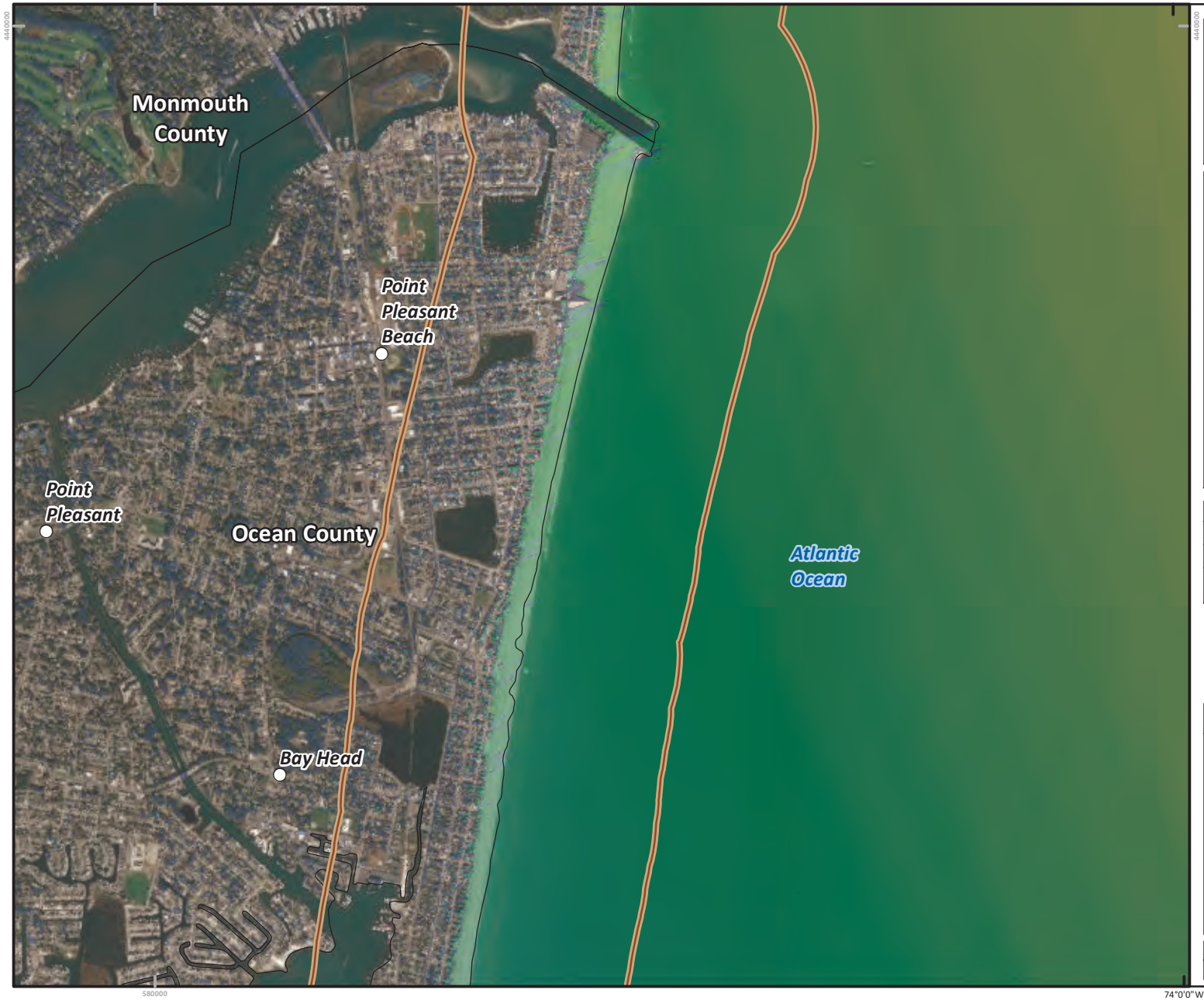
NOT FOR CONSTRUCTION



EMPIRE OFFSHORE WIND LEASE: OCS-A 0512 EMPIRE WIND PROJECT

equinor

Legend

- City
- State Territorial Waters Boundary
- County Border
- NJ Coastline Buffer (0.5 mile buffer)
- Offshore AVEHP Study Area

PAPE (viewshed intensity at 290 m height)

High : 174

Low : 0

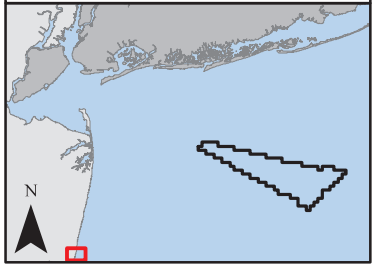
Date	November 3, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.1 0.2 0.3 0.4 Kilometers

REFERENCE MAP



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Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

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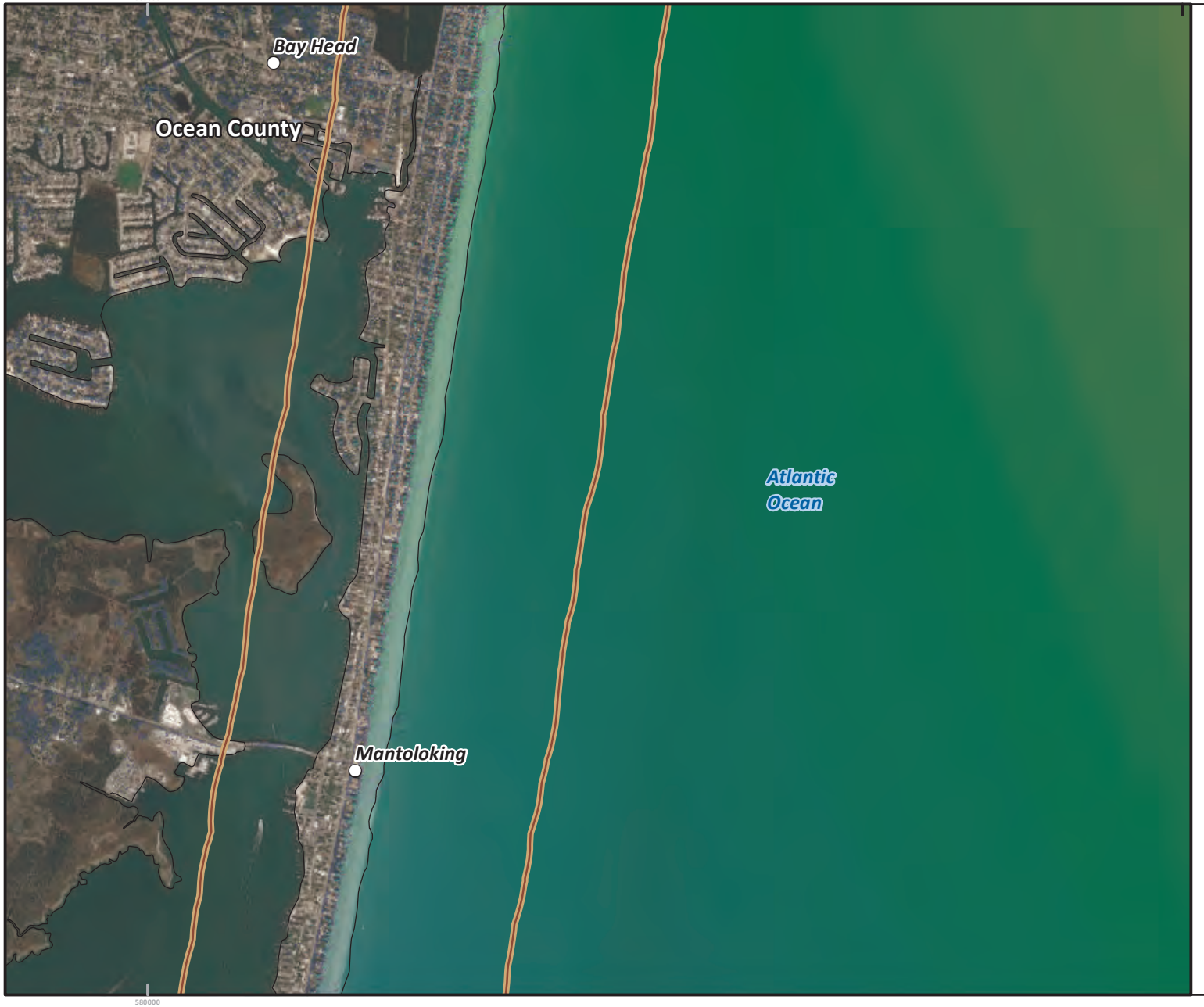

EMPIRE OFFSHORE WIND LEASE: OCS-A 0512 EMPIRE WIND PROJECT

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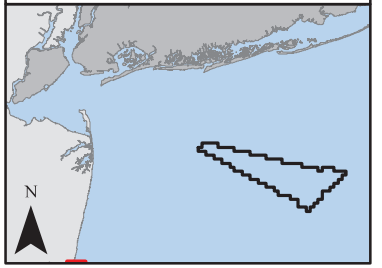
0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.1 0.2 0.3 0.4 Kilometers

REFERENCE MAP



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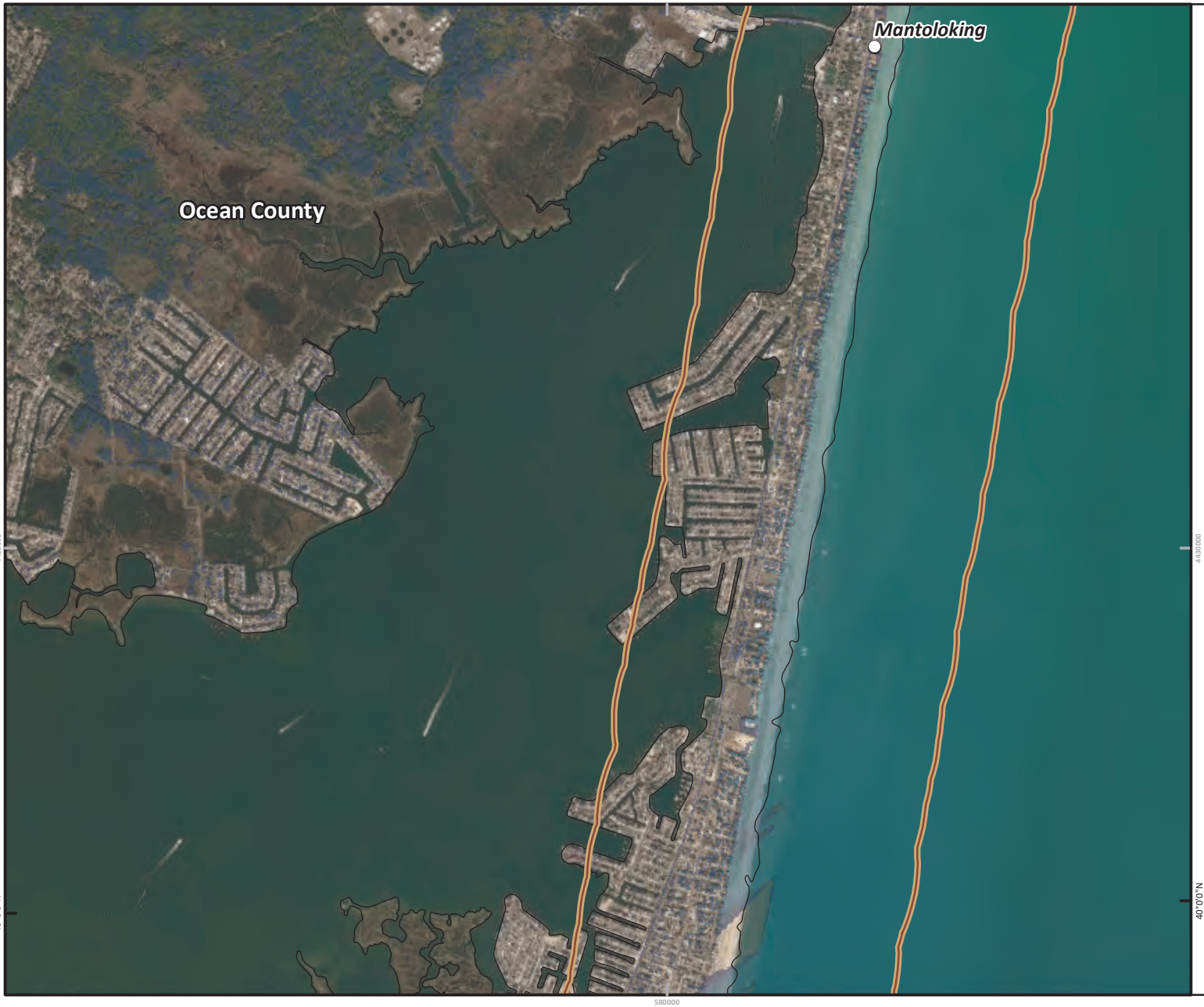


EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

equinor

Legend

- City
- State Territorial Waters Boundary
- County Border
- NJ Coastline Buffer (0.5 mile buffer)
- Offshore AVEHP Study Area

PAPE (viewshed intensity at 290 m height)

High : 174

Low : 0

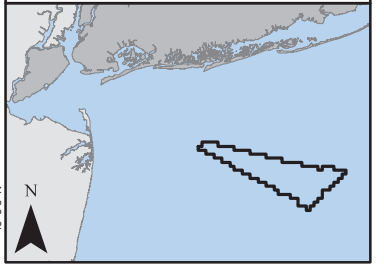
Date	November 3, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.1 0.2 0.3 0.4 Kilometers

REFERENCE MAP



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NOT FOR CONSTRUCTION

EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

equinor

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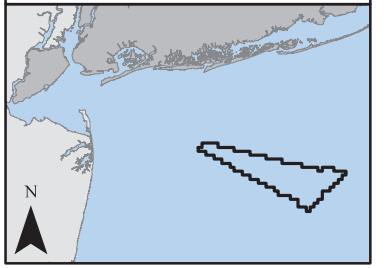
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.1 0.2 0.3 0.4 Kilometers

REFERENCE MAP



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NOT FOR CONSTRUCTION

EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

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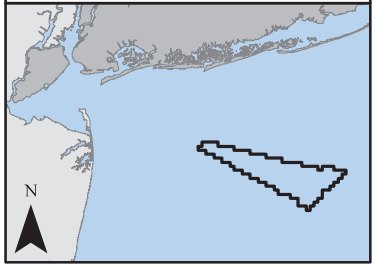
0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.1 0.2 0.3 0.4 Kilometers

REFERENCE MAP



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Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

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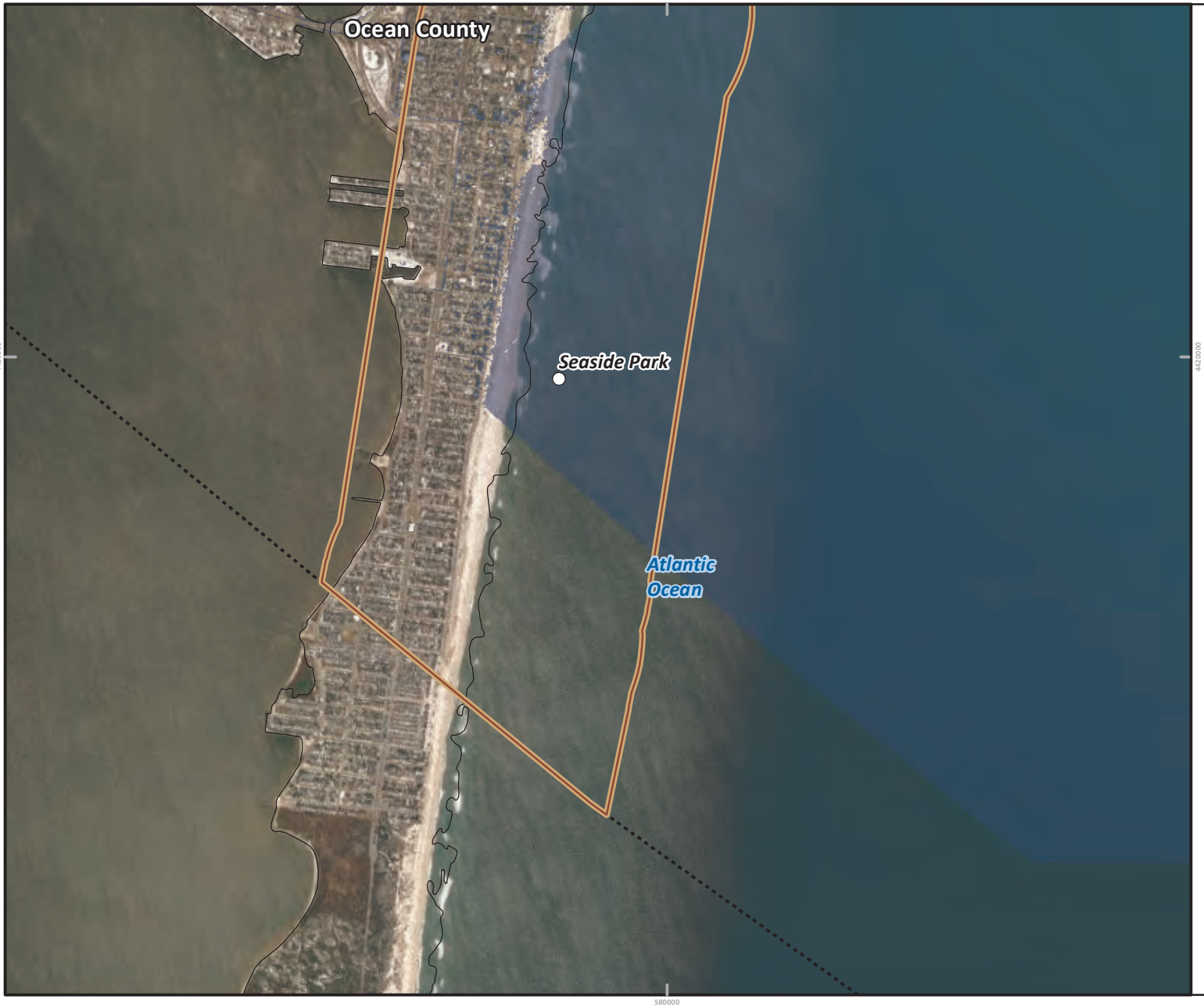

EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

equinor

Legend

- City
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PAPE (viewshed intensity at 290 m height)

High : 174

Low : 0

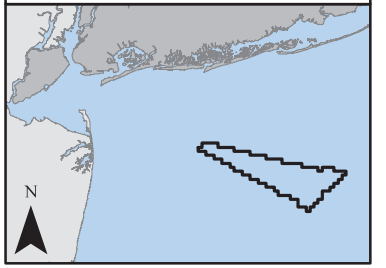
Date	November 3, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.1 0.2 0.3 0.4 Kilometers

REFERENCE MAP

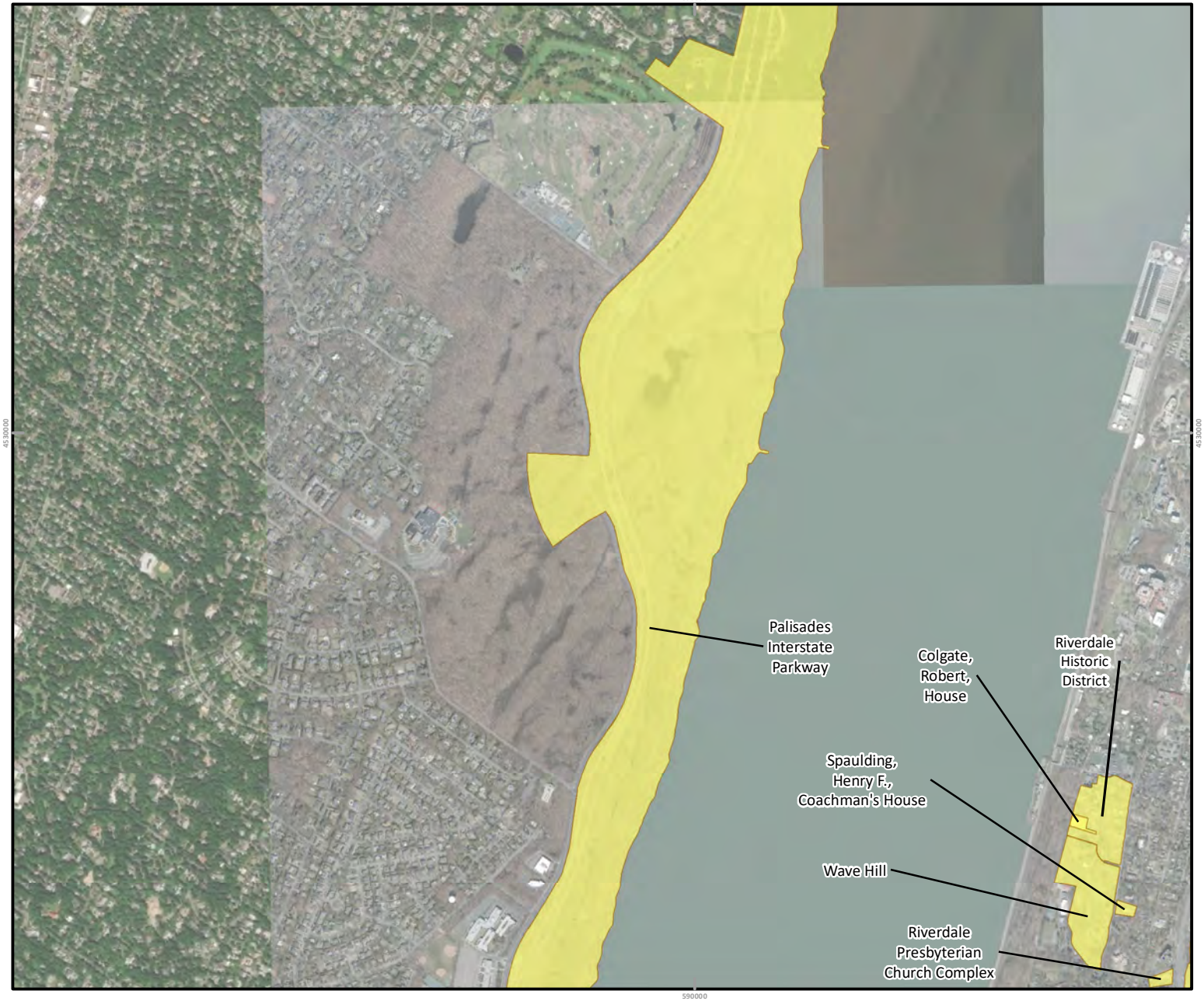


Data Sources: BOEM, ESRI, NOAA, NJ DEP
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

NOT FOR CONSTRUCTION

ATTACHMENT 2
MAPBOOK OF INDIVIDUAL PROPERTIES IN THE NEW YORK PORTION OF THE PAPE

This attachment is being provided separately due to its large file size.



EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166-m viewshed intensity
High : 174
Low : 0
Historic District

Data Sources: BOEM, ESRI, NOAA, NYS ITS GIS Program Office, NYC Office of Technology & Innovation (OTI)
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

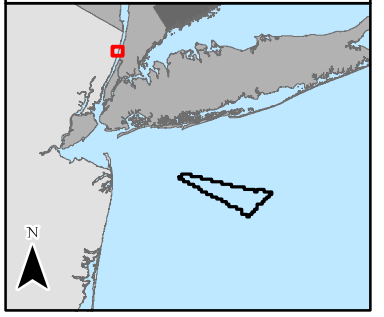
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



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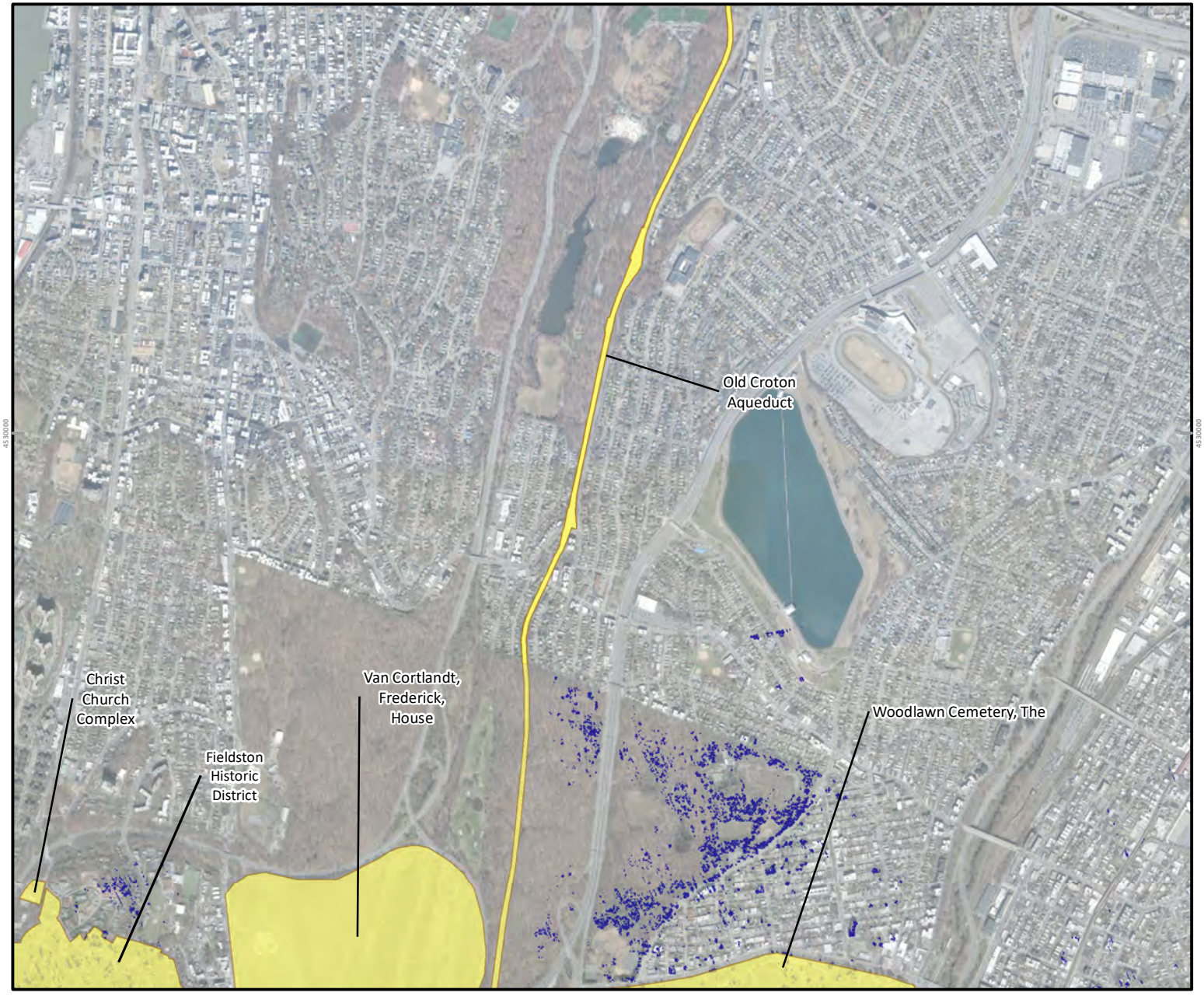

EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166-m viewshed intensity
High : 174
Low : 0
Historic District

Data Sources: BOEM, ESRI, NOAA, NYS ITS GIS Program Office, NYC Office of Technology & Innovation (OTI)
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Date	November 2, 2022
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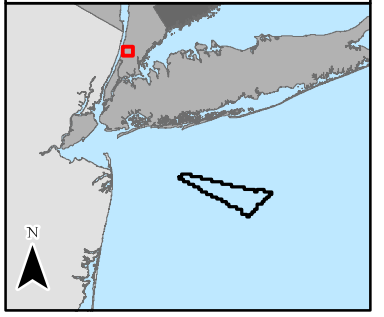
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



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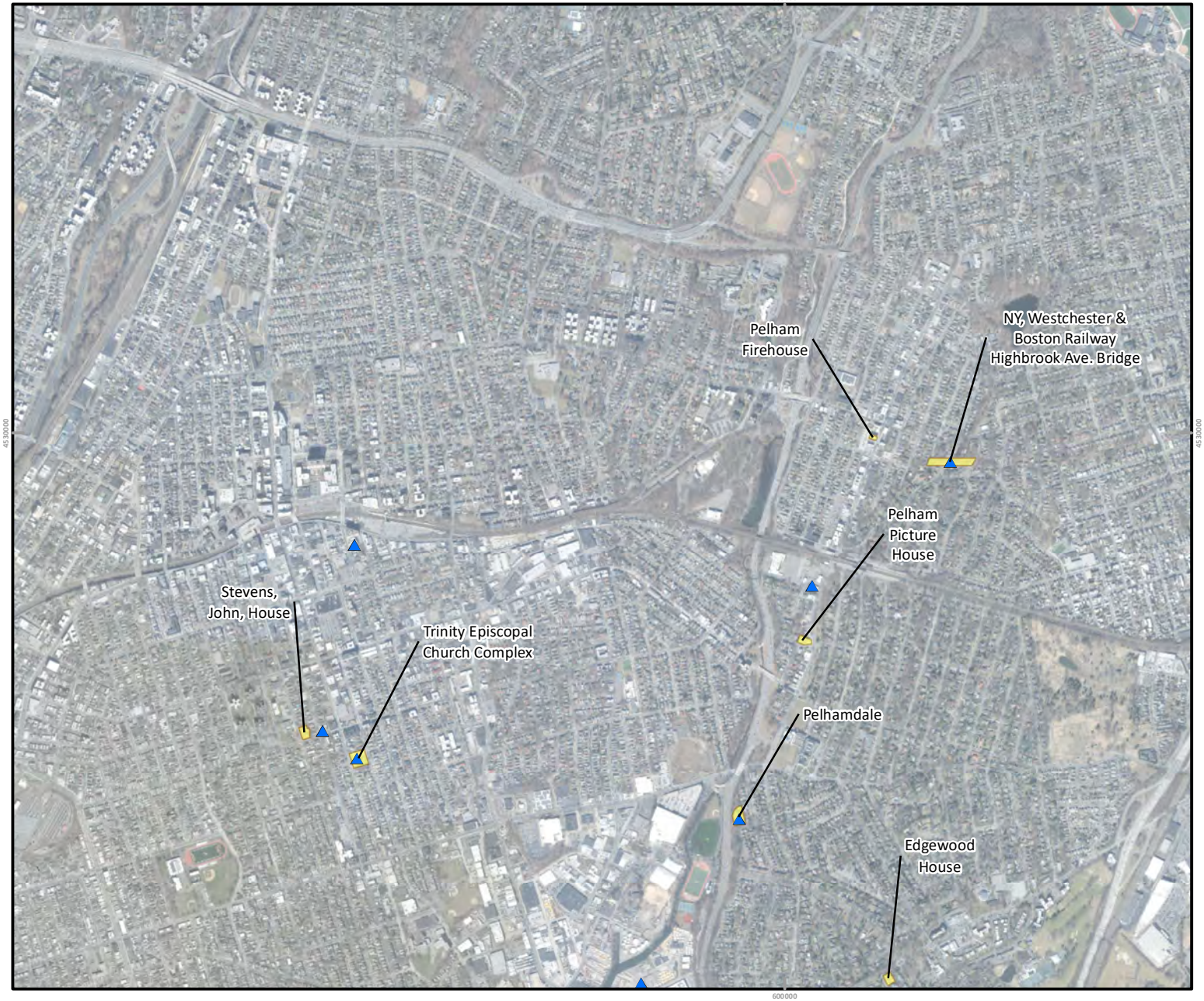


EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166-m viewshed intensity
High : 174
Low : 0
Historic Property Excluded from Effects Assessment
No visibility based on viewshed modeling
Historic District

Data Sources: BOEM, ESRI, NOAA, NYS ITS GIS Program Office, NYC Office of Technology & Innovation (OTI)
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

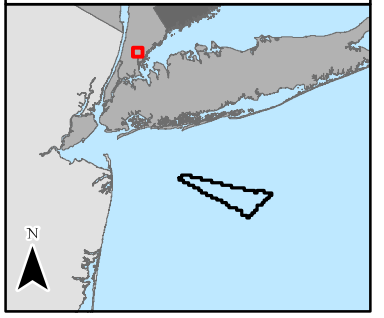
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



NOT FOR CONSTRUCTION

EMPIRE OFFSHORE WIND LEASE: OCS-A 0512 EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166-m viewshed intensity
High : 174
Low : 0

Historic Property Excluded from Effects Assessment
No visibility based on viewshed modeling
Historic District

Data Sources: BOEM, ESRI, NOAA, NYS ITS GIS Program Office, NYC Office of Technology & Innovation (OTI)
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

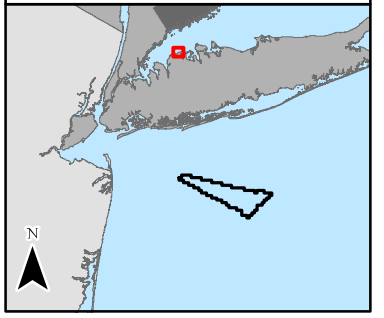
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



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EMPIRE OFFSHORE WIND LEASE: OCS-A 0512 EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166-m viewshed intensity
High : 174
Low : 0
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No visibility based on viewshed modeling
Historic District

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Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

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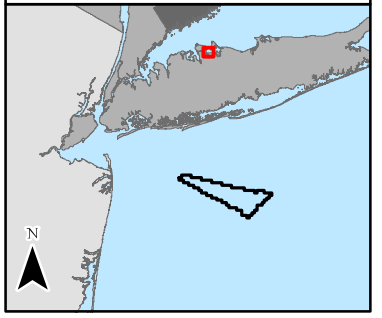
0 0.1 0.2 0.3 0.4 Nautical Miles
0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



NOT FOR CONSTRUCTION

EMPIRE OFFSHORE WIND LEASE: OCS-A 0512 EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166-m viewshed intensity
High : 174
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Historic District

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Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

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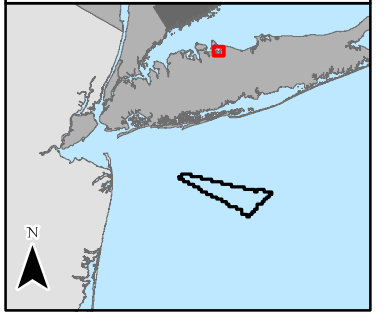
0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



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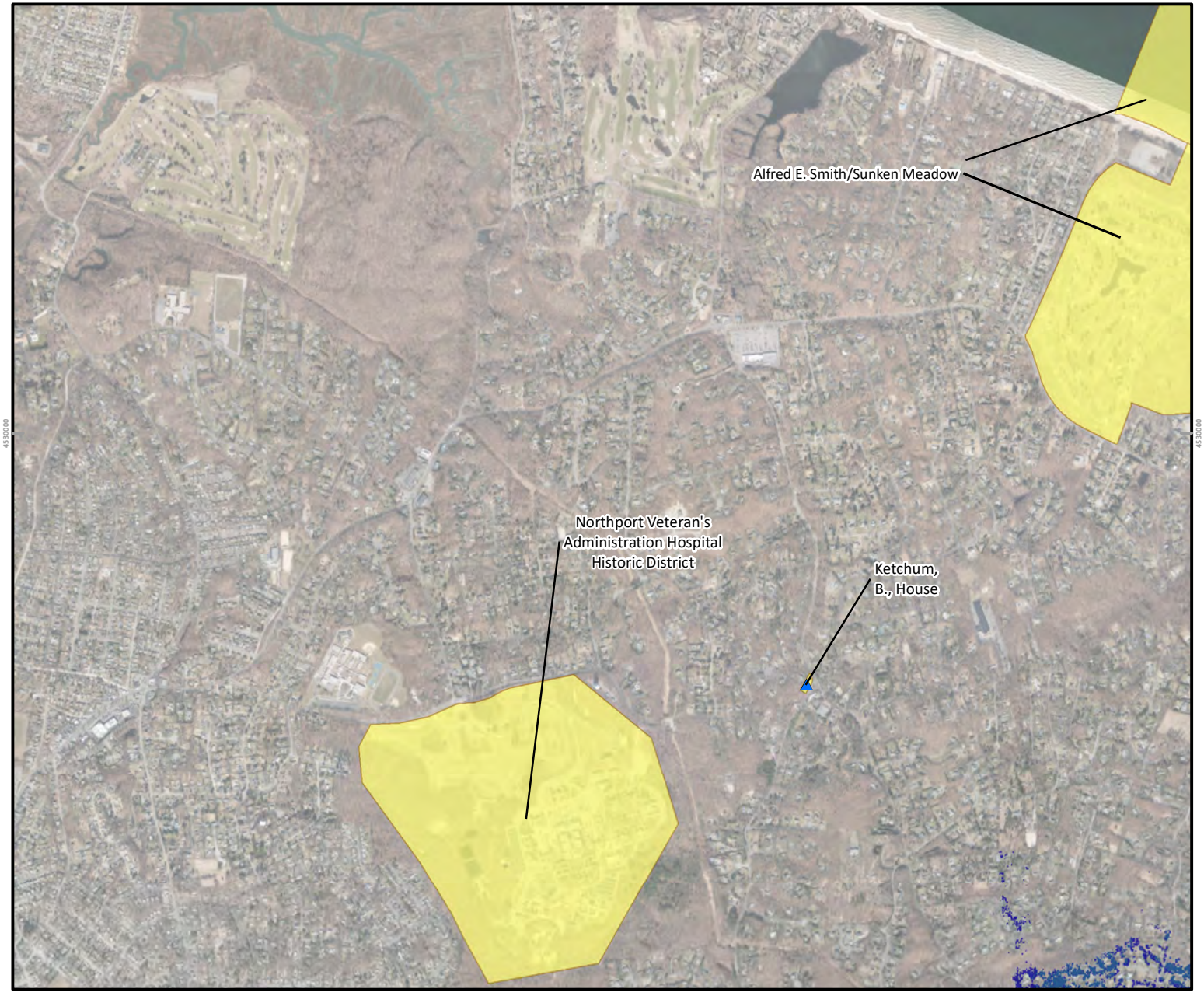

EMPIRE OFFSHORE WIND LEASE: OCS-A 0512 EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
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166-m viewshed intensity
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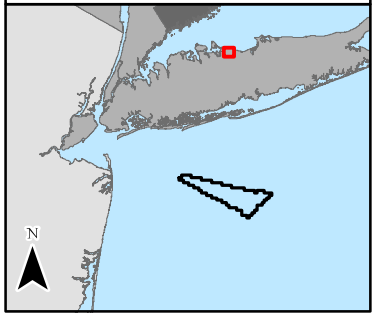
0 0.1 0.2 0.3 0.4 0.5 Miles
0 0.1 0.2 0.3 0.4 Nautical Miles
0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



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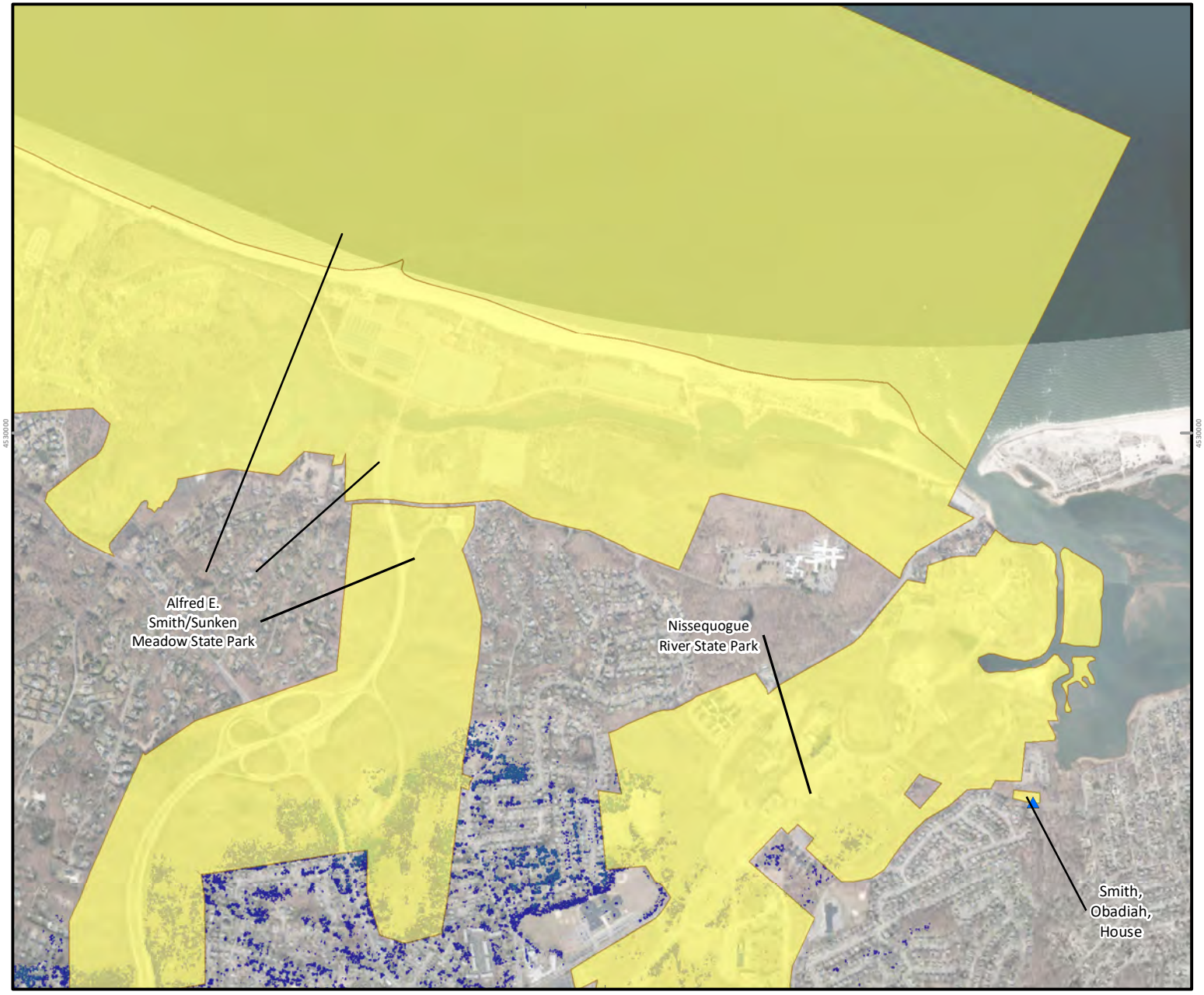


EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166-m viewshed intensity
High : 174
Low : 0
Historic Property Excluded from Effects Assessment
No visibility based on viewshed modeling
Historic District

Data Sources: BOEM, ESRI, NOAA, NYS ITS GIS Program Office, NYC Office of Technology & Innovation (OTI)
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

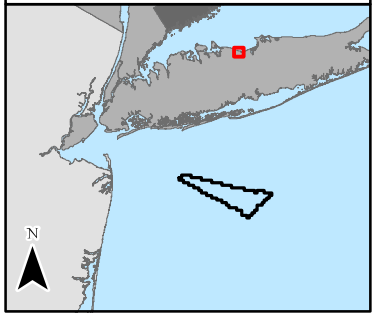
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



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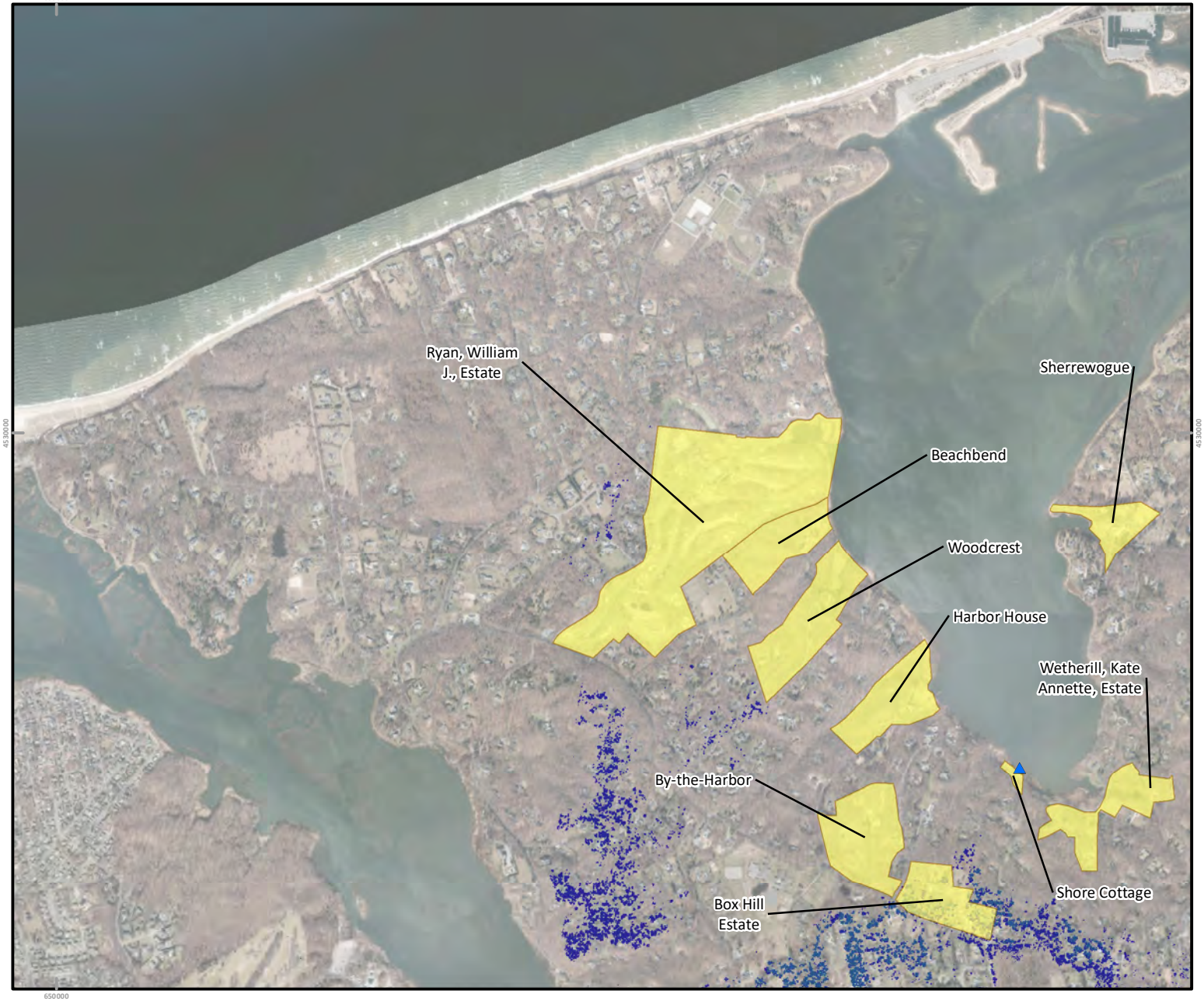


EMPIRE OFFSHORE WIND LEASE: OCS-A 0512 EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166-m viewshed intensity
High : 174
Low : 0

Historic Property Excluded from Effects Assessment
No visibility based on viewshed modeling
Historic District

Data Sources: BOEM, ESRI, NOAA, NYS ITS GIS Program Office, NYC Office of Technology & Innovation (OTI)
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

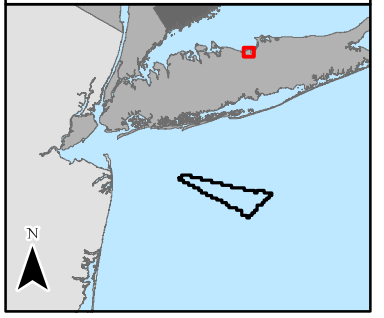
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



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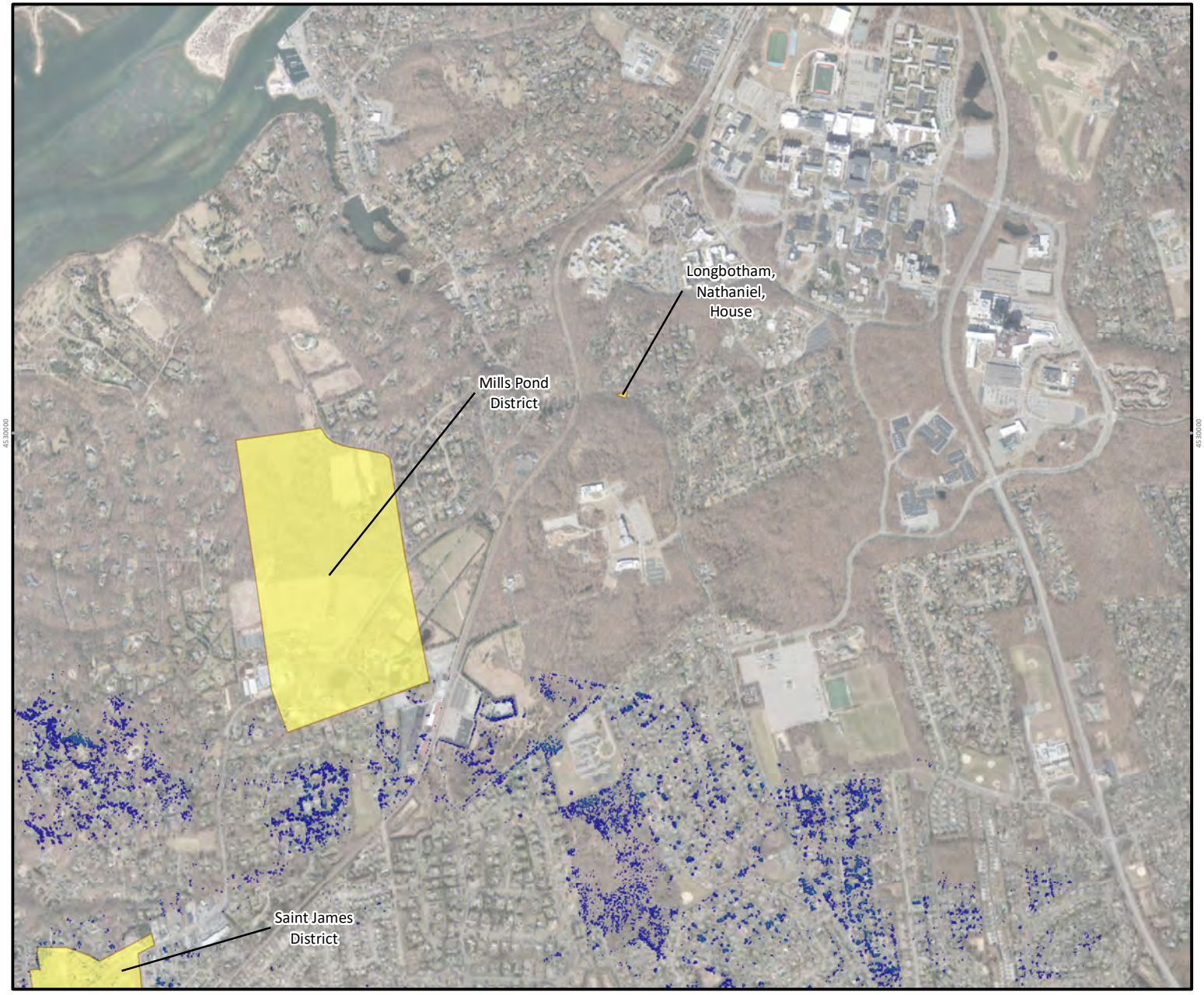

EMPIRE OFFSHORE WIND LEASE: OCS-A 0512 EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166-m viewshed intensity
High : 174
Low : 0
Historic District

Data Sources: BOEM, ESRI, NOAA, NYS ITS GIS Program Office, NYC Office of Technology & Innovation (OTI)
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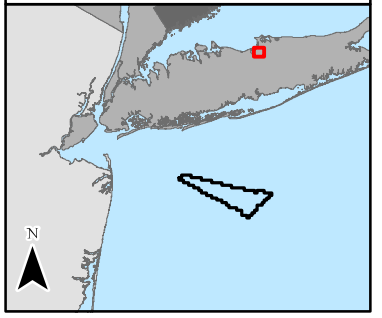
0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



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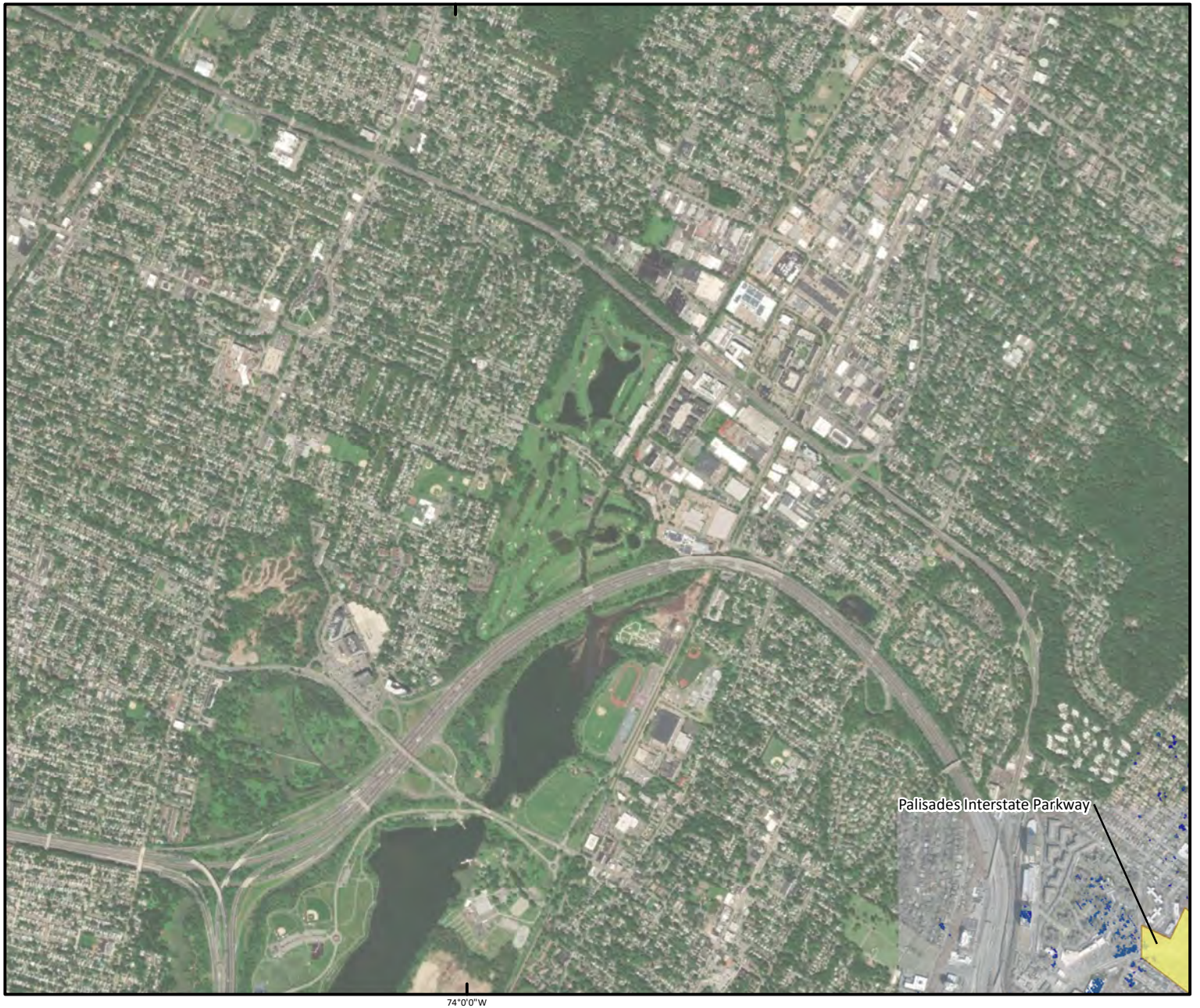

EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166-m viewshed intensity
High : 174
Low : 0
Historic District

Data Sources: BOEM, ESRI, NOAA, NYS ITS GIS Program Office, NYC Office of Technology & Innovation (OTI)
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Date	November 2, 2022
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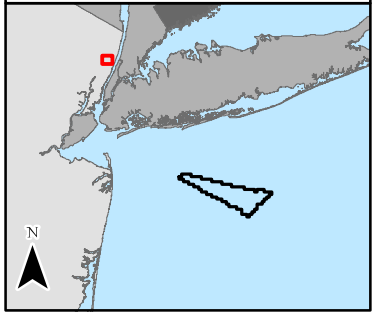
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



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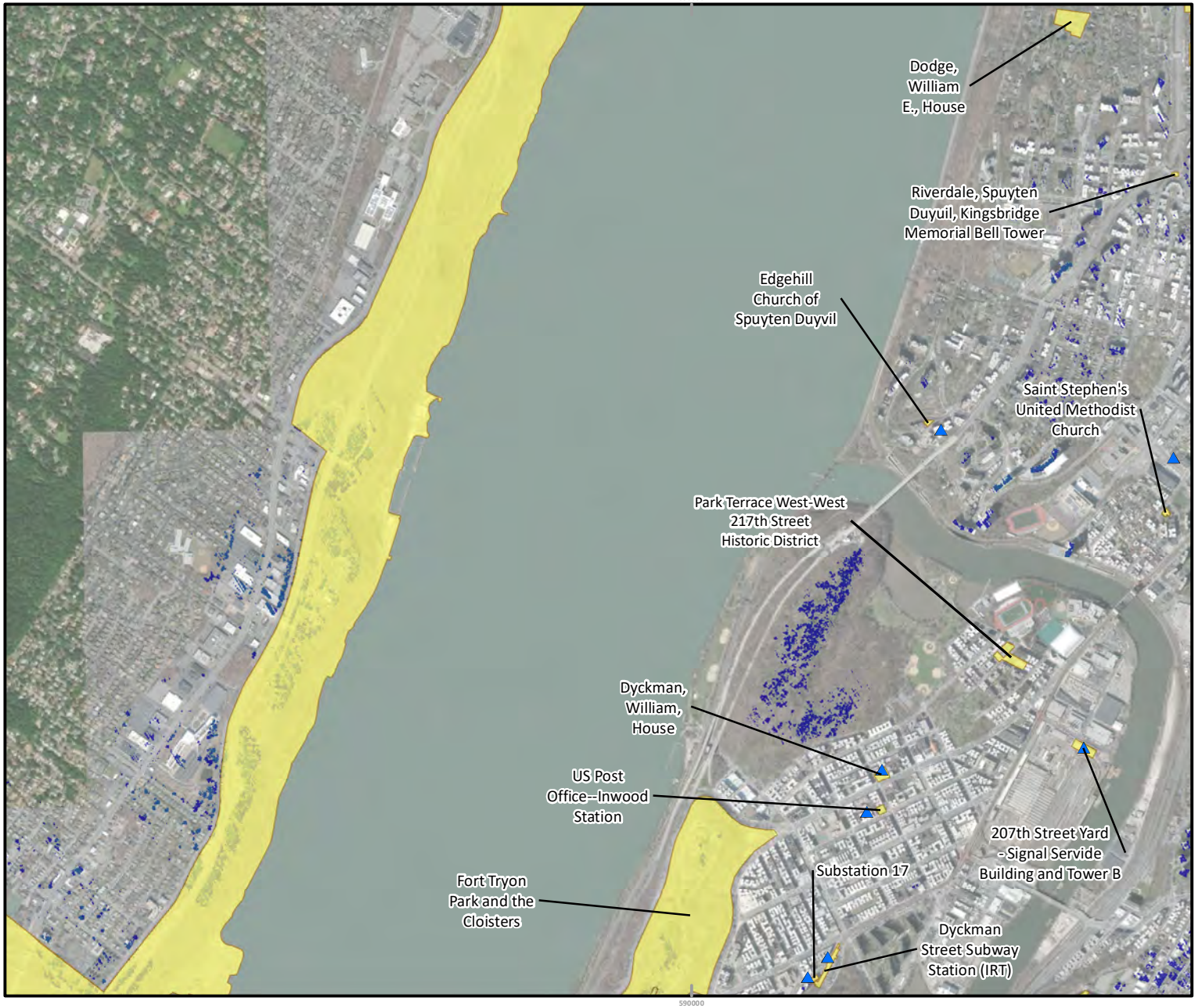


EMPIRE OFFSHORE WIND LEASE: OCS-A 0512 EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166-m viewshed intensity
High : 174
Low : 0

Historic Property Excluded from Effects Assessment
No visibility based on viewshed modeling
Historic District

Data Sources: BOEM, ESRI, NOAA, NYS ITS GIS Program Office, NYC Office of Technology & Innovation (OTI)
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

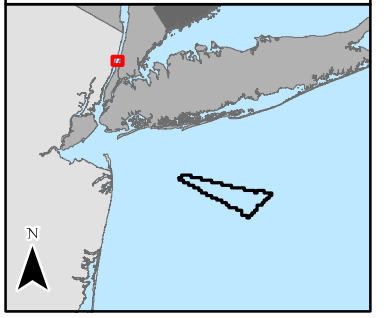
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



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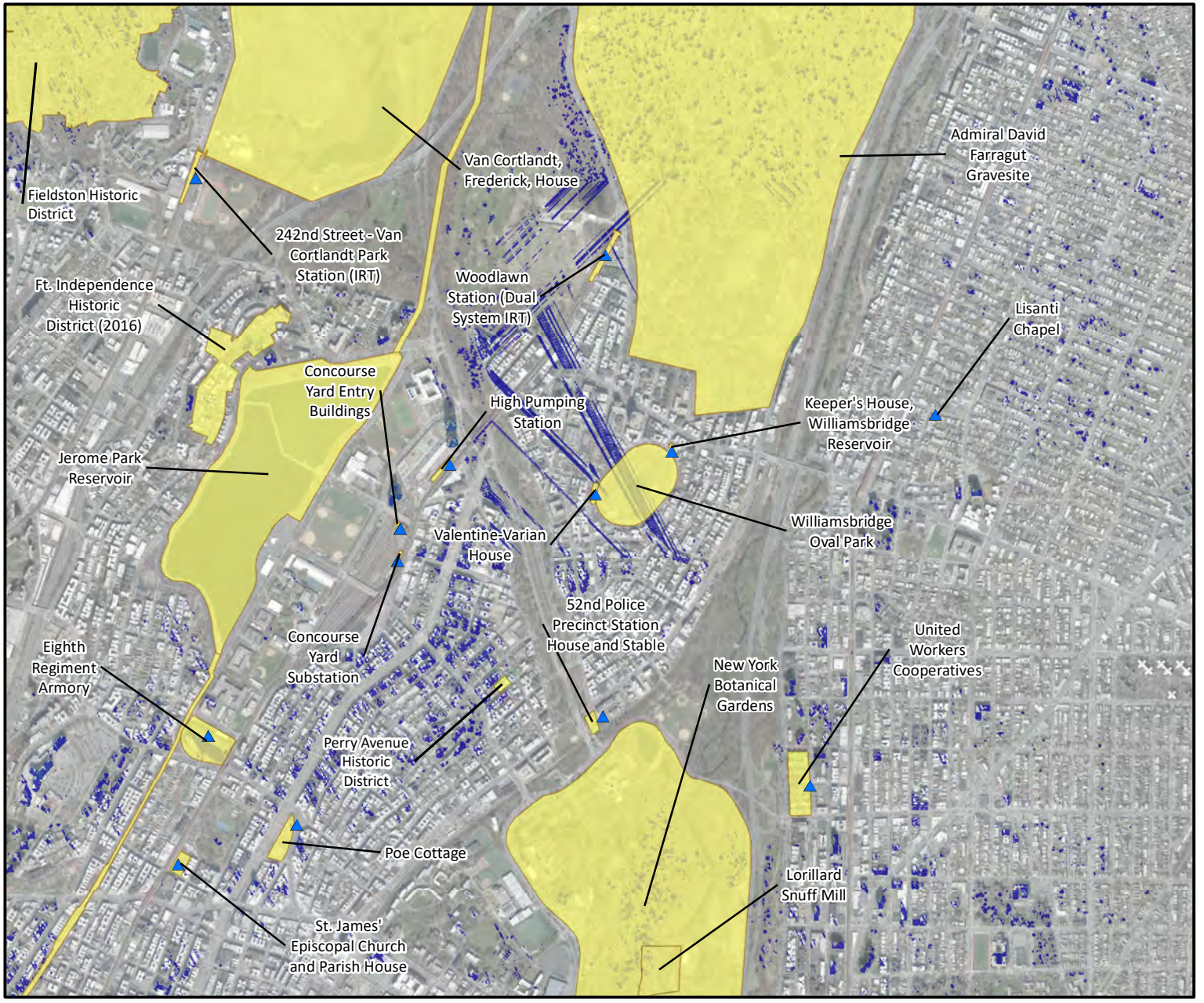

EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166-m viewshed intensity
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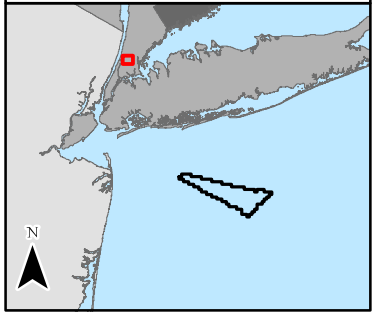
0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



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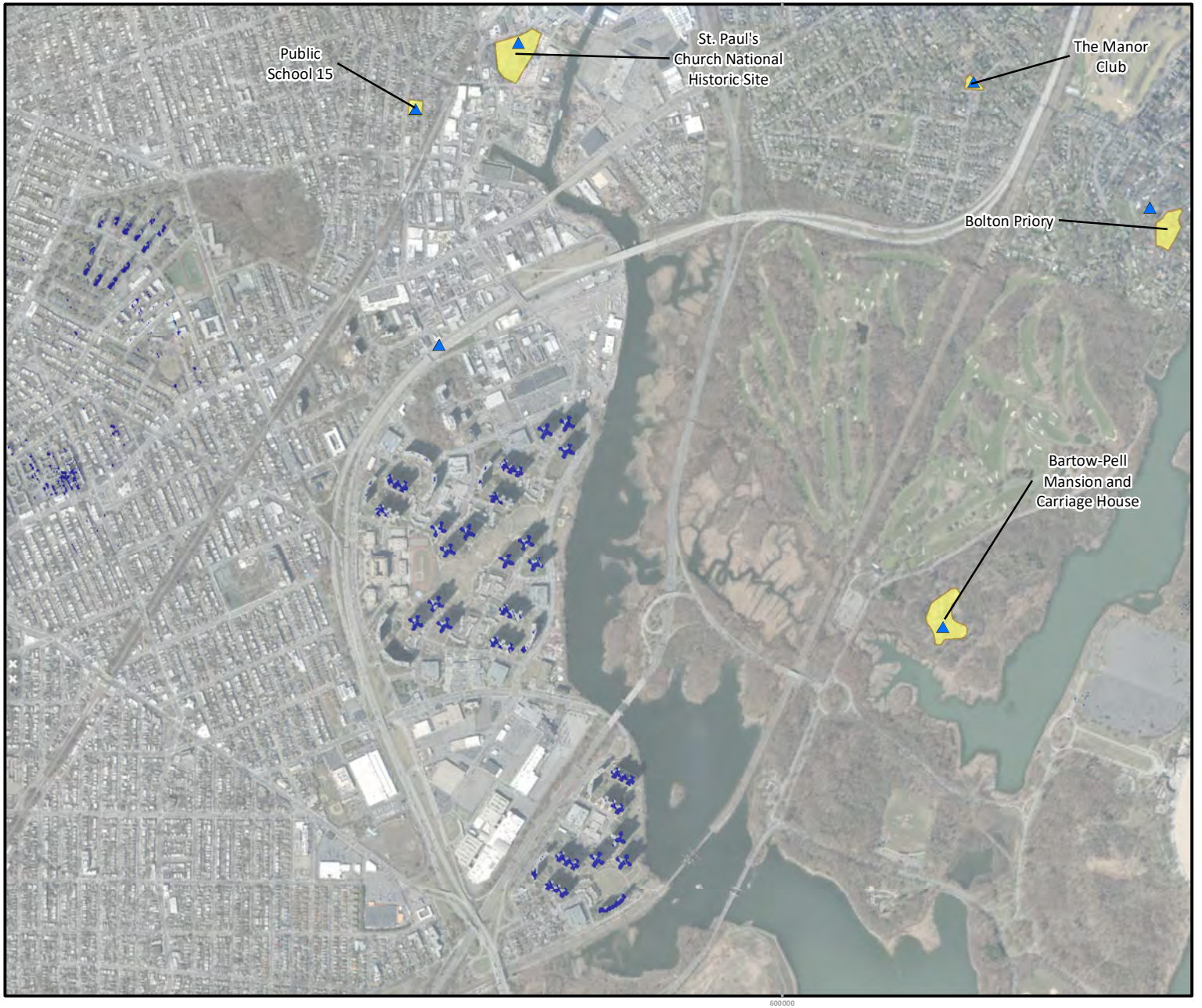

EMPIRE OFFSHORE WIND LEASE: OCS-A 0512 EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166-m viewshed intensity
High : 174
Low : 0

Historic Property Excluded from Effects Assessment
No visibility based on viewshed modeling
Historic District

Data Sources: BOEM, ESRI, NOAA, NYS ITS GIS Program Office, NYC Office of Technology & Innovation (OTI)
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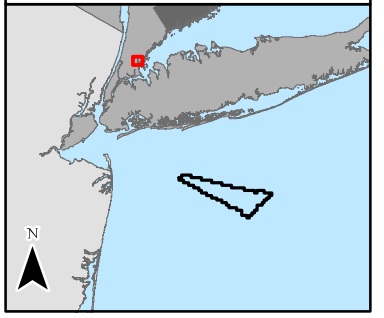
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



NOT FOR CONSTRUCTION

EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
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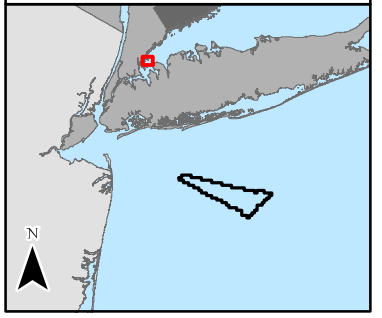
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



NOT FOR CONSTRUCTION

EMPIRE OFFSHORE WIND LEASE: OCS-A 0512 EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
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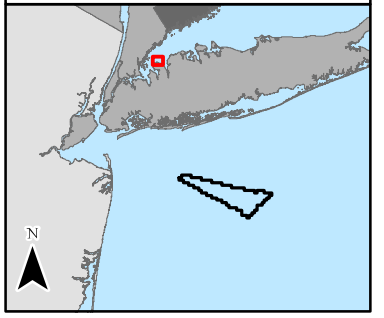
REFERENCE MAP



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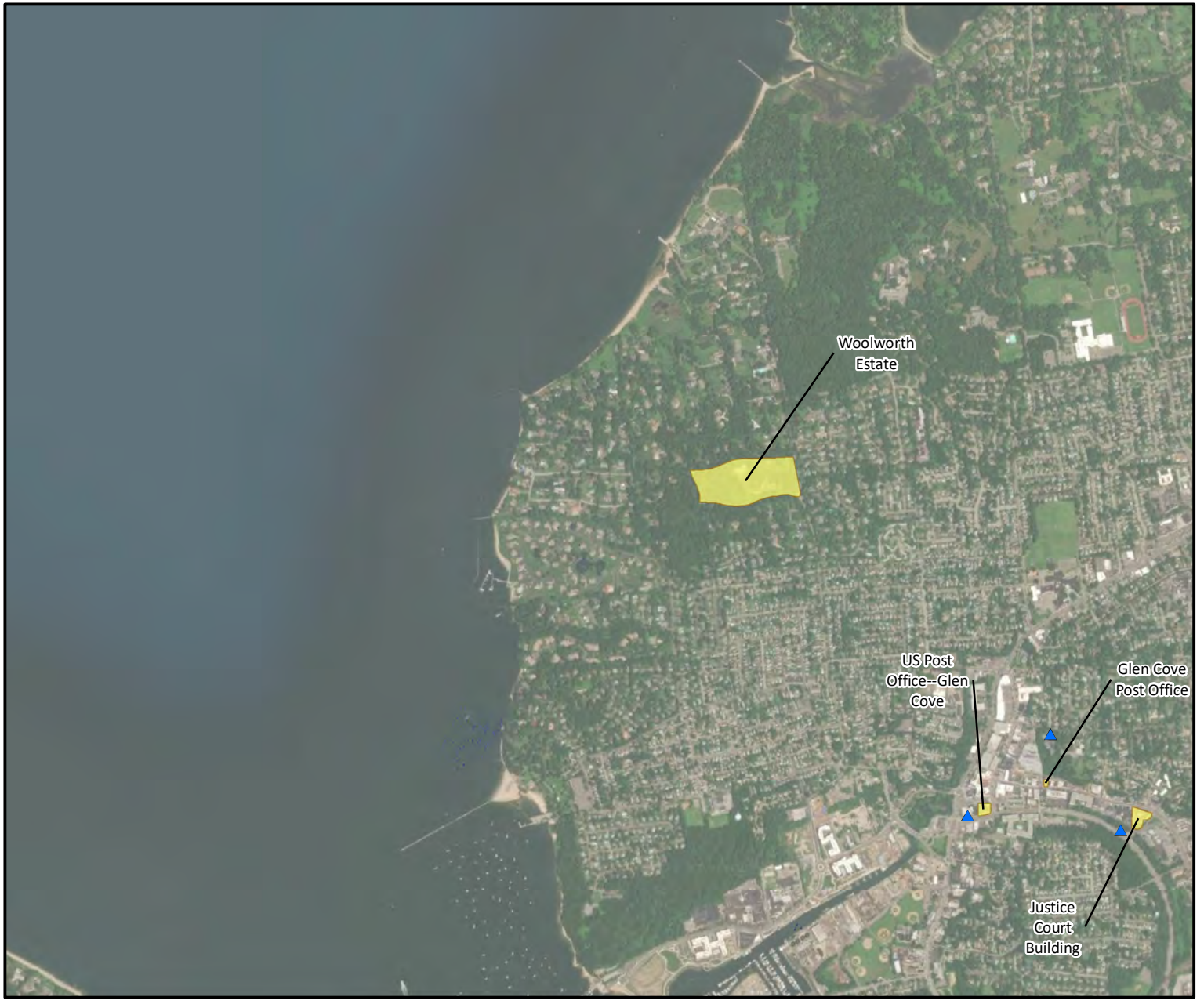

EMPIRE OFFSHORE WIND LEASE: OCS-A 0512 EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166-m viewshed intensity
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Historic Property Excluded from Effects Assessment
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Historic District

Data Sources: BOEM, ESRI, NOAA, NYS ITS GIS Program Office, NYC Office of Technology & Innovation (OTI)
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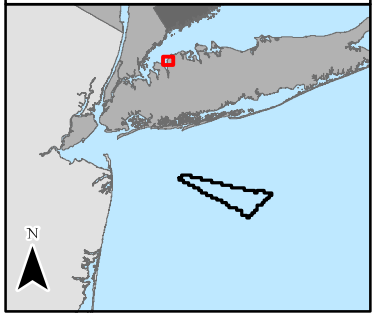
0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



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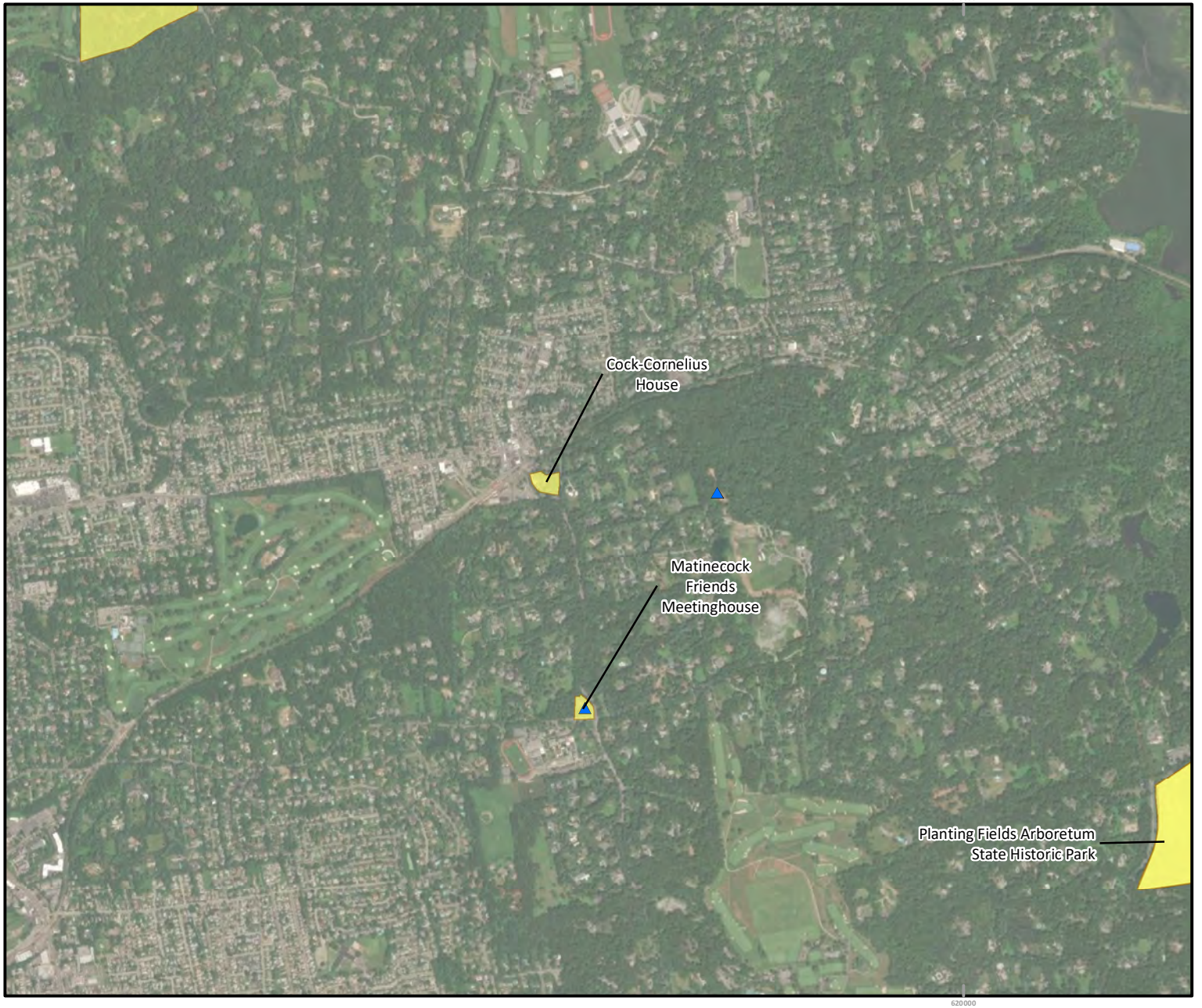

EMPIRE OFFSHORE WIND LEASE: OCS-A 0512 EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
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0 0.1 0.2 0.3 0.4 0.5 Miles

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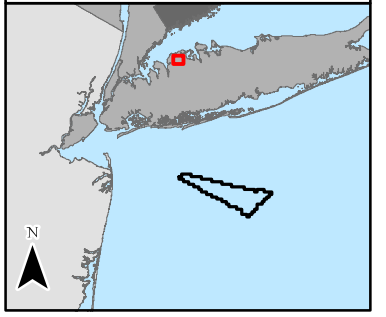
REFERENCE MAP



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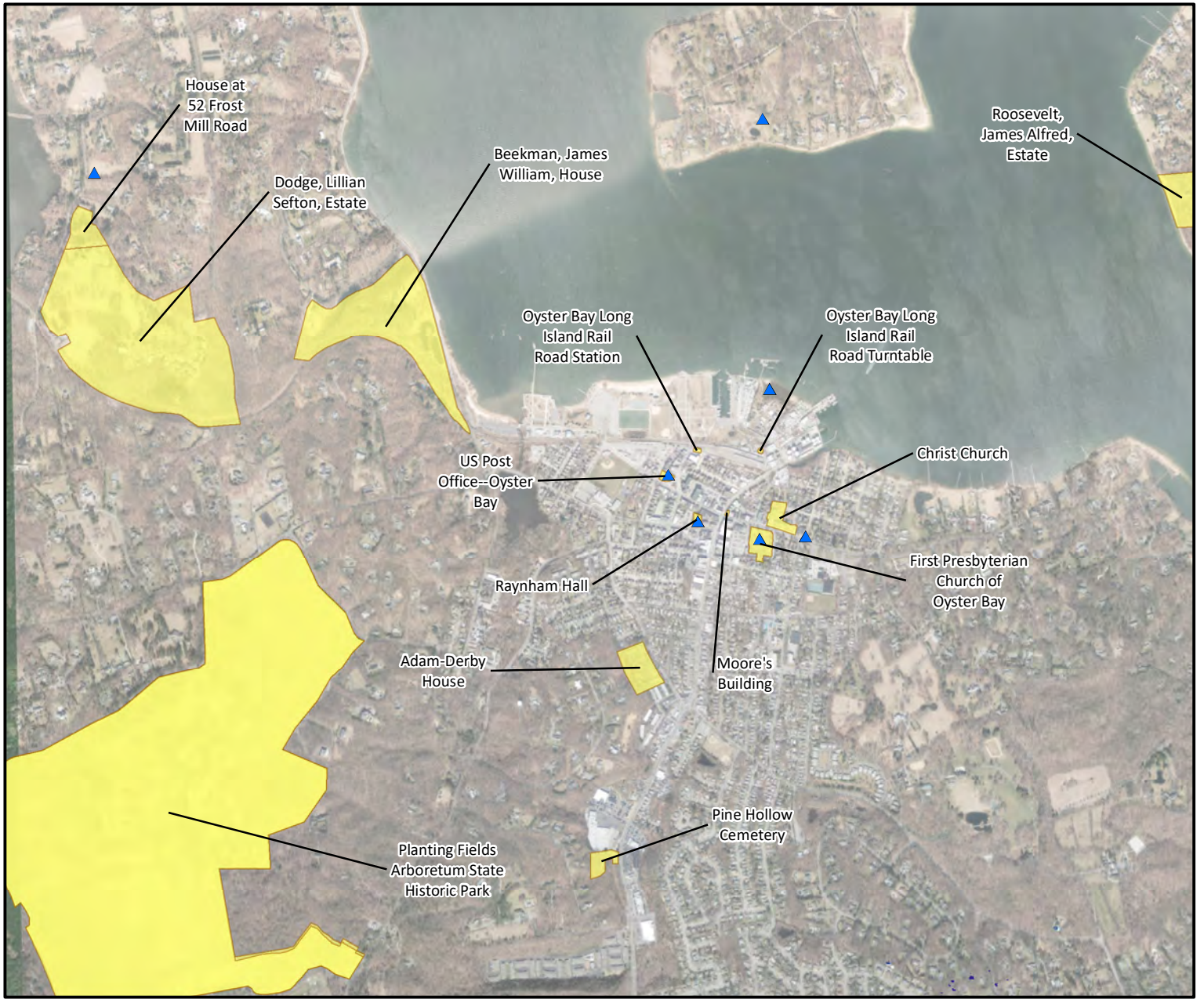

EMPIRE OFFSHORE WIND LEASE: OCS-A 0512 EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
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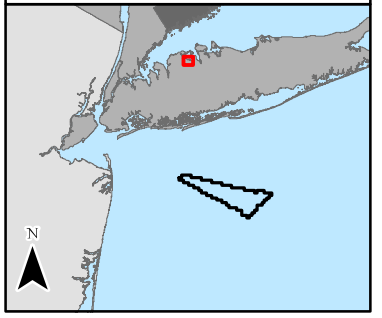
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles
0 0.1 0.2 0.3 0.4 Nautical Miles
0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



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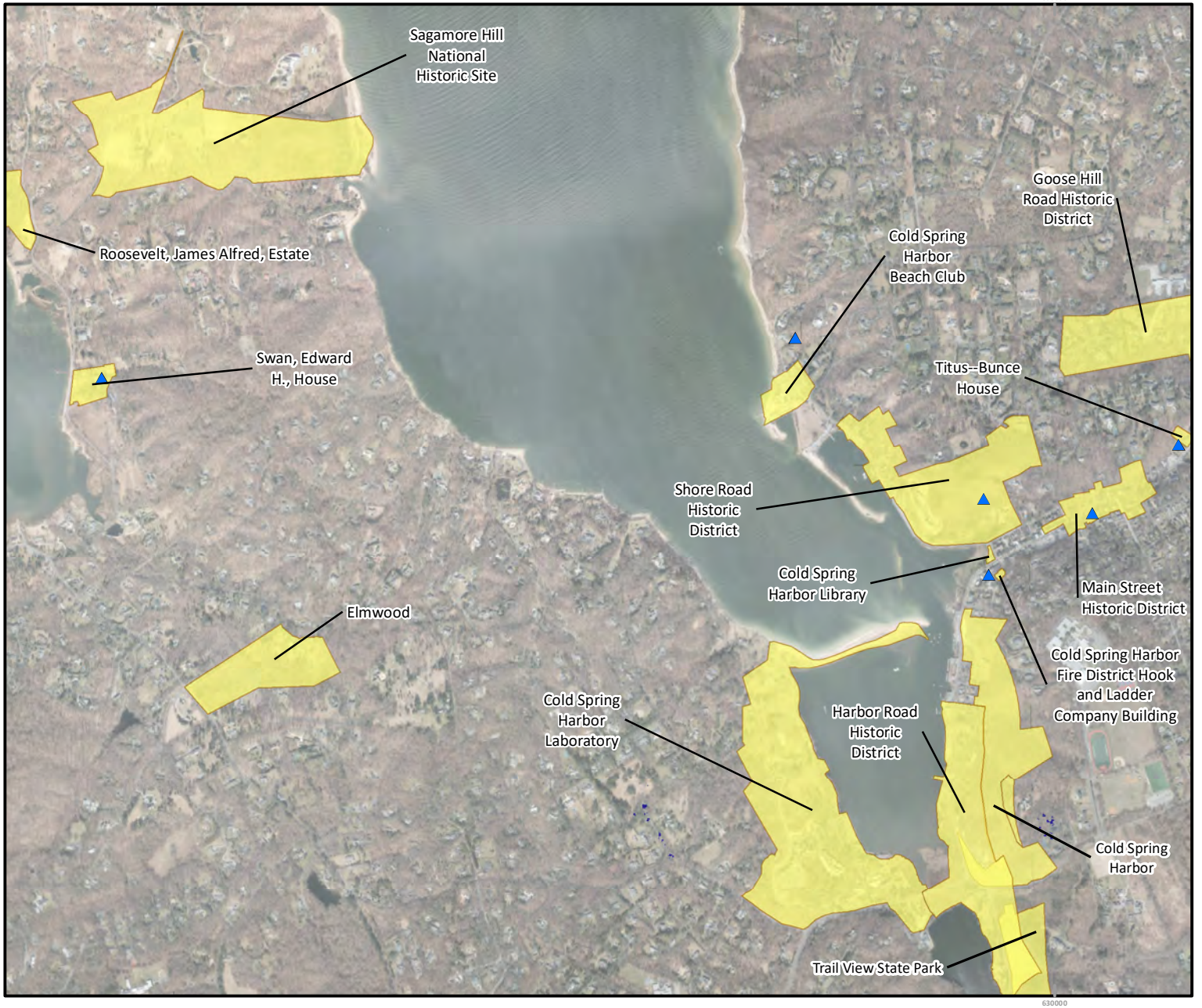

EMPIRE OFFSHORE WIND LEASE: OCS-A 0512 EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
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0 0.1 0.2 0.3 0.4 0.5 Miles

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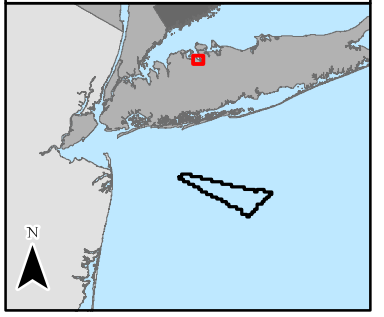
0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



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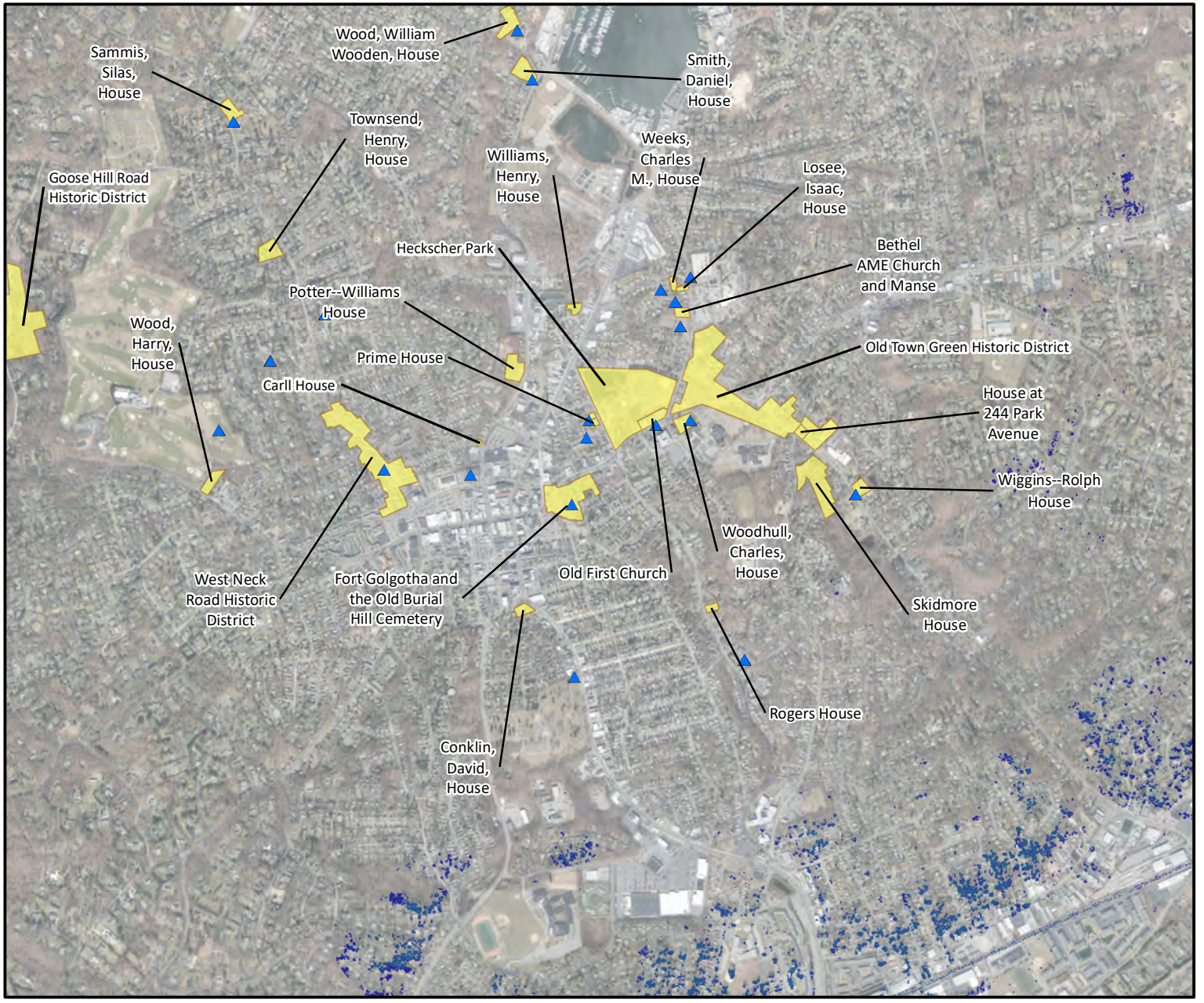

EMPIRE OFFSHORE WIND LEASE: OCS-A 0512 EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
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Personnel	Figure Prepared by: Tetra Tech Offshore GIS

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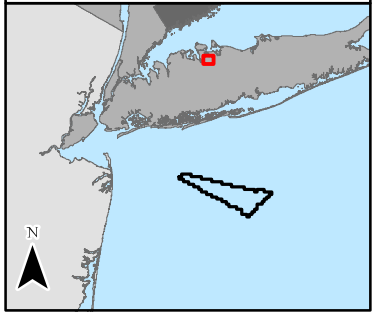
0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



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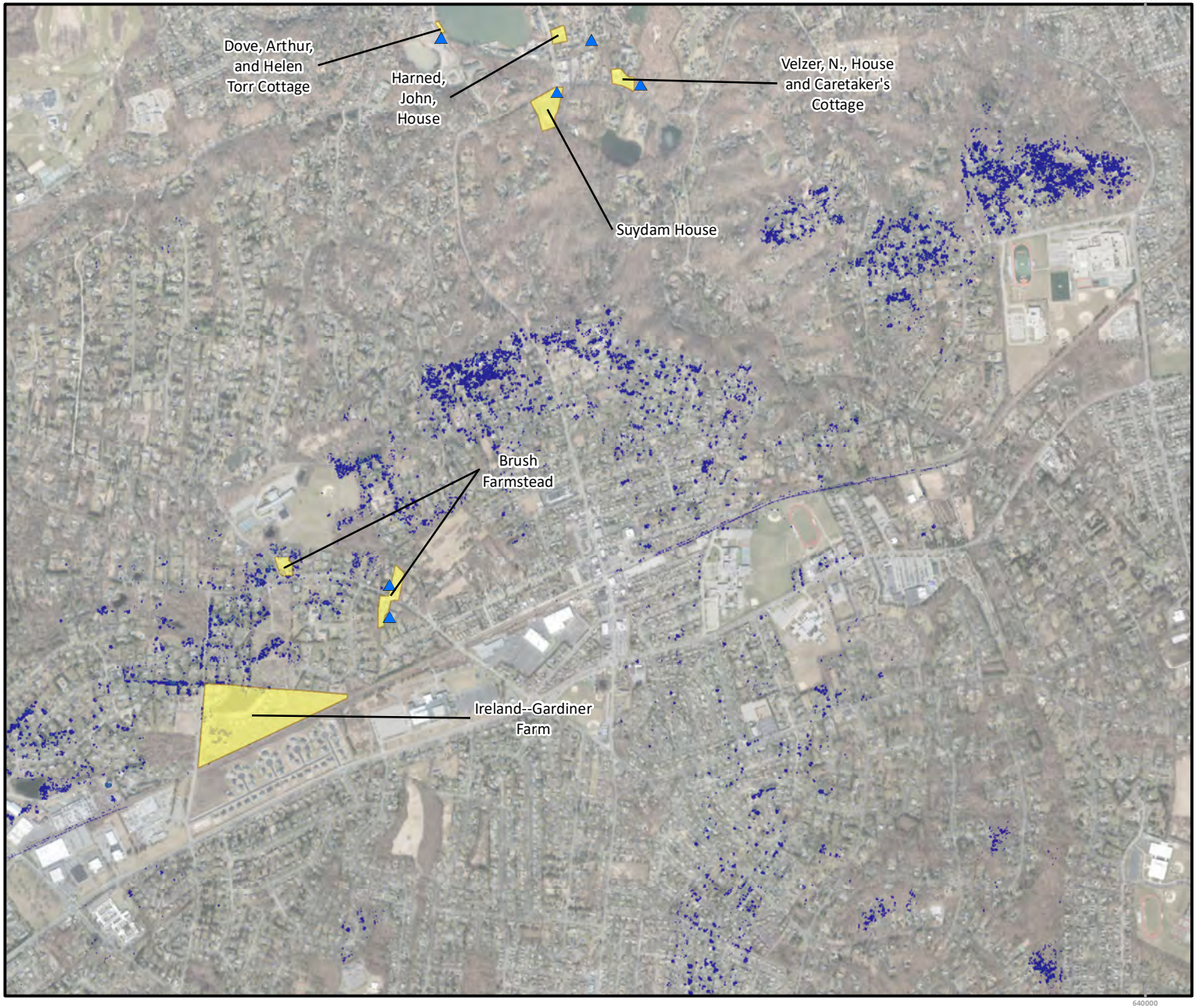

EMPIRE OFFSHORE WIND LEASE: OCS-A 0512 EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
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0 0.1 0.2 0.3 0.4 0.5 Miles

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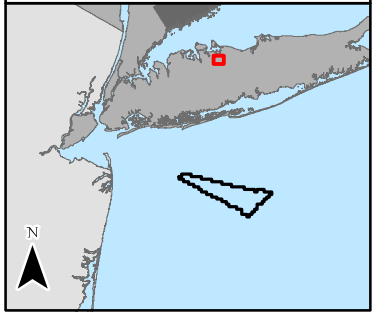
0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



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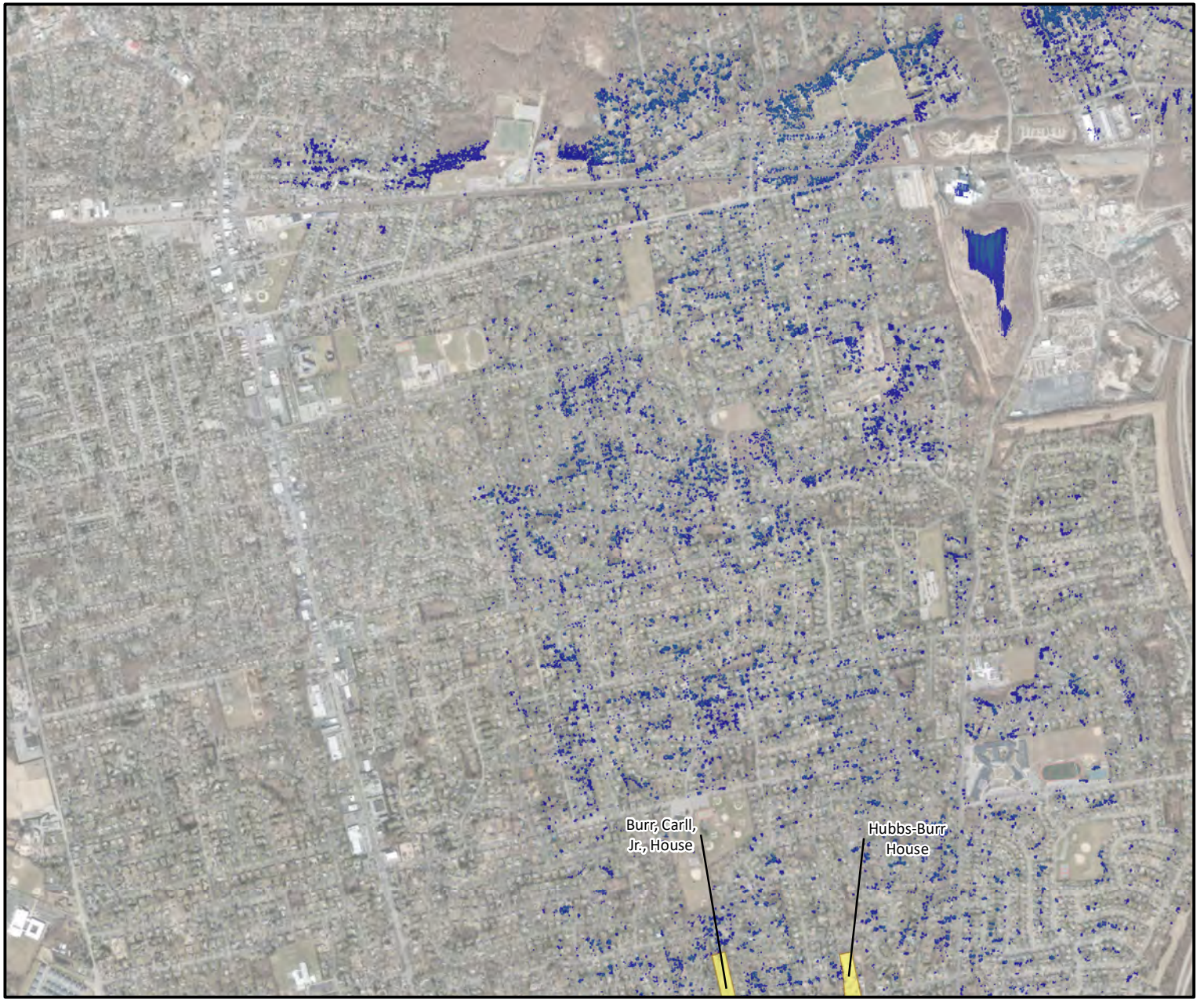

EMPIRE OFFSHORE WIND LEASE: OCS-A 0512 EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166-m viewshed intensity
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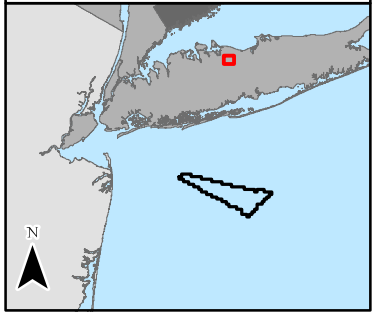
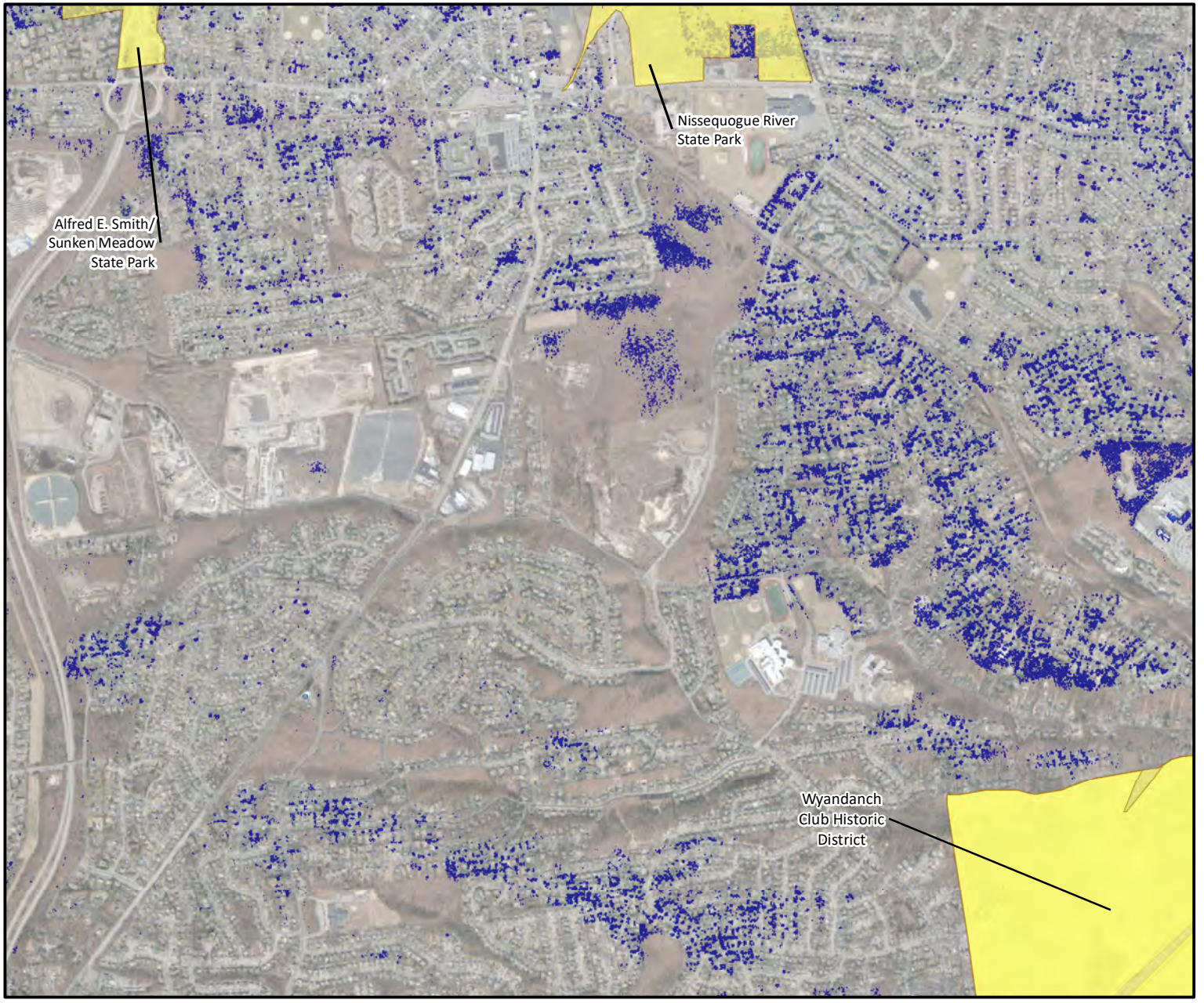
0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



NOT FOR CONSTRUCTION



EMPIRE OFFSHORE WIND LEASE: OCS-A 0512 EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166-m viewshed intensity
High : 174
Low : 0
Historic District

Data Sources: BOEM, ESRI, NOAA, NYS ITS GIS Program Office, NYC Office of Technology & Innovation (OTI)
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

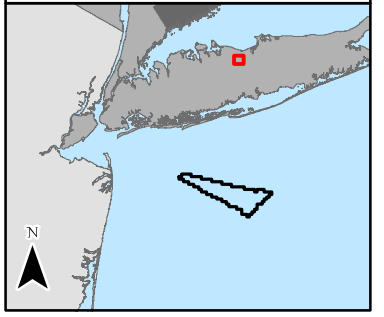
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



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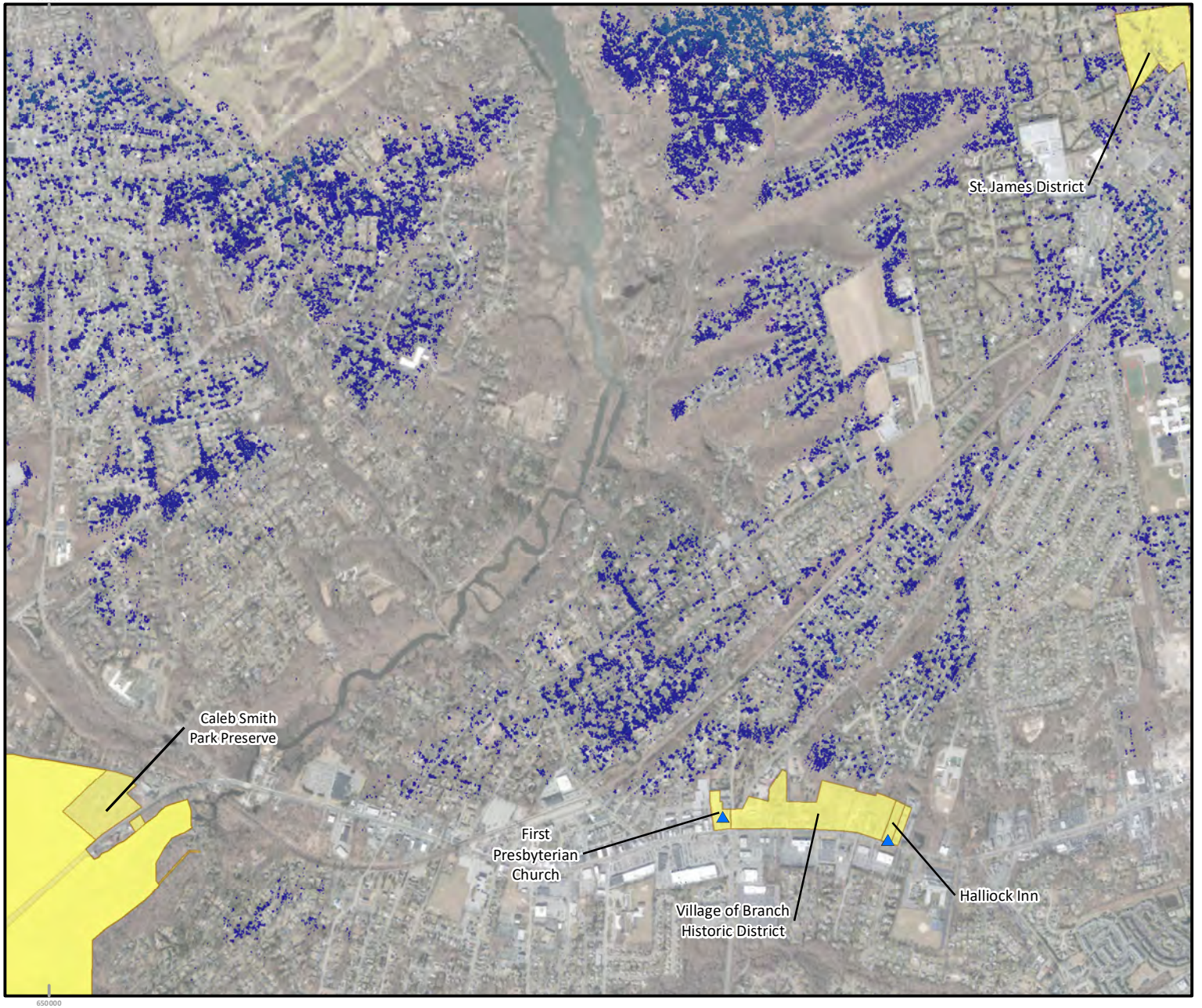


EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166-m viewshed intensity
High : 174
Low : 0
Historic Property Excluded from Effects Assessment
No visibility based on viewshed modeling
Historic District

Data Sources: BOEM, ESRI, NOAA, NYS ITS GIS Program Office, NYC Office of Technology & Innovation (OTI)
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

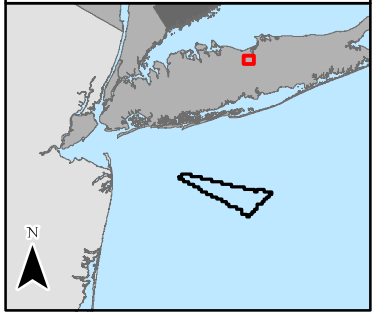
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



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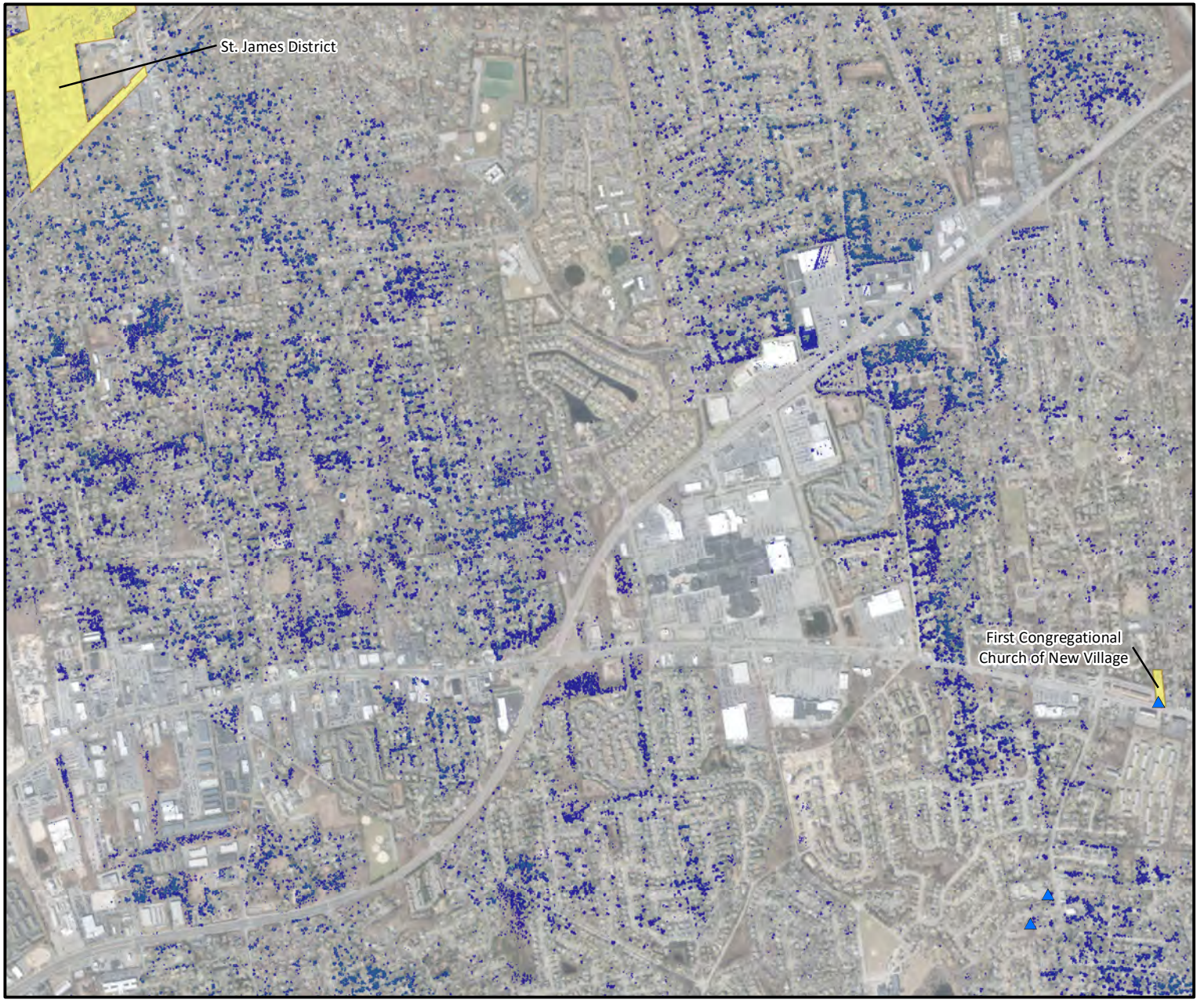


EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166-m viewshed intensity
High : 174
Low : 0

Historic Property Excluded from Effects Assessment
No visibility based on viewshed modeling
Historic District

Data Sources: BOEM, ESRI, NOAA, NYS ITS GIS Program Office, NYC Office of Technology & Innovation (OTI)
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

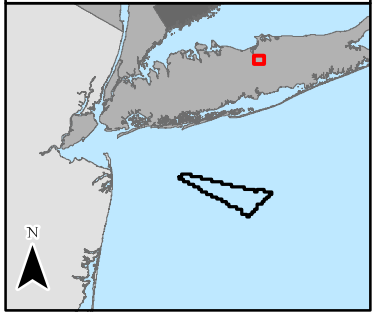
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



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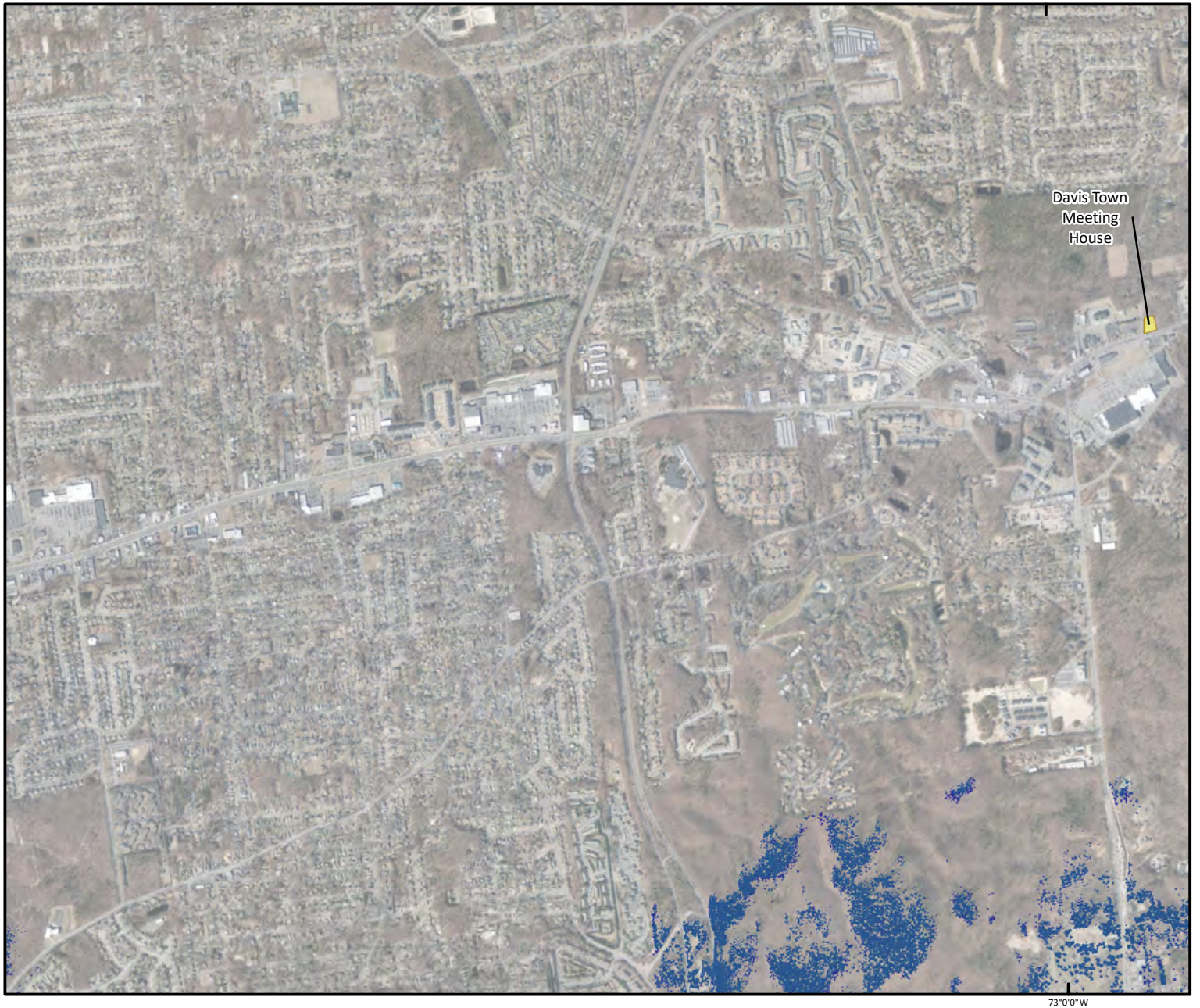


EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166-m viewshed intensity
High : 174
Low : 0
Historic District

Data Sources: BOEM, ESRI, NOAA, NYS ITS GIS Program Office, NYC Office of Technology & Innovation (OTI)
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

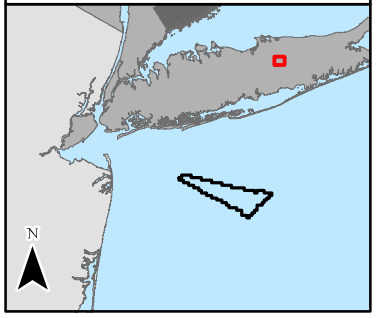
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



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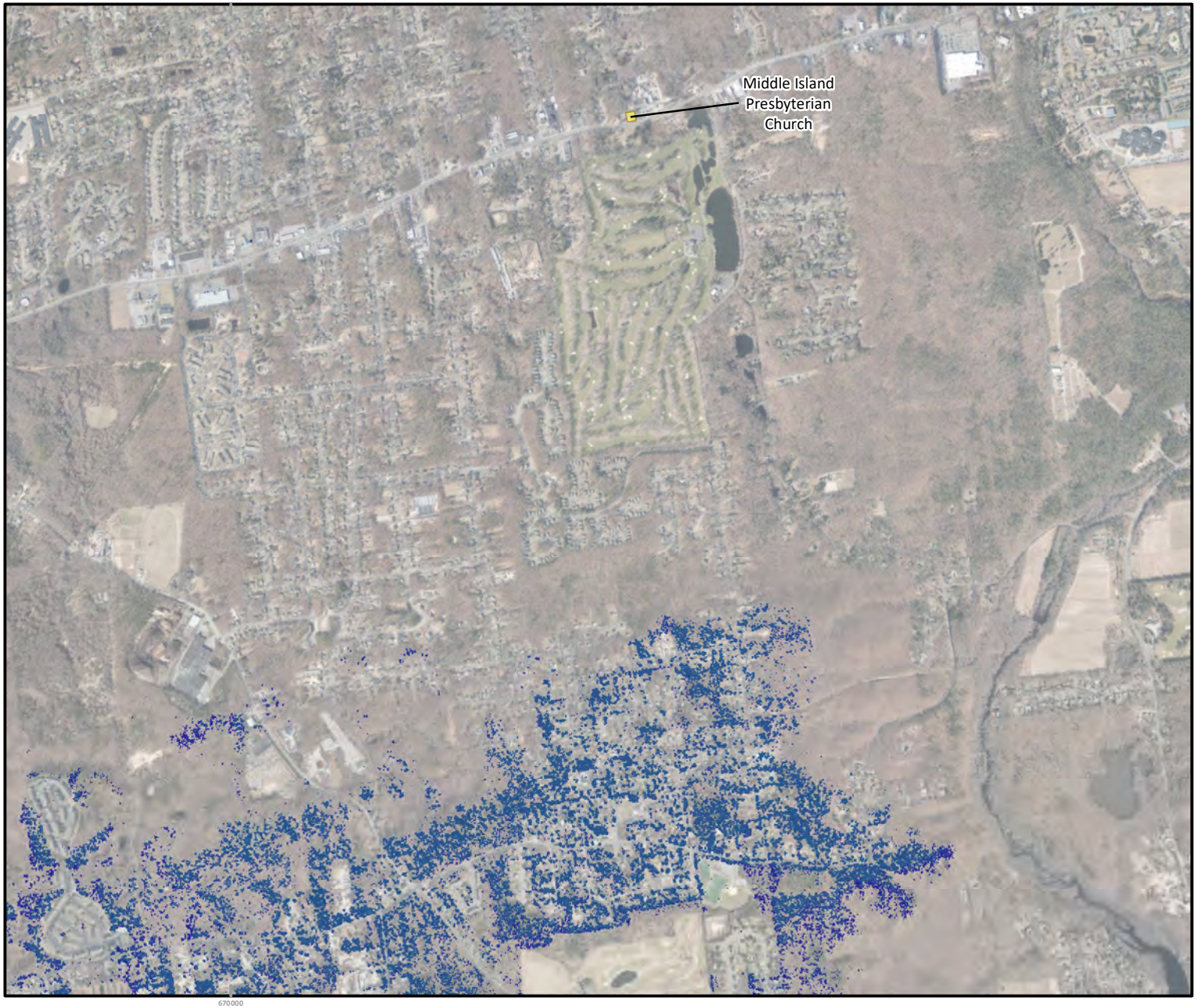


EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166-m viewshed intensity
High : 174
Low : 0
Historic District

Data Sources: BOEM, ESRI, NOAA, NYS ITS GIS Program Office, NYC Office of Technology & Innovation (OTI)
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

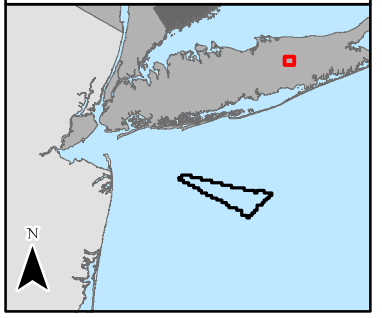
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



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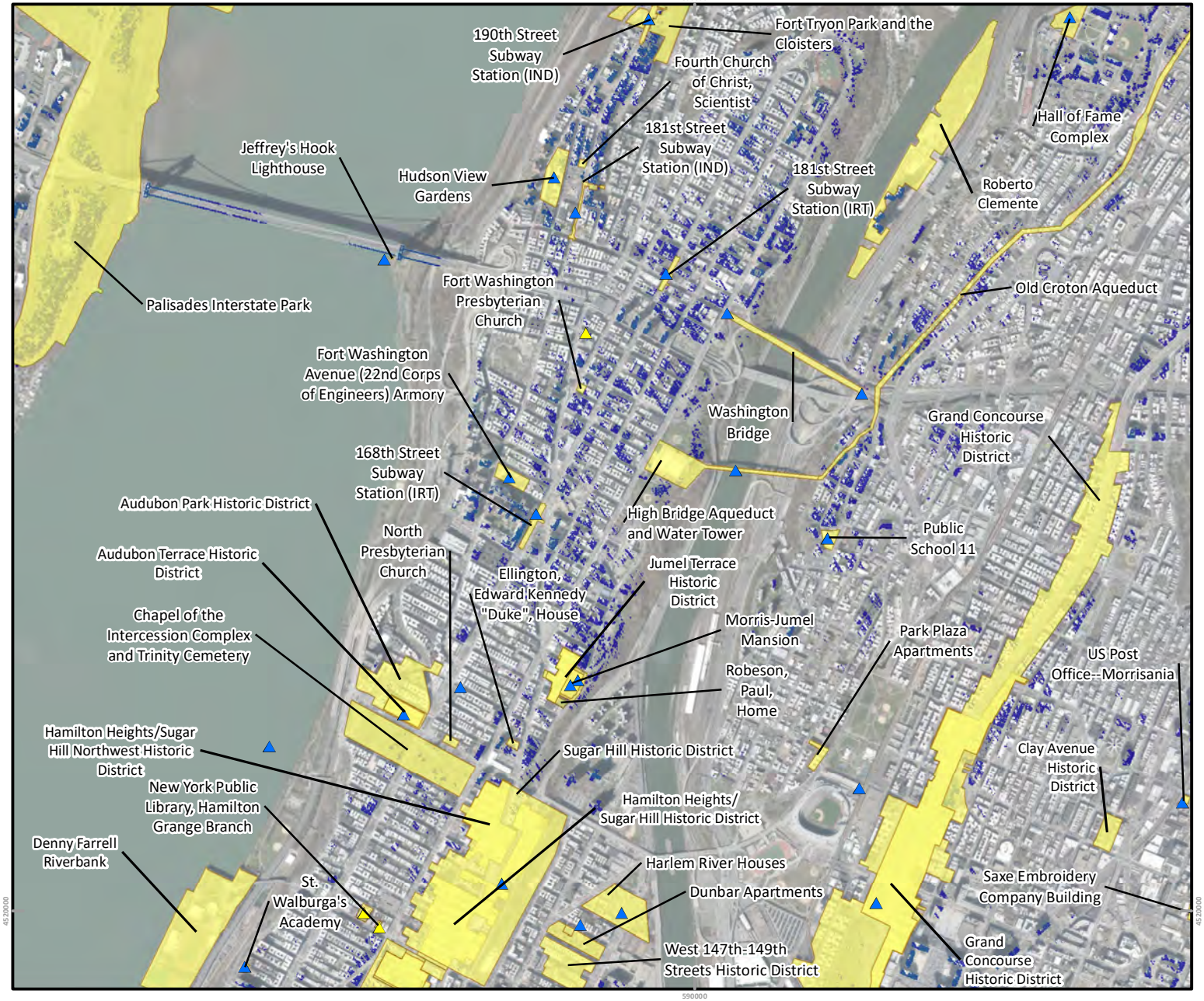

EMPIRE OFFSHORE WIND LEASE: OCS-A 0512 EMPIRE WIND PROJECT

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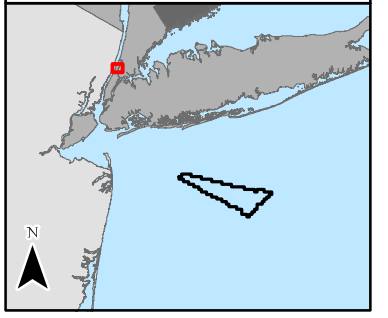
Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166-m viewshed intensity
High : 174
Low : 0
Historic Property Excluded from Effects Assessment
Potential visibility based on viewshed modeling
No visibility based on viewshed modeling
Historic District

Data Sources: BOEM, ESRI, NOAA, NYS ITS GIS Program Office, NYC Office of Technology & Innovation (OTI)
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles
0 0.1 0.2 0.3 0.4 Nautical Miles
0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



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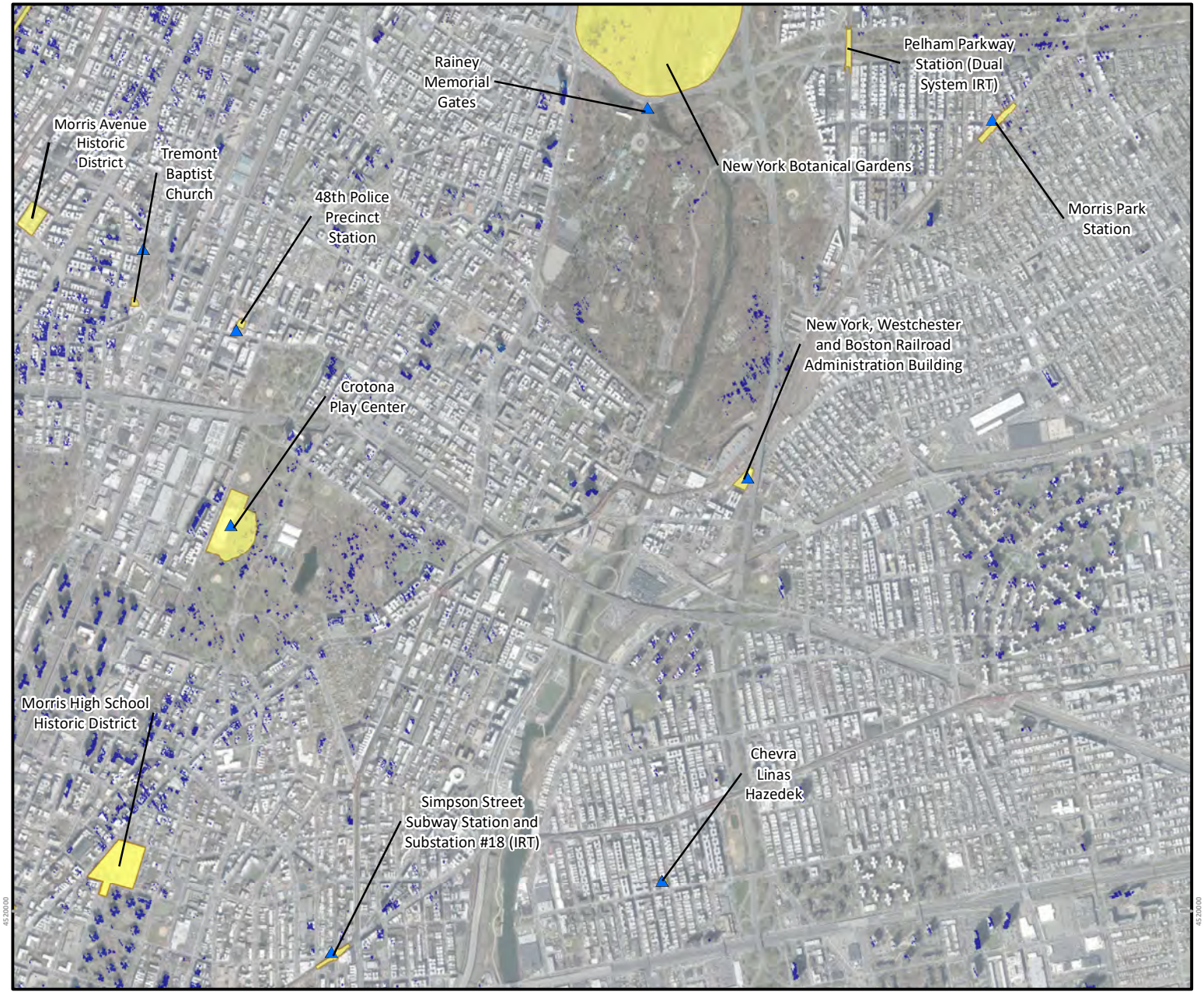


EMPIRE OFFSHORE WIND LEASE: OCS-A 0512 EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166-m viewshed intensity
High : 174
Low : 0
Historic Property Excluded from Effects Assessment
No visibility based on viewshed modeling
Historic District

Data Sources: BOEM, ESRI, NOAA, NYS ITS GIS Program Office, NYC Office of Technology & Innovation (OTI)
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

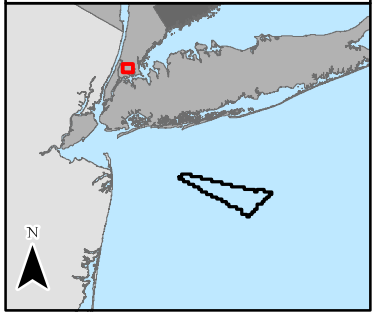
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



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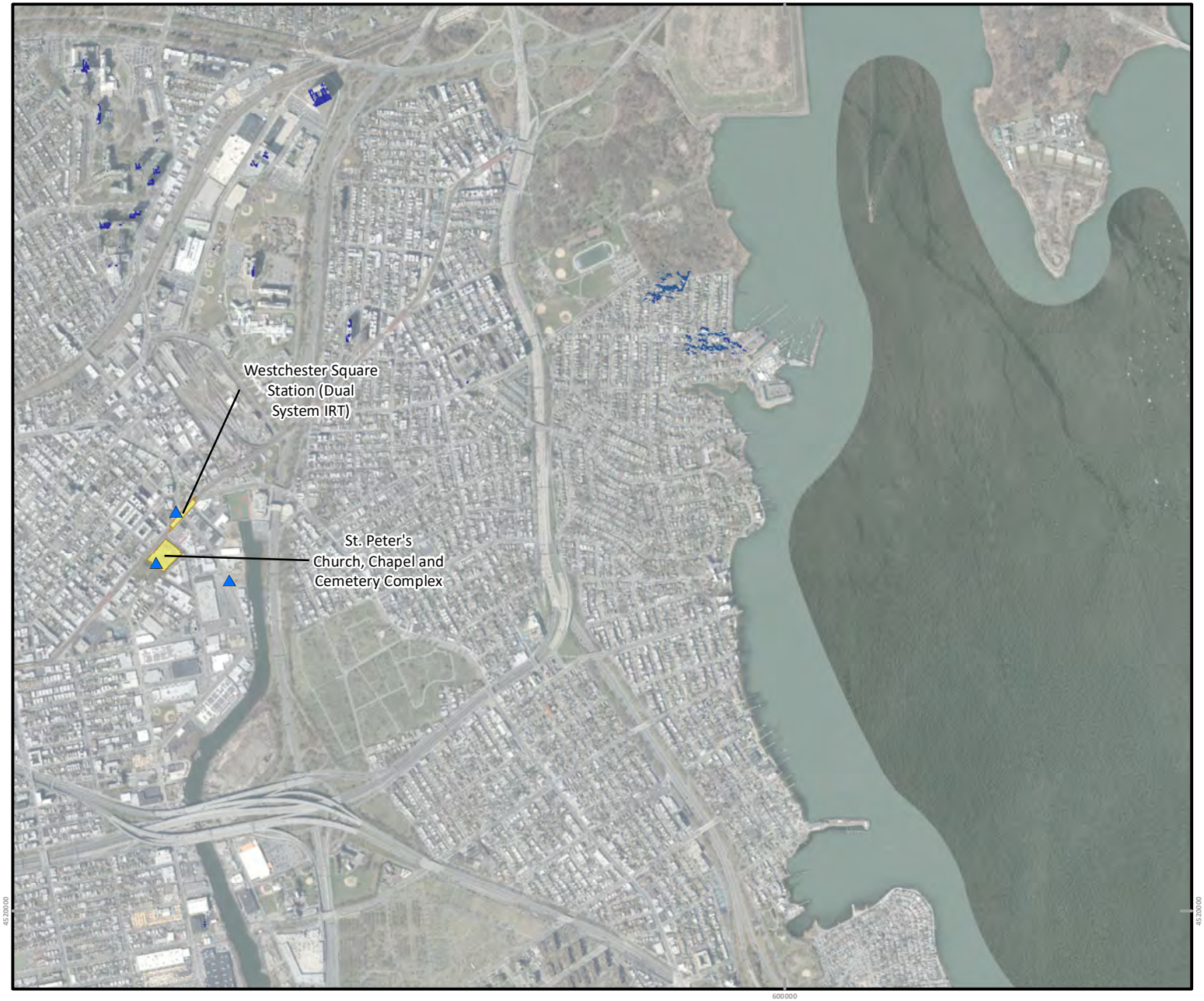


EMPIRE OFFSHORE WIND LEASE: OCS-A 0512 EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166-m viewshed intensity
High : 174
Low : 0

Historic Property Excluded from Effects Assessment
No visibility based on viewshed modeling
Historic District

Data Sources: BOEM, ESRI, NOAA, NYS ITS GIS Program Office, NYC Office of Technology & Innovation (OTI)
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

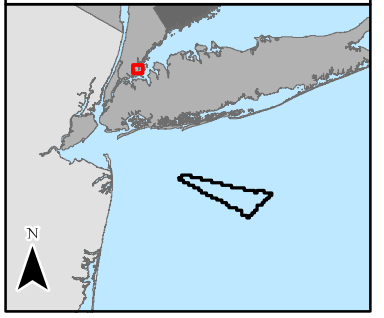
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



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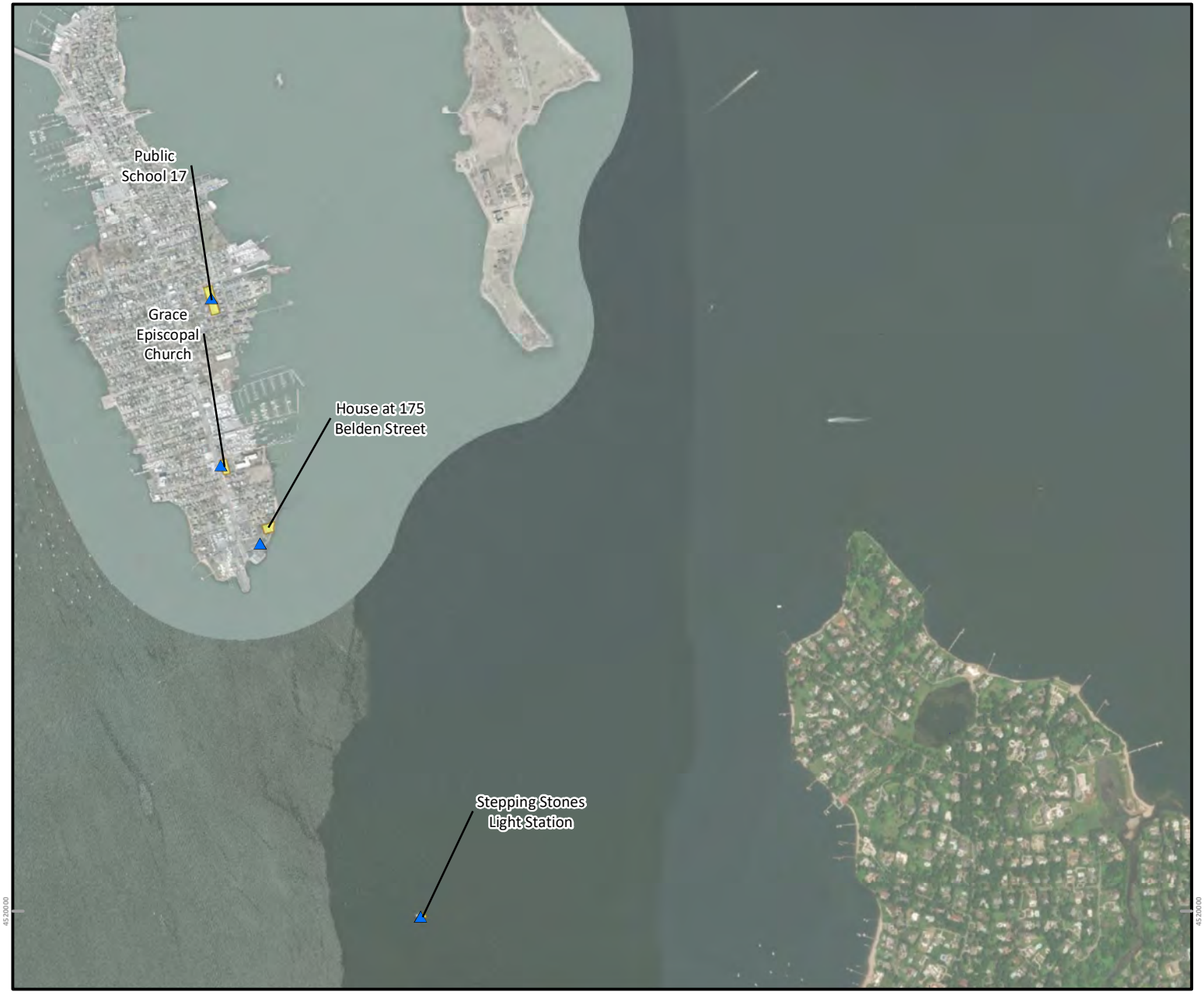


EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166-m viewshed intensity
High : 174
Low : 0

Historic Property Excluded from Effects Assessment
No visibility based on viewshed modeling
Historic District

Data Sources: BOEM, ESRI, NOAA, NYS ITS GIS Program Office, NYC Office of Technology & Innovation (OTI)
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

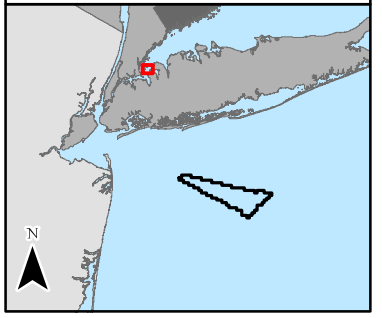
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



NOT FOR CONSTRUCTION

EMPIRE OFFSHORE WIND LEASE: OCS-A 0512 EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166-m viewshed intensity
High : 174
Low : 0

Historic Property Excluded from Effects Assessment
No visibility based on viewshed modeling
Historic District

Data Sources: BOEM, ESRI, NOAA, NYS ITS GIS Program Office, NYC Office of Technology & Innovation (OTI)
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

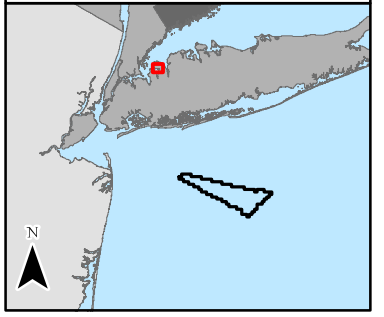
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



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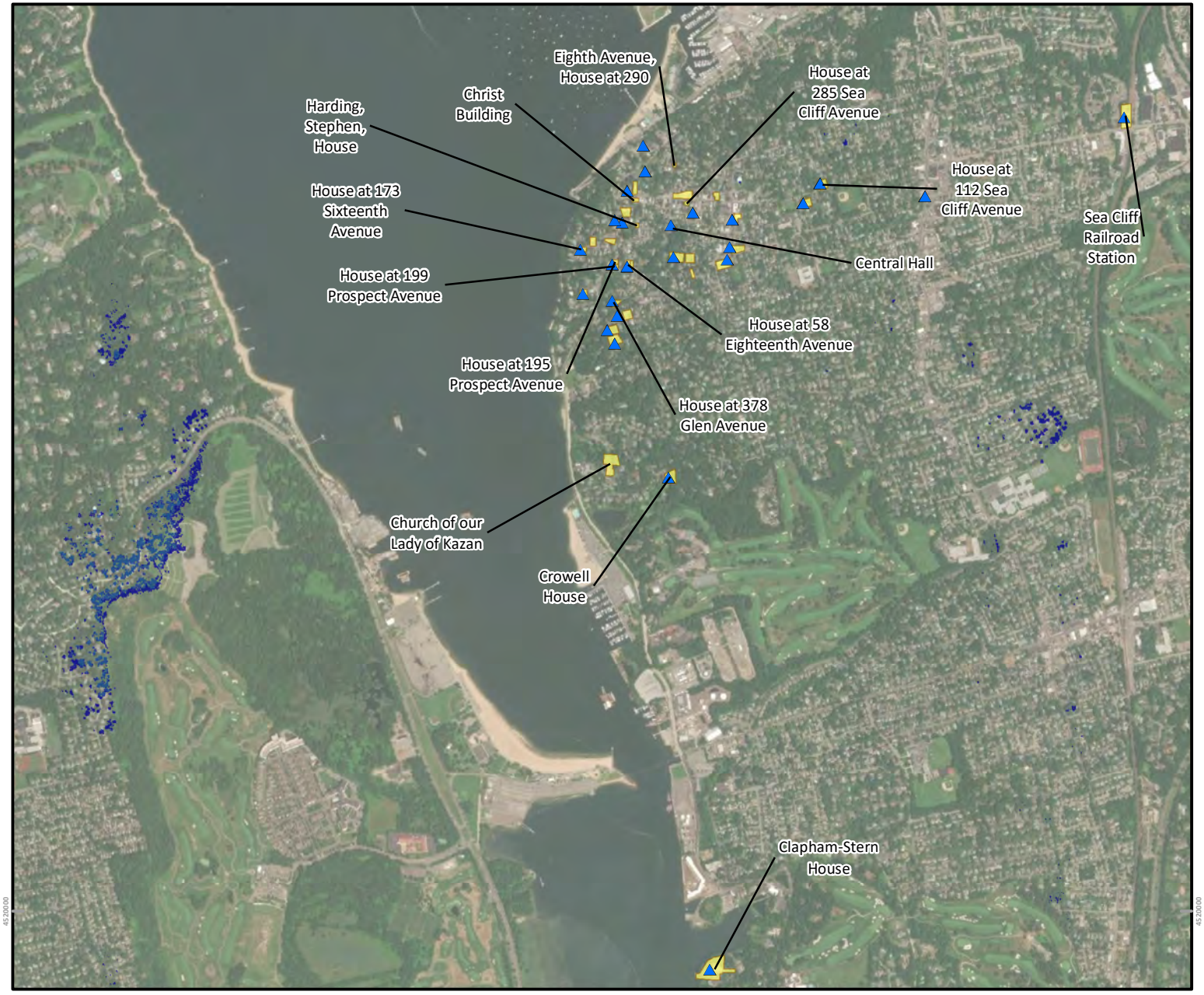

EMPIRE OFFSHORE WIND LEASE: OCS-A 0512 EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0

166-m viewshed intensity
High : 174
Low : 0

Historic Property Excluded from Effects Assessment
No visibility based on viewshed modeling
Historic District

Data Sources: BOEM, ESRI, NOAA, NYS ITS GIS Program Office, NYC Office of Technology & Innovation (OTI)
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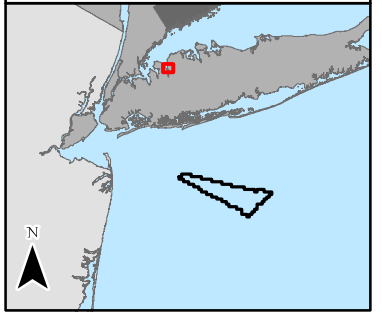
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



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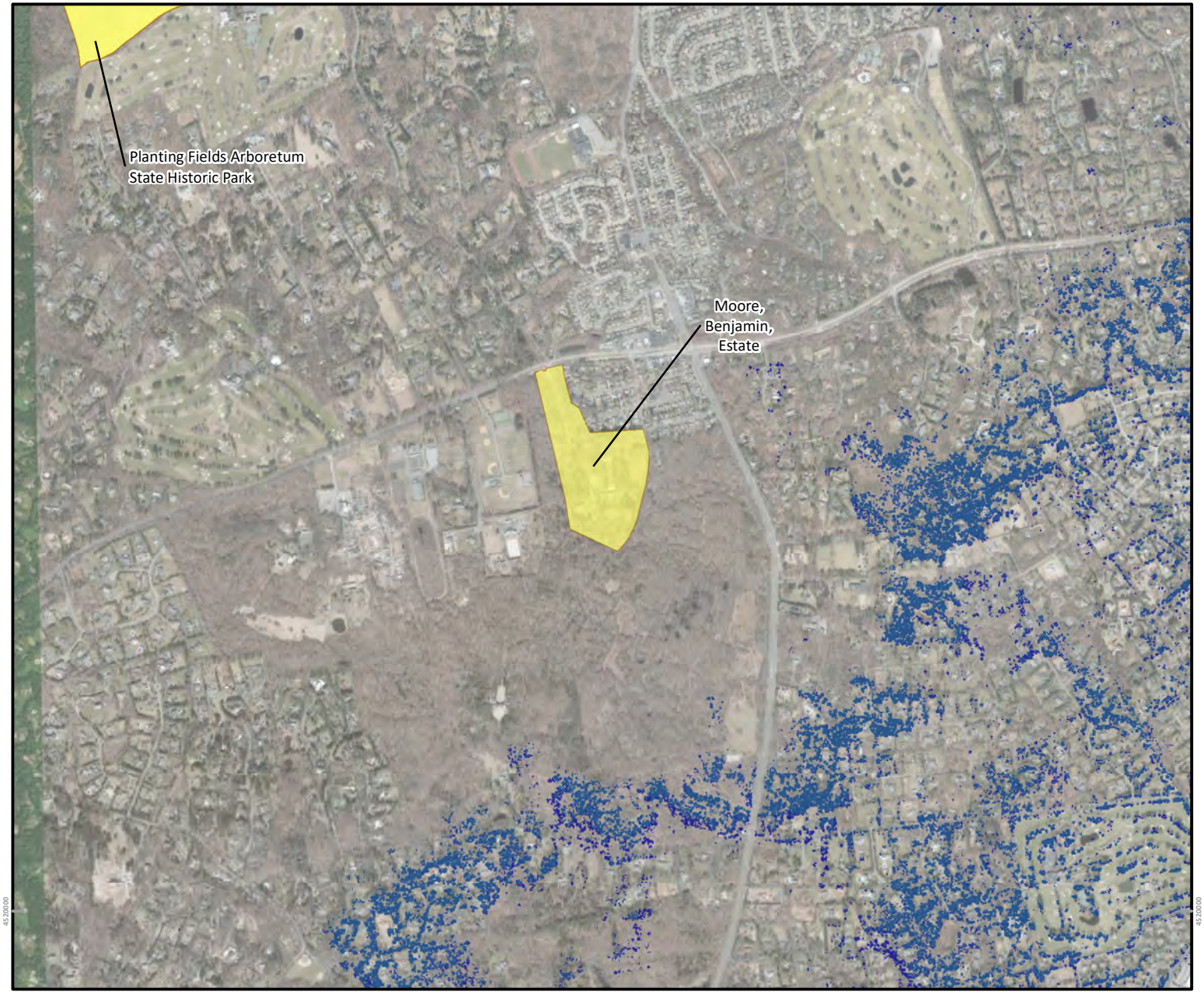


EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166-m viewshed intensity
High : 174
Low : 0
Historic District

Data Sources: BOEM, ESRI, NOAA, NYS ITS GIS Program Office, NYC Office of Technology & Innovation (OTI)
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

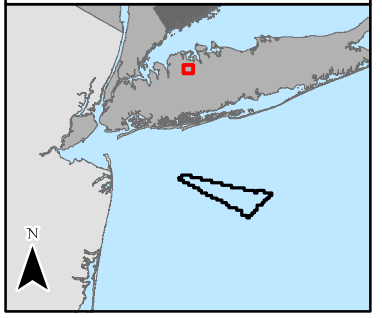
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



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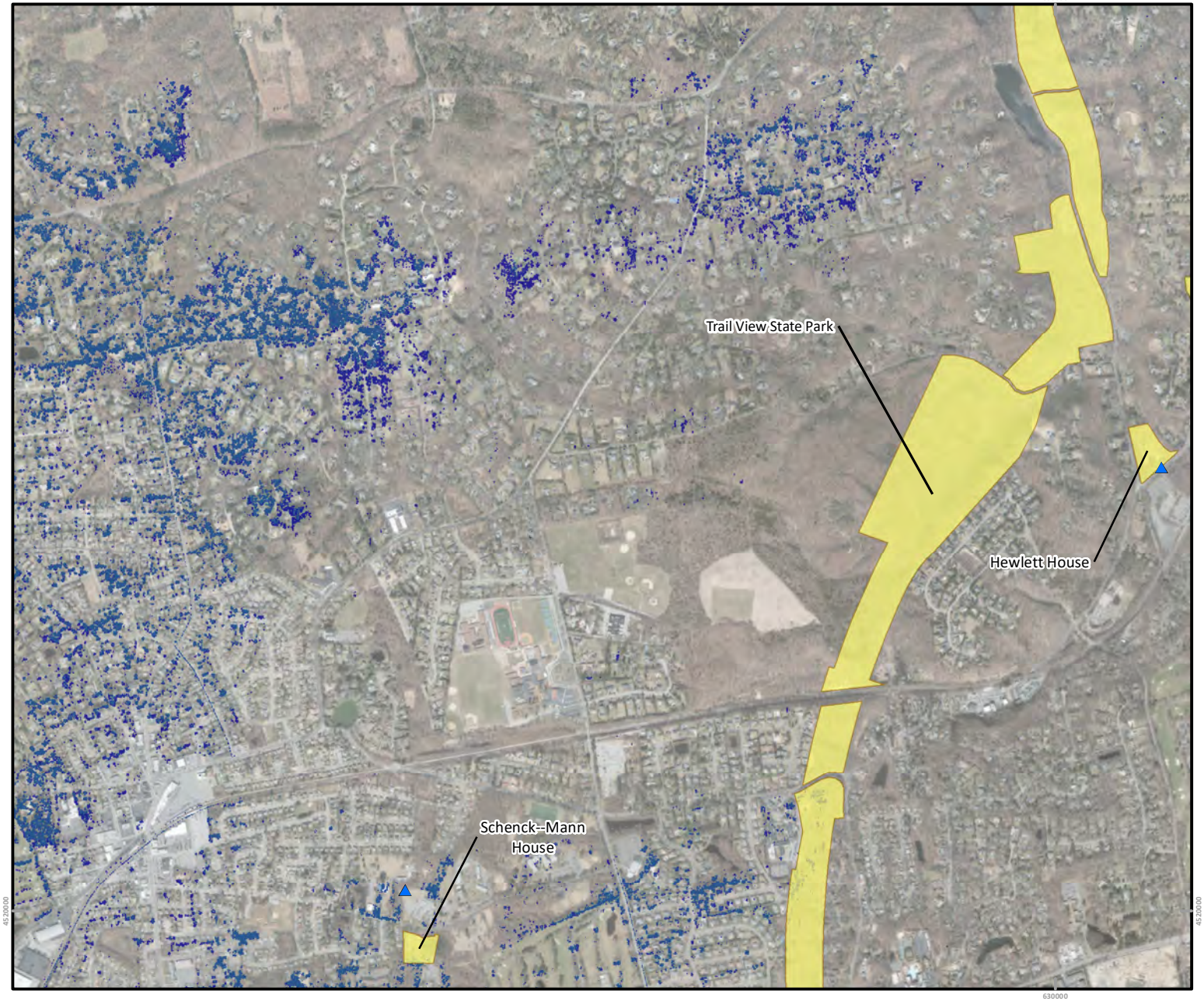


EMPIRE OFFSHORE WIND LEASE: OCS-A 0512 EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166-m viewshed intensity
High : 174
Low : 0

Historic Property Excluded from Effects Assessment
No visibility based on viewshed modeling
Historic District

Data Sources: BOEM, ESRI, NOAA, NYS ITS GIS Program Office, NYC Office of Technology & Innovation (OTI)
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

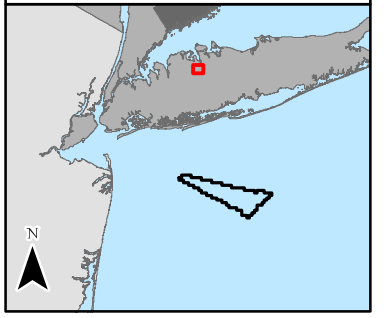
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



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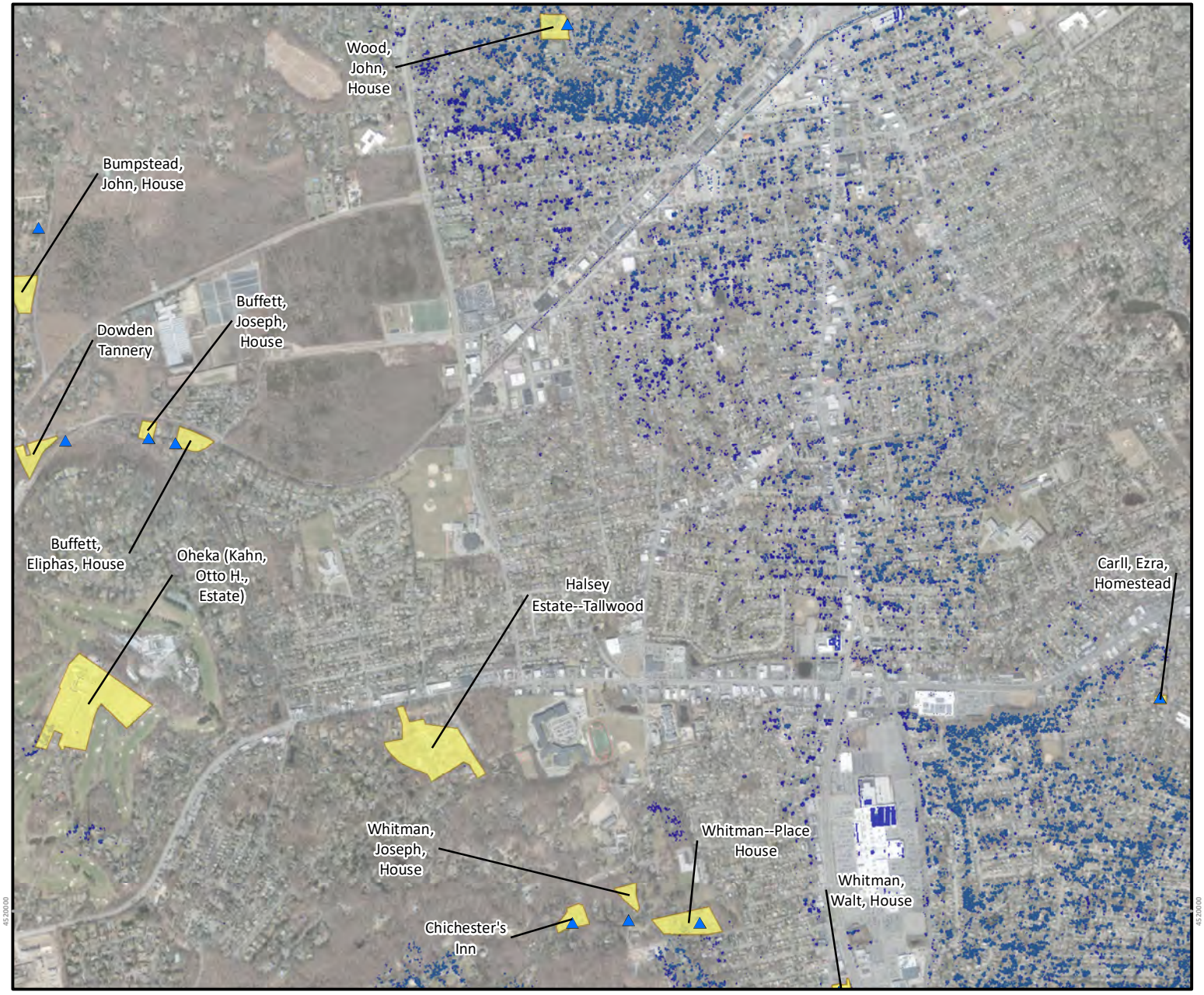


EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0

166-m viewshed intensity
High : 174
Low : 0

Historic Property Excluded from Effects Assessment
No visibility based on viewshed modeling
Historic District

Data Sources: BOEM, ESRI, NOAA, NYS ITS GIS Program Office, NYC Office of Technology & Innovation (OTI)
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

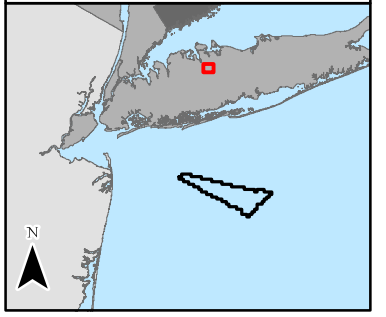
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



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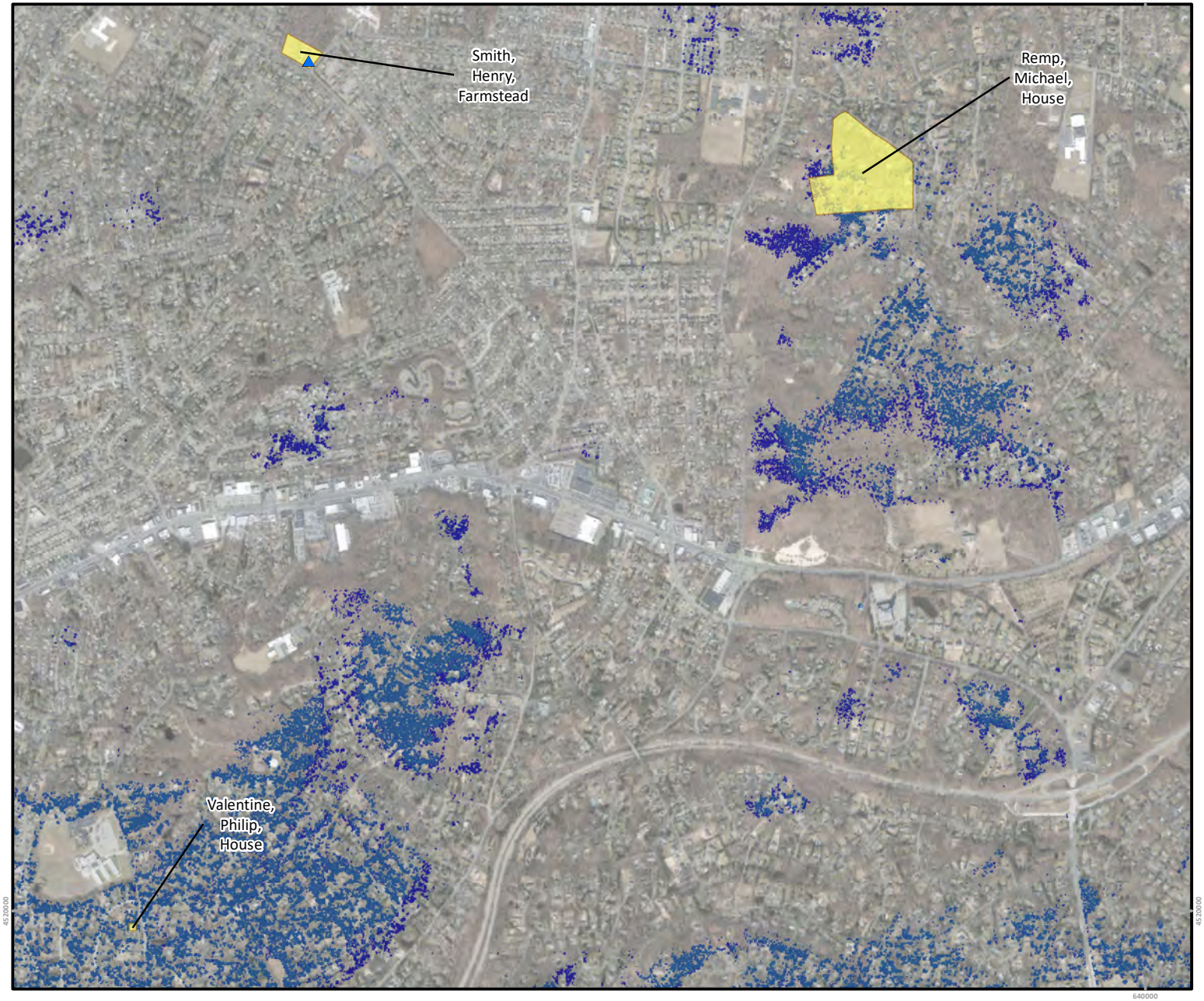


EMPIRE OFFSHORE WIND LEASE: OCS-A 0512 EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166-m viewshed intensity
High : 174
Low : 0

Historic Property Excluded from Effects Assessment
No visibility based on viewshed modeling
Historic District

Data Sources: BOEM, ESRI, NOAA, NYS ITS GIS Program Office, NYC Office of Technology & Innovation (OTI)
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

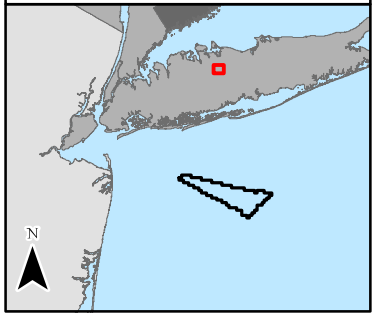
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

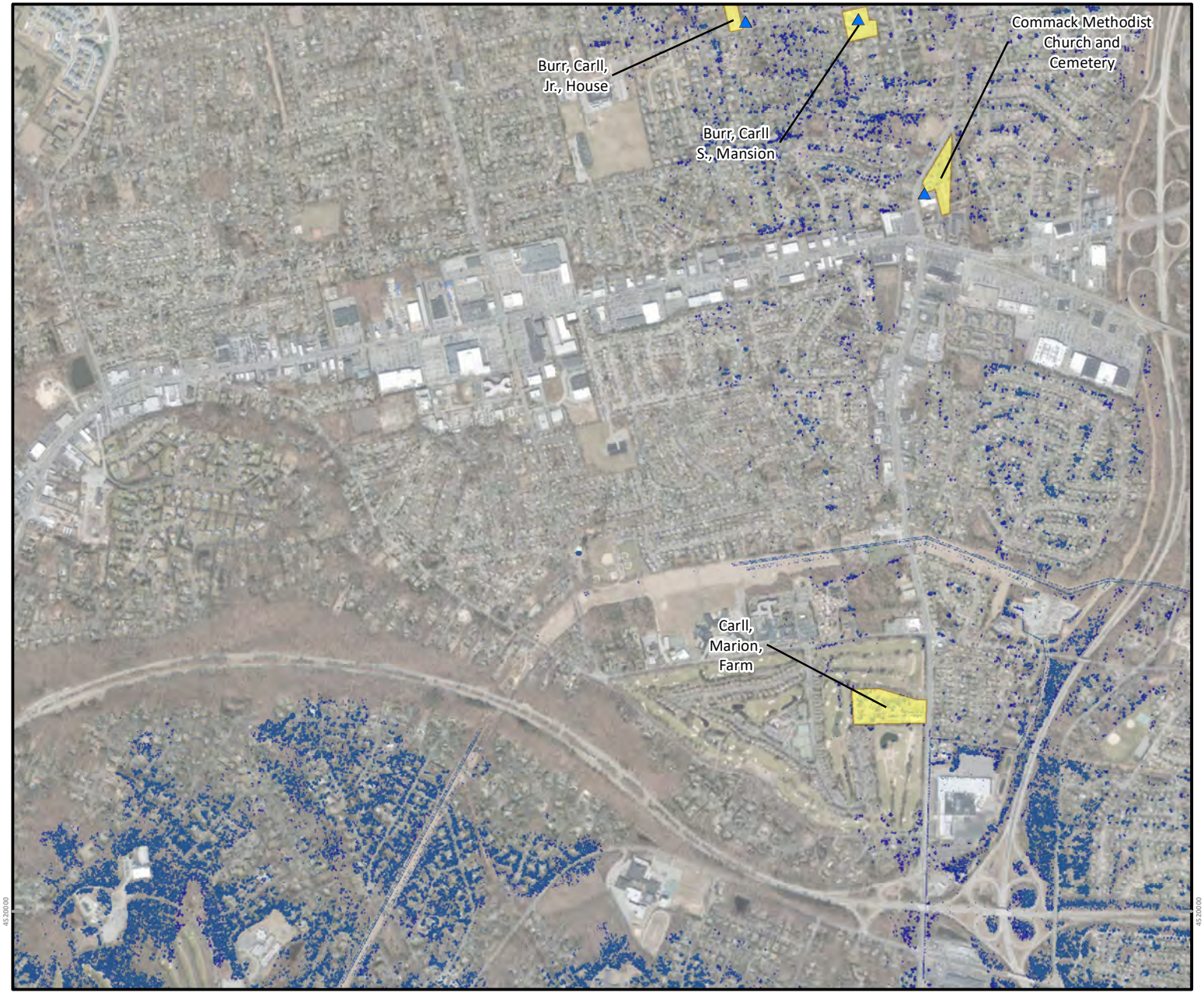
0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



NOT FOR CONSTRUCTION



EMPIRE OFFSHORE WIND LEASE: OCS-A 0512 EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166-m viewshed intensity
High : 174
Low : 0
Historic Property Excluded from Effects Assessment
No visibility based on viewshed modeling
Historic District

Data Sources: BOEM, ESRI, NOAA, NYS ITS GIS Program Office, NYC Office of Technology & Innovation (OTI)
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

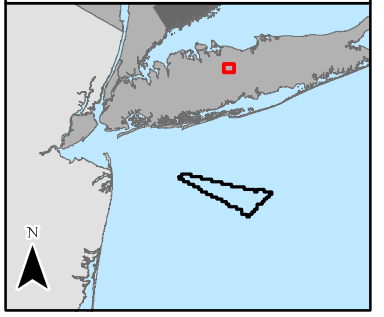
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



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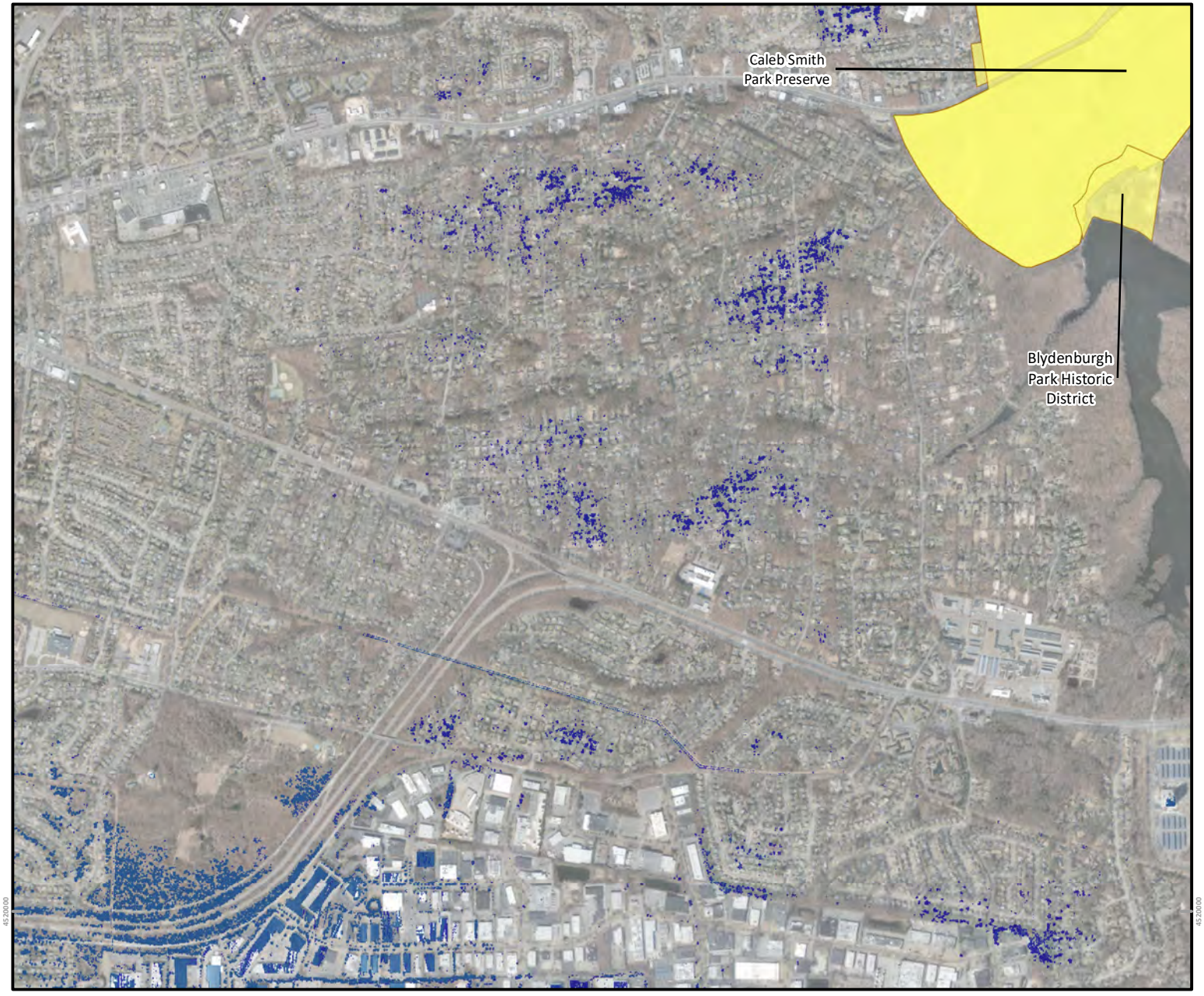

EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166-m viewshed intensity
High : 174
Low : 0
Historic District

Data Sources: BOEM, ESRI, NOAA, NYS ITS GIS Program Office, NYC Office of Technology & Innovation (OTI)
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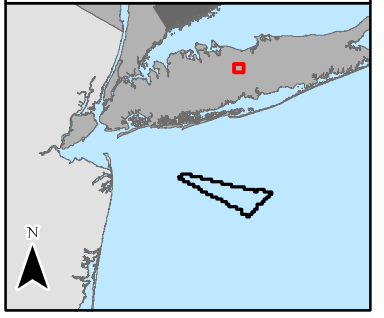
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



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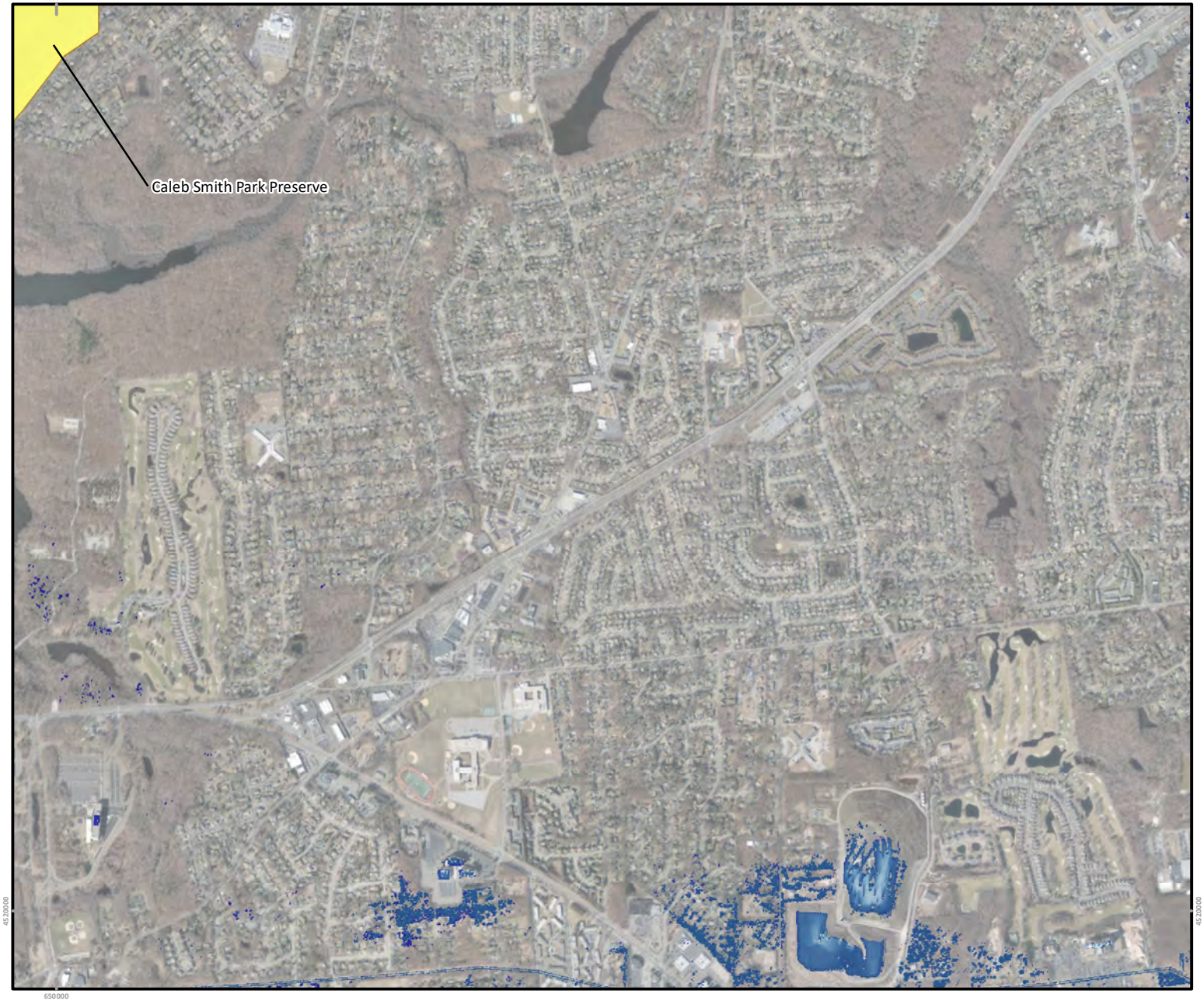

EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166-m viewshed intensity
High : 174
Low : 0
Historic District

Data Sources: BOEM, ESRI, NOAA, NYS ITS GIS Program Office, NYC Office of Technology & Innovation (OTI)
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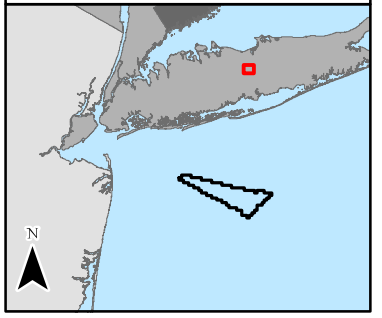
0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



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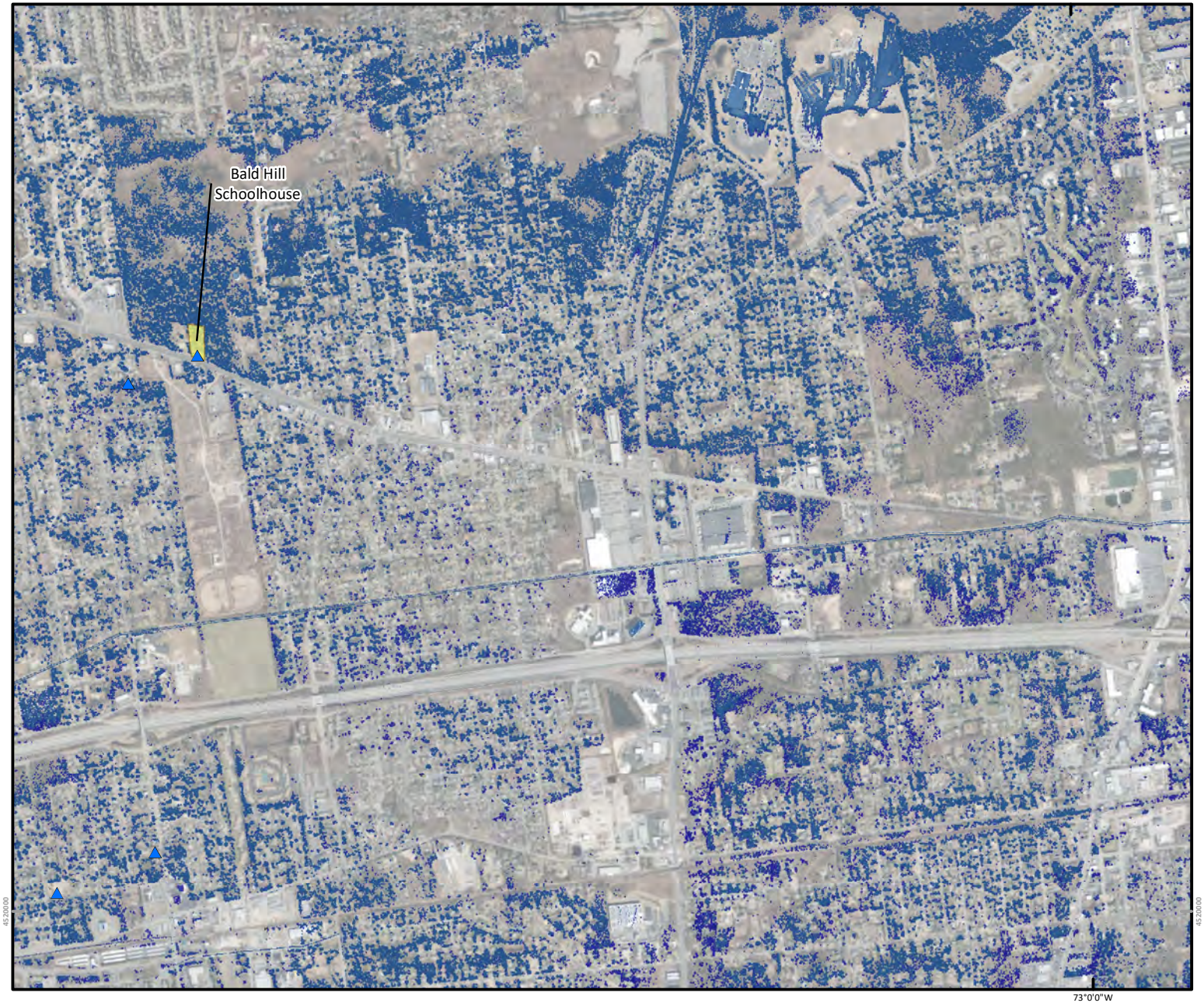

EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166-m viewshed intensity
High : 174
Low : 0

Historic Property Excluded from Effects Assessment
No visibility based on viewshed modeling
Historic District

Data Sources: BOEM, ESRI, NOAA, NYS ITS GIS Program Office, NYC Office of Technology & Innovation (OTI)
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Date	November 2, 2022
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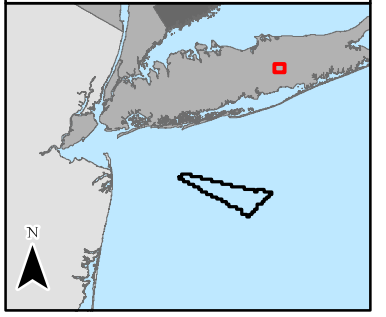
0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



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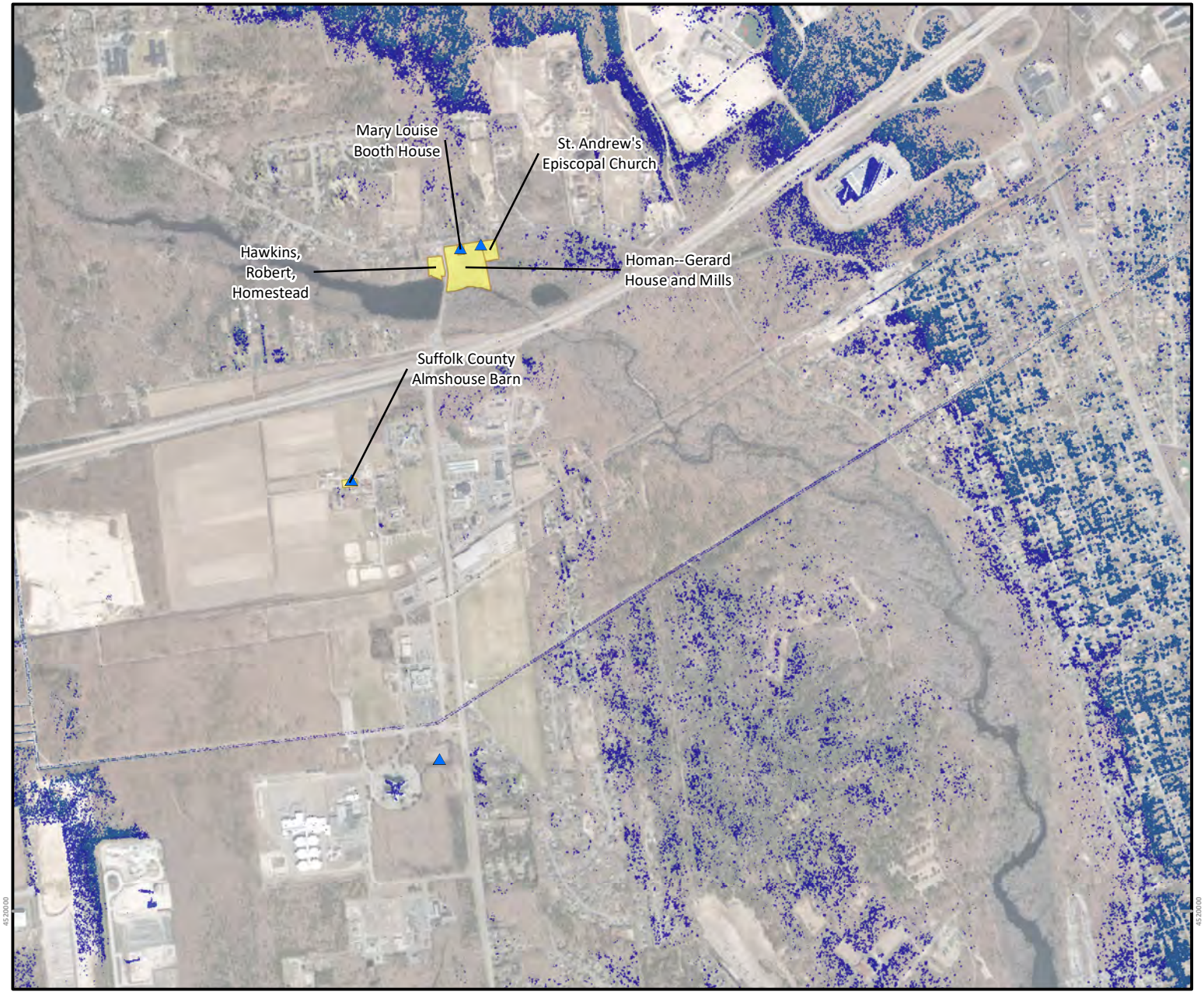

EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

equinor

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166-m viewshed intensity
High : 174
Low : 0
Historic Property Excluded from Effects Assessment
No visibility based on viewshed modeling
Historic District

Data Sources: BOEM, ESRI, NOAA, NYS ITS GIS Program Office, NYC Office of Technology & Innovation (OTI)
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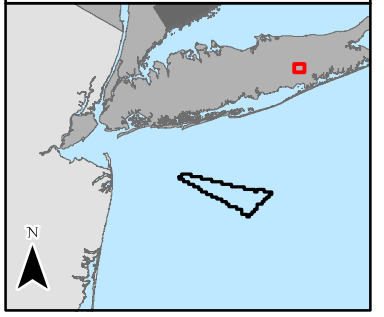
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



NOT FOR CONSTRUCTION

EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166-m viewshed intensity
High : 174
Low : 0
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Data Sources: BOEM, ESRI, NOAA, NYS ITS GIS Program Office, NYC Office of Technology & Innovation (OTI)
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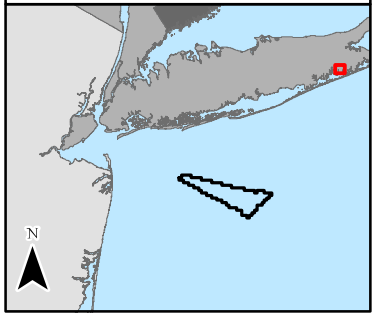
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



NOT FOR CONSTRUCTION

EMPIRE OFFSHORE WIND LEASE: OCS-A 0512 EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166-m viewshed intensity
High : 174
Low : 0
Historic Property Excluded from Effects Assessment
No visibility based on viewshed modeling
Historic District

Data Sources: BOEM, ESRI, NOAA, NYS ITS GIS Program Office, NYC Office of Technology & Innovation (OTI)
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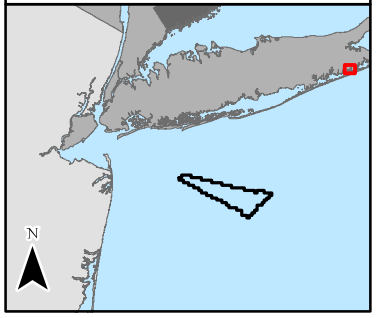
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



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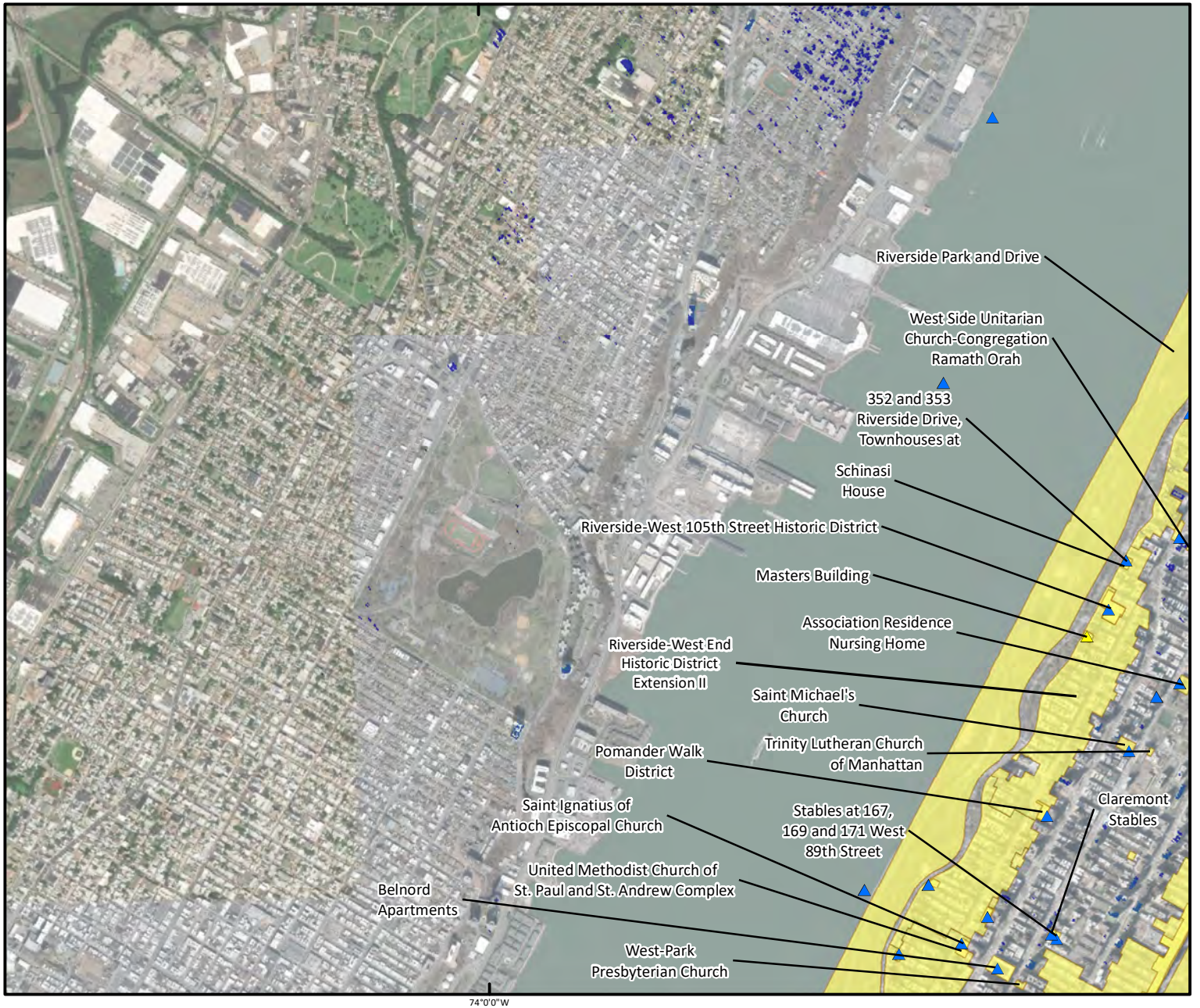

EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166-m viewshed intensity
High : 174
Low : 0

Historic Property Excluded from Effects Assessment
- Potential visibility based on viewshed modeling
- No visibility based on viewshed modeling
- Historic District

Data Sources: BOEM, ESRI, NOAA, NYS ITS GIS Program Office, NYC Office of Technology & Innovation (OTI)
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Date	November 2, 2022
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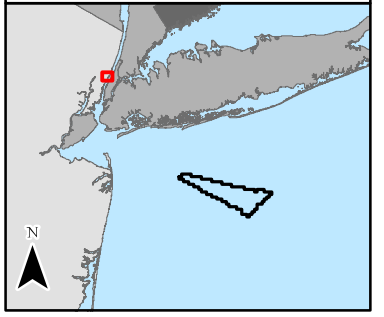
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



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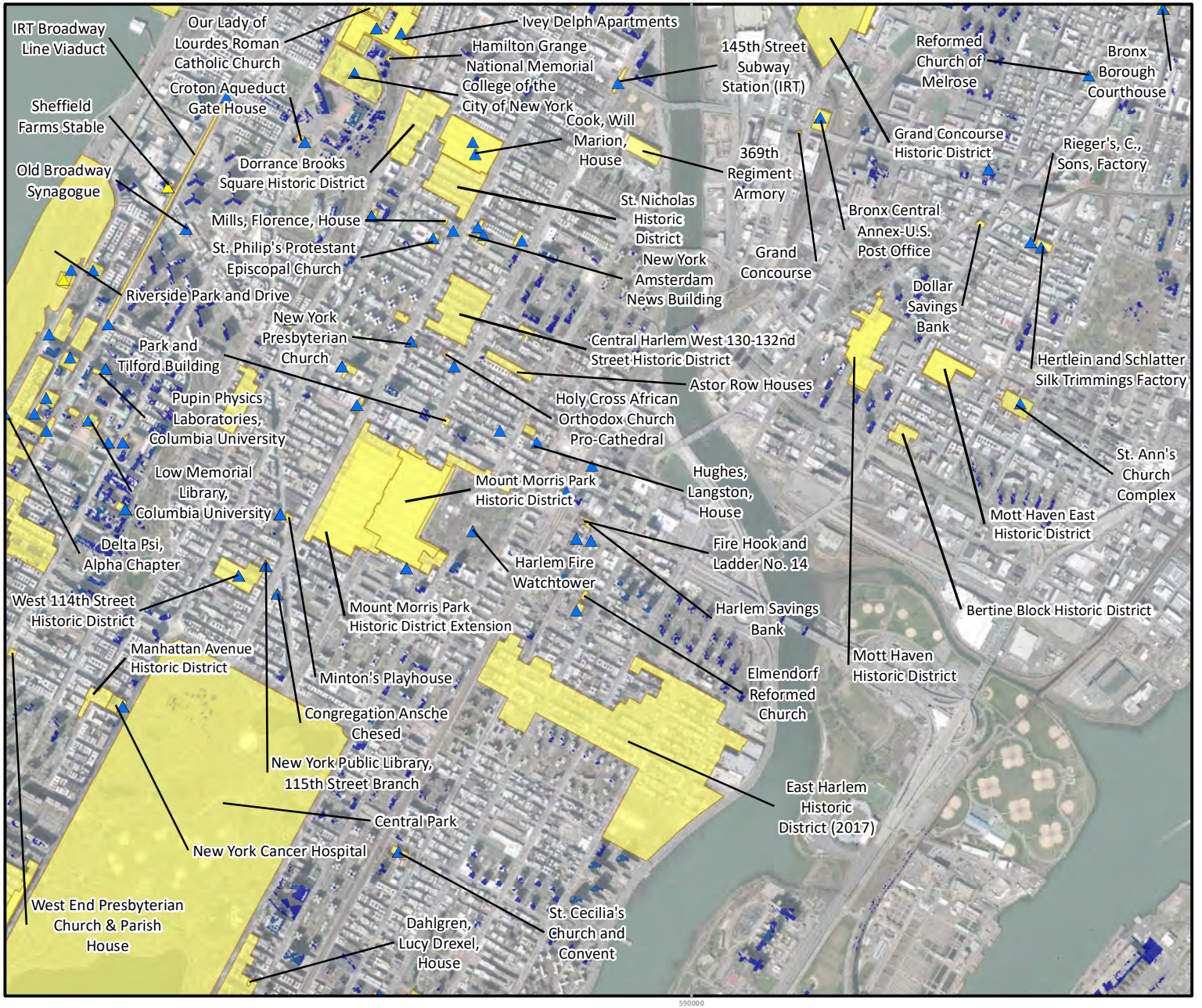

EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

equinor

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166-m viewshed intensity
High : 174
Low : 0

Historic Property Excluded from Effects Assessment
- Potential visibility based on viewshed modeling
- No visibility based on viewshed modeling
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Data Sources: BOEM, ESRI, NOAA, NYS ITS GIS Program Office, NYC Office of Technology & Innovation (OTI)
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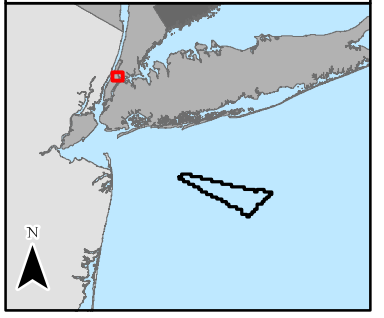
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



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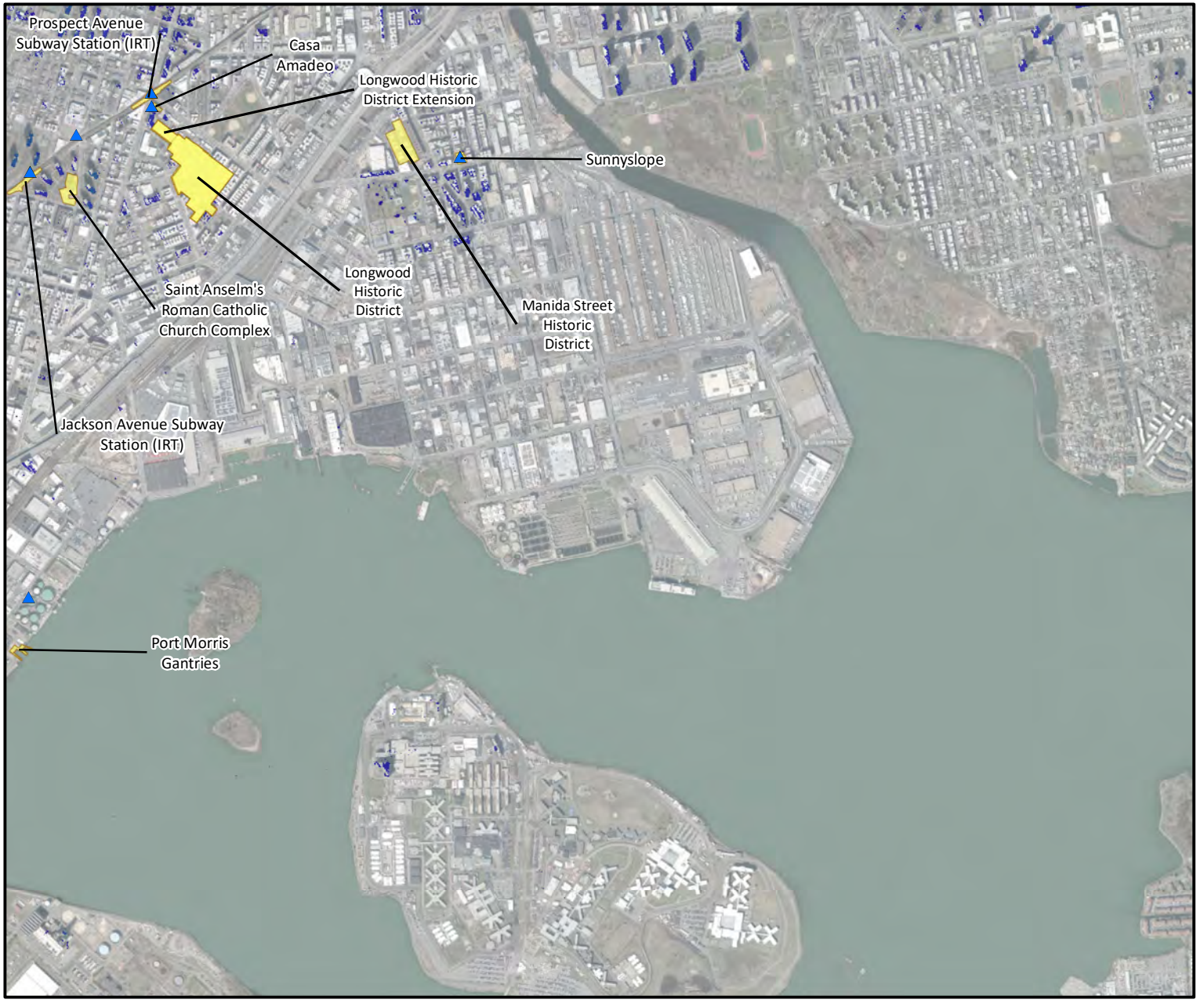


EMPIRE OFFSHORE WIND LEASE: OCS-A 0512 EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166-m viewshed intensity
High : 174
Low : 0
Historic Property Excluded from Effects Assessment
No visibility based on viewshed modeling
Historic District

Data Sources: BOEM, ESRI, NOAA, NYS ITS GIS Program Office, NYC Office of Technology & Innovation (OTI)
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

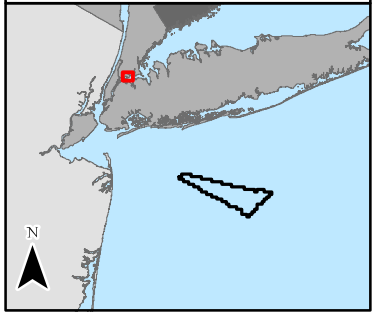
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



NOT FOR CONSTRUCTION

EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166-m viewshed intensity
High : 174
Low : 0
Historic District

Data Sources: BOEM, ESRI, NOAA, NYS ITS GIS Program Office, NYC Office of Technology & Innovation (OTI)
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Date	November 2, 2022
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0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

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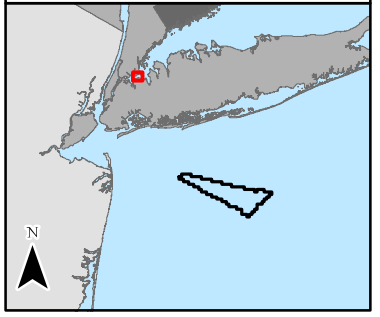

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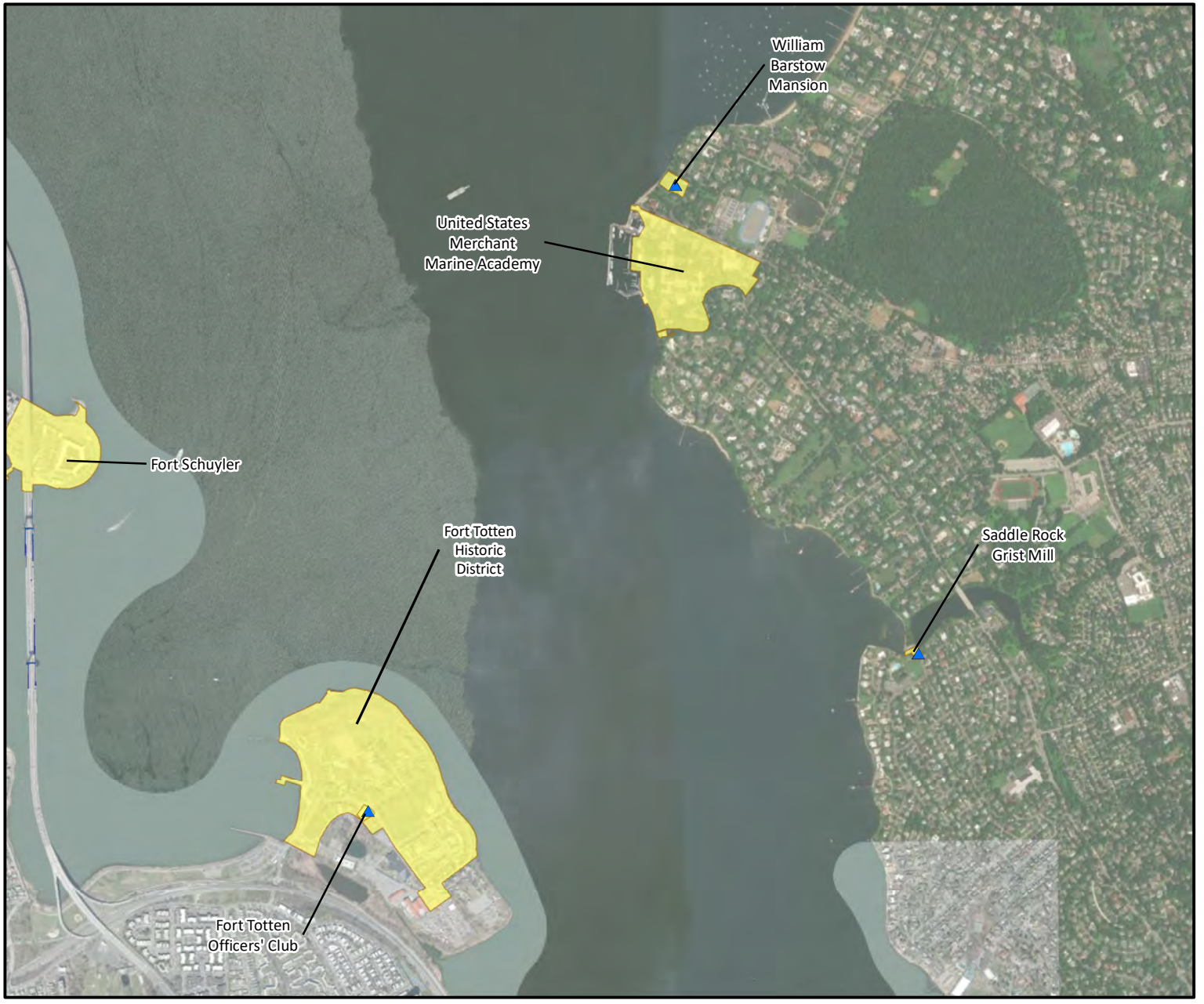

EMPIRE OFFSHORE WIND LEASE: OCS-A 0512 EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166-m viewshed intensity
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Low : 0
Historic Property Excluded from Effects Assessment
No visibility based on viewshed modeling
Historic District

Data Sources: BOEM, ESRI, NOAA, NYS ITS GIS Program Office, NYC Office of Technology & Innovation (OTI)
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0 0.1 0.2 0.3 0.4 0.5 Miles

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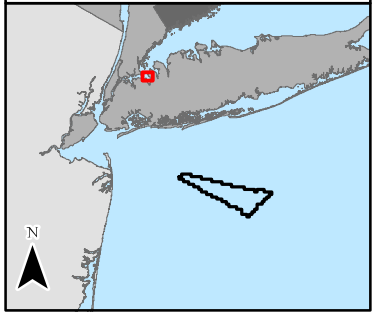

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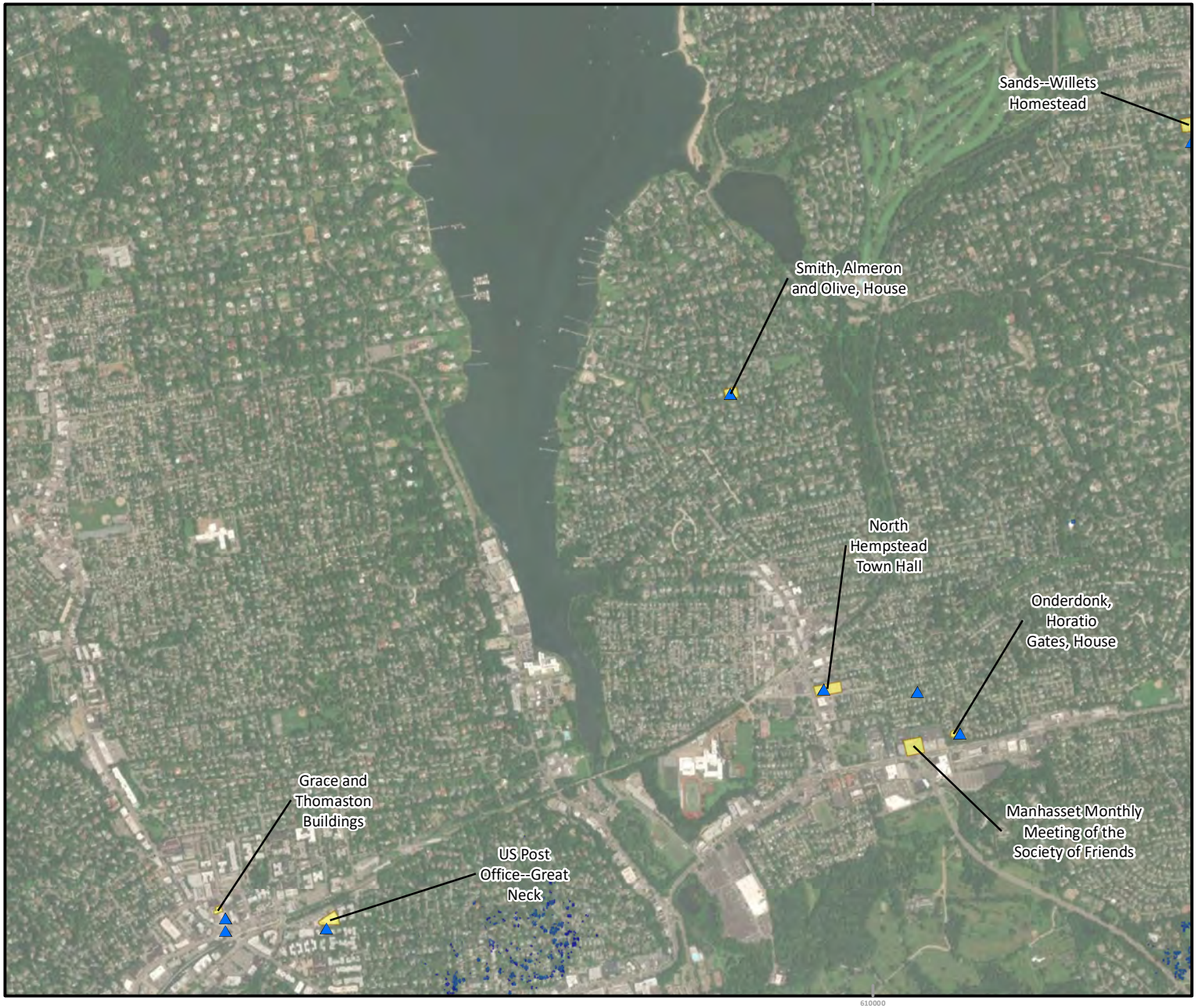

EMPIRE OFFSHORE WIND LEASE: OCS-A 0512 EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
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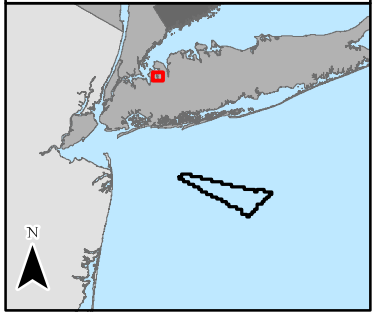

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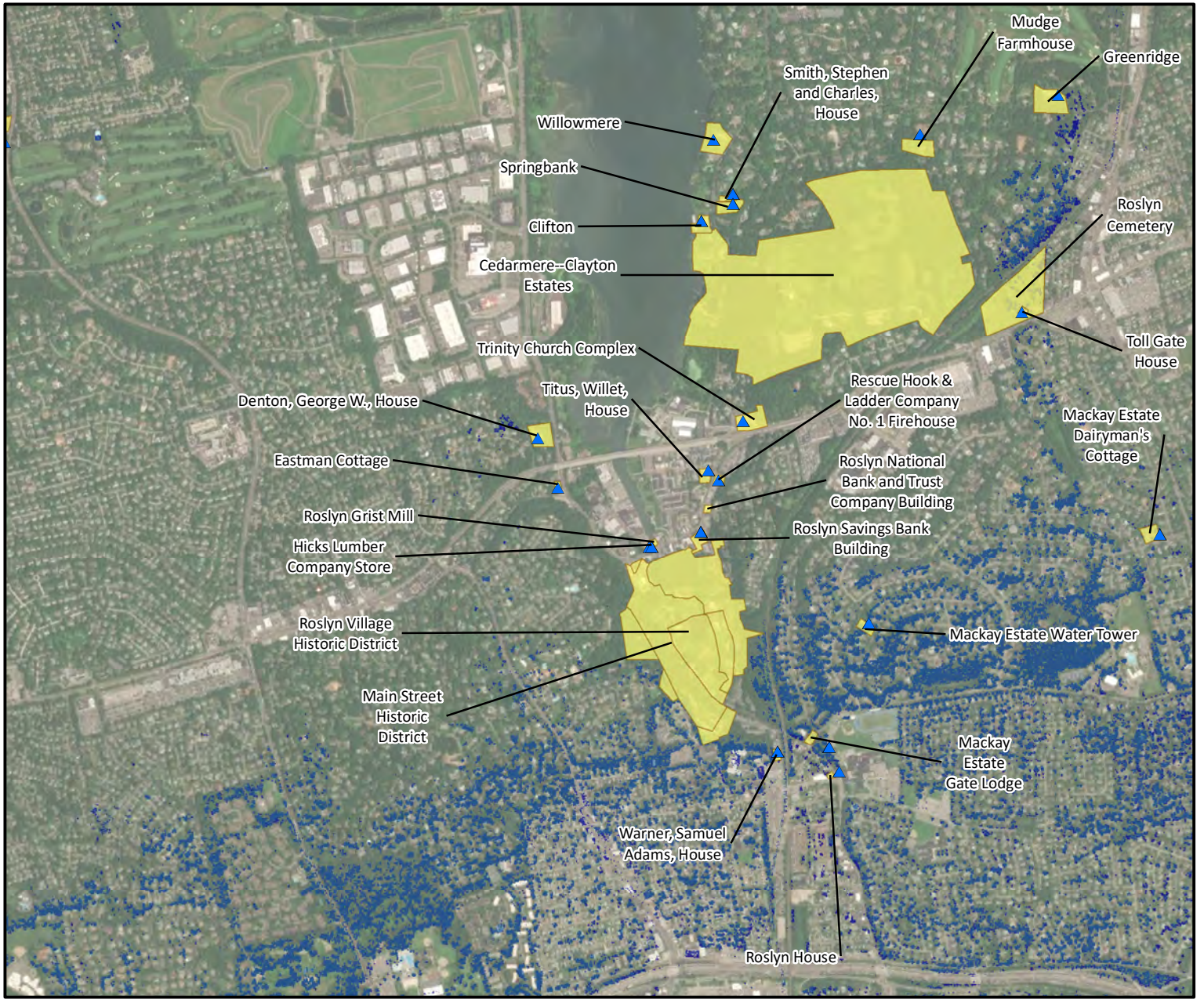

EMPIRE OFFSHORE WIND LEASE: OCS-A 0512 EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
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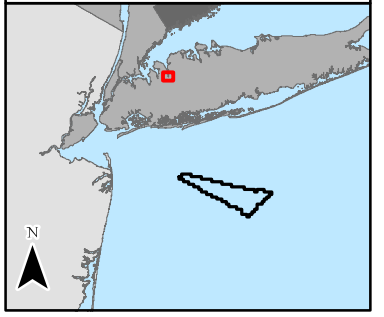

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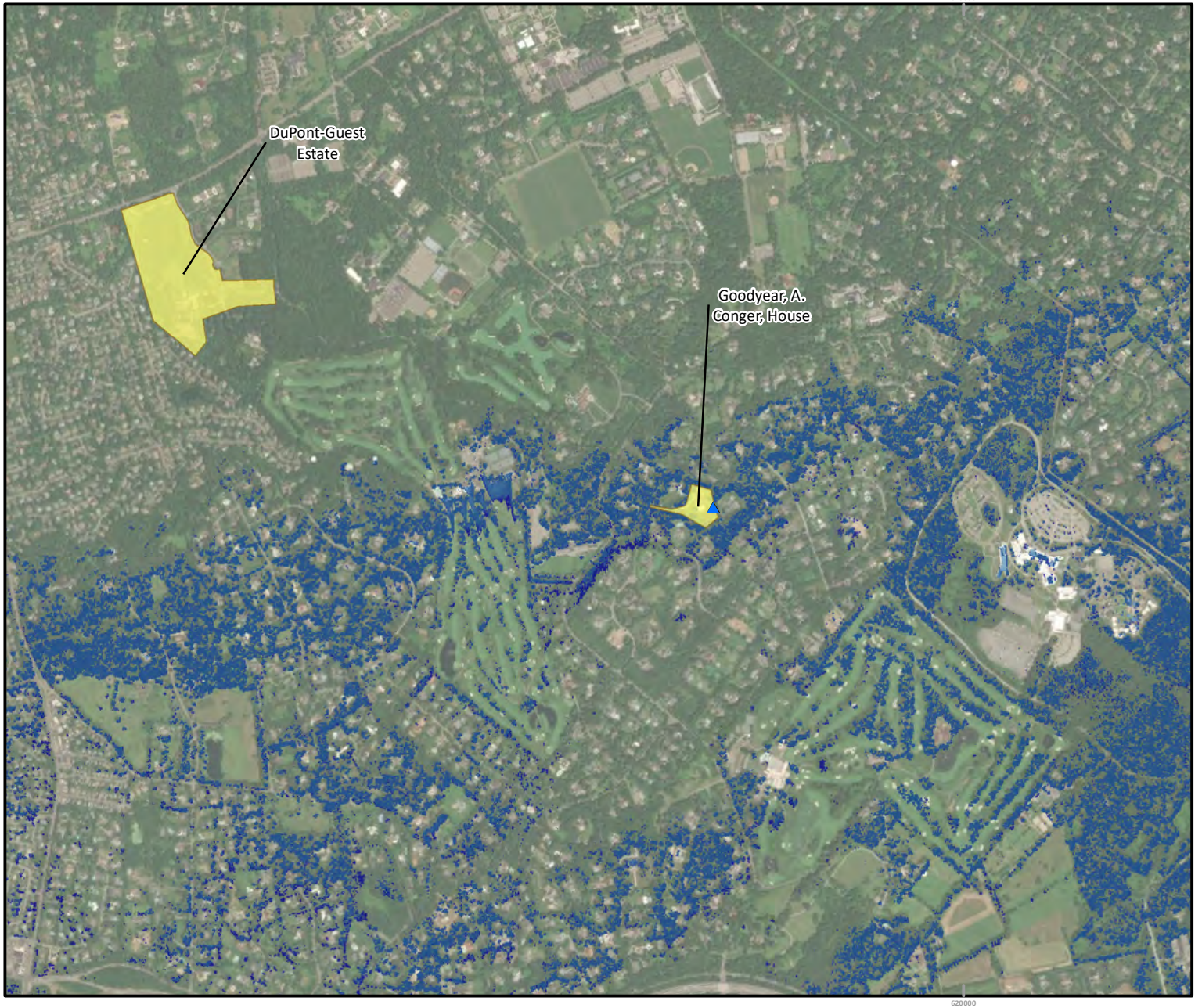

EMPIRE OFFSHORE WIND LEASE: OCS-A 0512 EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
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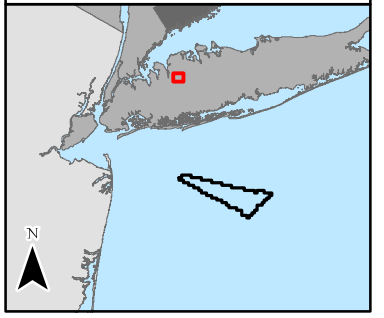
0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



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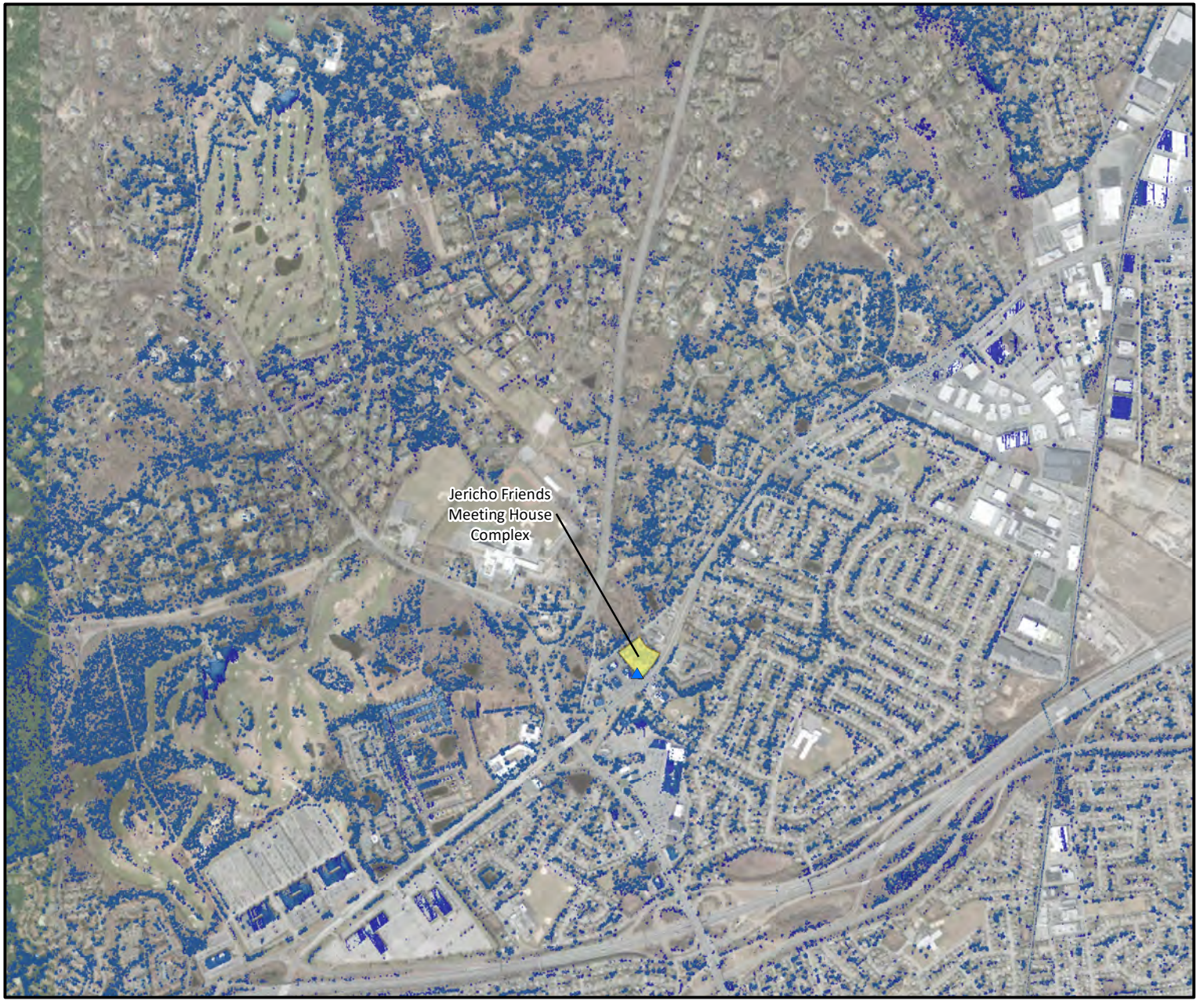

EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
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166-m viewshed intensity
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File/Job Number	194-1247-0001
Scale	1:24,000
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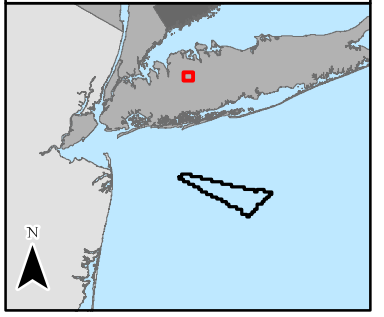
0 0.1 0.2 0.3 0.4 0.5 Miles

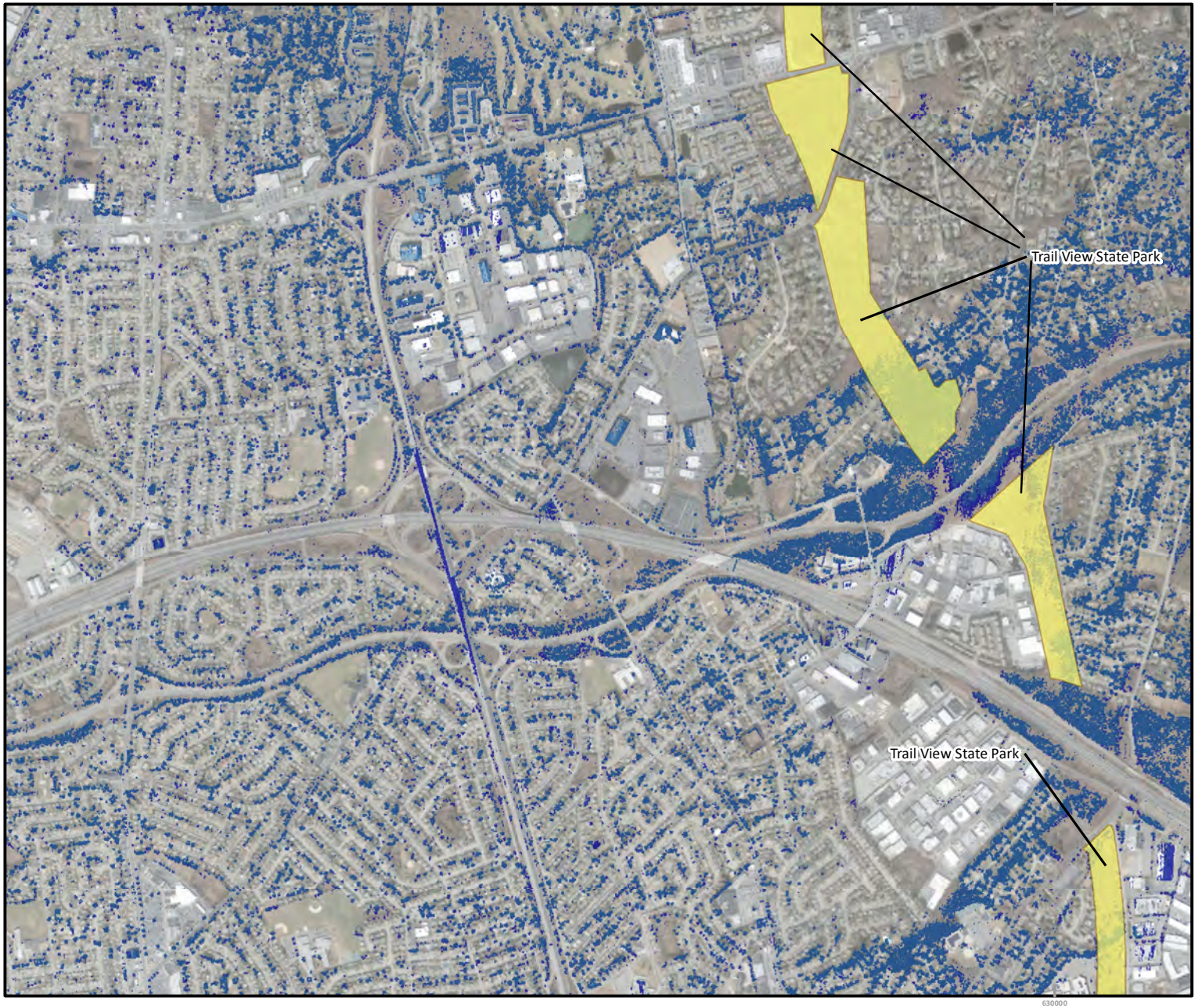
0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



NOT FOR CONSTRUCTION



EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
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Historic District

Data Sources: BOEM, ESRI, NOAA, NYS ITS GIS Program Office, NYC Office of Technology & Innovation (OTI)
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

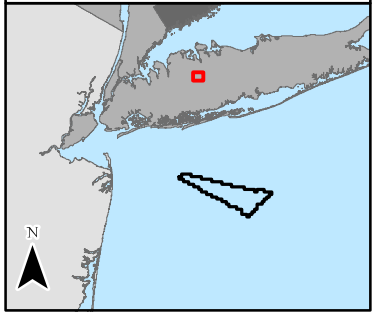
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



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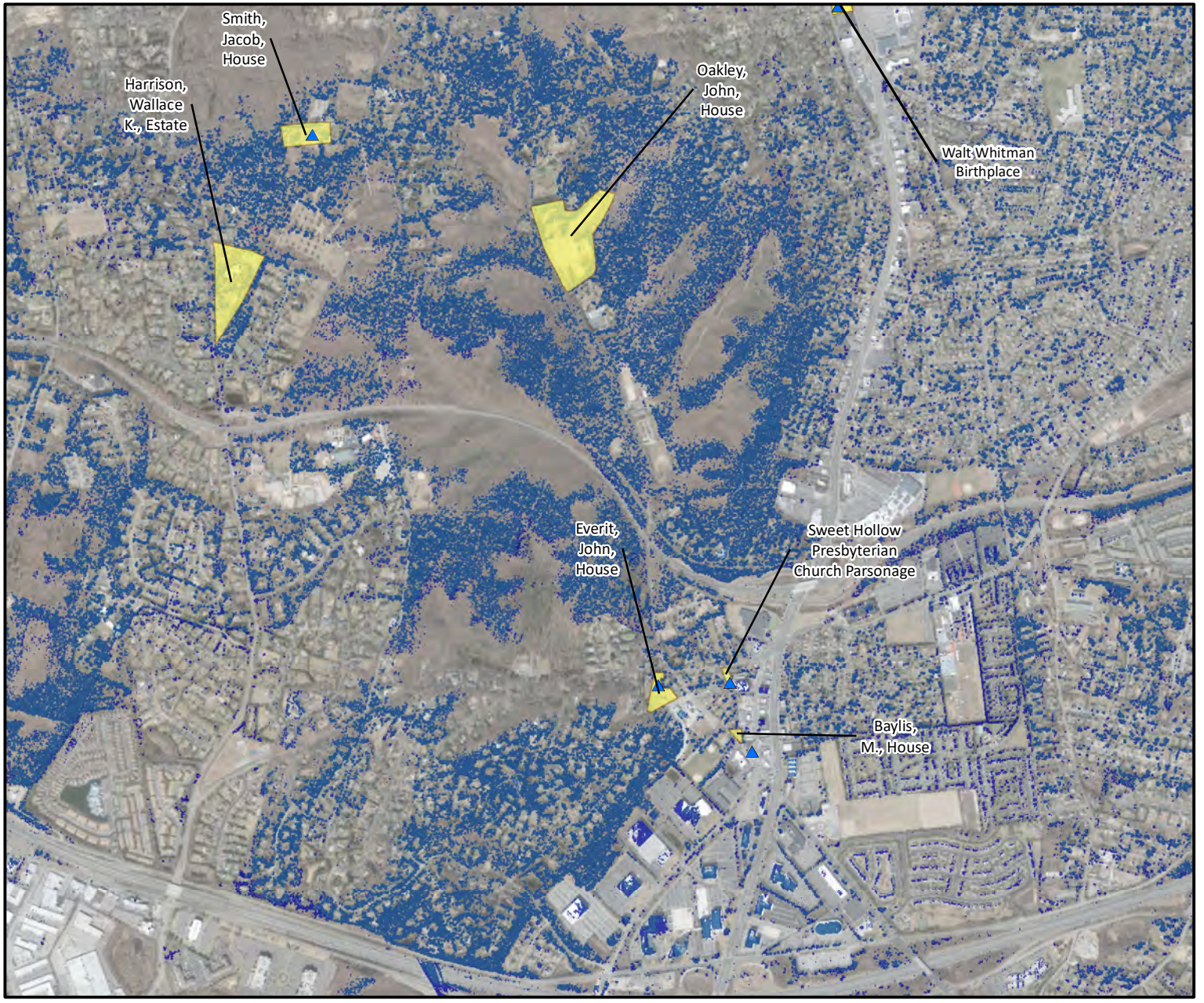


EMPIRE OFFSHORE WIND LEASE: OCS-A 0512 EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166-m viewshed intensity
High : 174
Low : 0
Historic Property Excluded from Effects Assessment
No visibility based on viewshed modeling
Historic District

Data Sources: BOEM, ESRI, NOAA, NYS ITS GIS Program Office, NYC Office of Technology & Innovation (OTI)
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

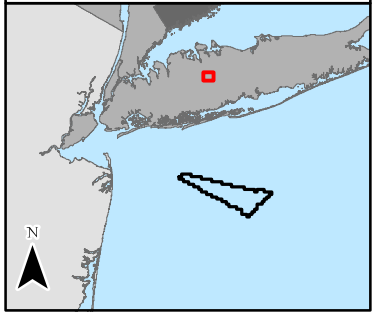
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



NOT FOR CONSTRUCTION

EMPIRE OFFSHORE WIND LEASE: OCS-A 0512 EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166-m viewshed intensity
High : 174
Low : 0

Historic Property Excluded from Effects Assessment
No visibility based on viewshed modeling
Historic District

Data Sources: BOEM, ESRI, NOAA, NYS ITS GIS Program Office, NYC Office of Technology & Innovation (OTI)
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

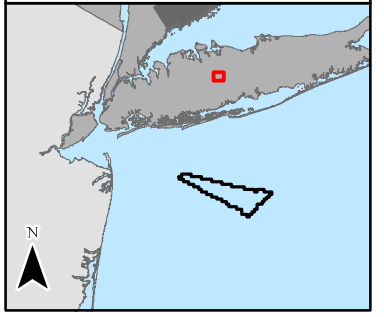
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



NOT FOR CONSTRUCTION

EMPIRE OFFSHORE WIND LEASE: OCS-A 0512 EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166-m viewshed intensity
High : 174
Low : 0
Historic District

Data Sources: BOEM, ESRI, NOAA, NYS ITS GIS Program Office, NYC Office of Technology & Innovation (OTI)
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

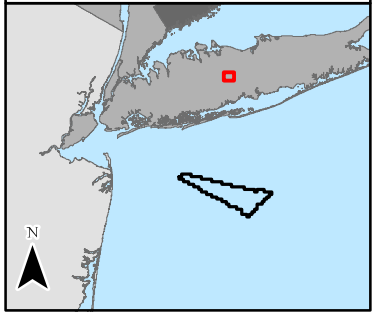
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



NOT FOR CONSTRUCTION

EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166-m viewshed intensity
High : 174
Low : 0
Historic Property Excluded from Effects Assessment
No visibility based on viewshed modeling
Historic District

Data Sources: BOEM, ESRI, NOAA, NYS ITS GIS Program Office, NYC Office of Technology & Innovation (OTI)
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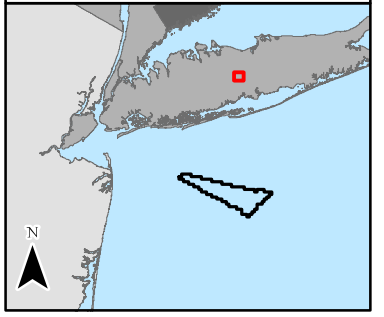
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



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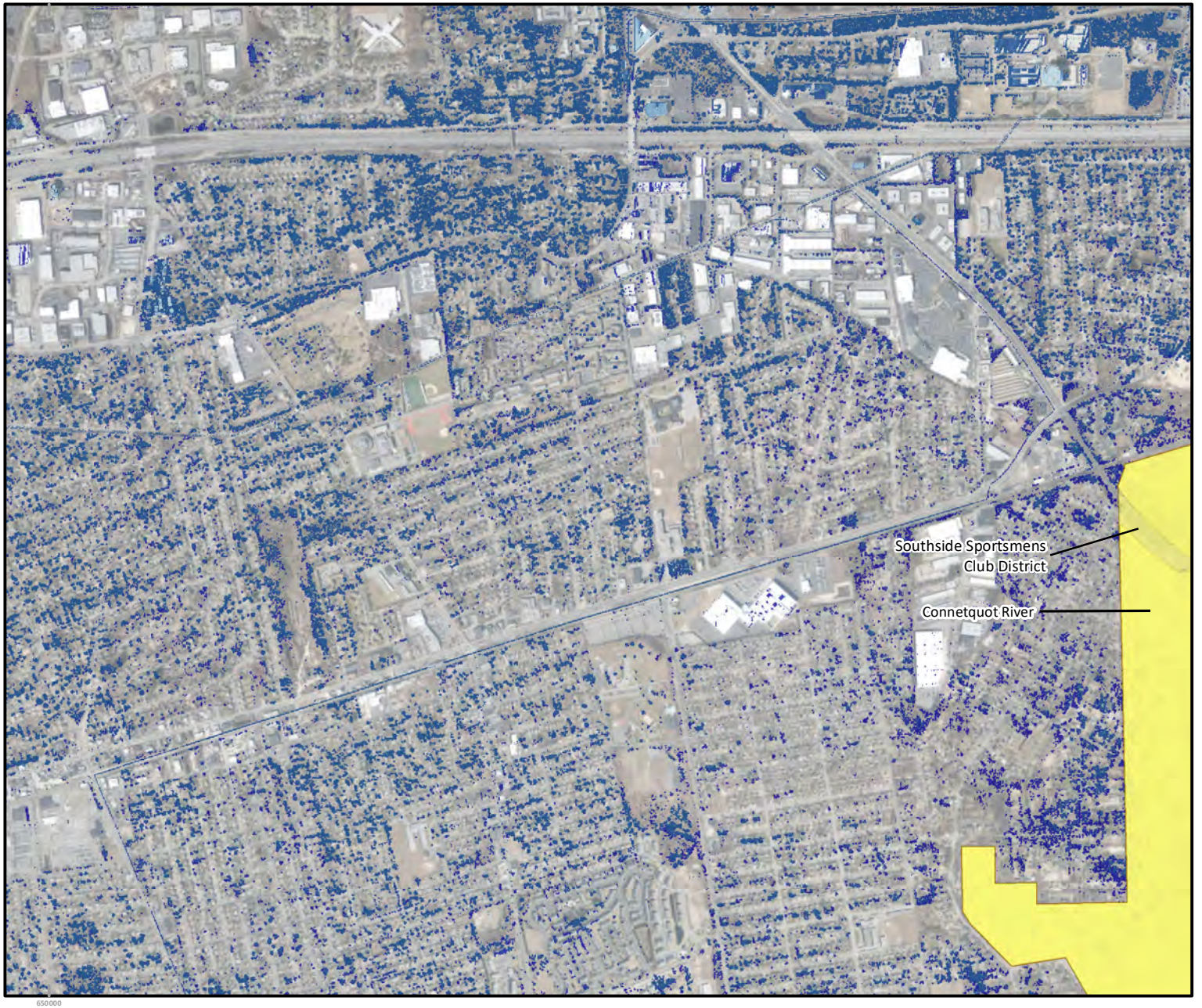

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NOT FOR CONSTRUCTION

EMPIRE OFFSHORE WIND LEASE: OCS-A 0512 EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166-m viewshed intensity
High : 174
Low : 0
Historic District

Data Sources: BOEM, ESRI, NOAA, NYS ITS GIS Program Office, NYC Office of Technology & Innovation (OTI)
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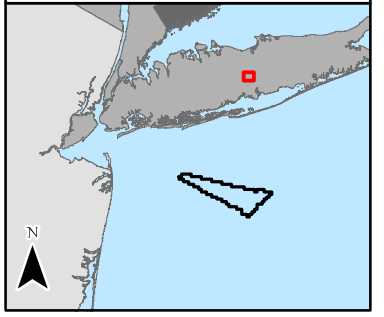
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

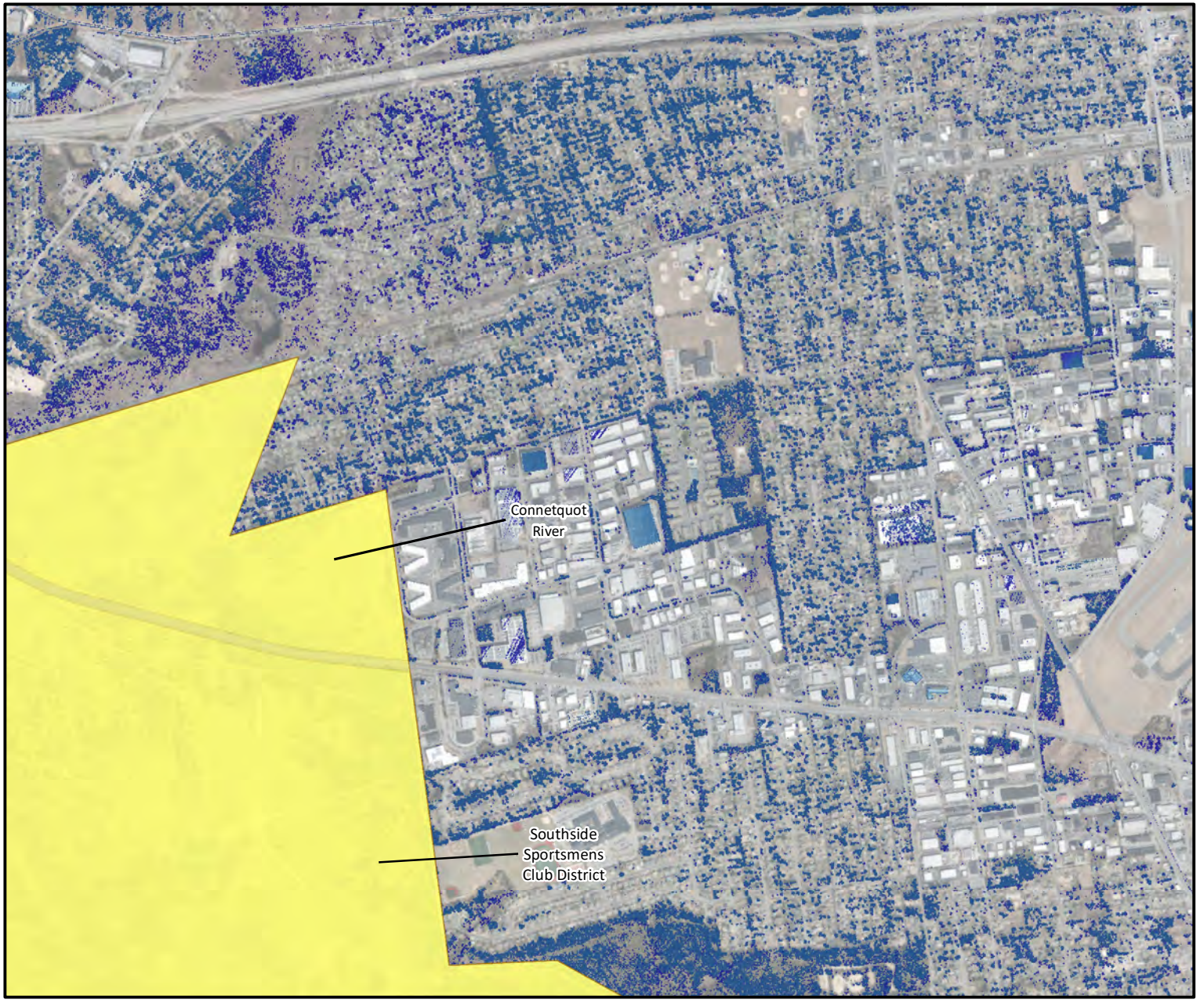
0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP





EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166-m viewshed intensity
High : 174
Low : 0
Historic District

Data Sources: BOEM, ESRI, NOAA, NYS ITS GIS Program Office, NYC Office of Technology & Innovation (OTI)
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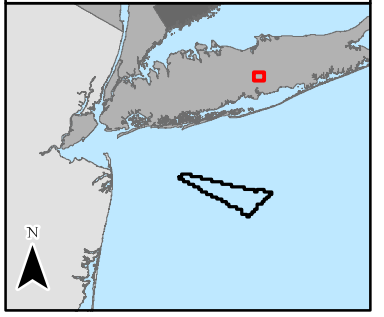
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



NOT FOR CONSTRUCTION

EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166-m viewshed intensity
High : 174
Low : 0
Historic District

Data Sources: BOEM, ESRI, NOAA, NYS ITS GIS Program Office, NYC Office of Technology & Innovation (OTI)
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

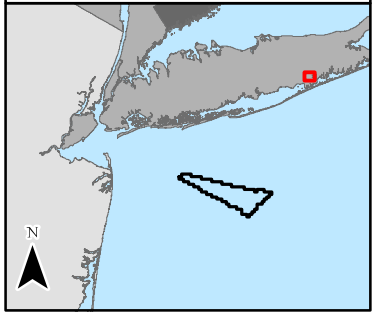
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



NOT FOR CONSTRUCTION

EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166-m viewshed intensity
High : 174
Low : 0

Historic Property Excluded from Effects Assessment
No visibility based on viewshed modeling
Historic District

Data Sources: BOEM, ESRI, NOAA, NYS ITS GIS Program Office, NYC Office of Technology & Innovation (OTI)
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

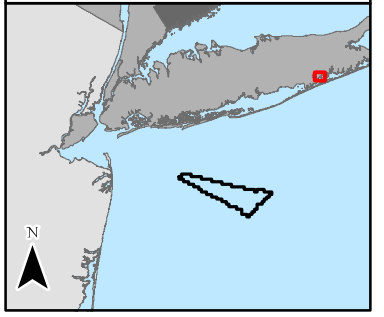
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



NOT FOR CONSTRUCTION

EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166-m viewshed intensity
High : 174
Low : 0
Recommended No Adverse Effect
Historic Property Excluded from Effects Assessment
Potential visibility based on viewshed modeling

Data Sources: BOEM, ESRI, NOAA, NYS ITS GIS Program Office, NYC Office of Technology & Innovation (OTI)
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

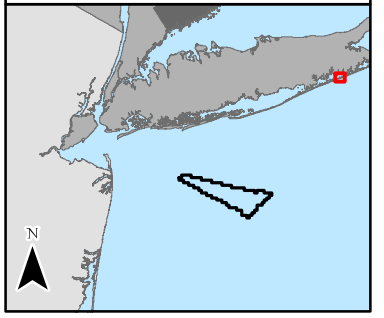
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



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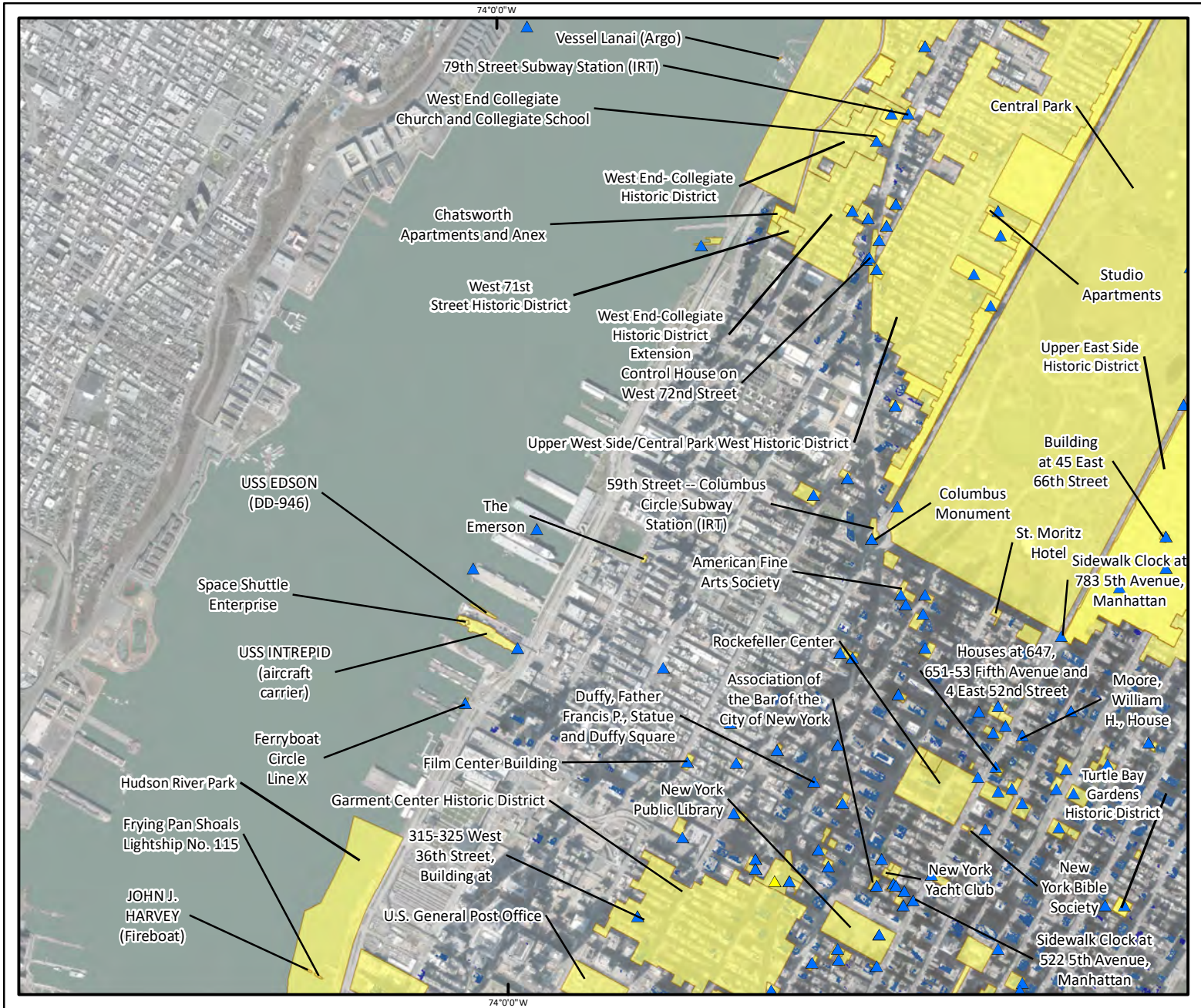


EMPIRE OFFSHORE WIND LEASE: OCS-A 0512 EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166-m viewshed intensity
High : 174
Low : 0

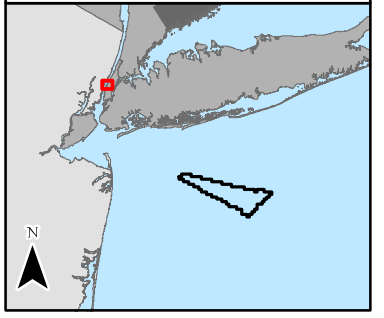
Historic Property Excluded from Effects Assessment
- Potential visibility based on viewshed modeling
- No visibility based on viewshed modeling
- Historic District

Data Sources: BOEM, ESRI, NOAA, NYS ITS GIS Program Office, NYC Office of Technology & Innovation (OTI)
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles
0 0.1 0.2 0.3 0.4 Nautical Miles
0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



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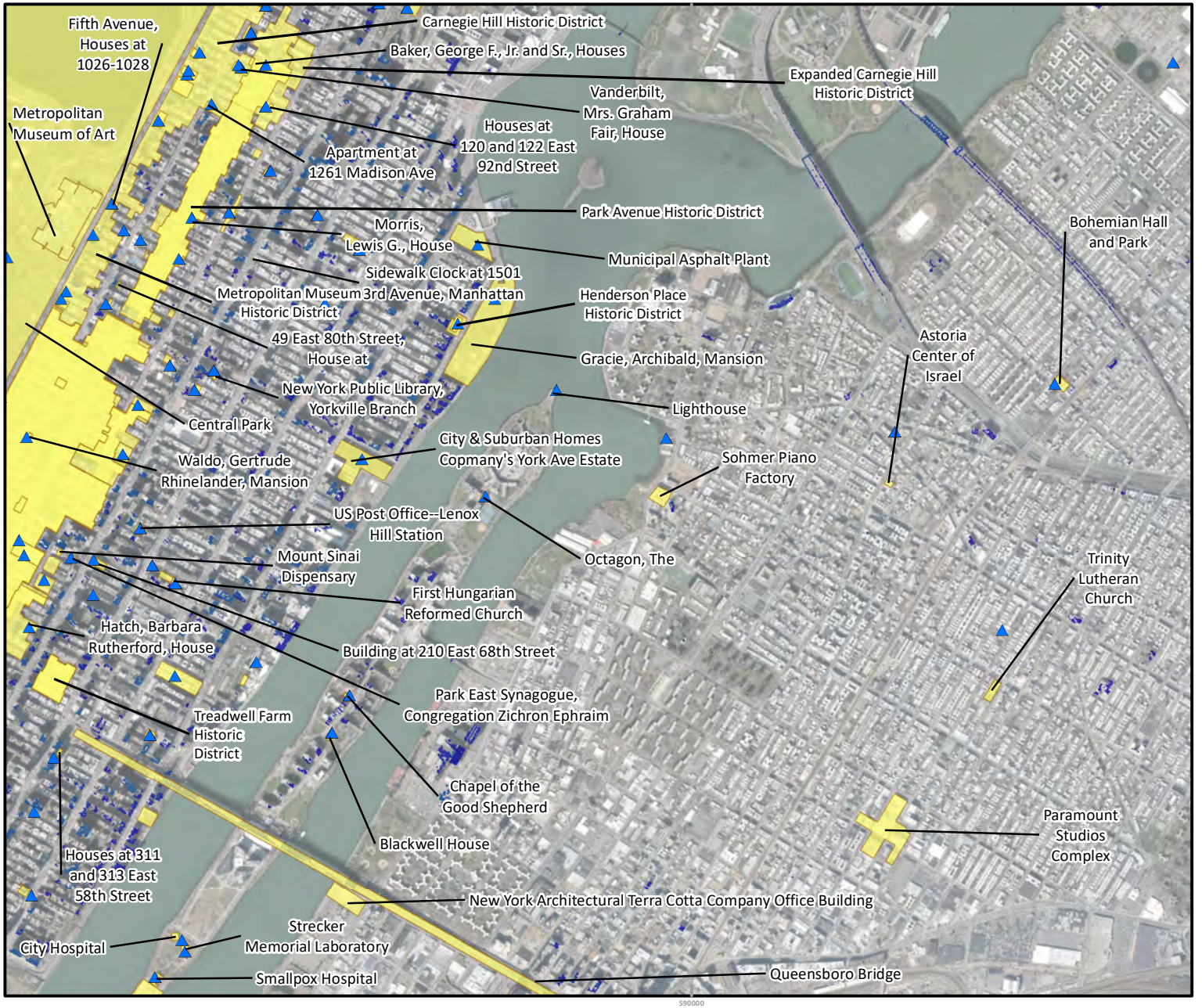

NOT FOR CONSTRUCTION

EMPIRE OFFSHORE WIND LEASE: OCS-A 0512 EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166-m viewshed intensity
High : 174
Low : 0
Historic Property Excluded from Effects Assessment
No visibility based on viewshed modeling
Historic District

Data Sources: BOEM, ESRI, NOAA, NYS ITS GIS Program Office, NYC Office of Technology & Innovation (OTI)
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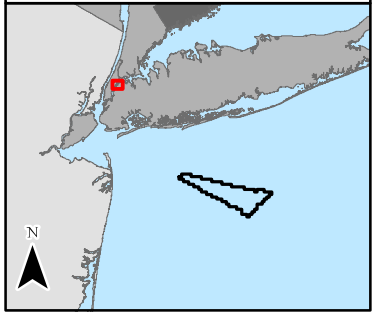
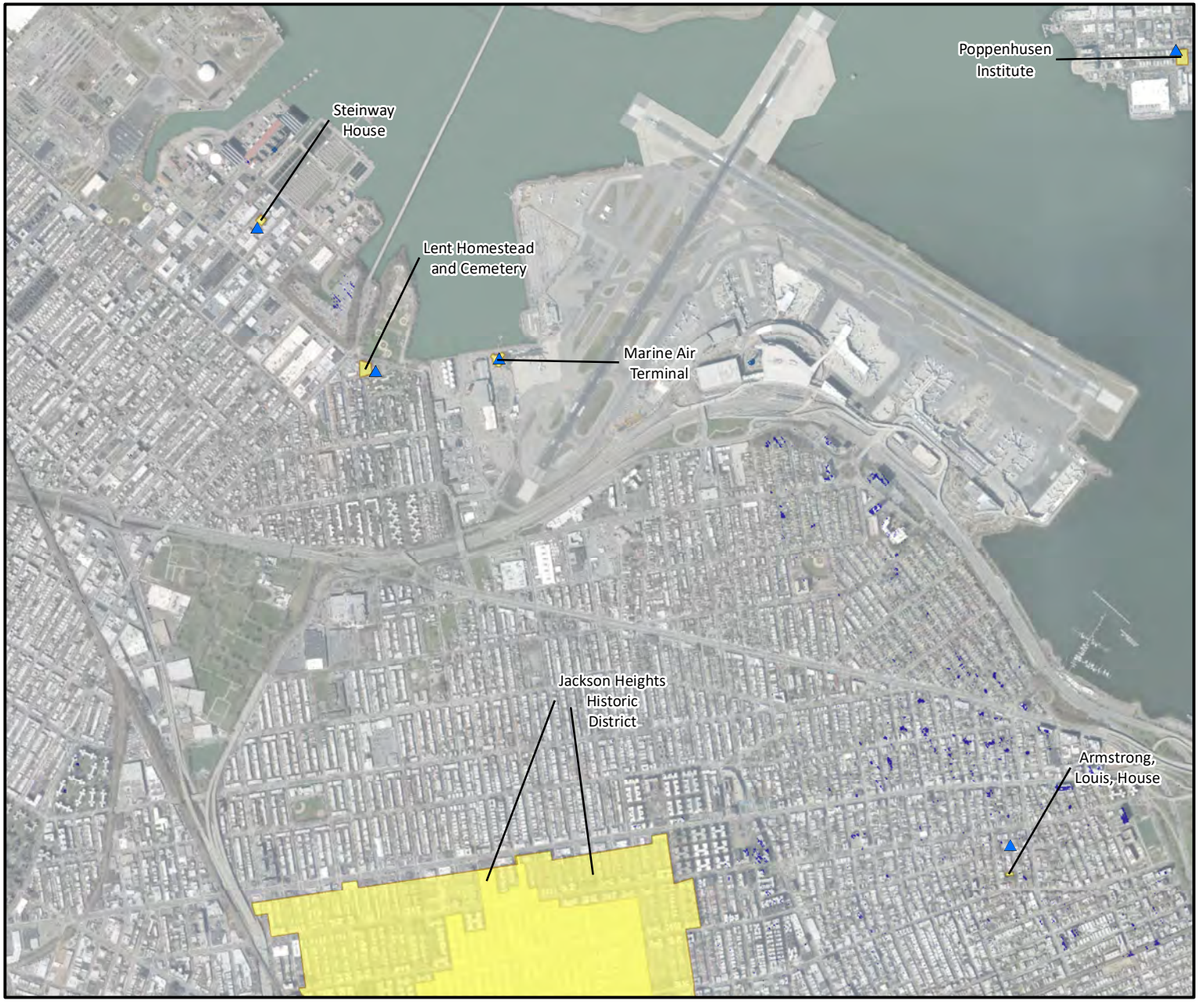
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles
0 0.1 0.2 0.3 0.4 Nautical Miles
0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP





EMPIRE OFFSHORE WIND LEASE: OCS-A 0512 EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166-m viewshed intensity
High : 174
Low : 0

Historic Property Excluded from Effects Assessment
No visibility based on viewshed modeling
Historic District

Data Sources: BOEM, ESRI, NOAA, NYS ITS GIS Program Office, NYC Office of Technology & Innovation (OTI)
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

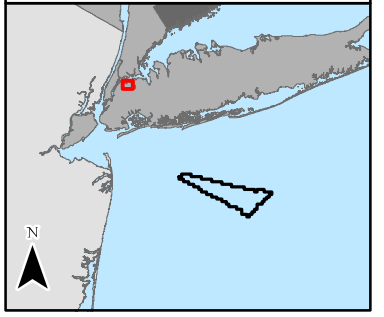
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



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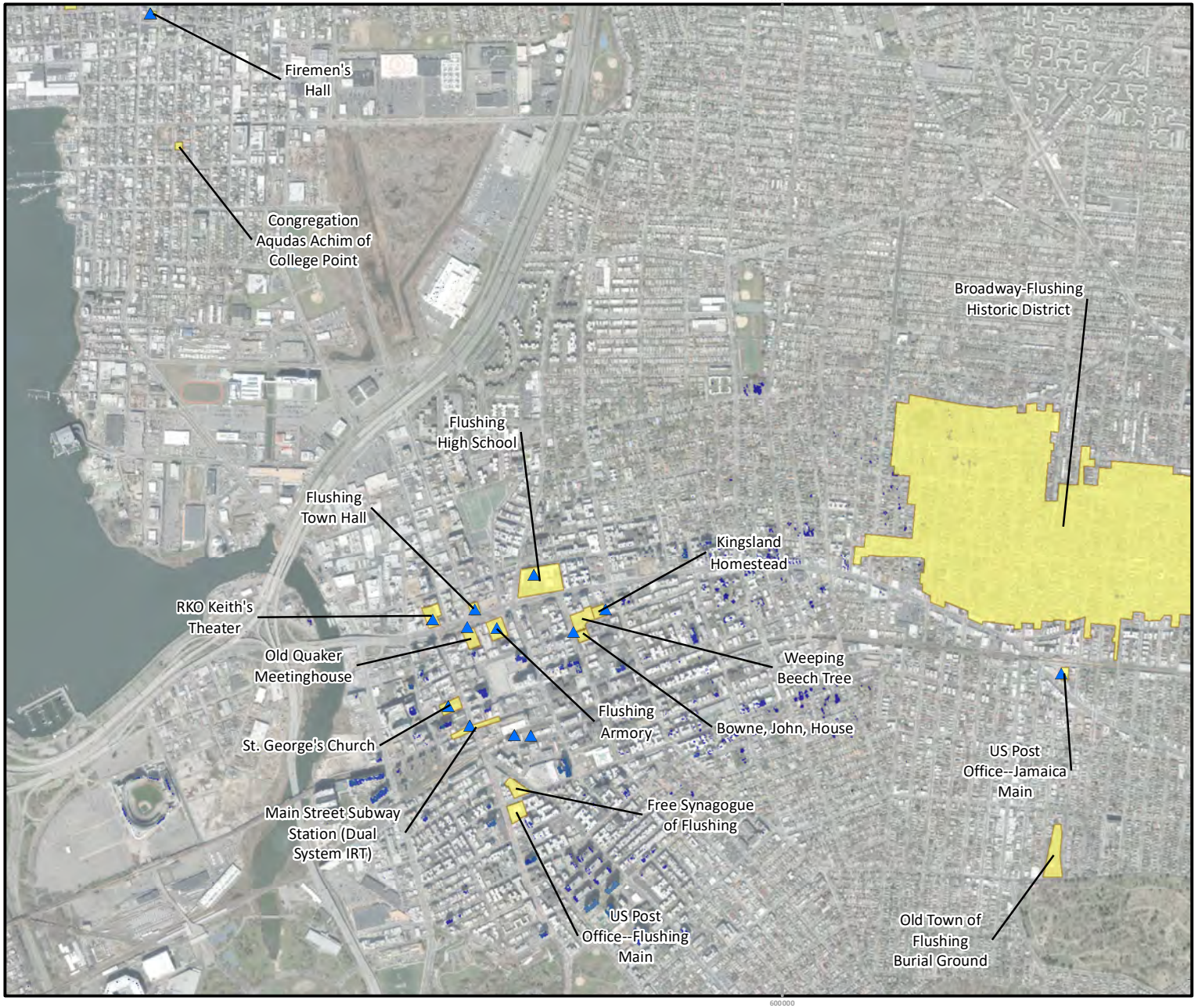


EMPIRE OFFSHORE WIND LEASE: OCS-A 0512 EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166-m viewshed intensity
High : 174
Low : 0
Historic Property Excluded from Effects Assessment
No visibility based on viewshed modeling
Historic District

Data Sources: BOEM, ESRI, NOAA, NYS ITS GIS Program Office, NYC Office of Technology & Innovation (OTI)
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

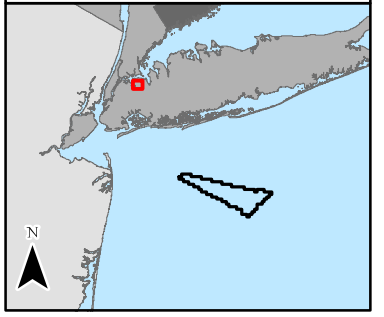
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



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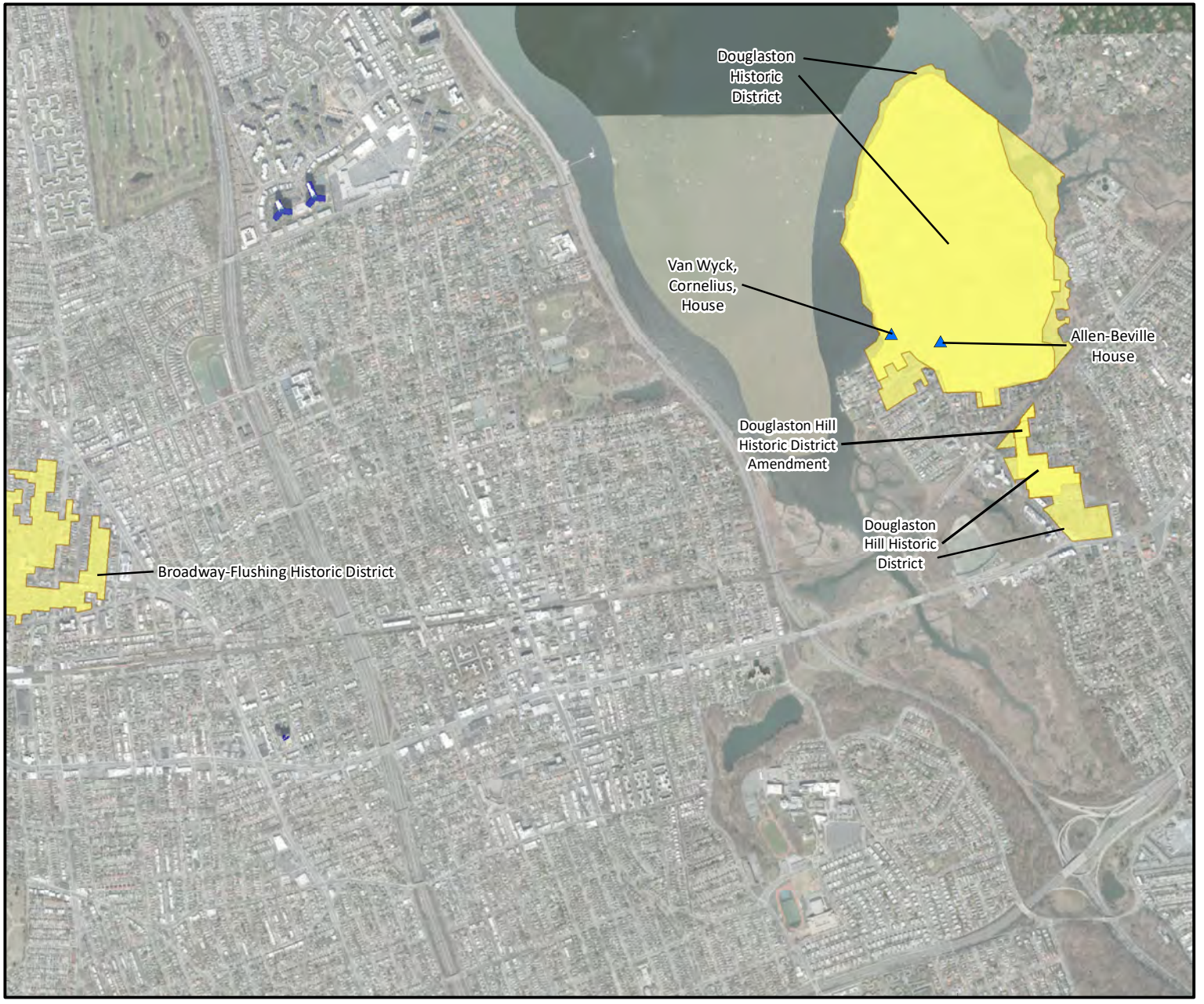


EMPIRE OFFSHORE WIND LEASE: OCS-A 0512 EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166-m viewshed intensity
High : 174
Low : 0
Historic Property Excluded from Effects Assessment
No visibility based on viewshed modeling
Historic District

Data Sources: BOEM, ESRI, NOAA, NYS ITS GIS Program Office, NYC Office of Technology & Innovation (OTI)
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

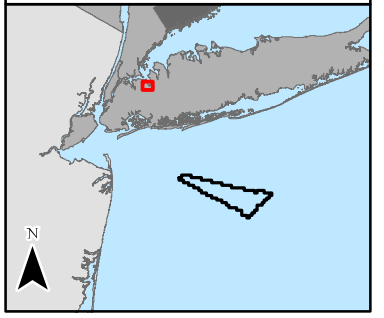
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



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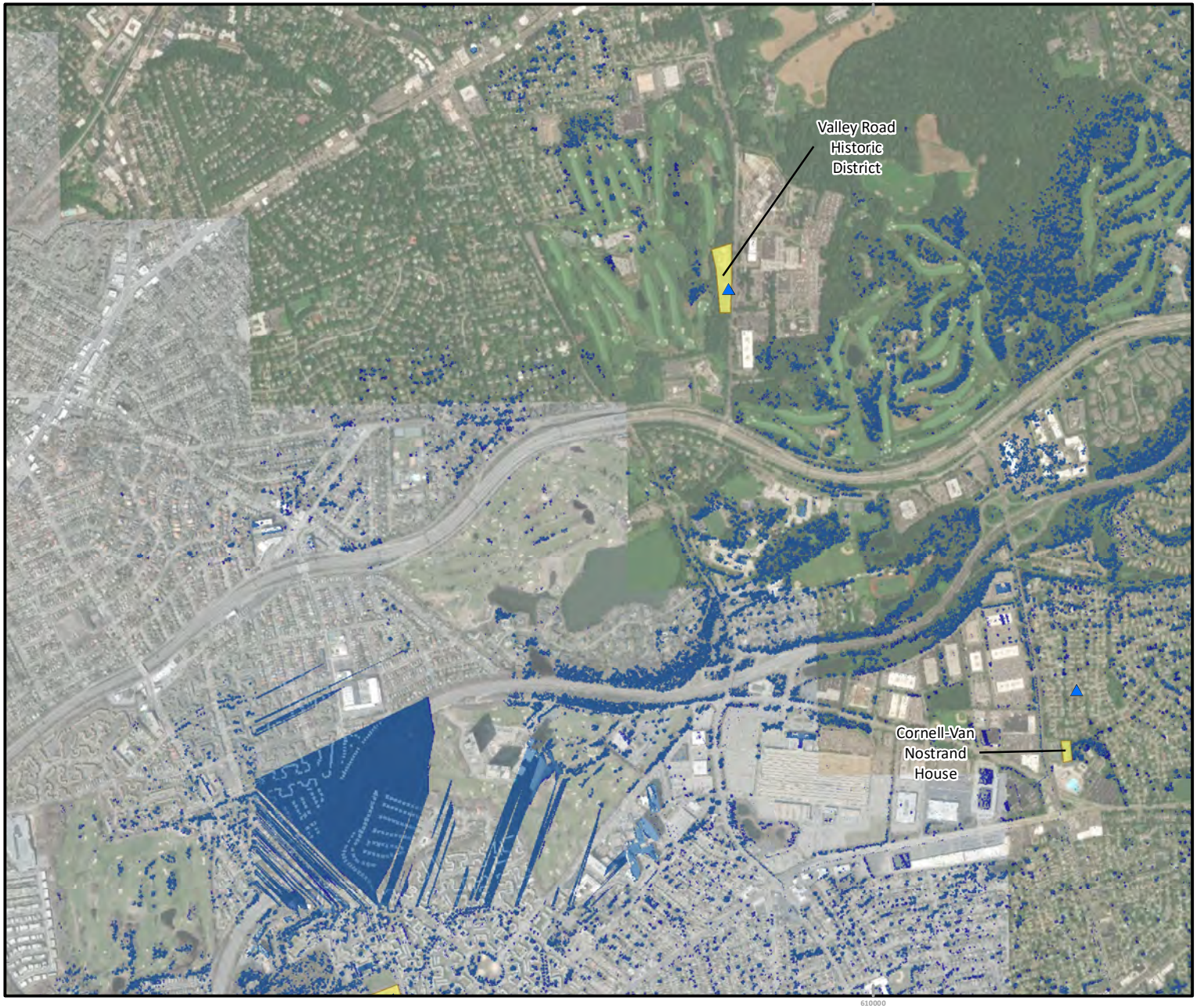


EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

equinor

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166-m viewshed intensity
High : 174
Low : 0
Historic Property Excluded from Effects Assessment
No visibility based on viewshed modeling
Historic District

Data Sources: BOEM, ESRI, NOAA, NYS ITS GIS Program Office, NYC Office of Technology & Innovation (OTI)
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

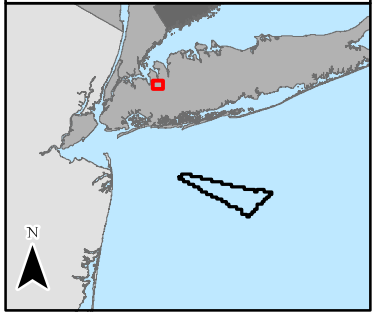
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

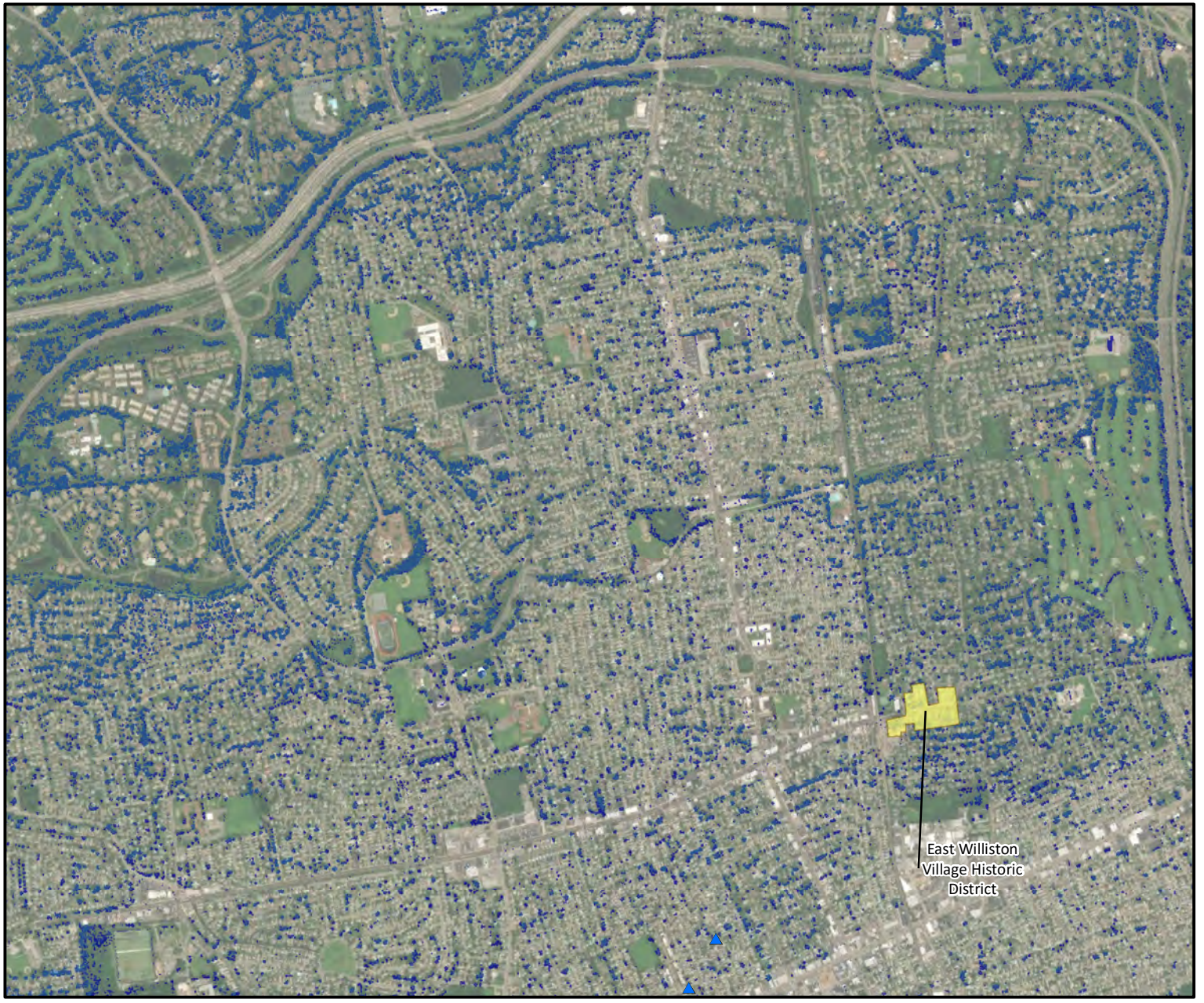
0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



NOT FOR CONSTRUCTION



EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166-m viewshed intensity
High : 174
Low : 0

Historic Property Excluded from Effects Assessment
No visibility based on viewshed modeling
Historic District

Data Sources: BOEM, ESRI, NOAA, NYS ITS GIS Program Office, NYC Office of Technology & Innovation (OTI)
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

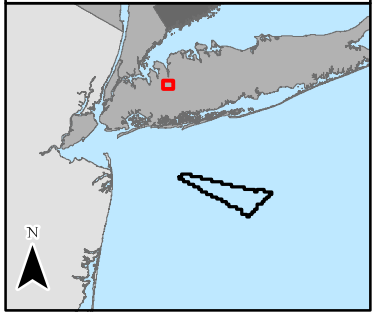
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



NOT FOR CONSTRUCTION

EMPIRE OFFSHORE WIND LEASE: OCS-A 0512 EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166-m viewshed intensity
High : 174
Low : 0
Historic Property Excluded from Effects Assessment
No visibility based on viewshed modeling
Historic District

Data Sources: BOEM, ESRI, NOAA, NYS ITS GIS Program Office, NYC Office of Technology & Innovation (OTI)
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

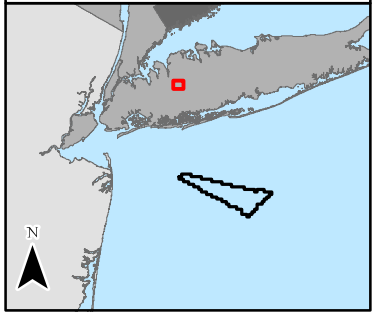
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



NOT FOR CONSTRUCTION

EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166-m viewshed intensity
High : 174
Low : 0
Historic Property Excluded from Effects Assessment
No visibility based on viewshed modeling
Historic District

Data Sources: BOEM, ESRI, NOAA, NYS ITS GIS Program Office, NYC Office of Technology & Innovation (OTI)
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

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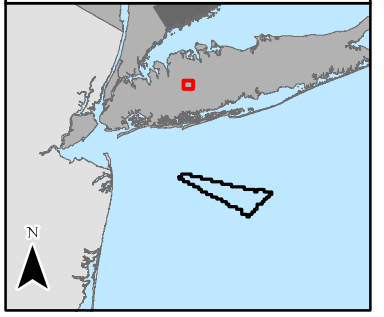

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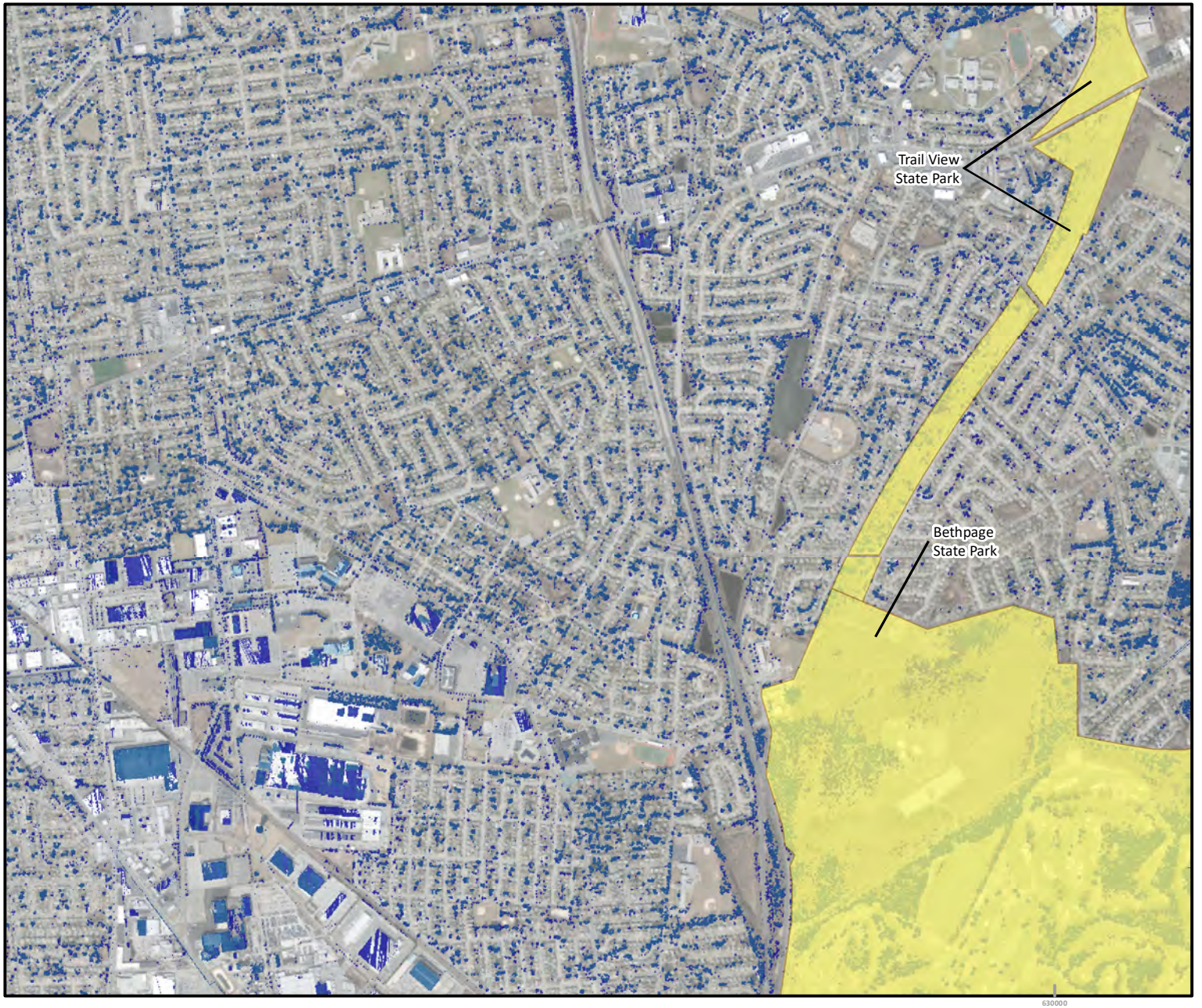

EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166-m viewshed intensity
High : 174
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Historic District

Data Sources: BOEM, ESRI, NOAA, NYS ITS GIS Program Office, NYC Office of Technology & Innovation (OTI)
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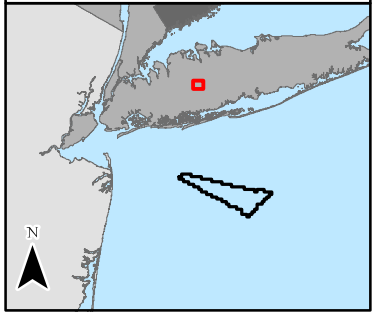

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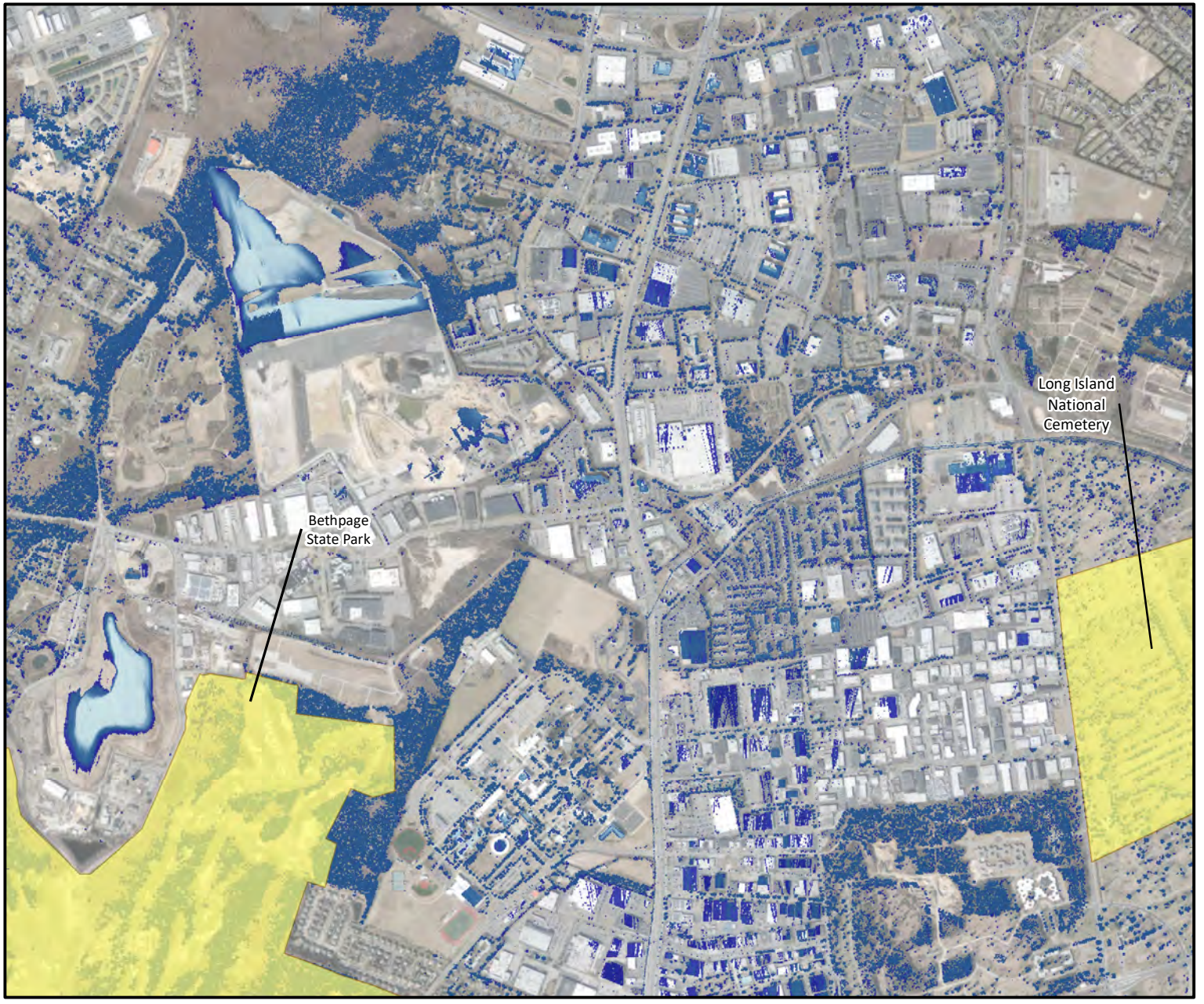

EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
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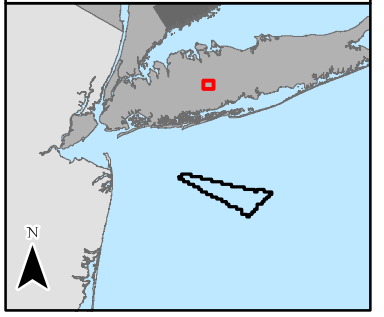

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EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

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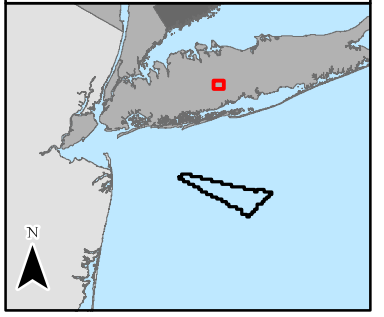

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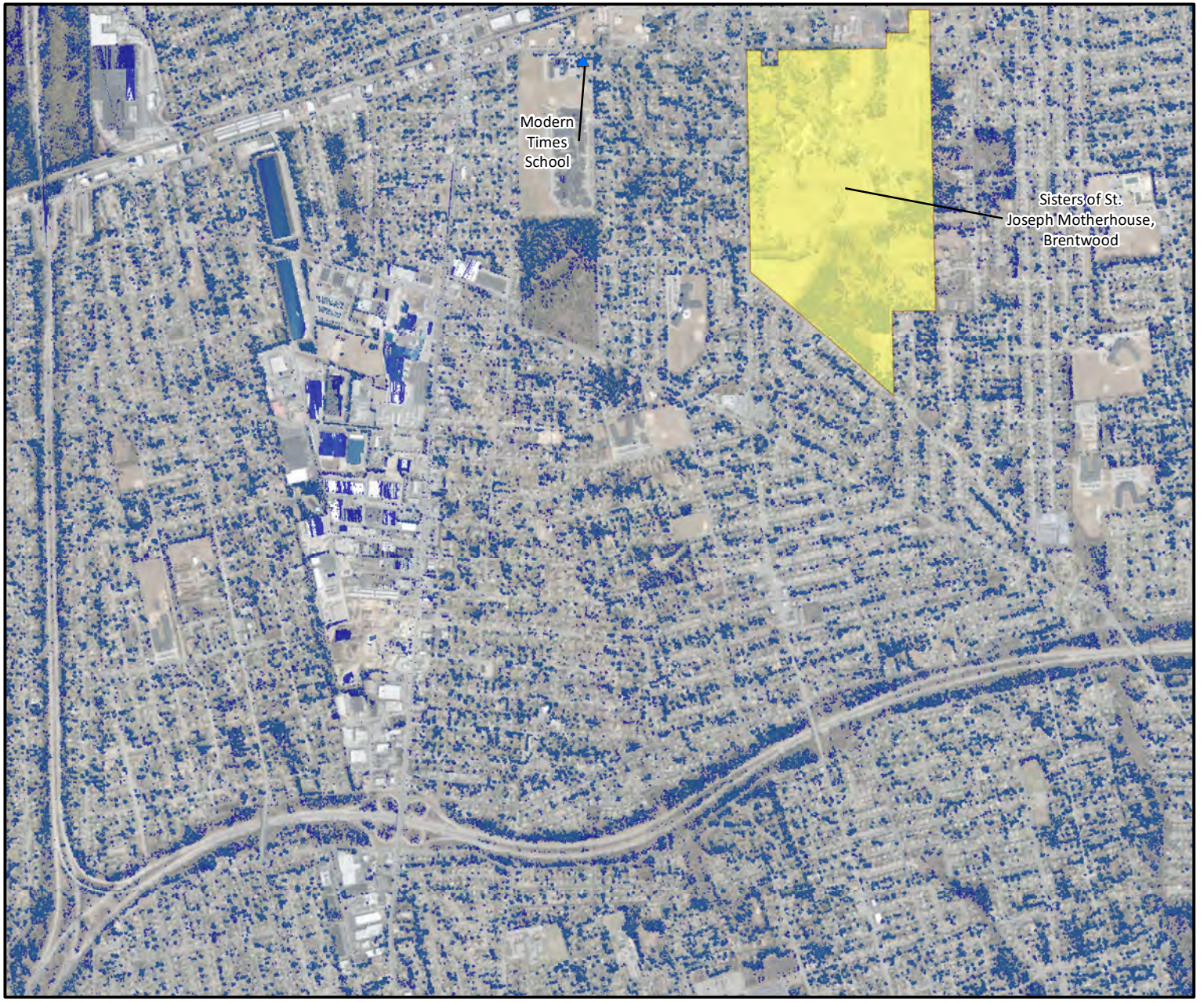

EMPIRE OFFSHORE WIND LEASE: OCS-A 0512 EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166-m viewshed intensity
High : 174
Low : 0

Historic Property Excluded from Effects Assessment
No visibility based on viewshed modeling
Historic District

Data Sources: BOEM, ESRI, NOAA, NYS ITS GIS Program Office, NYC Office of Technology & Innovation (OTI)
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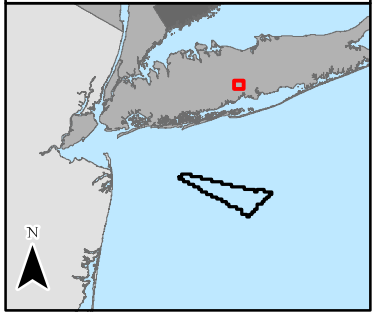
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



NOT FOR CONSTRUCTION

EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
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166-m viewshed intensity
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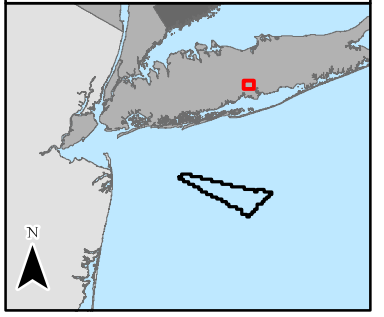

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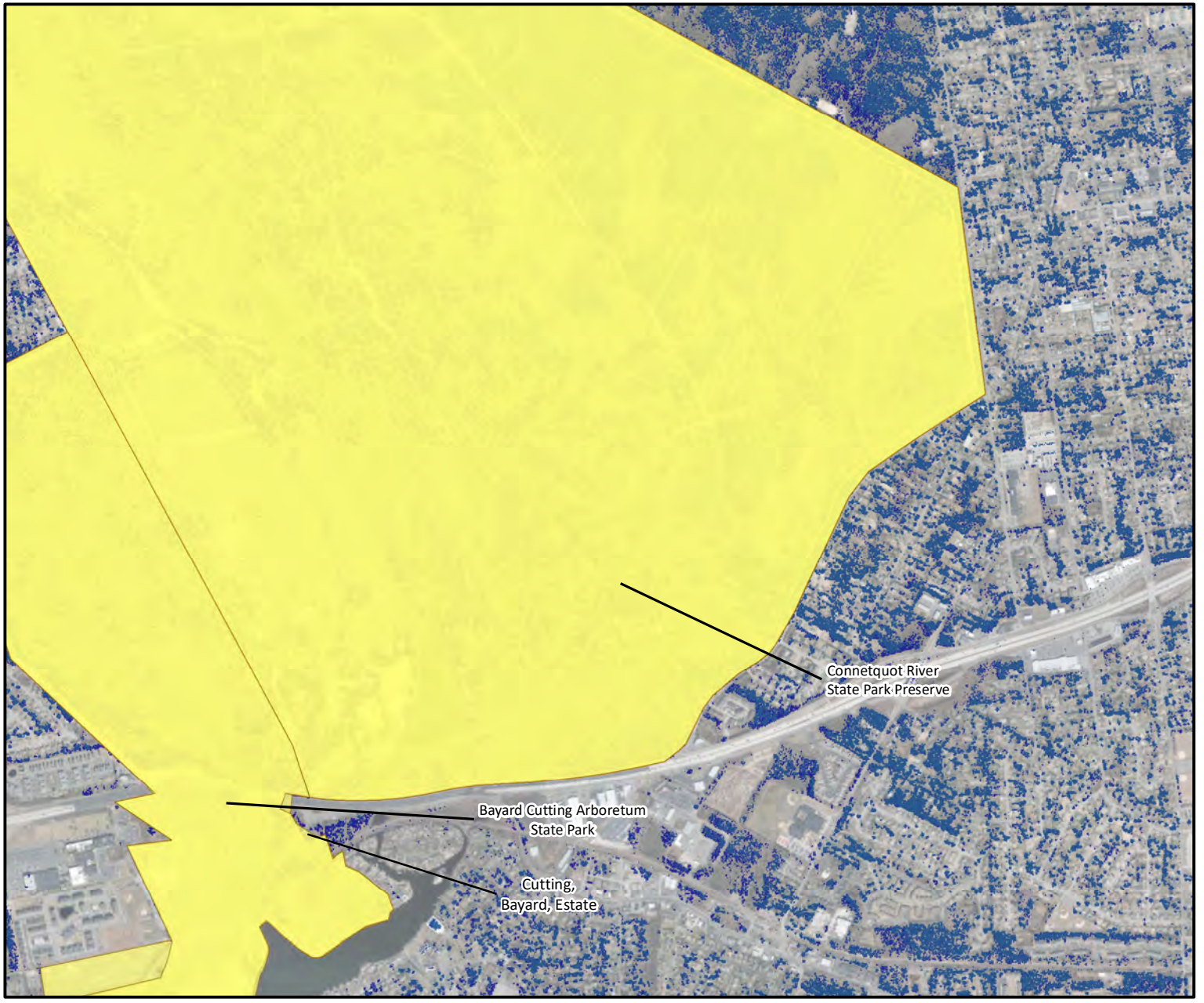

EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166-m viewshed intensity
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Historic District

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0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

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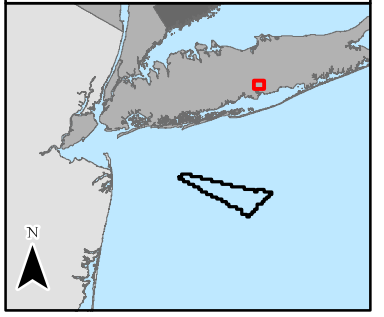

NOT FOR CONSTRUCTION

EMPIRE OFFSHORE WIND LEASE: OCS-A 0512 EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166-m viewshed intensity
High : 174
Low : 0
Historic District

Data Sources: BOEM, ESRI, NOAA, NYS ITS GIS Program Office, NYC Office of Technology & Innovation (OTI)
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Date	November 2, 2022
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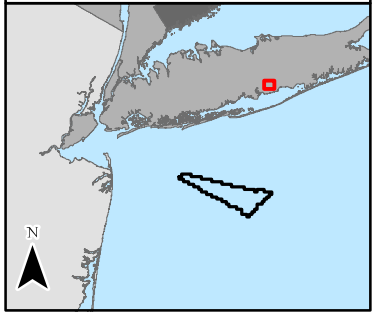
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



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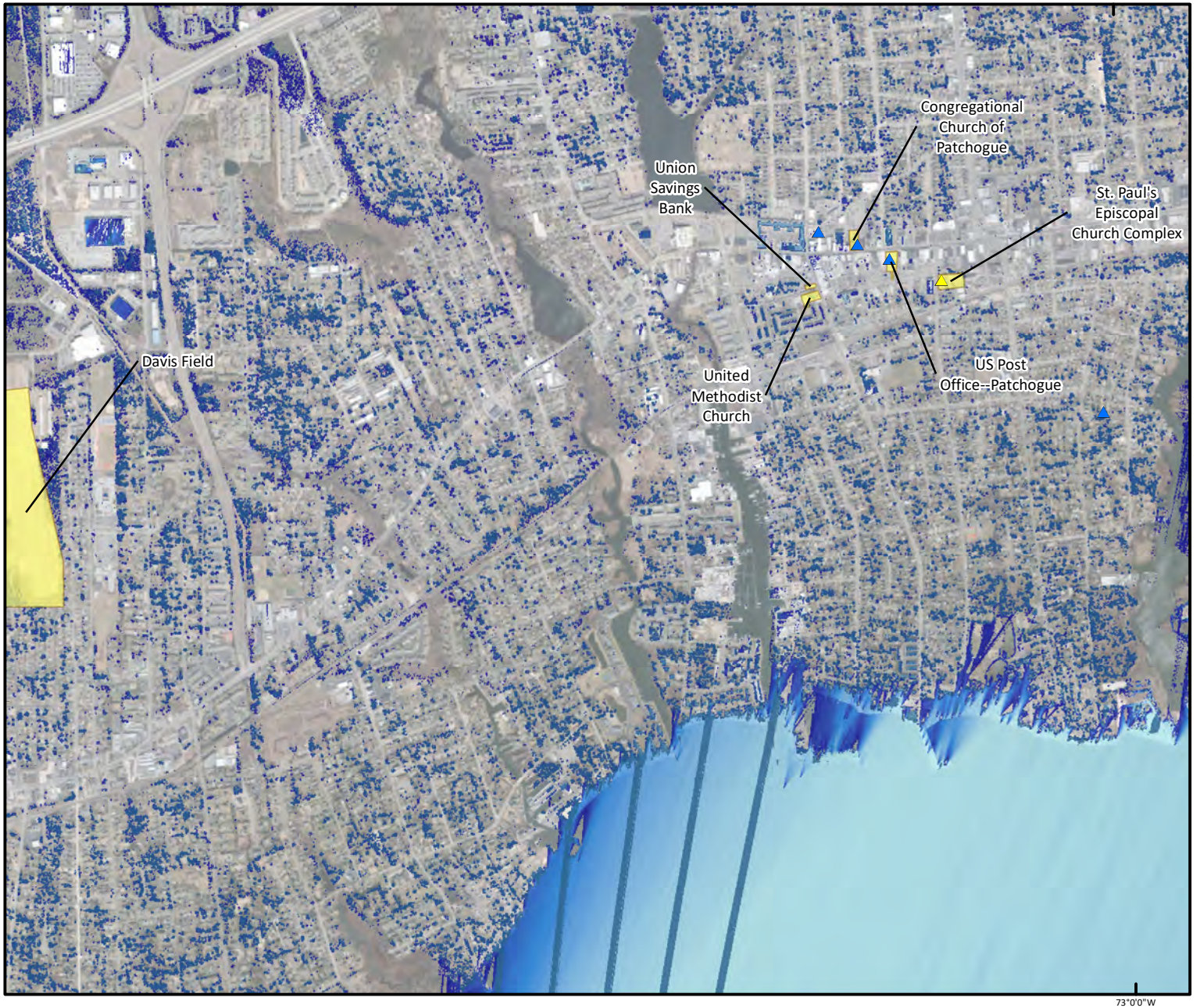

EMPIRE OFFSHORE WIND LEASE: OCS-A 0512 EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166-m viewshed intensity
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Low : 0

Historic Property Excluded from Effects Assessment
- Potential visibility based on viewshed modeling
- No visibility based on viewshed modeling
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Data Sources: BOEM, ESRI, NOAA, NYS ITS GIS Program Office, NYC Office of Technology & Innovation (OTI)
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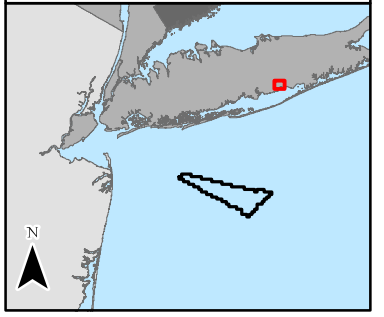

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EMPIRE OFFSHORE WIND LEASE: OCS-A 0512 EMPIRE WIND PROJECT

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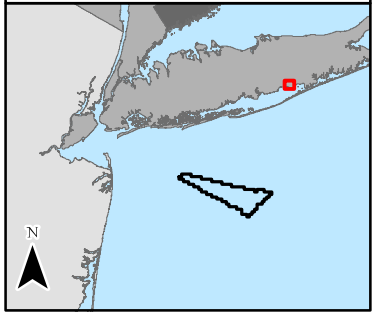

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EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

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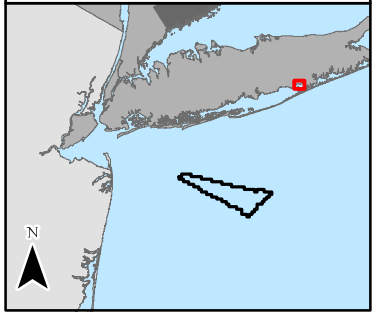

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EMPIRE WIND PROJECT

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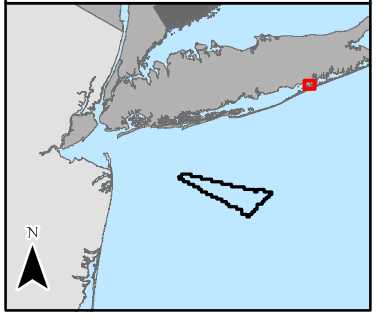

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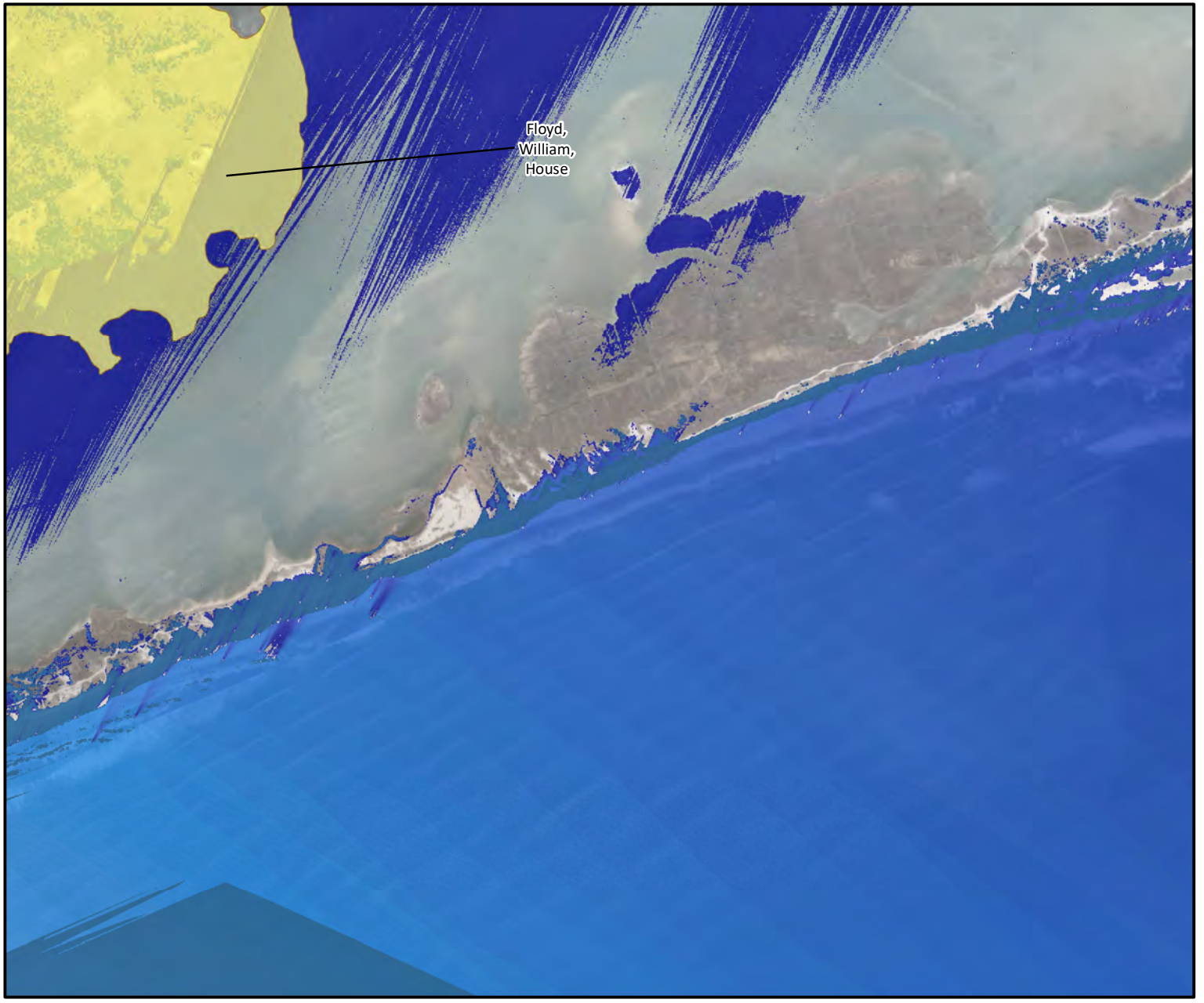

EMPIRE OFFSHORE WIND
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EMPIRE WIND PROJECT

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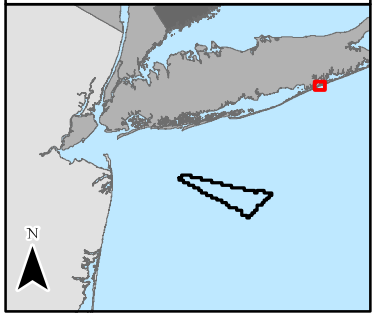

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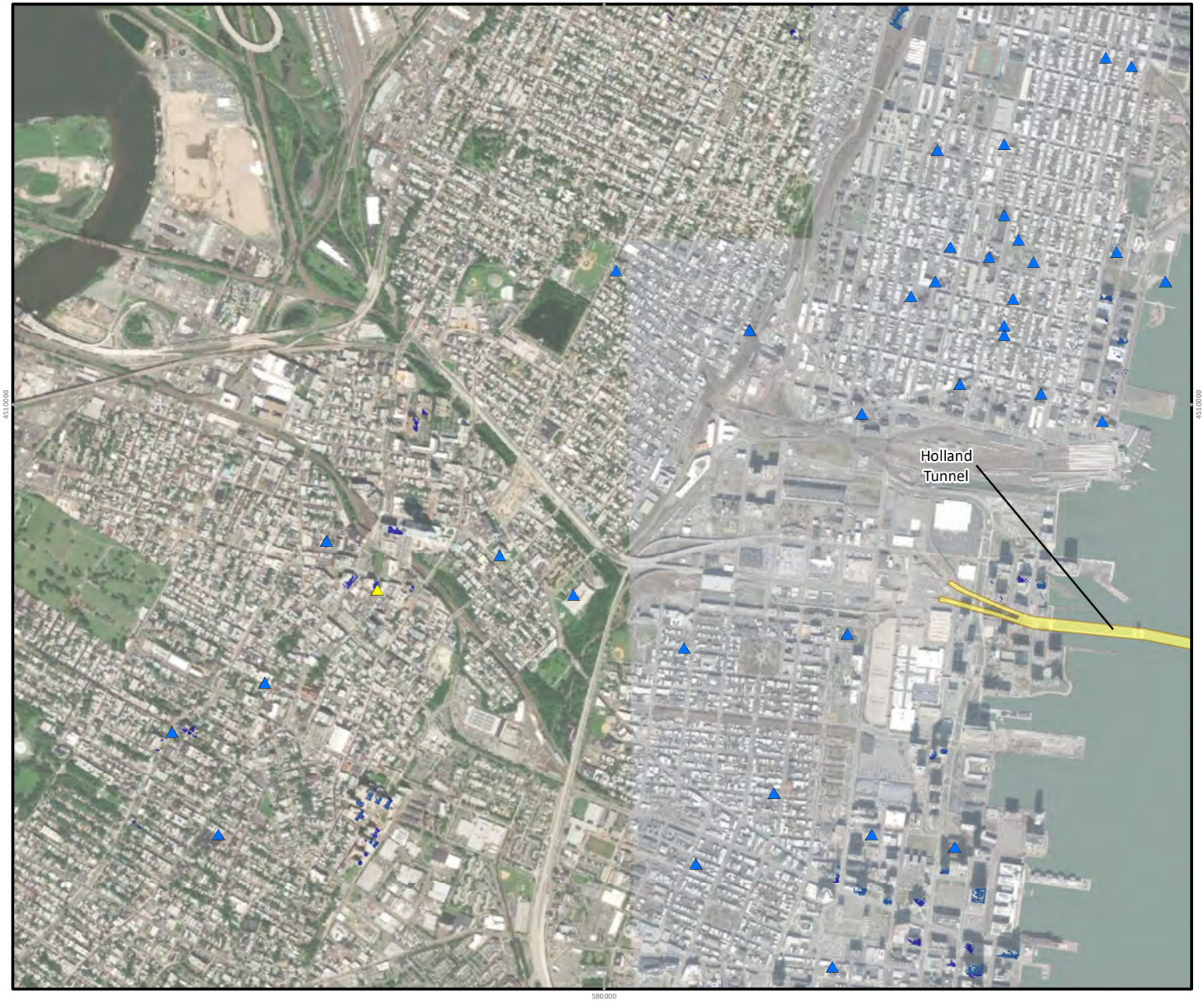

EMPIRE OFFSHORE WIND
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EMPIRE WIND PROJECT

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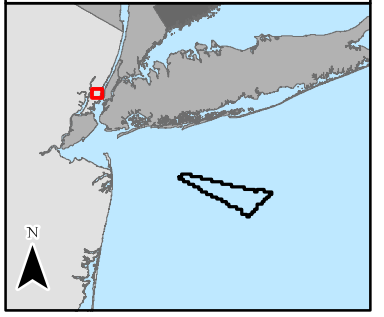
REFERENCE MAP



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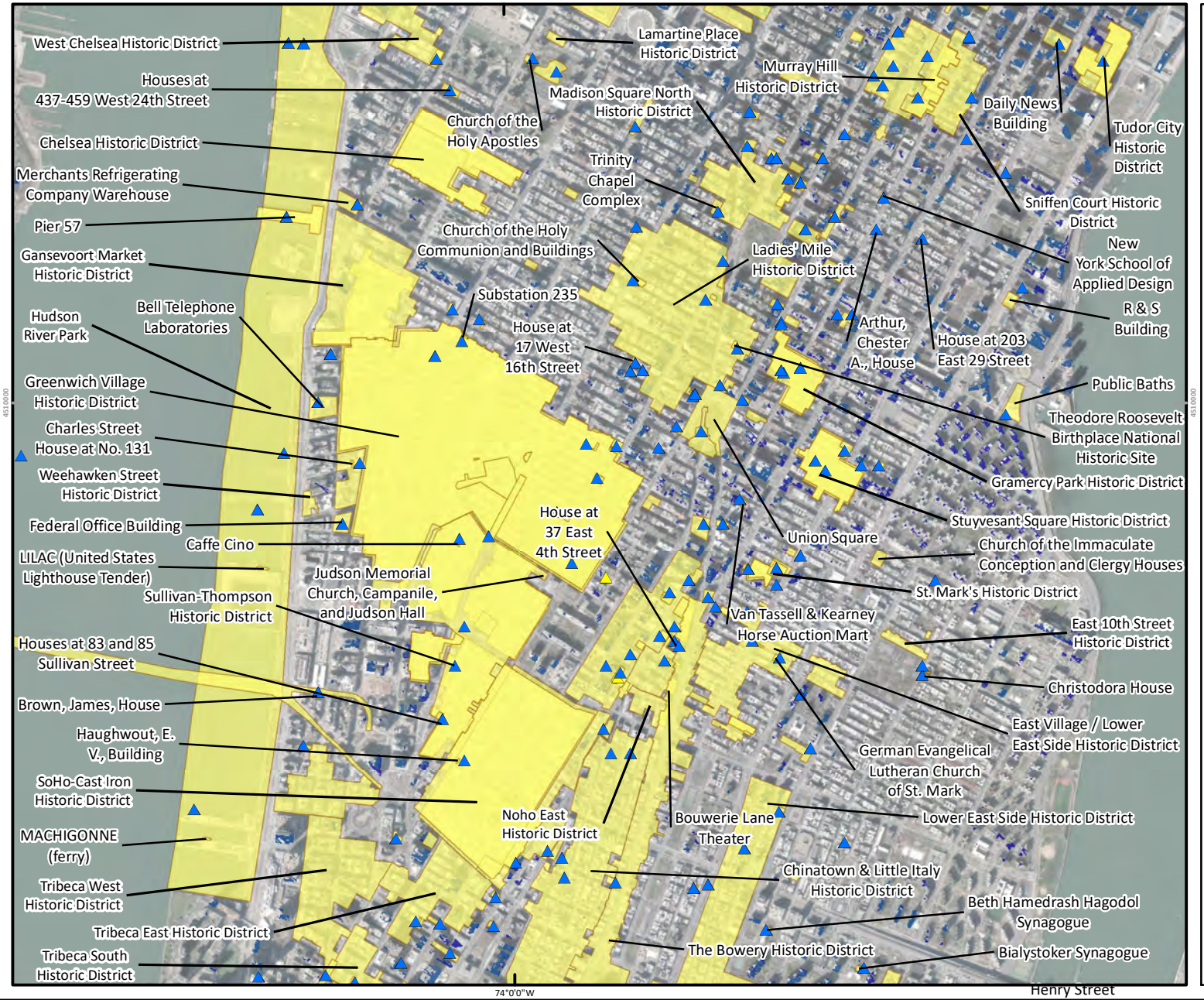

EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
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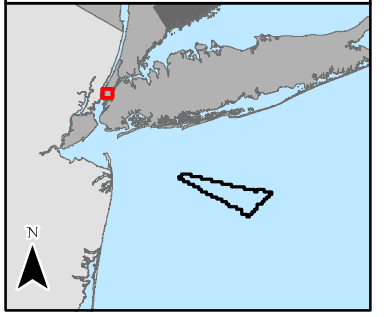

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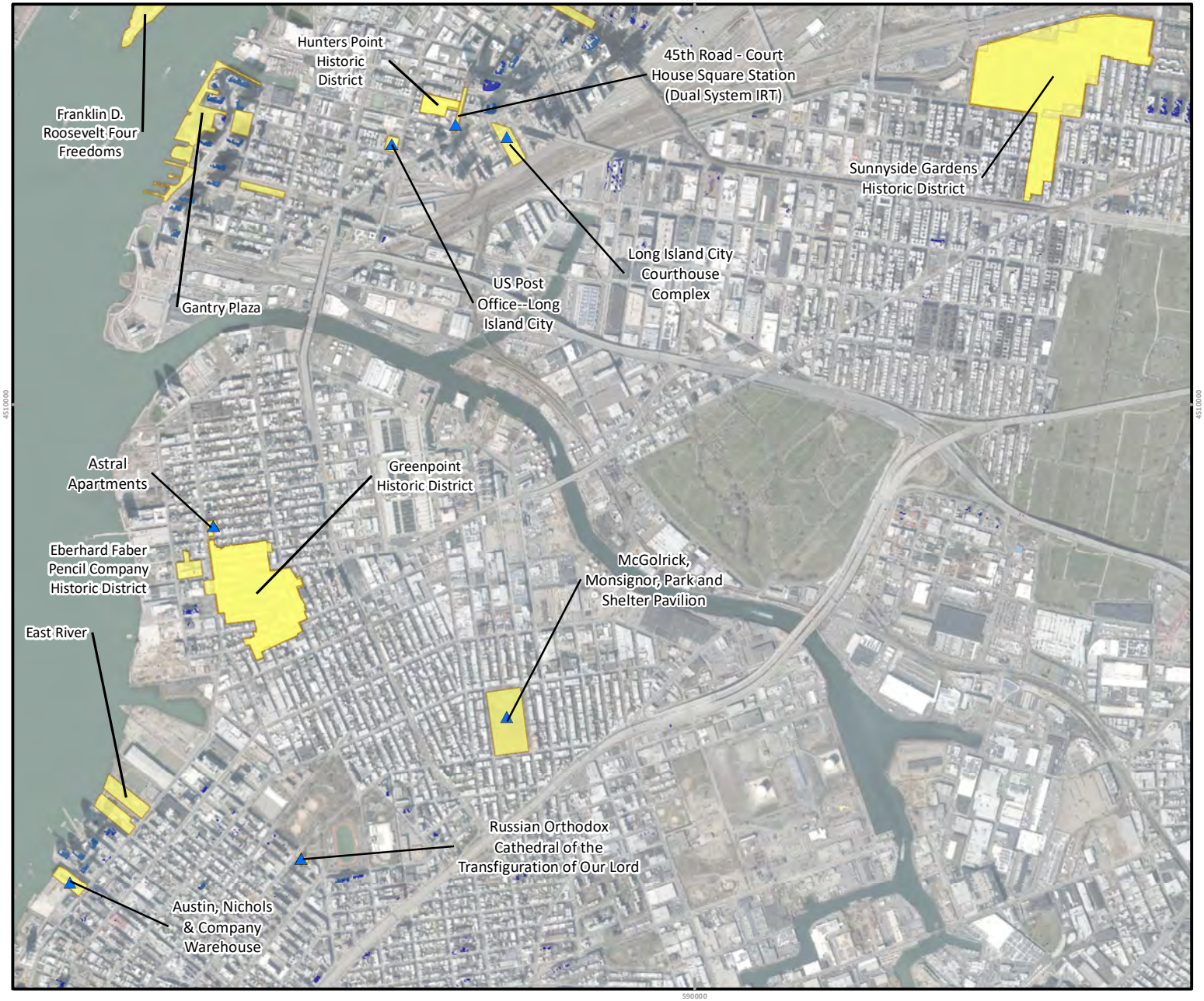

EMPIRE OFFSHORE WIND LEASE: OCS-A 0512 EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
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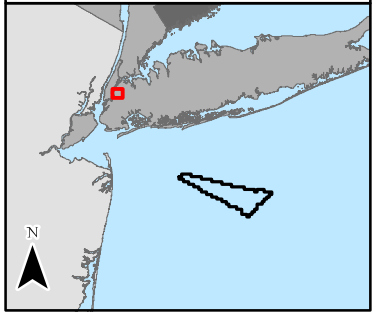

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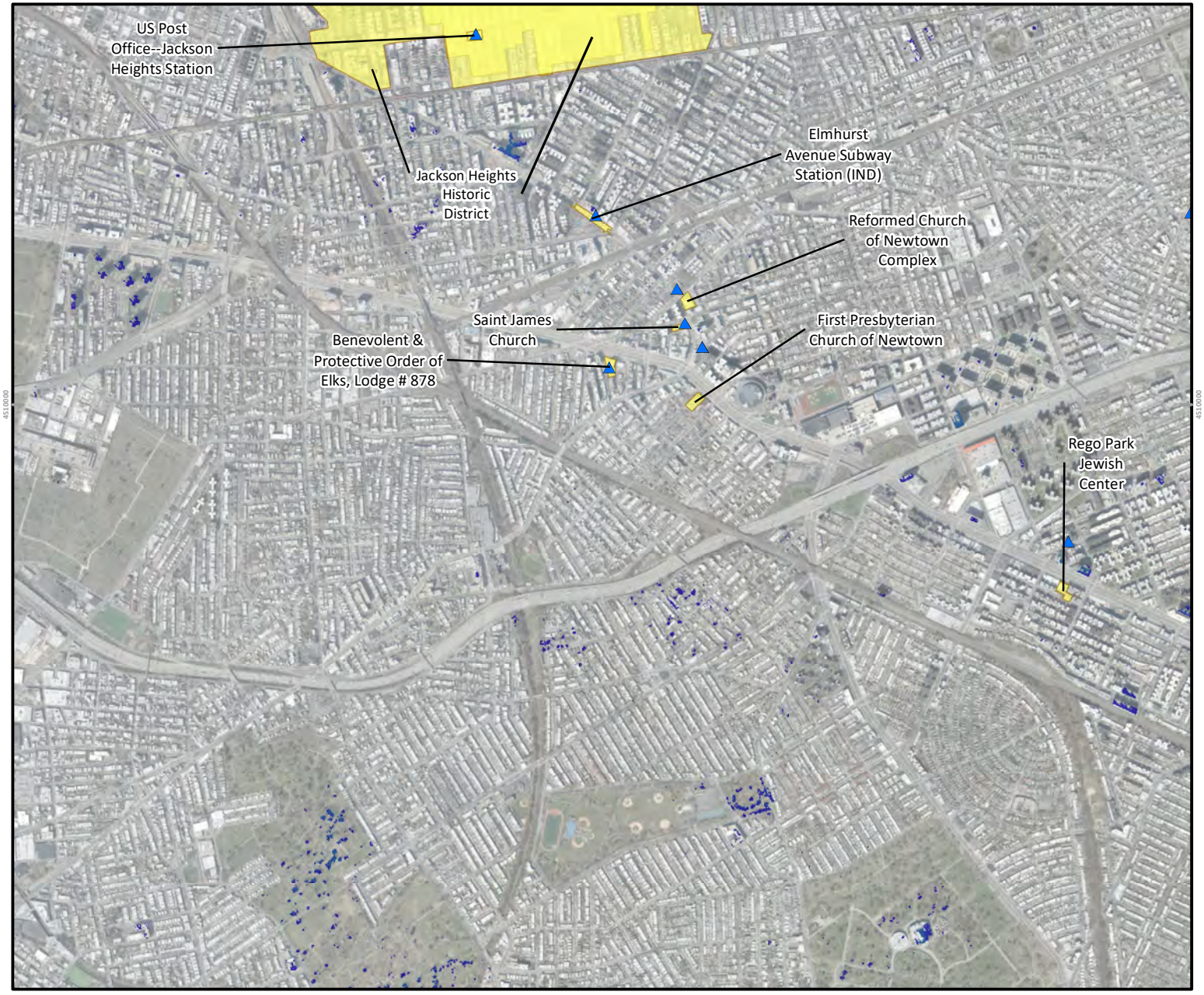

EMPIRE OFFSHORE WIND LEASE: OCS-A 0512 EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
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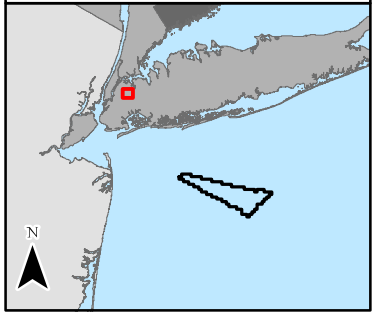
0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



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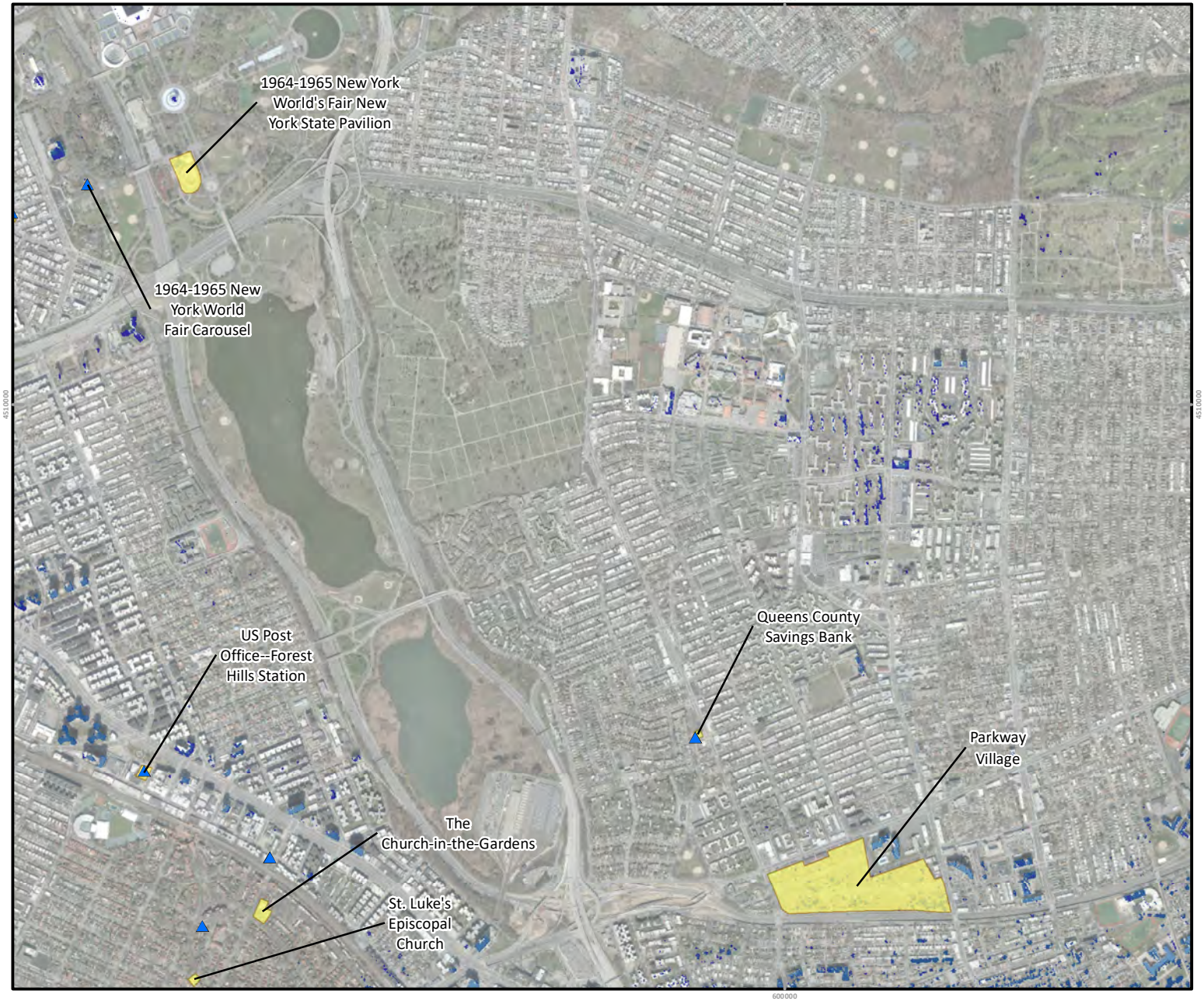


EMPIRE OFFSHORE WIND LEASE: OCS-A 0512 EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0

166-m viewshed intensity
High : 174
Low : 0

Historic Property Excluded from Effects Assessment
No visibility based on viewshed modeling
Historic District

Data Sources: BOEM, ESRI, NOAA, NYS ITS GIS Program Office, NYC Office of Technology & Innovation (OTI)
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

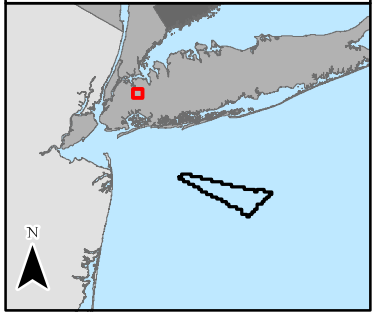
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



NOT FOR CONSTRUCTION

EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166-m viewshed intensity
High : 174
Low : 0
Historic District

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0 0.2 0.4 0.6 0.8 Kilometers

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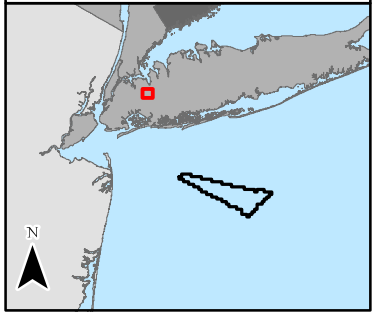

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EMPIRE OFFSHORE WIND LEASE: OCS-A 0512 EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
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166-m viewshed intensity
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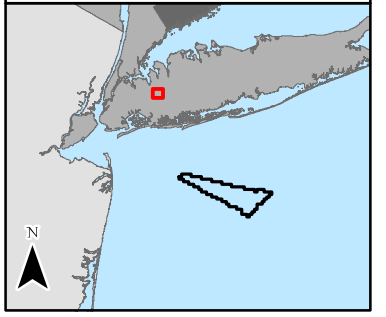

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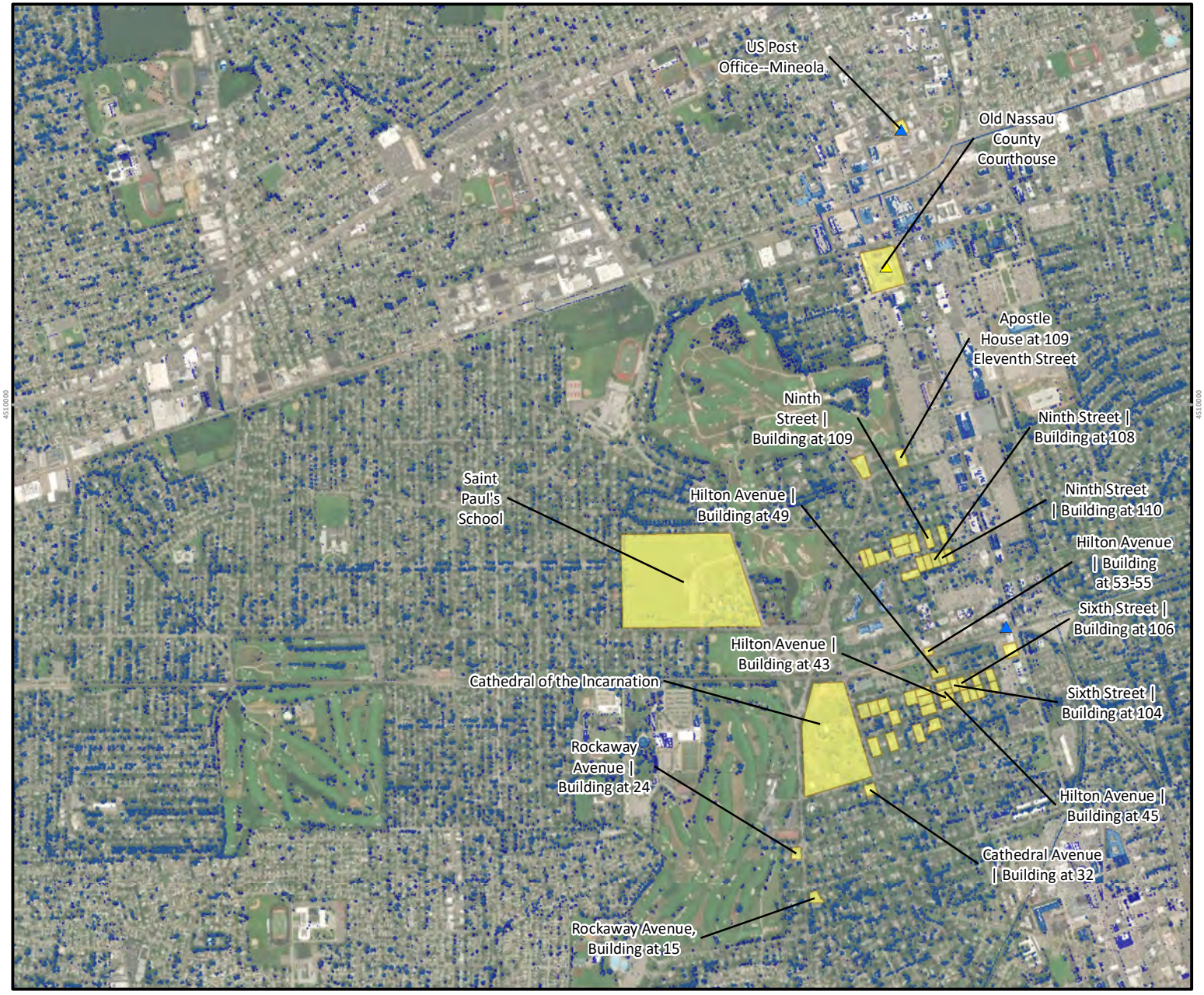

EMPIRE OFFSHORE WIND LEASE: OCS-A 0512 EMPIRE WIND PROJECT

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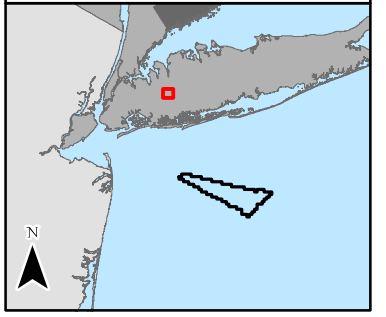

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EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
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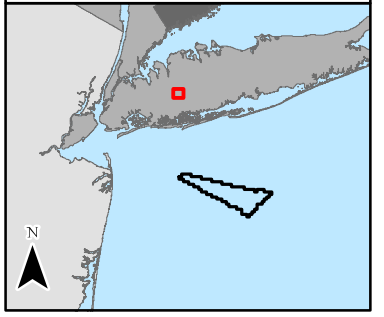

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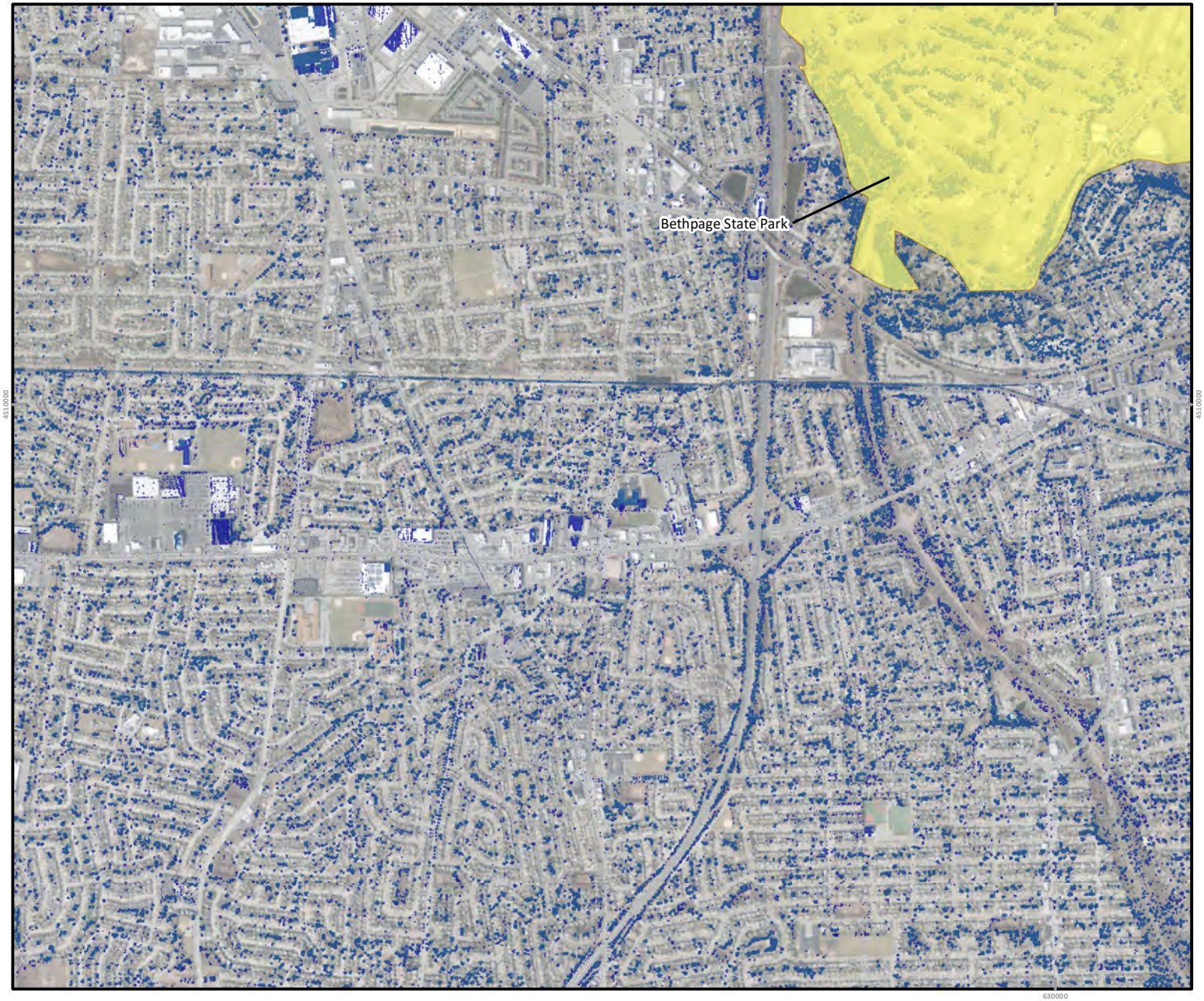

EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
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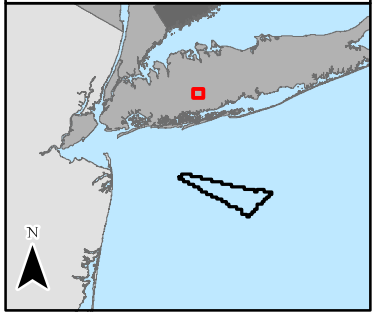

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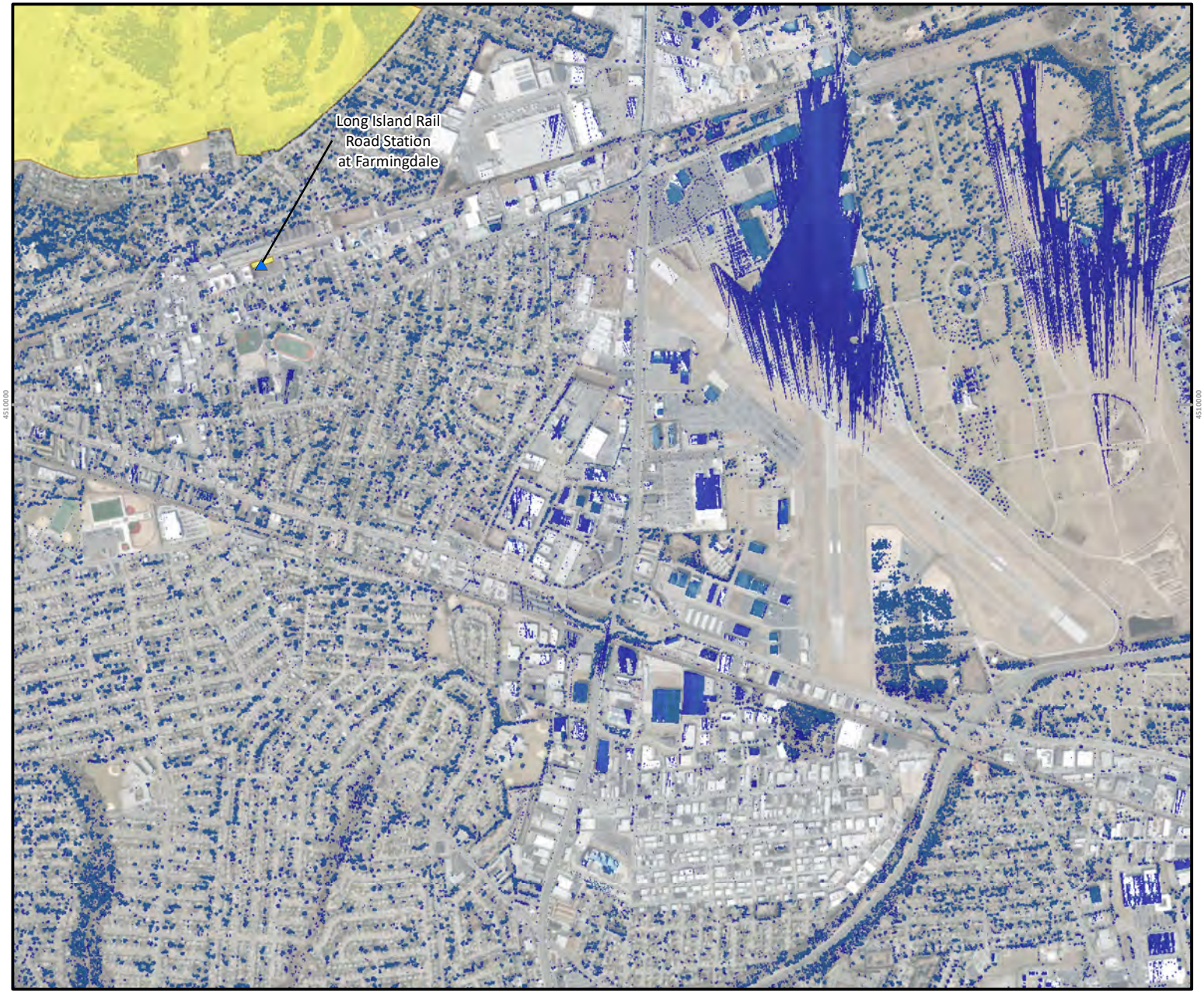

EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
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0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

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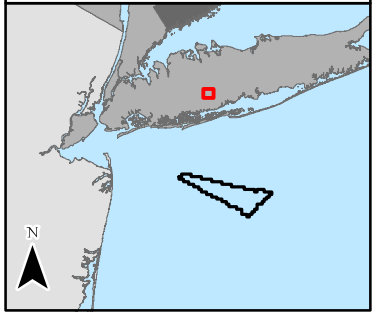

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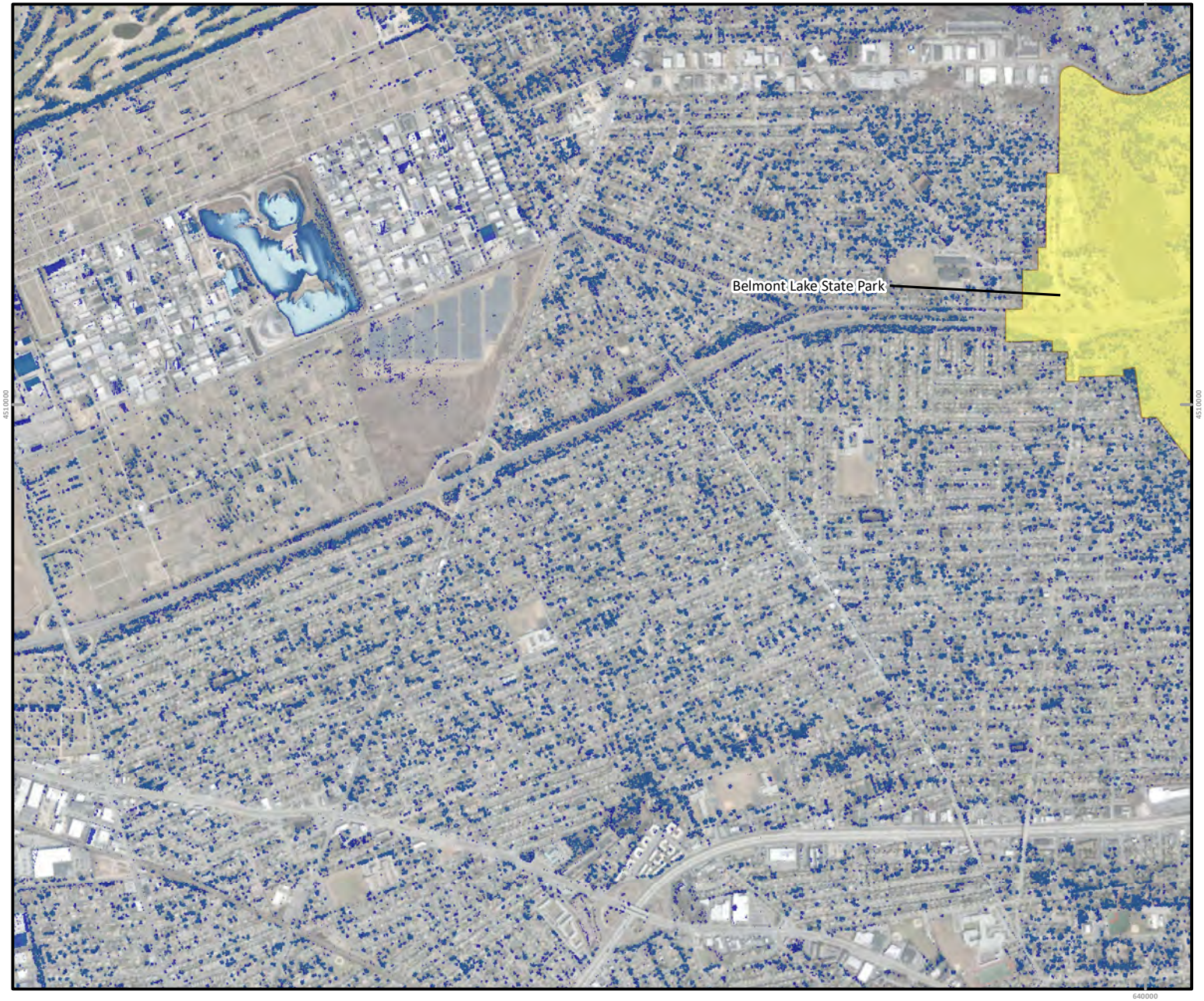

EMPIRE OFFSHORE WIND LEASE: OCS-A 0512 EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166-m viewshed intensity
High : 174
Low : 0
Historic District

Data Sources: BOEM, ESRI, NOAA, NYS ITS GIS Program Office, NYC Office of Technology & Innovation (OTI)
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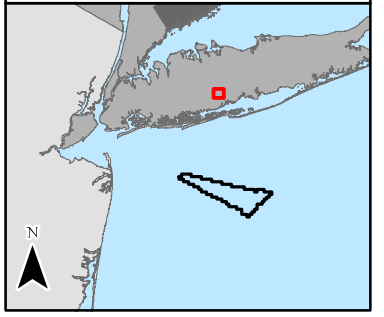
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



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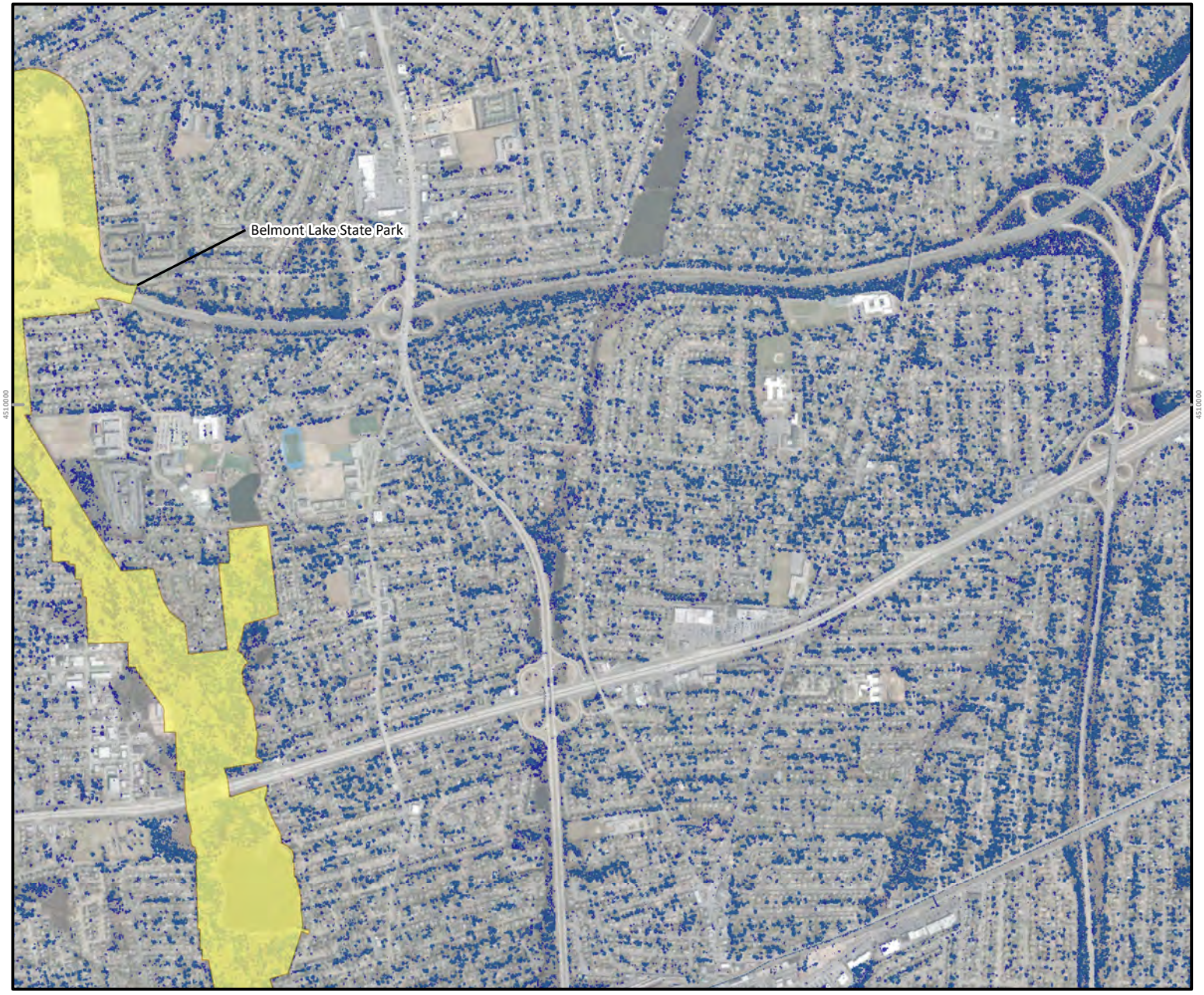

EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
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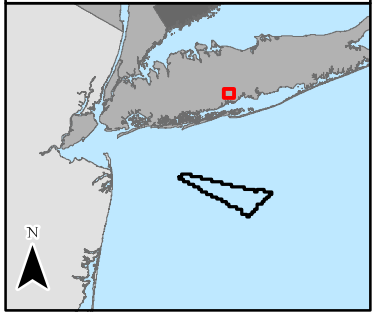

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EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
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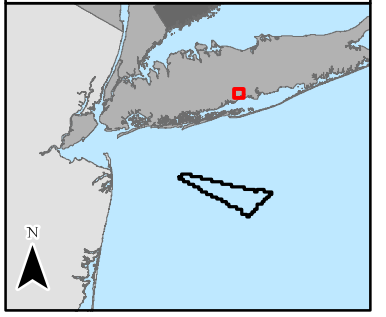

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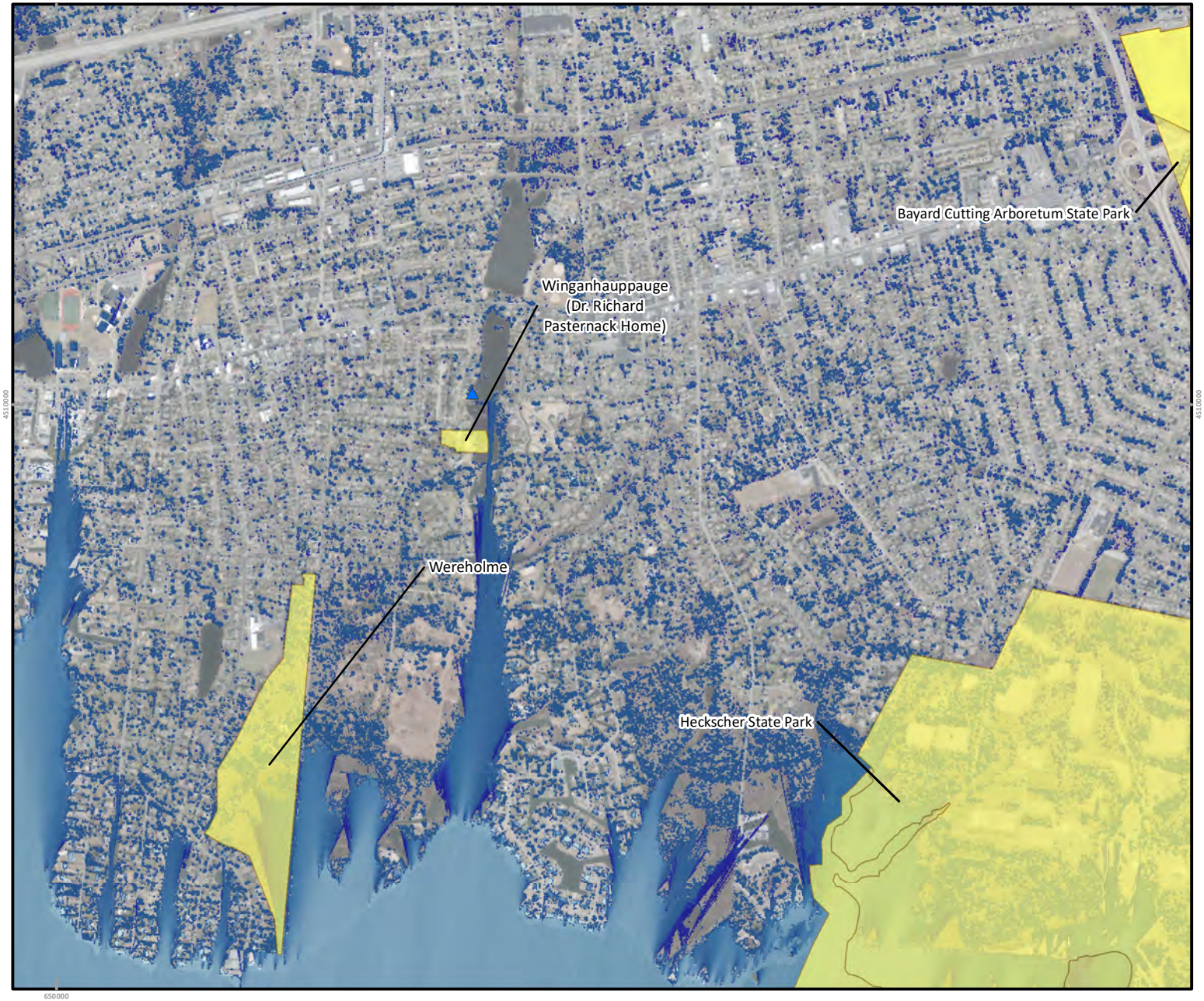

EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
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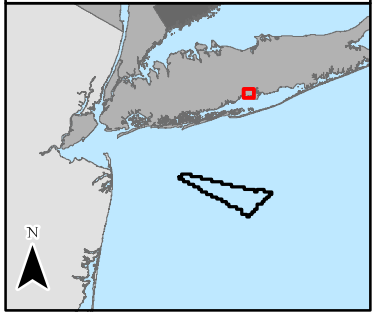
REFERENCE MAP



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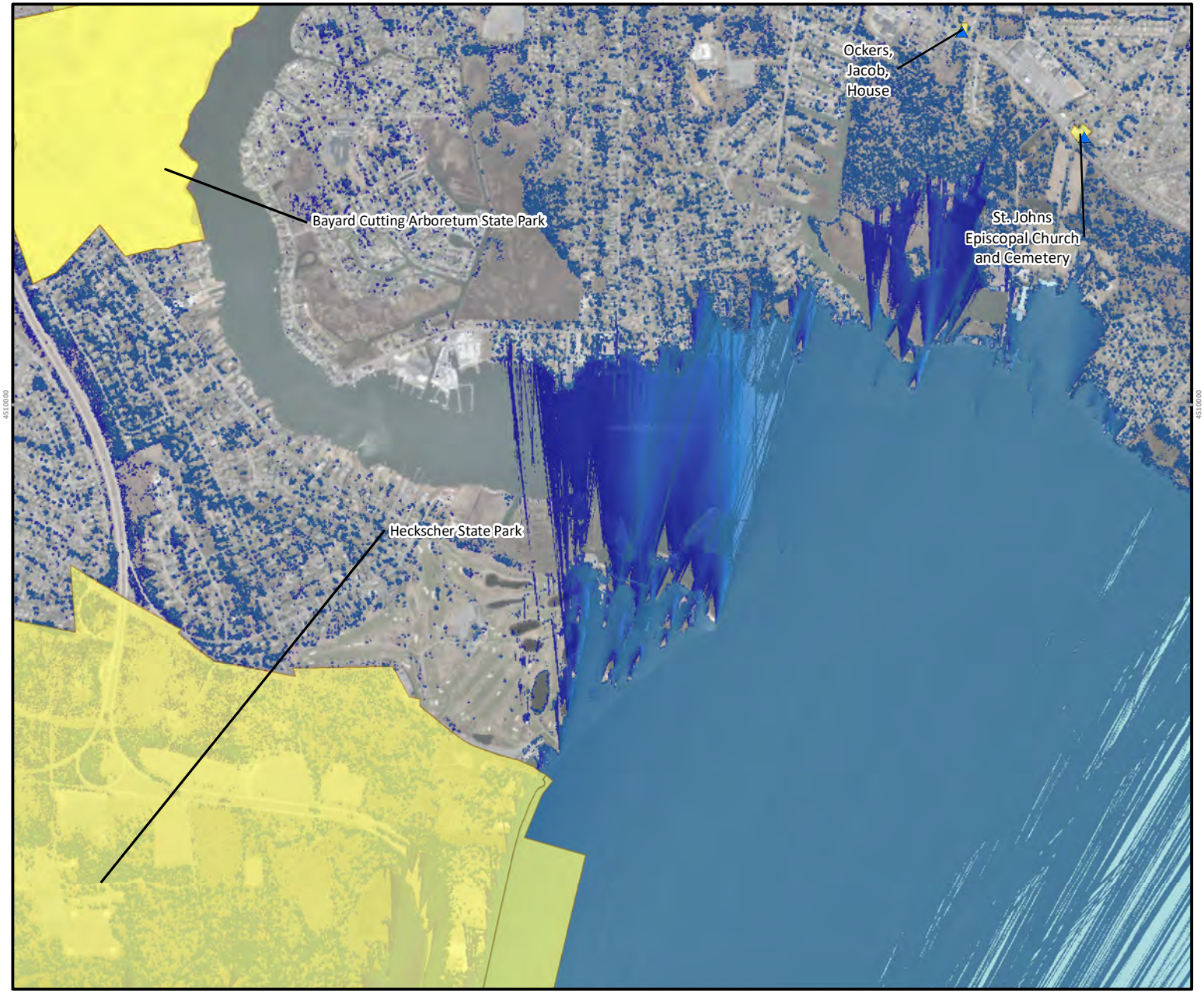

EMPIRE OFFSHORE WIND LEASE: OCS-A 0512 EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166-m viewshed intensity
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Low : 0

Historic Property Excluded from Effects Assessment
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Historic District

Data Sources: BOEM, ESRI, NOAA, NYS ITS GIS Program Office, NYC Office of Technology & Innovation (OTI)
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0 0.2 0.4 0.6 0.8 Kilometers

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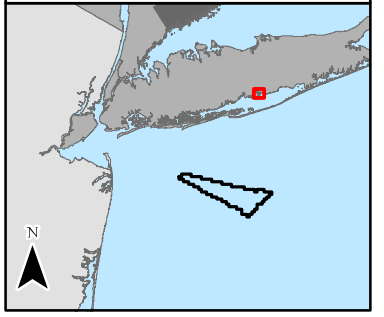

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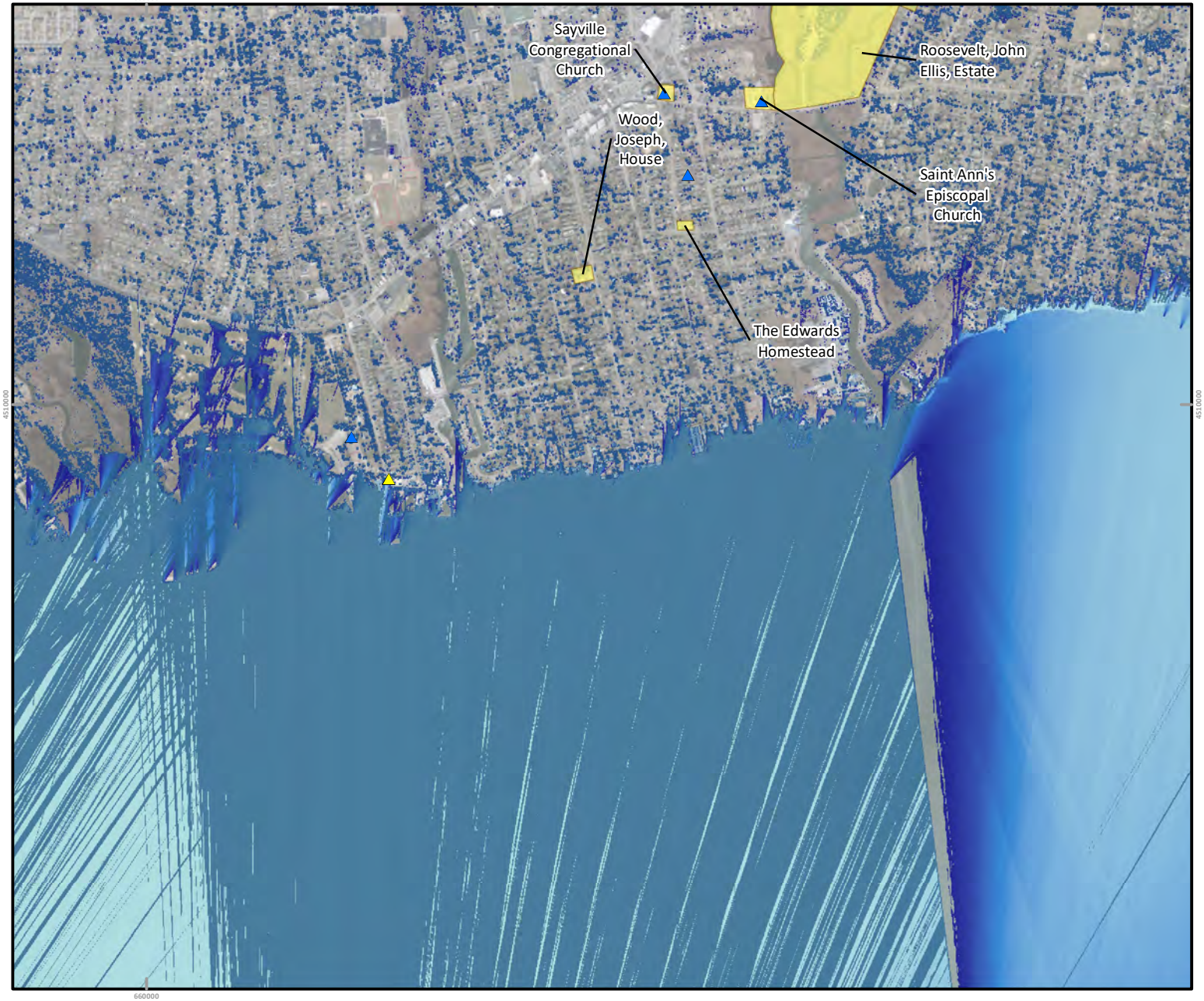

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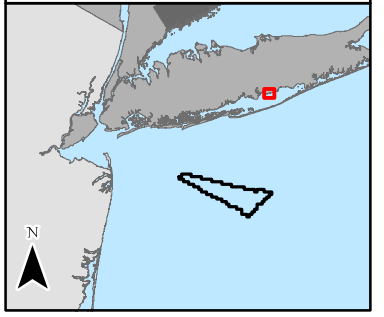

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EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

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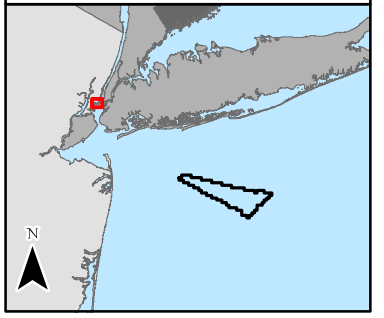

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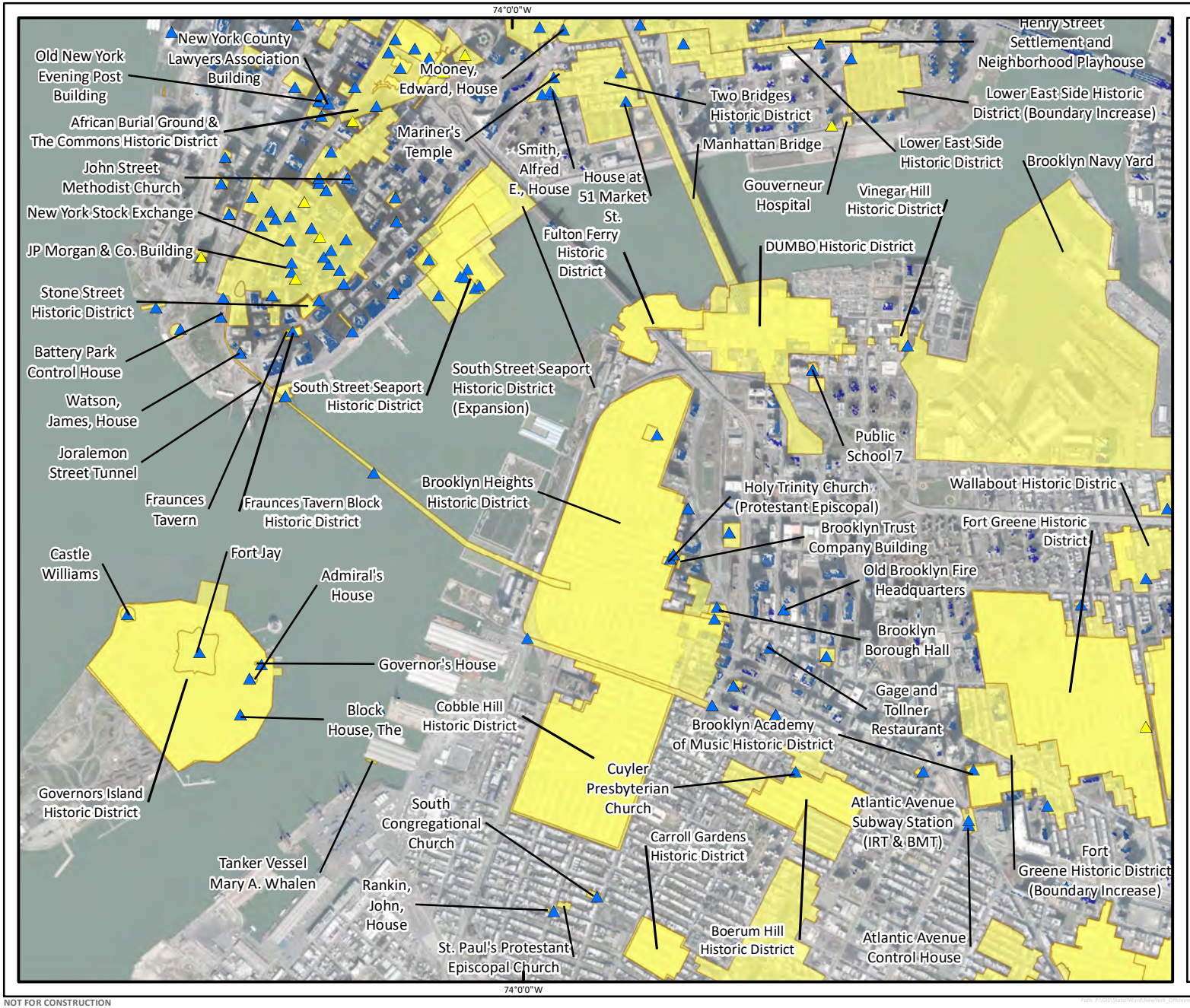

EMPIRE OFFSHORE WIND LEASE: OCS-A 0512 EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166-m viewshed intensity
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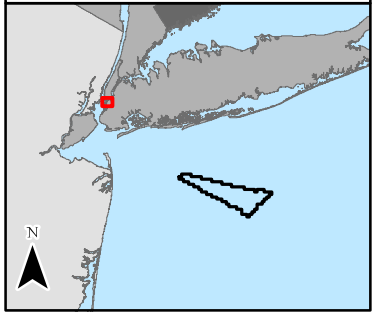

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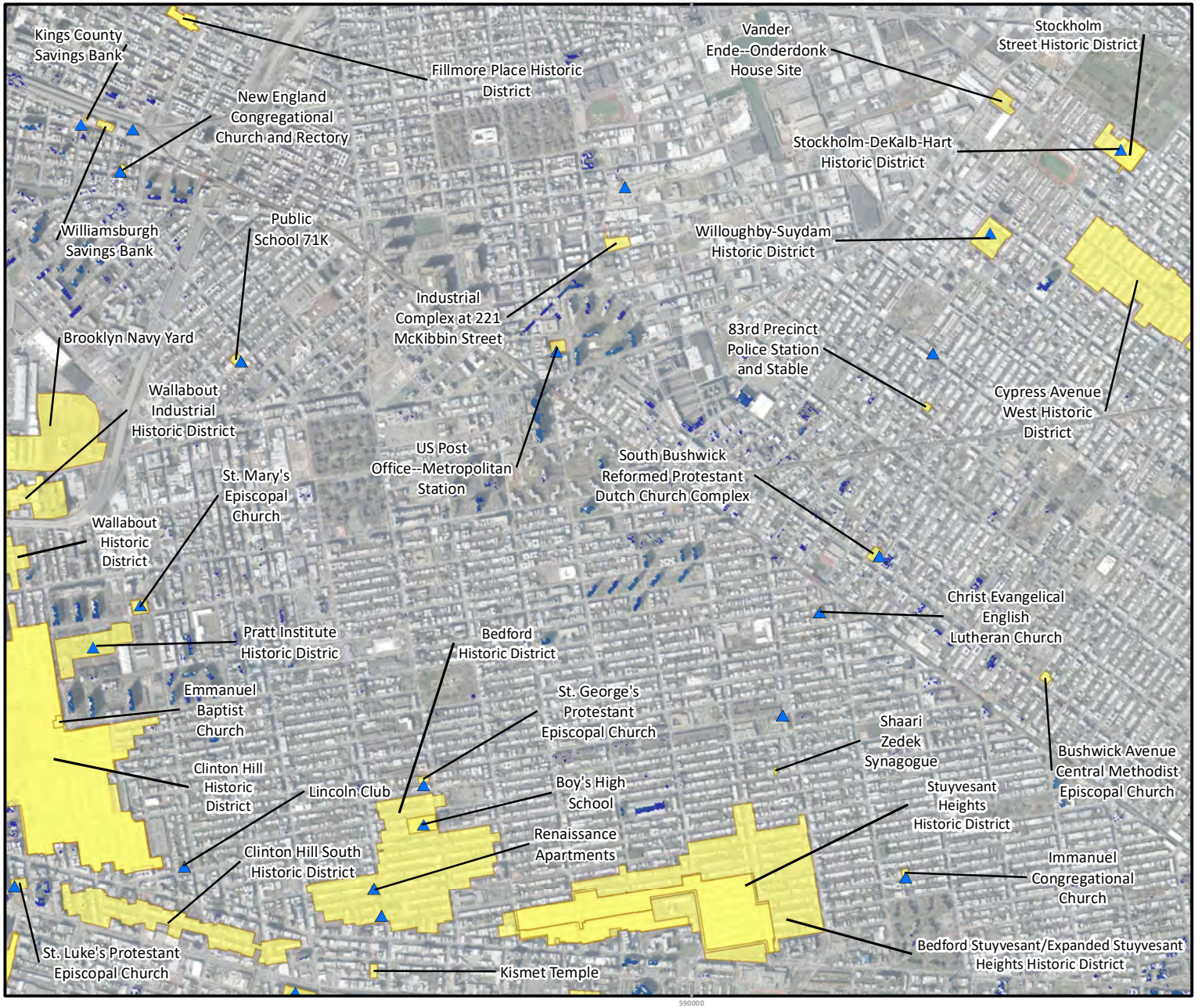

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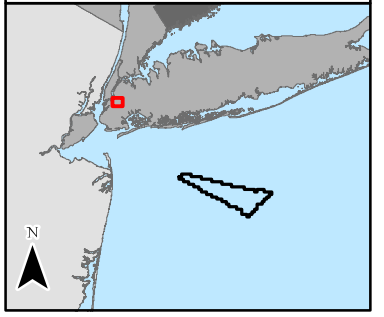

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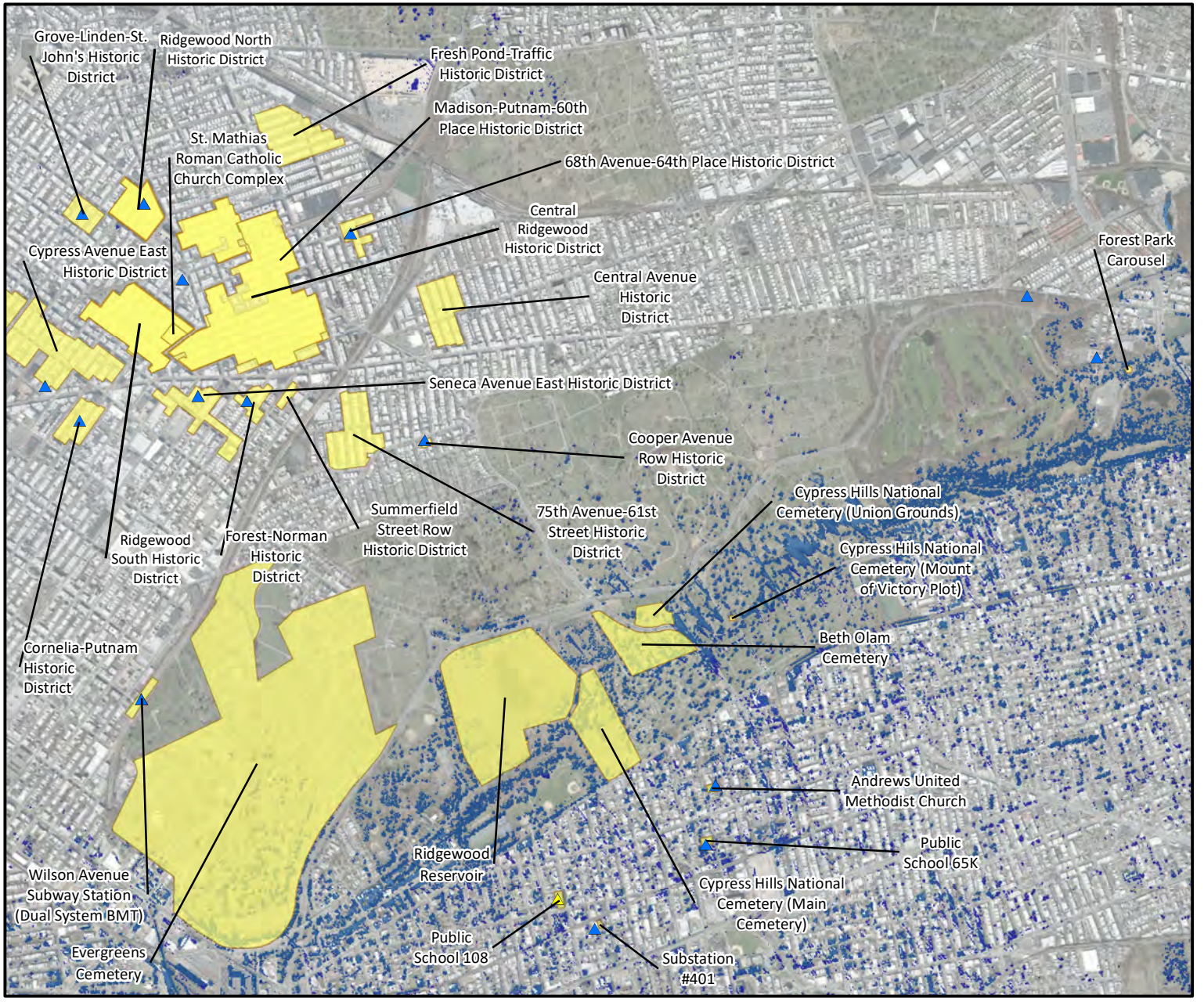

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Offshore AVEHAP PAPE [290-m viewshed intensity]
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High : 174
Low : 0

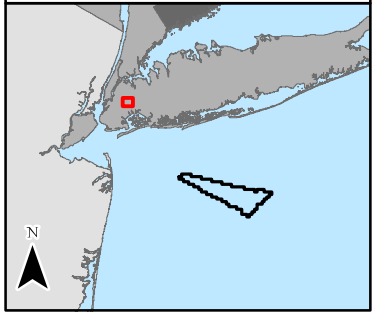
Historic Property Excluded from Effects Assessment
- Potential visibility based on viewshed modeling
- No visibility based on viewshed modeling
- Historic District

Data Sources: BOEM, ESRI, NOAA, NYS ITS GIS Program Office, NYC Office of Technology & Innovation (OTI)
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

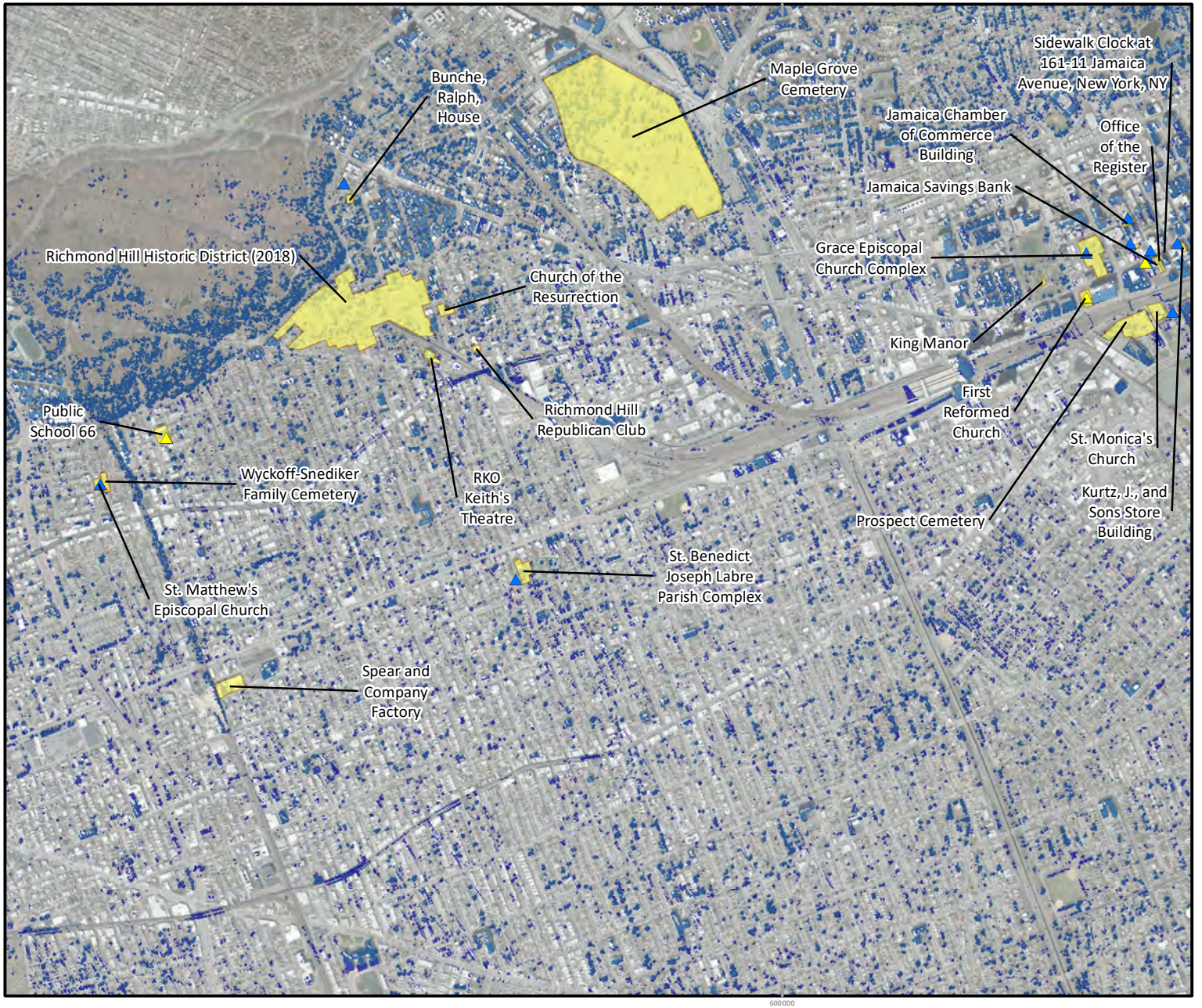
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles
0 0.1 0.2 0.3 0.4 Nautical Miles
0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



NOT FOR CONSTRUCTION



EMPIRE OFFSHORE WIND LEASE: OCS-A 0512 EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166-m viewshed intensity
High : 174
Low : 0

Historic Property Excluded from Effects Assessment
- Potential visibility based on viewshed modeling
- No visibility based on viewshed modeling
- Historic District

Data Sources: BOEM, ESRI, NOAA, NYS ITS GIS Program Office, NYC Office of Technology & Innovation (OTI)
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

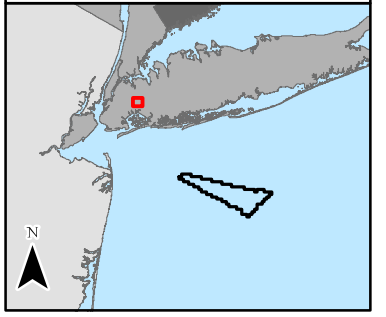
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



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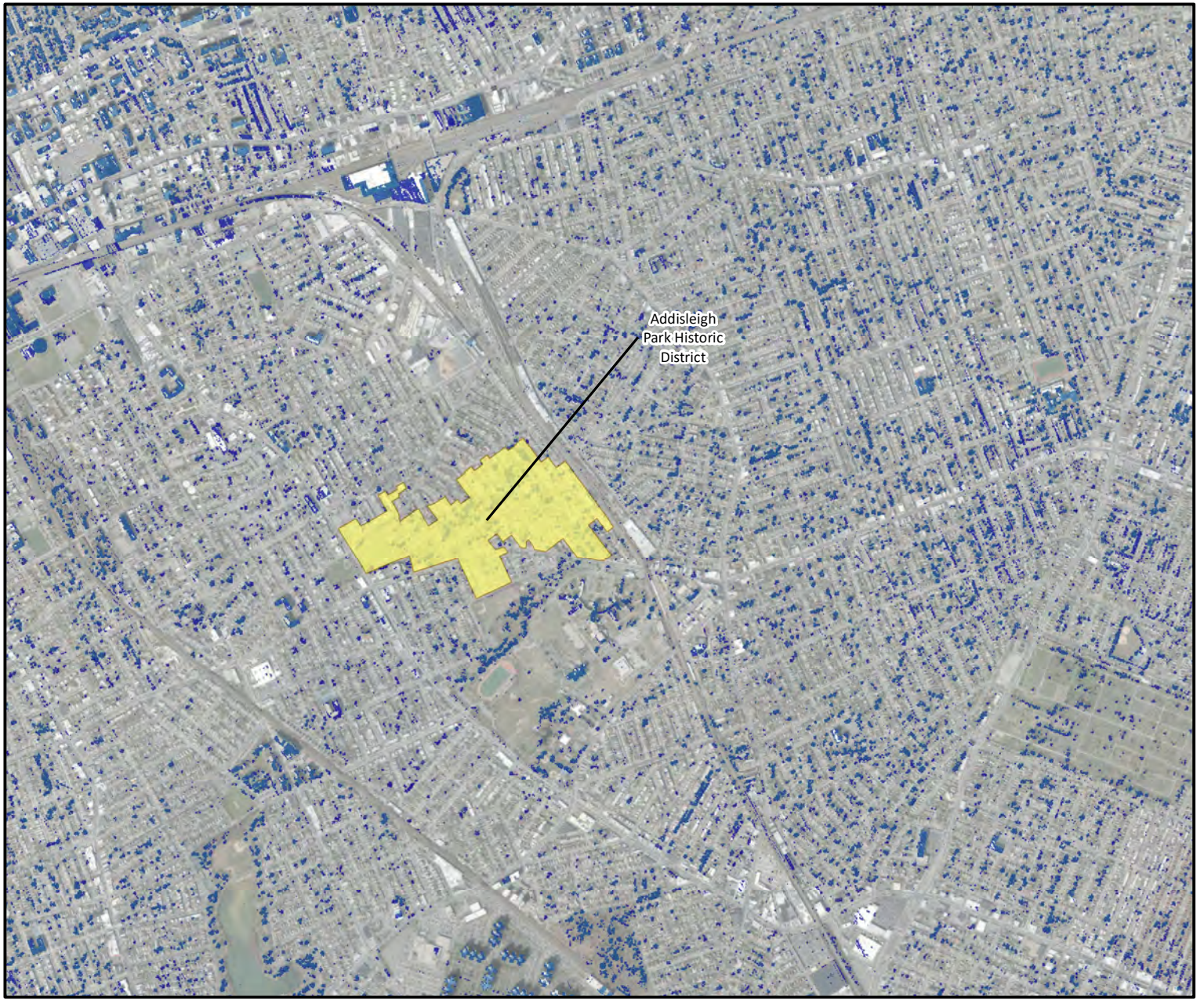


EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166-m viewshed intensity
High : 174
Low : 0
Historic District

Data Sources: BOEM, ESRI, NOAA, NYS ITS GIS Program Office, NYC Office of Technology & Innovation (OTI)
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

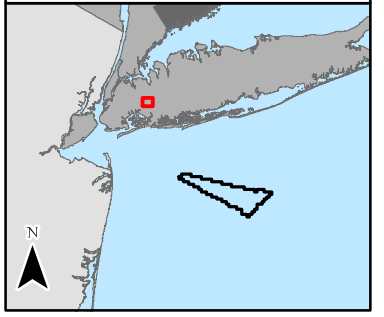
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



NOT FOR CONSTRUCTION

EMPIRE OFFSHORE WIND LEASE: OCS-A 0512 EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166-m viewshed intensity
High : 174
Low : 0
Historic Property Excluded from Effects Assessment
No visibility based on viewshed modeling
Historic District

Data Sources: BOEM, ESRI, NOAA, NYS ITS GIS Program Office, NYC Office of Technology & Innovation (OTI)
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

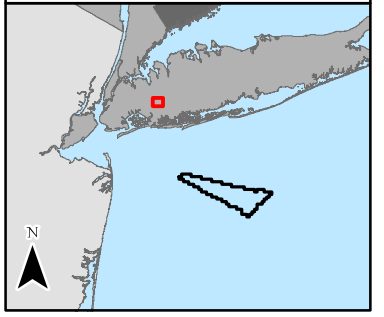
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



NOT FOR CONSTRUCTION

EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166-m viewshed intensity
High : 174
Low : 0

Historic Property Excluded from Effects Assessment
- Potential visibility based on viewshed modeling
- No visibility based on viewshed modeling
- Historic District

Data Sources: BOEM, ESRI, NOAA, NYS ITS GIS Program Office, NYC Office of Technology & Innovation (OTI)
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

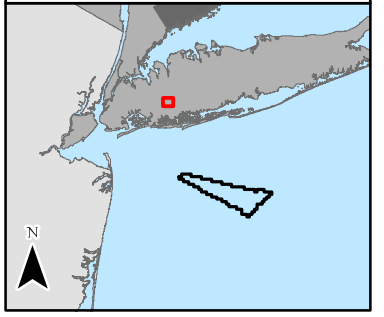
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



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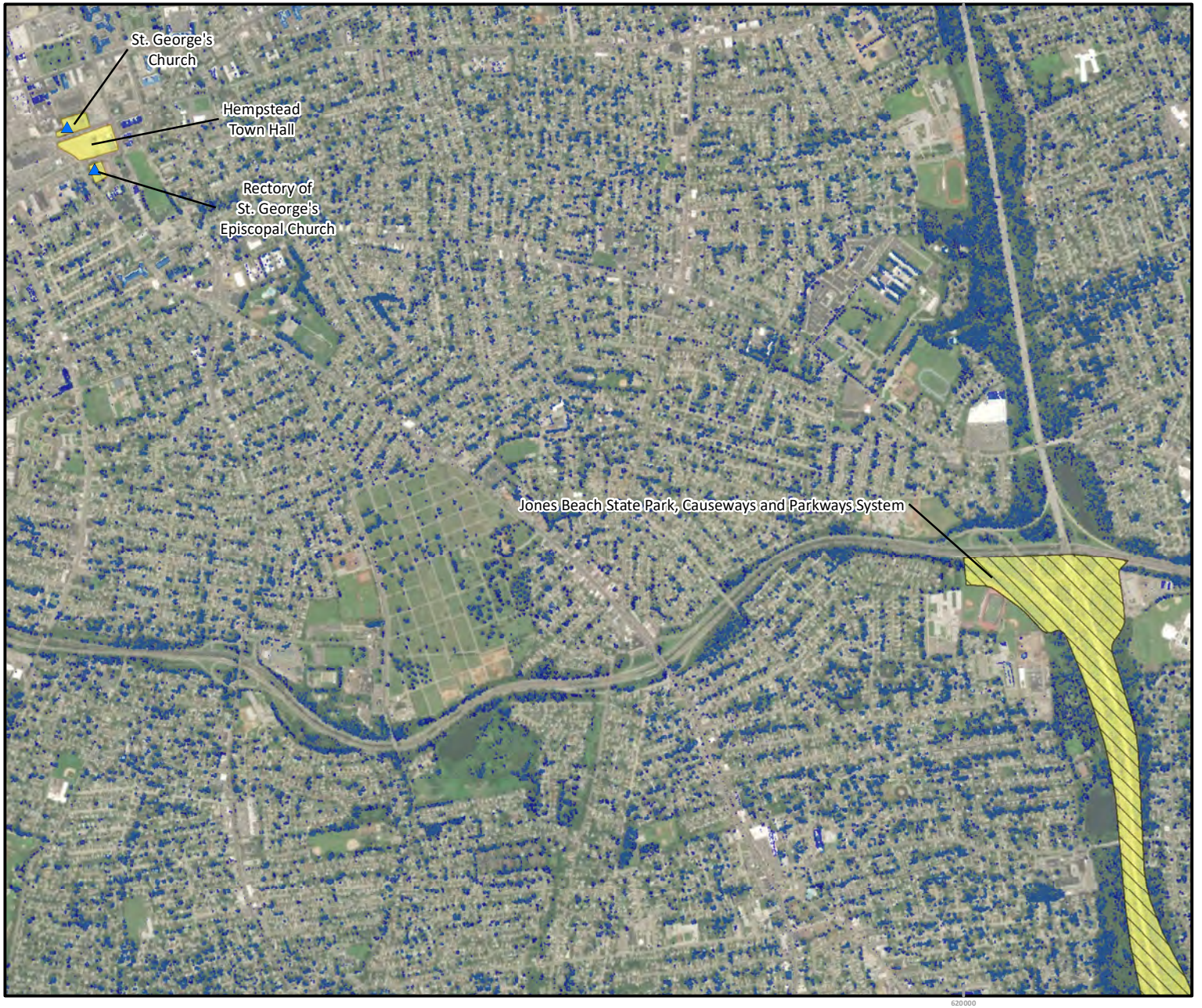


EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166-m viewshed intensity
High : 174
Low : 0

Historic Property Excluded from Effects Assessment
No visibility based on viewshed modeling
Historic District (Adverse Effect)
Historic District

Data Sources: BOEM, ESRI, NOAA, NYS ITS GIS Program Office, NYC Office of Technology & Innovation (OTI)
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

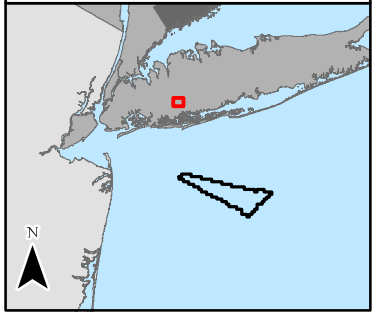
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



NOT FOR CONSTRUCTION

EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166-m viewshed intensity
High : 174
Low : 0
Historic District (Adverse Effect)
Historic District

Data Sources: BOEM, ESRI, NOAA, NYS ITS GIS Program Office, NYC Office of Technology & Innovation (OTI)
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

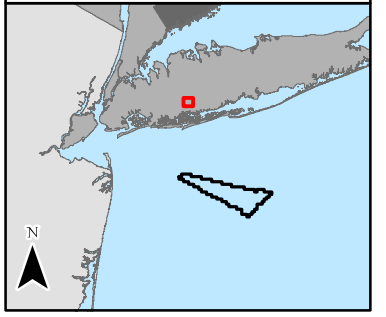
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



NOT FOR CONSTRUCTION

EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

equinor

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166-m viewshed intensity
High : 174
Low : 0

Historic Property Excluded from Effects Assessment
- No visibility based on viewshed modeling
- Historic District (Adverse Effect)
- Historic District

Data Sources: BOEM, ESRI, NOAA, NYS ITS GIS Program Office, NYC Office of Technology & Innovation (OTI)
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

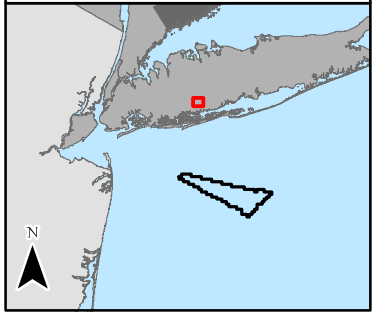
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



NOT FOR CONSTRUCTION

EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

equinor

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166-m viewshed intensity
High : 174
Low : 0
Historic Property Excluded from Effects Assessment
No visibility based on viewshed modeling
Historic District

Data Sources: BOEM, ESRI, NOAA, NYS ITS GIS Program Office, NYC Office of Technology & Innovation (OTI)
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

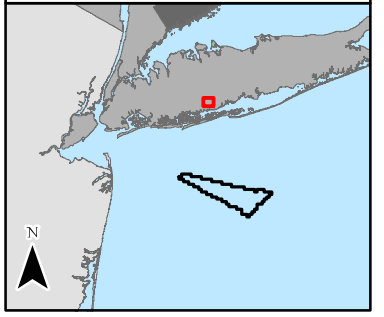
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



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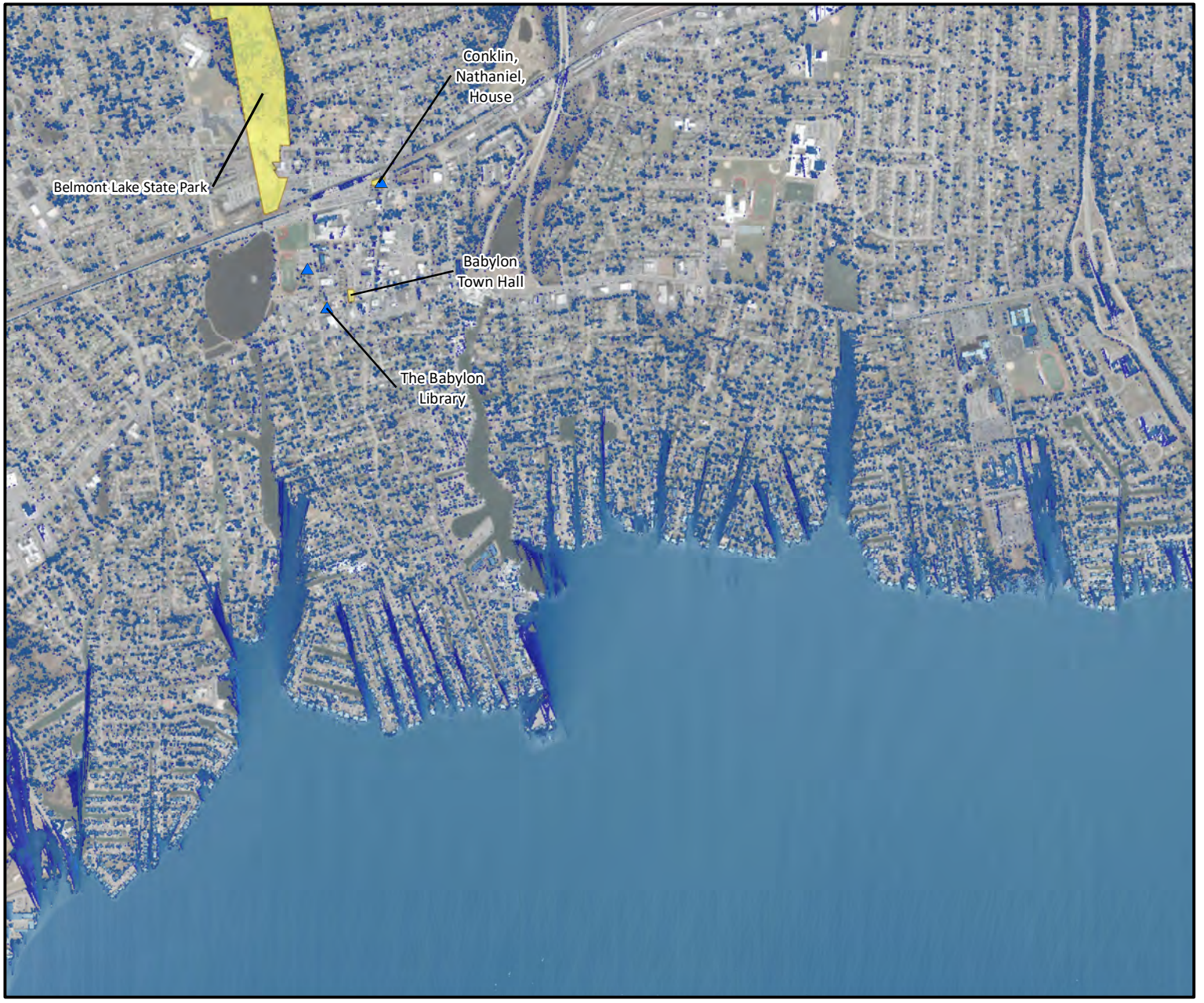


EMPIRE OFFSHORE WIND LEASE: OCS-A 0512 EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166-m viewshed intensity
High : 174
Low : 0
Historic Property Excluded from Effects Assessment
No visibility based on viewshed modeling
Historic District

Data Sources: BOEM, ESRI, NOAA, NYS ITS GIS Program Office, NYC Office of Technology & Innovation (OTI)
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

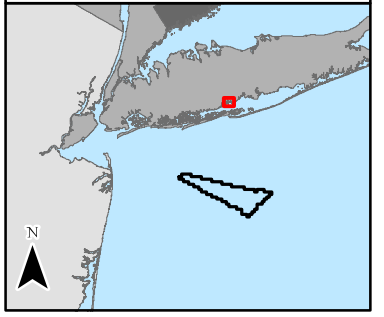
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



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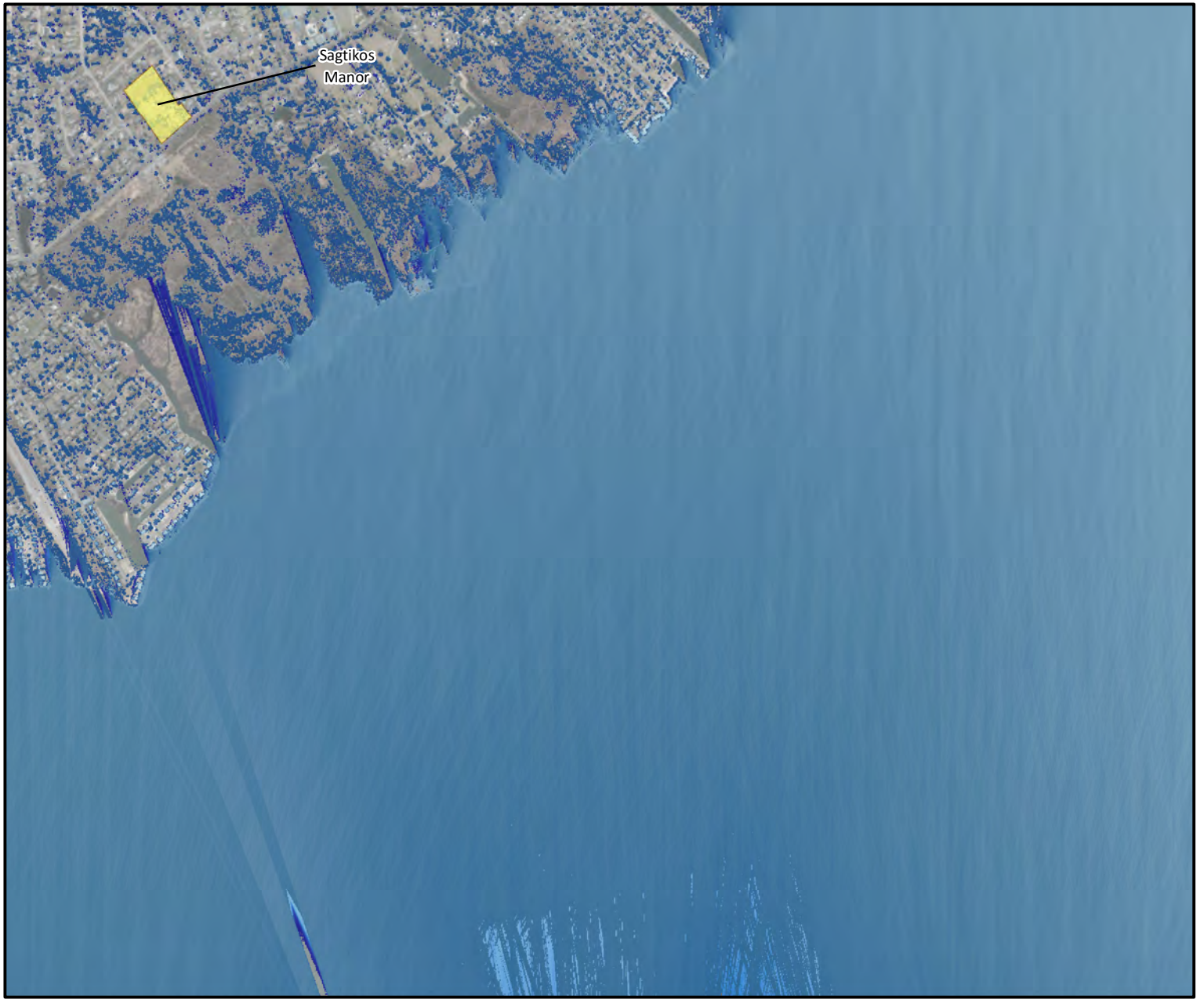


EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166-m viewshed intensity
High : 174
Low : 0
Historic District

Data Sources: BOEM, ESRI, NOAA, NYS ITS GIS Program Office, NYC Office of Technology & Innovation (OTI)
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

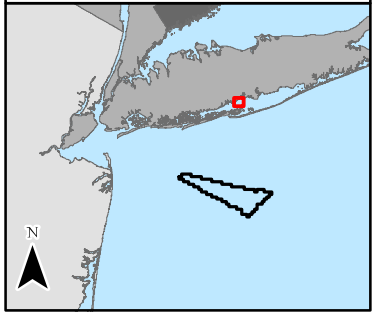
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



NOT FOR CONSTRUCTION

EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166-m viewshed intensity
High : 174
Low : 0
Historic District

Data Sources: BOEM, ESRI, NOAA, NYS ITS GIS Program Office, NYC Office of Technology & Innovation (OTI)
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

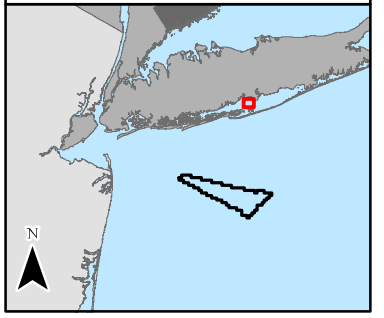
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



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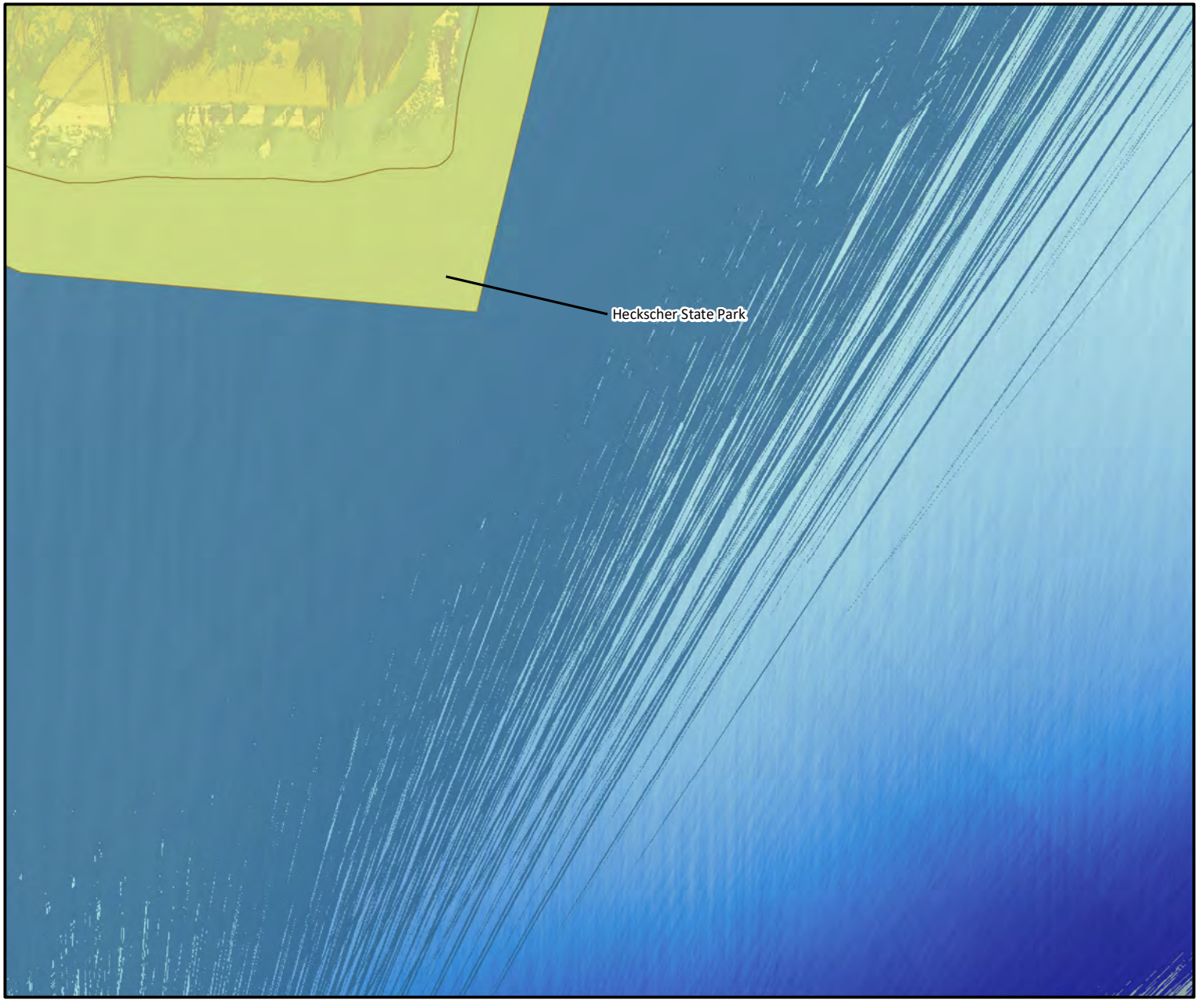


EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166-m viewshed intensity
High : 174
Low : 0
Historic District

Data Sources: BOEM, ESRI, NOAA, NYS ITS GIS Program Office, NYC Office of Technology & Innovation (OTI)
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

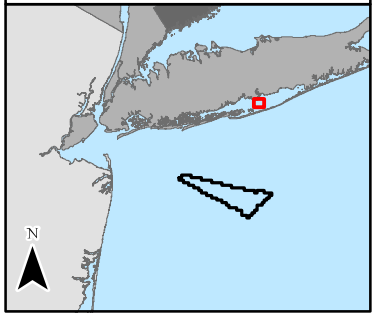
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



NOT FOR CONSTRUCTION

EMPIRE OFFSHORE WIND LEASE: OCS-A 0512 EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166-m viewshed intensity
High : 174
Low : 0

Historic Property Excluded from Effects Assessment
No visibility based on viewshed modeling
Historic District

Data Sources: BOEM, ESRI, NOAA, NYS ITS GIS Program Office, NYC Office of Technology & Innovation (OTI)
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

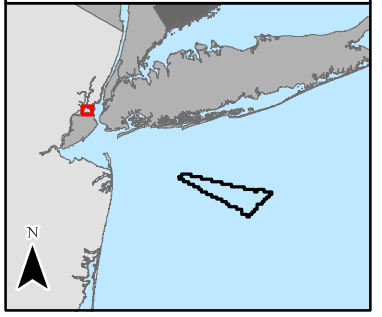
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



NOT FOR CONSTRUCTION

EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166-m viewshed intensity
High : 174
Low : 0

Historic Property Excluded from Effects Assessment
No visibility based on viewshed modeling
Historic District
EW 1 Submarine Export Cable Route

Data Sources: BOEM, ESRI, NOAA, NYS ITS GIS Program Office, NYC Office of Technology & Innovation (OTI)
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

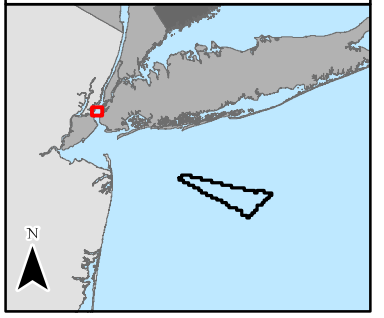
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



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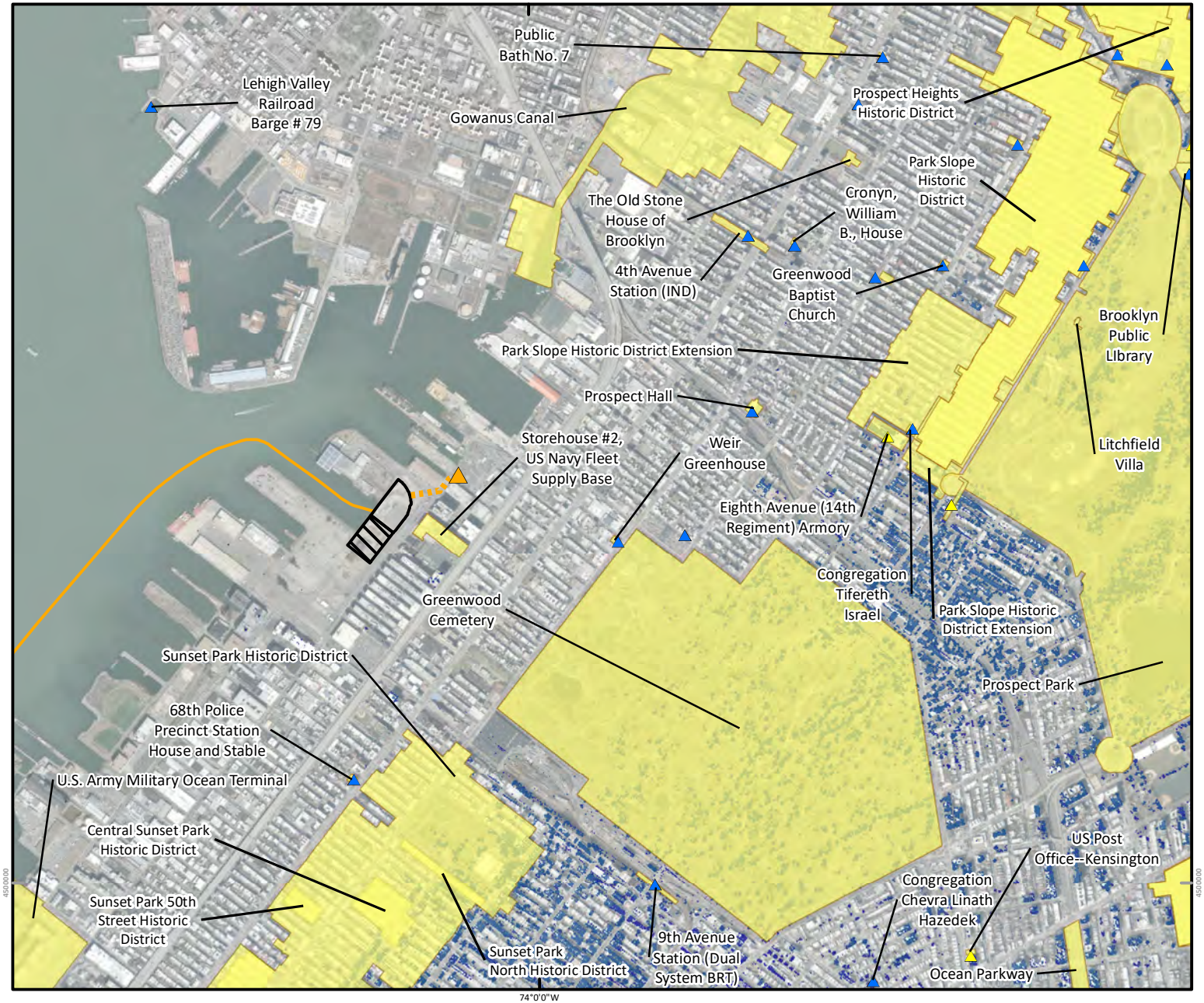


EMPIRE OFFSHORE WIND LEASE: OCS-A 0512 EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166-m viewshed intensity
High : 174
Low : 0

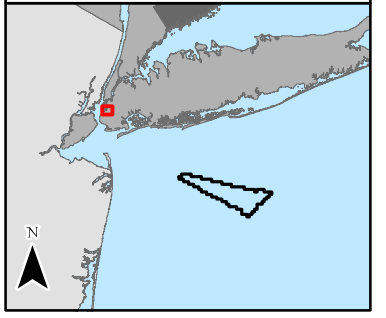
Historic Property Excluded from Effects Assessment
- Potential visibility based on viewshed modeling
- No visibility based on viewshed modeling
- Historic District
- EW 1 POI
- EW 1 Interconnection Cable Route
- Onshore Substation
- O&M Base
- EW 1 Submarine Export Cable Route

Data Sources: BOEM, ESRI, NOAA, NYS ITS GIS Program Office, NYC Office of Technology & Innovation (OTI)

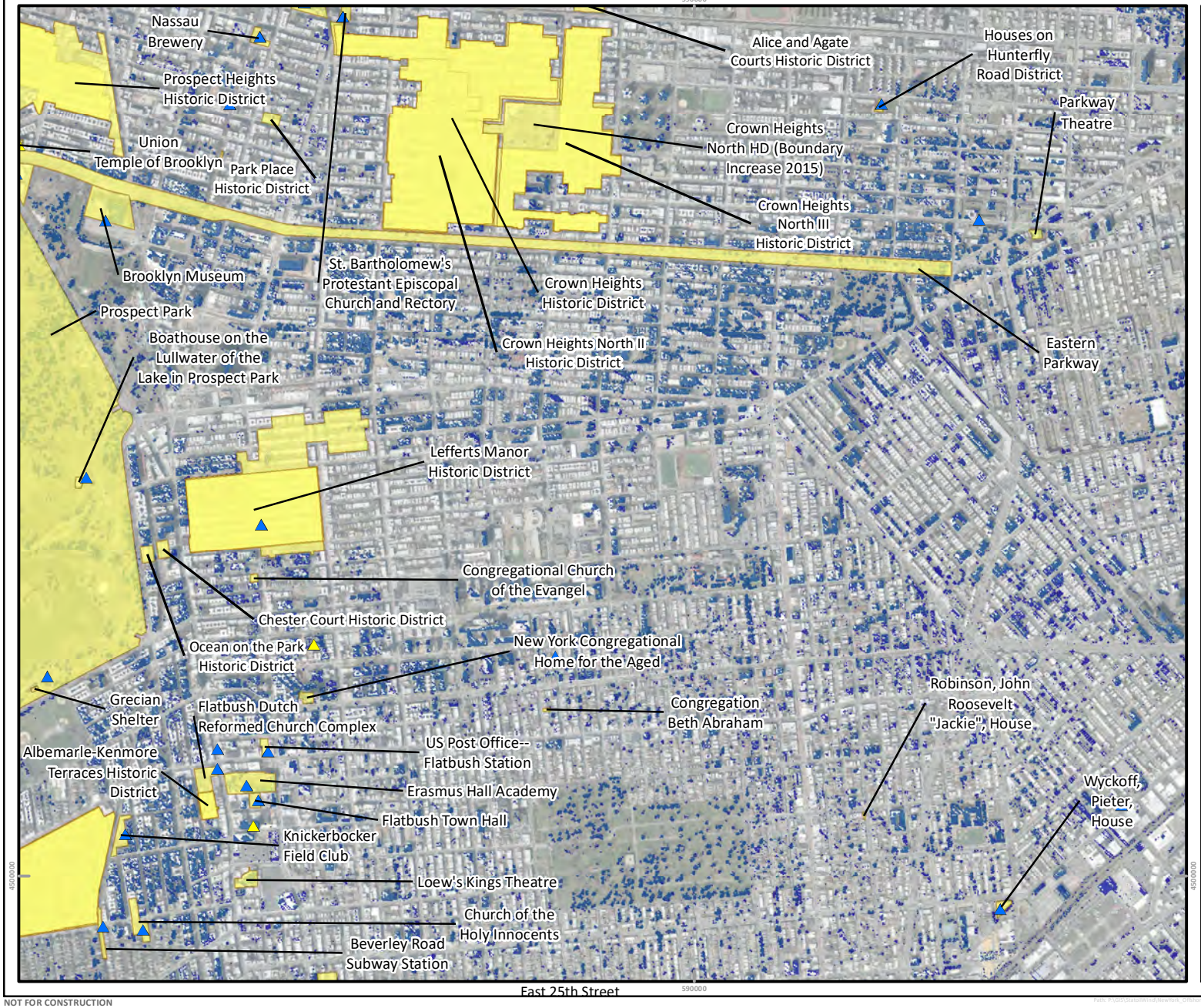
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles
0 0.1 0.2 0.3 0.4 Nautical Miles
0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



NOT FOR CONSTRUCTION



EMPIRE OFFSHORE WIND LEASE: OCS-A 0512 EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166-m viewshed intensity
High : 174
Low : 0

Historic Property Excluded from Effects Assessment
- Potential visibility based on viewshed modeling
- No visibility based on viewshed modeling
- Historic District

Data Sources: BOEM, ESRI, NOAA, NYS ITS GIS Program Office, NYC Office of Technology & Innovation (OTI)
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

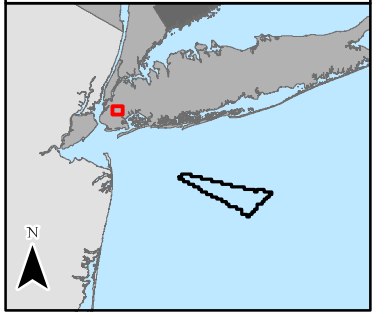
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



NOT FOR CONSTRUCTION

EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166-m viewshed intensity
High : 174
Low : 0

Historic Property Excluded from Effects Assessment
No visibility based on viewshed modeling
Historic District

Data Sources: BOEM, ESRI, NOAA, NYS ITS GIS Program Office, NYC Office of Technology & Innovation (OTI)
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

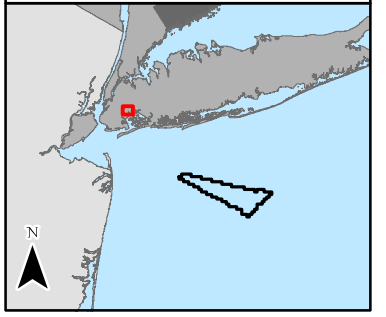
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



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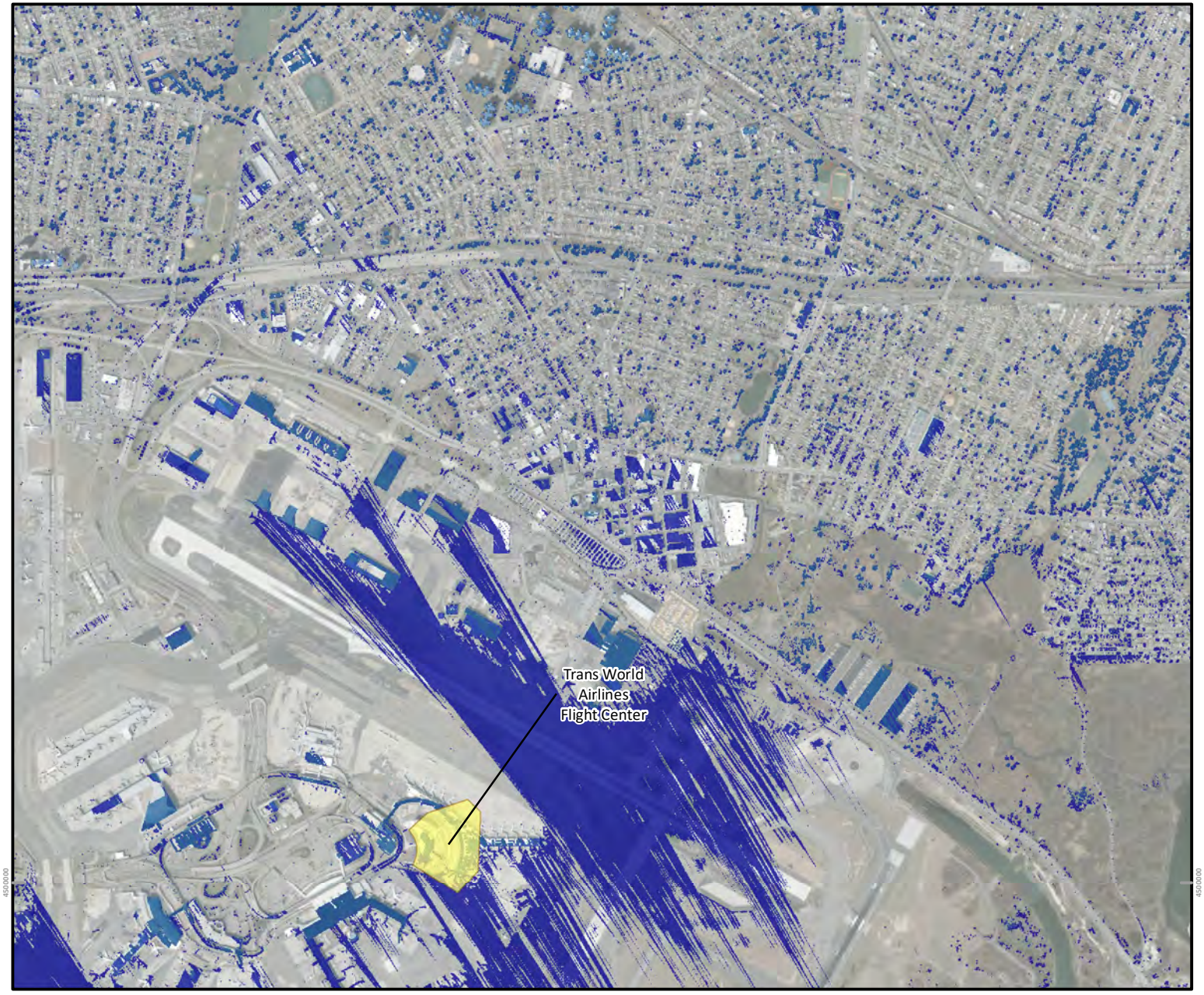


EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166-m viewshed intensity
High : 174
Low : 0
Historic District

Data Sources: BOEM, ESRI, NOAA, NYS ITS GIS Program Office, NYC Office of Technology & Innovation (OTI)
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

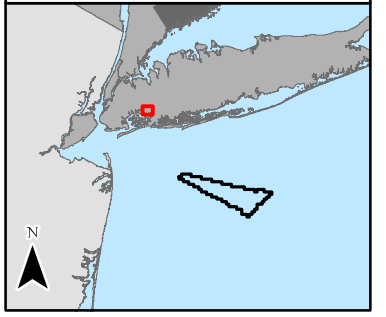
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



NOT FOR CONSTRUCTION

EMPIRE OFFSHORE WIND LEASE: OCS-A 0512 EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166-m viewshed intensity
High : 174
Low : 0
Historic District

Data Sources: BOEM, ESRI, NOAA, NYS ITS GIS Program Office, NYC Office of Technology & Innovation (OTI)
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

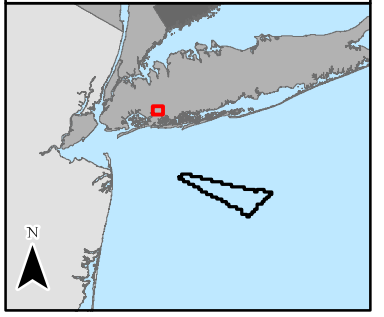
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



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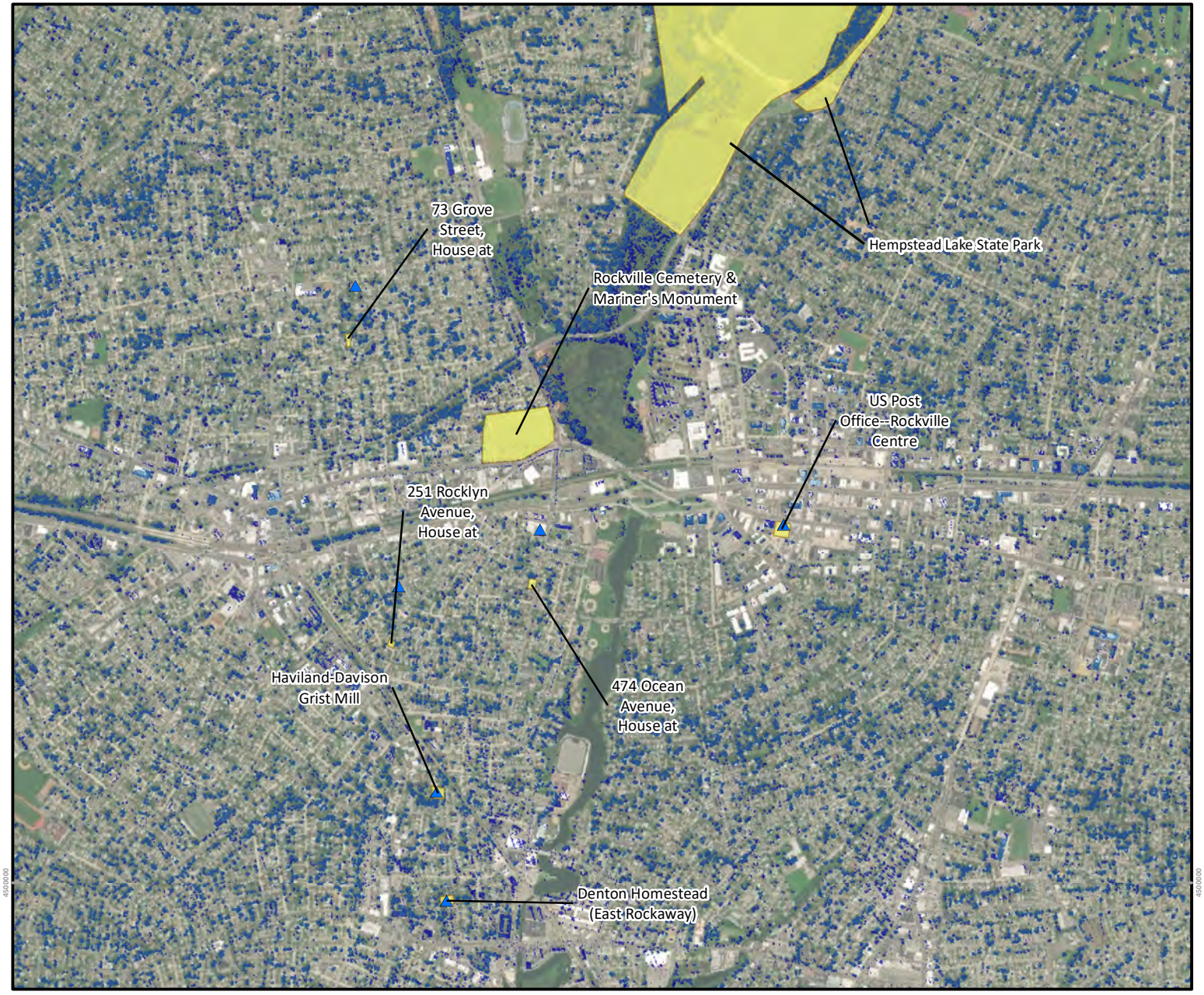


EMPIRE OFFSHORE WIND LEASE: OCS-A 0512 EMPIRE WIND PROJECT

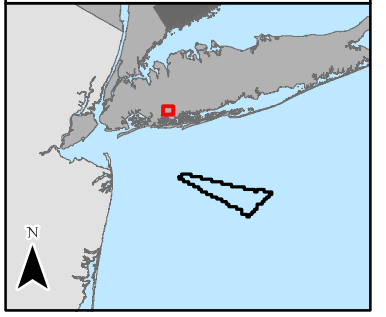
Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166-m viewshed intensity
High : 174
Low : 0
Historic Property Excluded from Effects Assessment
No visibility based on viewshed modeling
Historic District

Data Sources: BOEM, ESRI, NOAA, NYS ITS GIS Program Office, NYC Office of Technology & Innovation (OTI)
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles
0 0.1 0.2 0.3 0.4 Nautical Miles
0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



NOT FOR CONSTRUCTION

EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166-m viewshed intensity
High : 174
Low : 0

Historic Property Excluded from Effects Assessment
- No visibility based on viewshed modeling
- Historic District (Adverse Effect)
- Historic District

Data Sources: BOEM, ESRI, NOAA, NYS ITS GIS Program Office, NYC Office of Technology & Innovation (OTI)
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

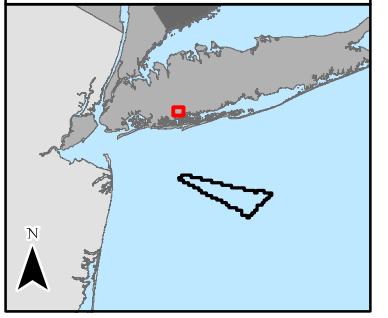
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



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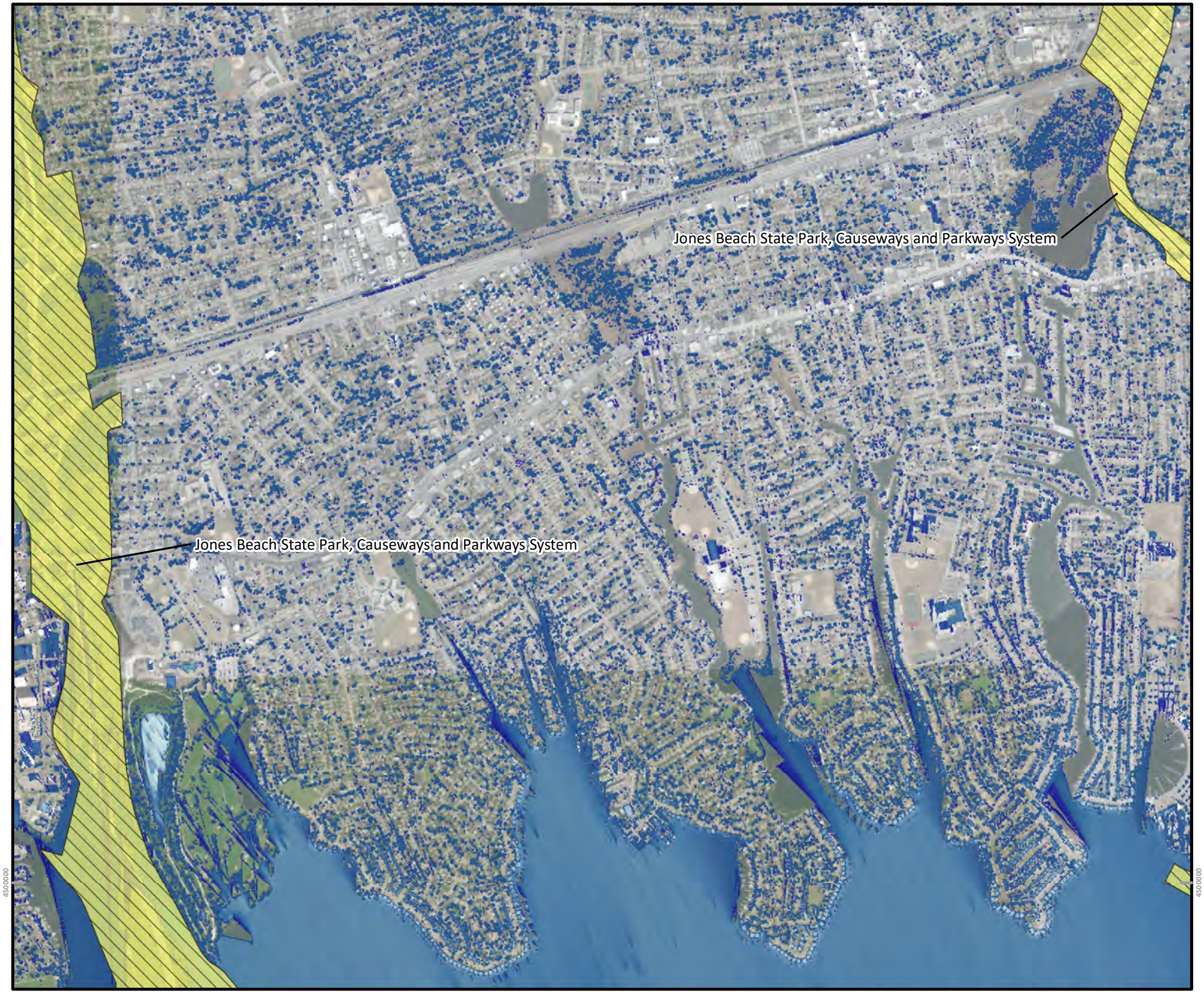


EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166-m viewshed intensity
High : 174
Low : 0
Historic District (Adverse Effect)
Historic District

Data Sources: BOEM, ESRI, NOAA, NYS ITS GIS Program Office, NYC Office of Technology & Innovation (OTI)
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

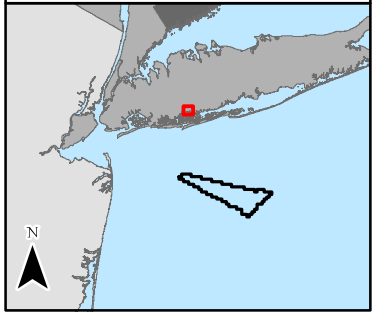
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



NOT FOR CONSTRUCTION

EMPIRE OFFSHORE WIND LEASE: OCS-A 0512 EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0

166-m viewshed intensity
High : 174
Low : 0

Historic Property Excluded from Effects Assessment
- No visibility based on viewshed modeling
- Historic District (Adverse Effect)
- Historic District

Data Sources: BOEM, ESRI, NOAA, NYS ITS GIS Program Office, NYC Office of Technology & Innovation (OTI)
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

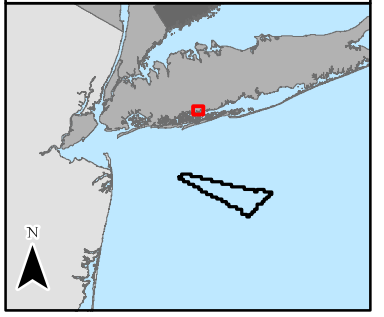
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



NOT FOR CONSTRUCTION

EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

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Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166-m viewshed intensity
High : 174
Low : 0
Historic District (Adverse Effect)
Historic District

Data Sources: BOEM, ESRI, NOAA, NYS ITS GIS Program Office, NYC Office of Technology & Innovation (OTI)
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

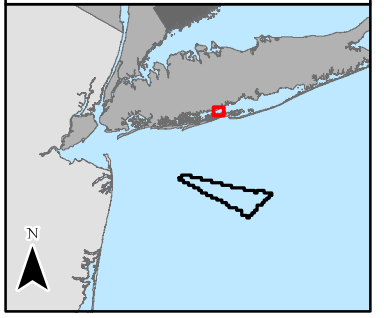
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



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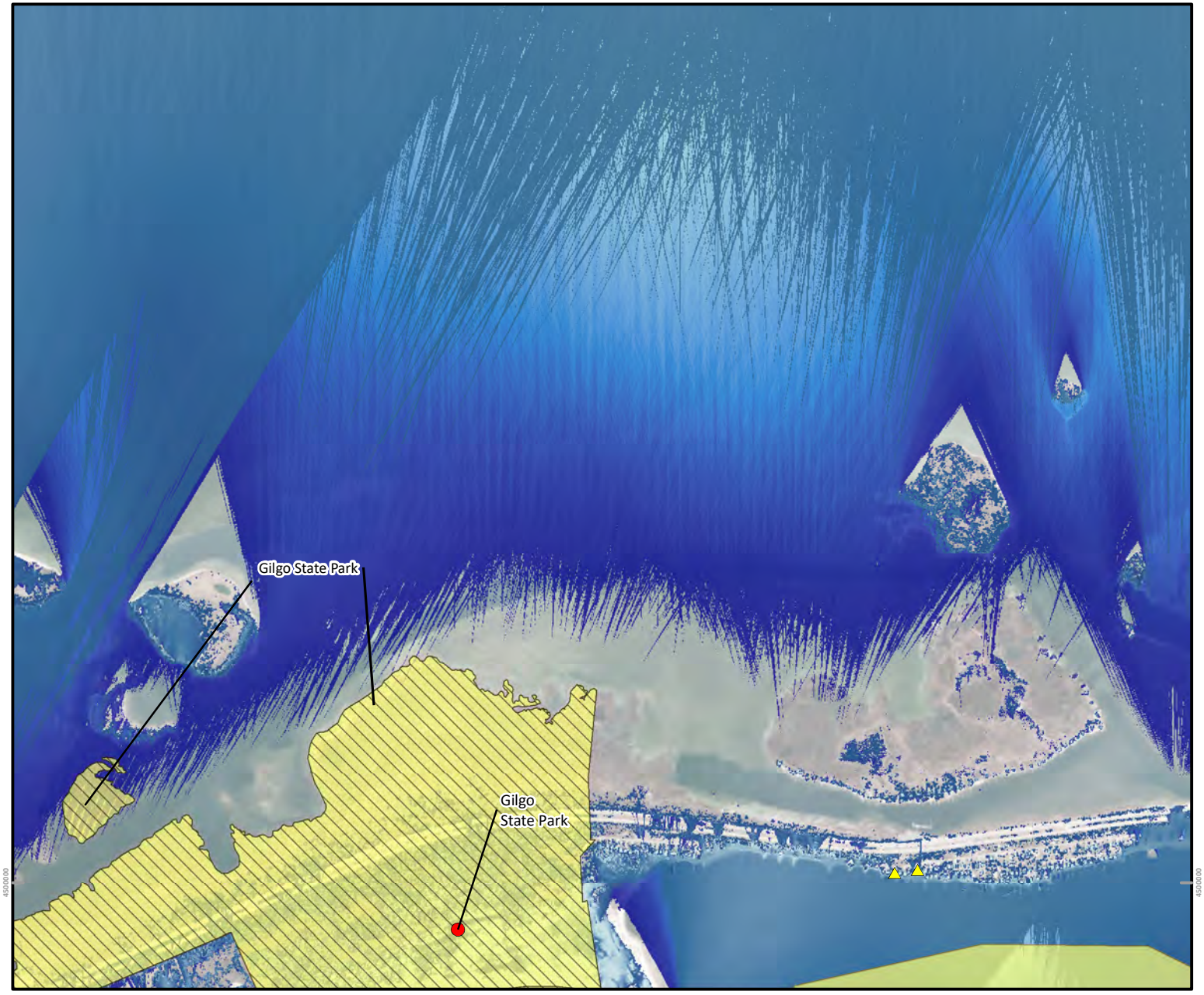


EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166-m viewshed intensity
High : 174
Low : 0
Recommended Adverse Effect
Historic Property Excluded from Effects Assessment
Potential visibility based on viewshed modeling
Historic District (Adverse Effect)
Historic District

Data Sources: BOEM, ESRI, NOAA, NYS ITS GIS Program Office, NYC Office of Technology & Innovation (OTI)
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

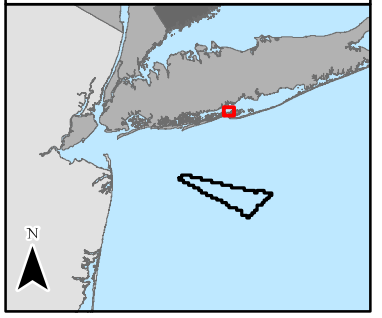
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



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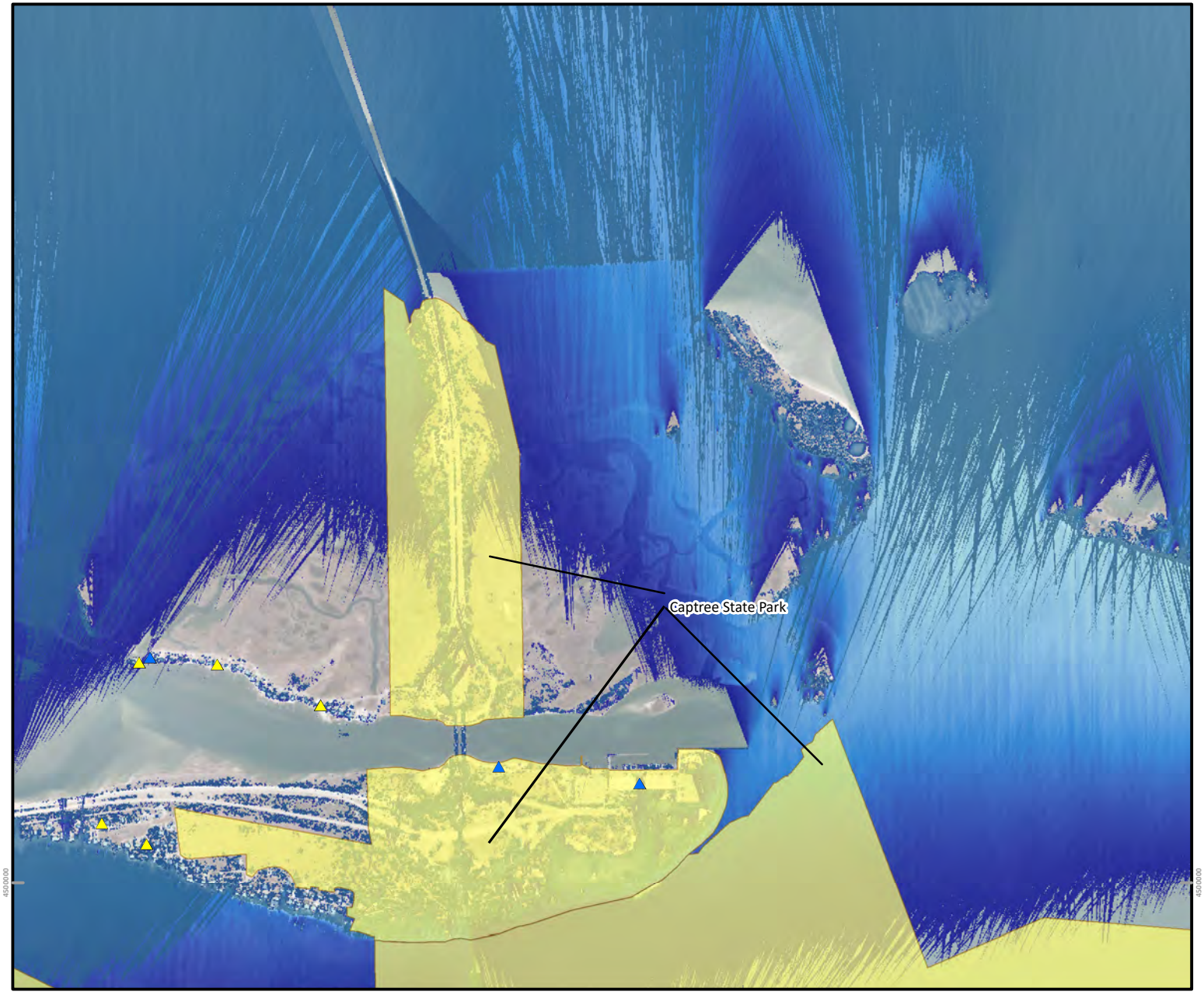


EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166-m viewshed intensity
High : 174
Low : 0

Historic Property Excluded from Effects Assessment
Potential visibility based on viewshed modeling
No visibility based on viewshed modeling

Historic District

Data Sources: BOEM, ESRI, NOAA, NYS ITS GIS Program Office, NYC Office of Technology & Innovation (OTI)
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

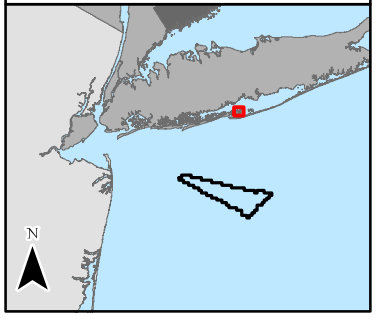
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



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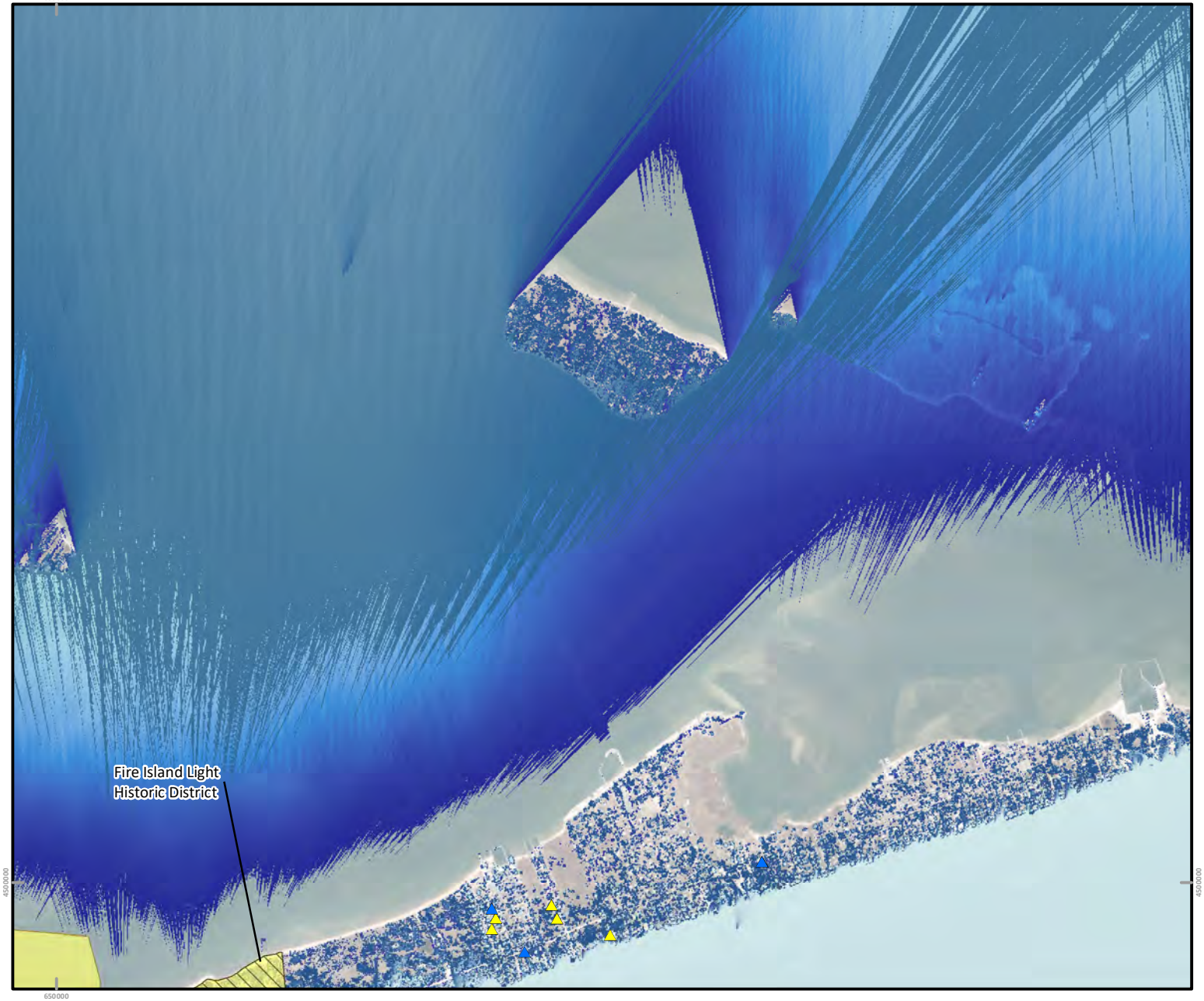


EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166-m viewshed intensity
High : 174
Low : 0

Historic Property Excluded from Effects Assessment
- Potential visibility based on viewshed modeling
- No visibility based on viewshed modeling
- Historic District (Adverse Effect)
- Historic District

Data Sources: BOEM, ESRI, NOAA, NYS ITS GIS Program Office, NYC Office of Technology & Innovation (OTI)
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

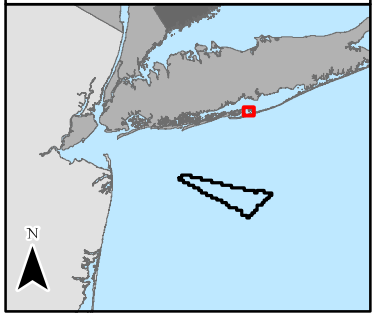
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



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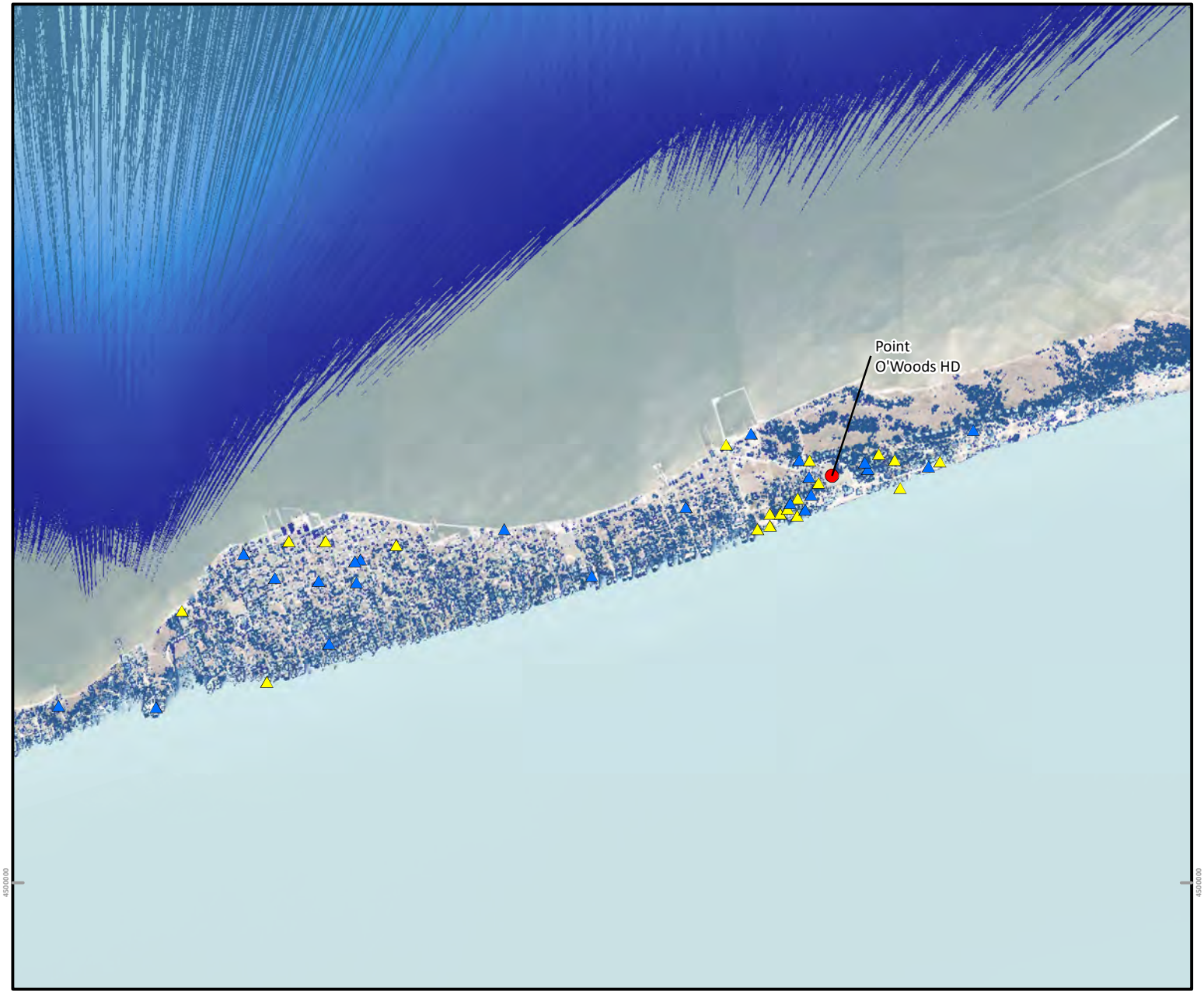

EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166-m viewshed intensity
High : 174
Low : 0
Recommended Adverse Effect
Historic Property Excluded from Effects Assessment
Potential visibility based on viewshed modeling
No visibility based on viewshed modeling

Data Sources: BOEM, ESRI, NOAA, NYS ITS GIS Program Office, NYC Office of Technology & Innovation (OTI)
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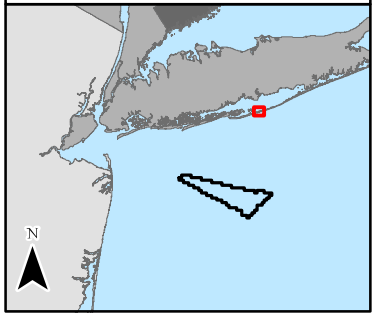
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



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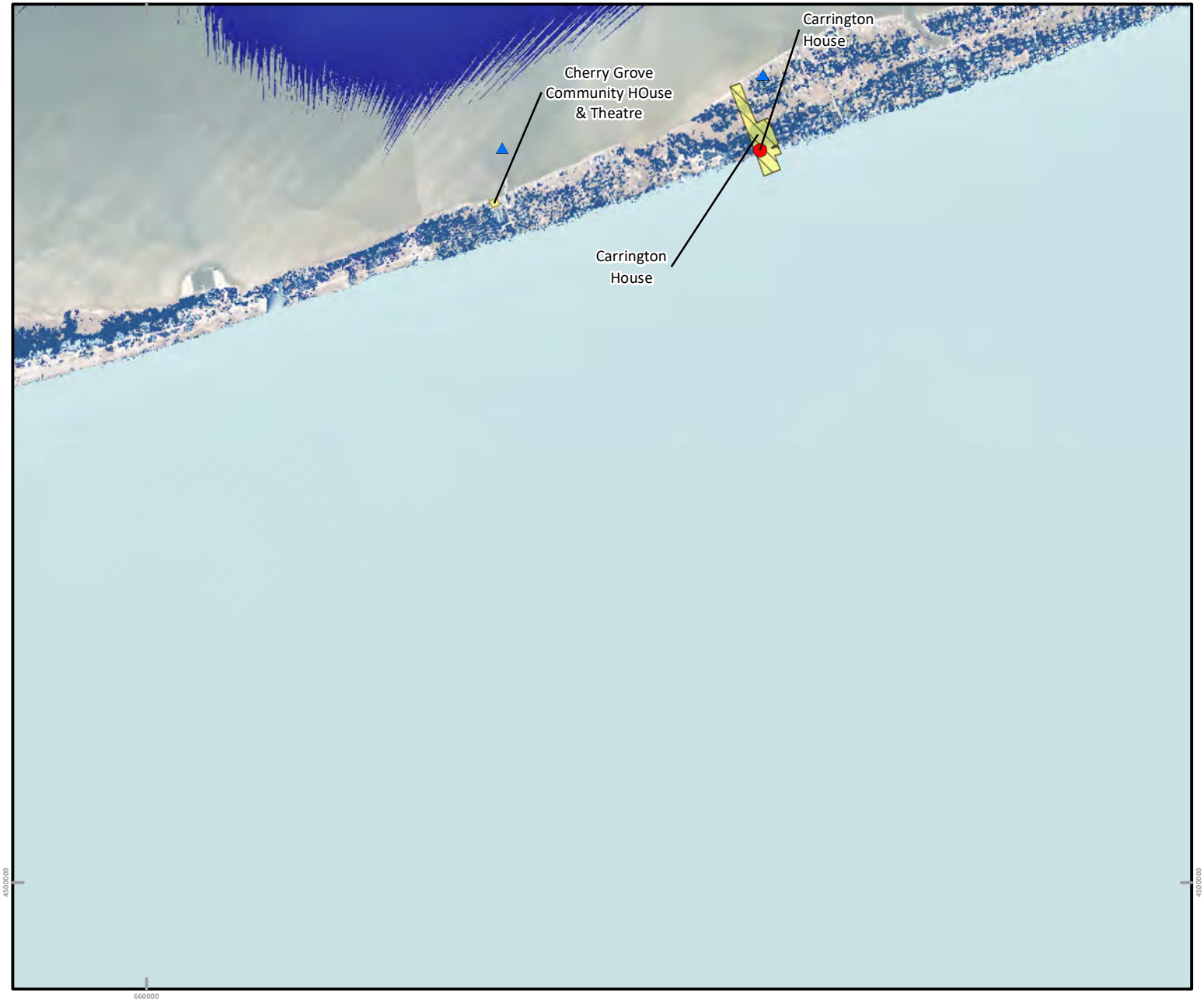


EMPIRE OFFSHORE WIND LEASE: OCS-A 0512 EMPIRE WIND PROJECT

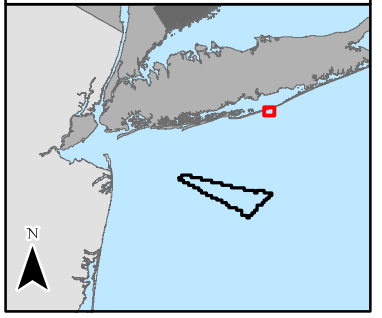
Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166-m viewshed intensity
High : 174
Low : 0
Recommended Adverse Effect
Historic Property Excluded from Effects Assessment
No visibility based on viewshed modeling
Historic District (Adverse Effect)
Historic District

Data Sources: BOEM, ESRI, NOAA, NYS ITS GIS Program Office, NYC Office of Technology & Innovation (OTI)
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles
0 0.1 0.2 0.3 0.4 Nautical Miles
0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



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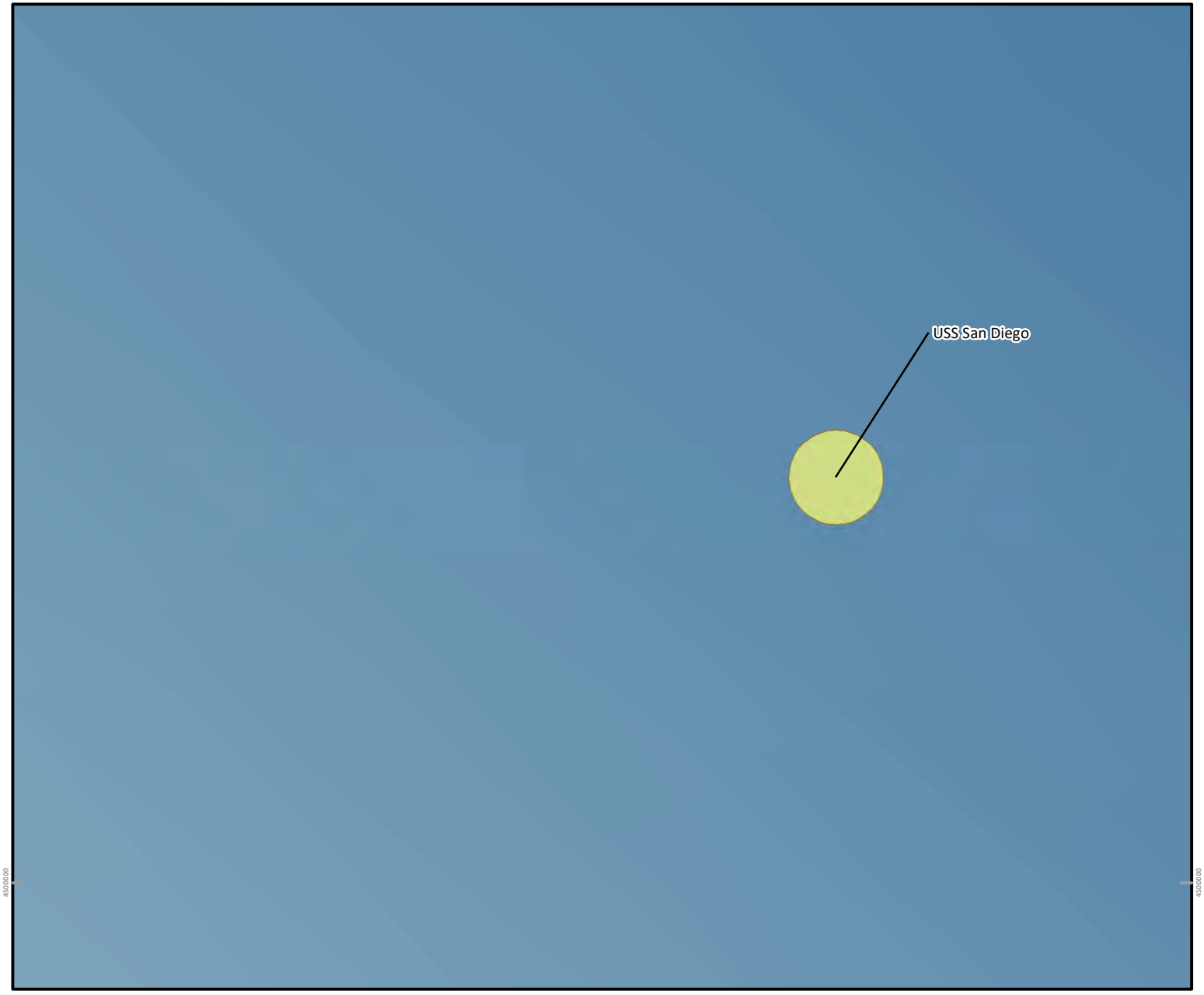


EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166-m viewshed intensity
High : 174
Low : 0
Historic District

Data Sources: BOEM, ESRI, NOAA, NYS ITS GIS Program Office, NYC Office of Technology & Innovation (OTI)
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

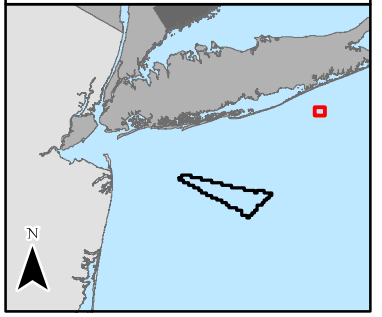
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



NOT FOR CONSTRUCTION

EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166-m viewshed intensity
High : 174
Low : 0
Historic Property Excluded from Effects Assessment
No visibility based on viewshed modeling
Historic District

Data Sources: BOEM, ESRI, NOAA, NYS ITS GIS Program Office, NYC Office of Technology & Innovation (OTI)
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

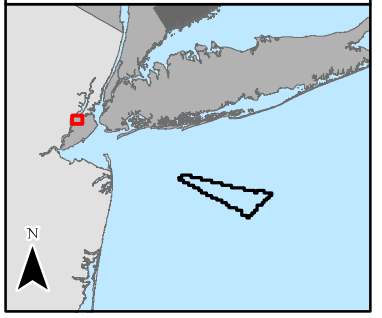
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



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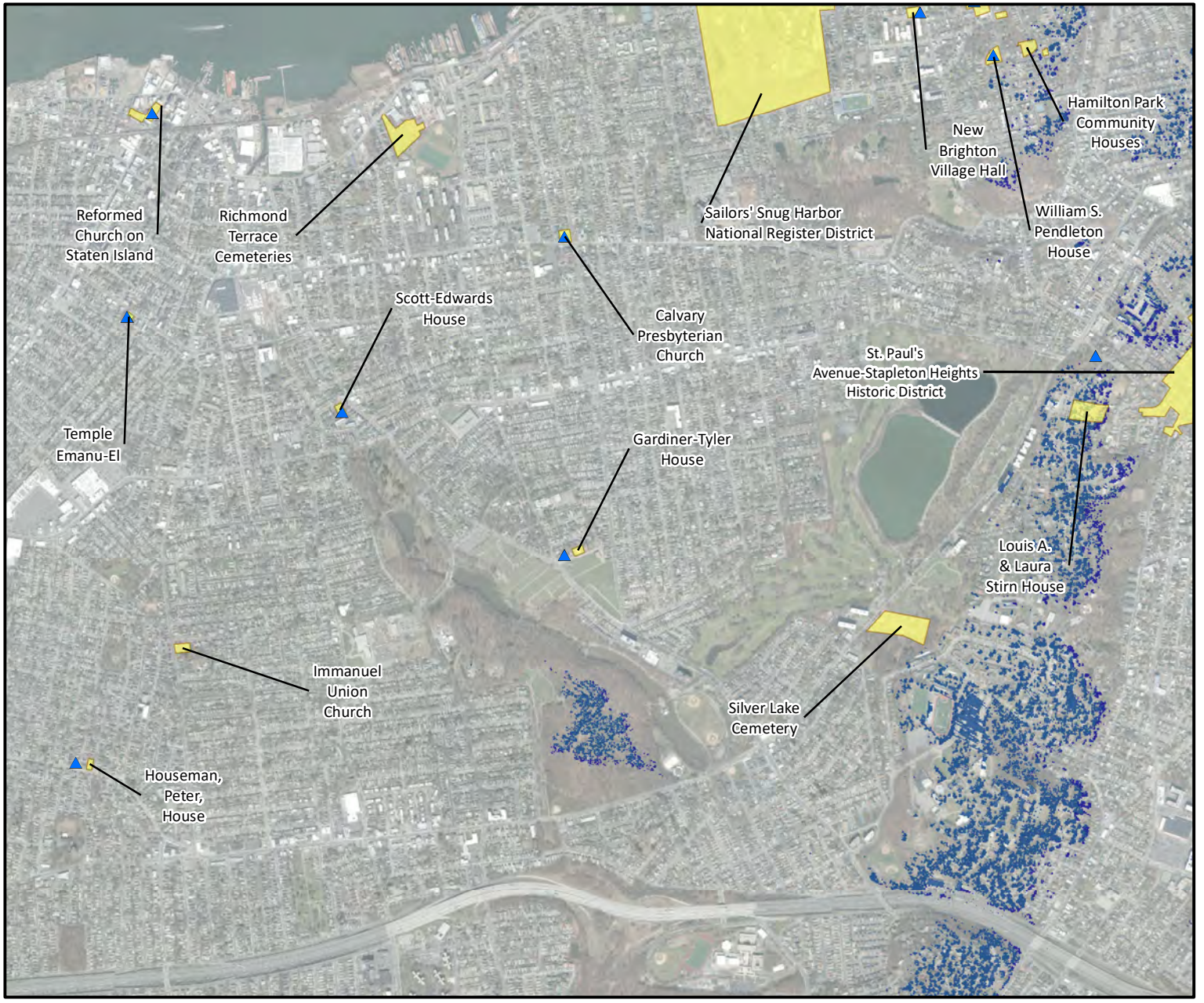


EMPIRE OFFSHORE WIND LEASE: OCS-A 0512 EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166-m viewshed intensity
High : 174
Low : 0
Historic Property Excluded from Effects Assessment
No visibility based on viewshed modeling
Historic District

Data Sources: BOEM, ESRI, NOAA, NYS ITS GIS Program Office, NYC Office of Technology & Innovation (OTI)
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

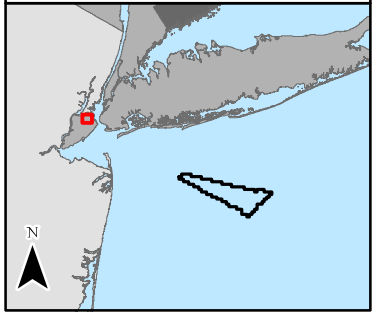
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



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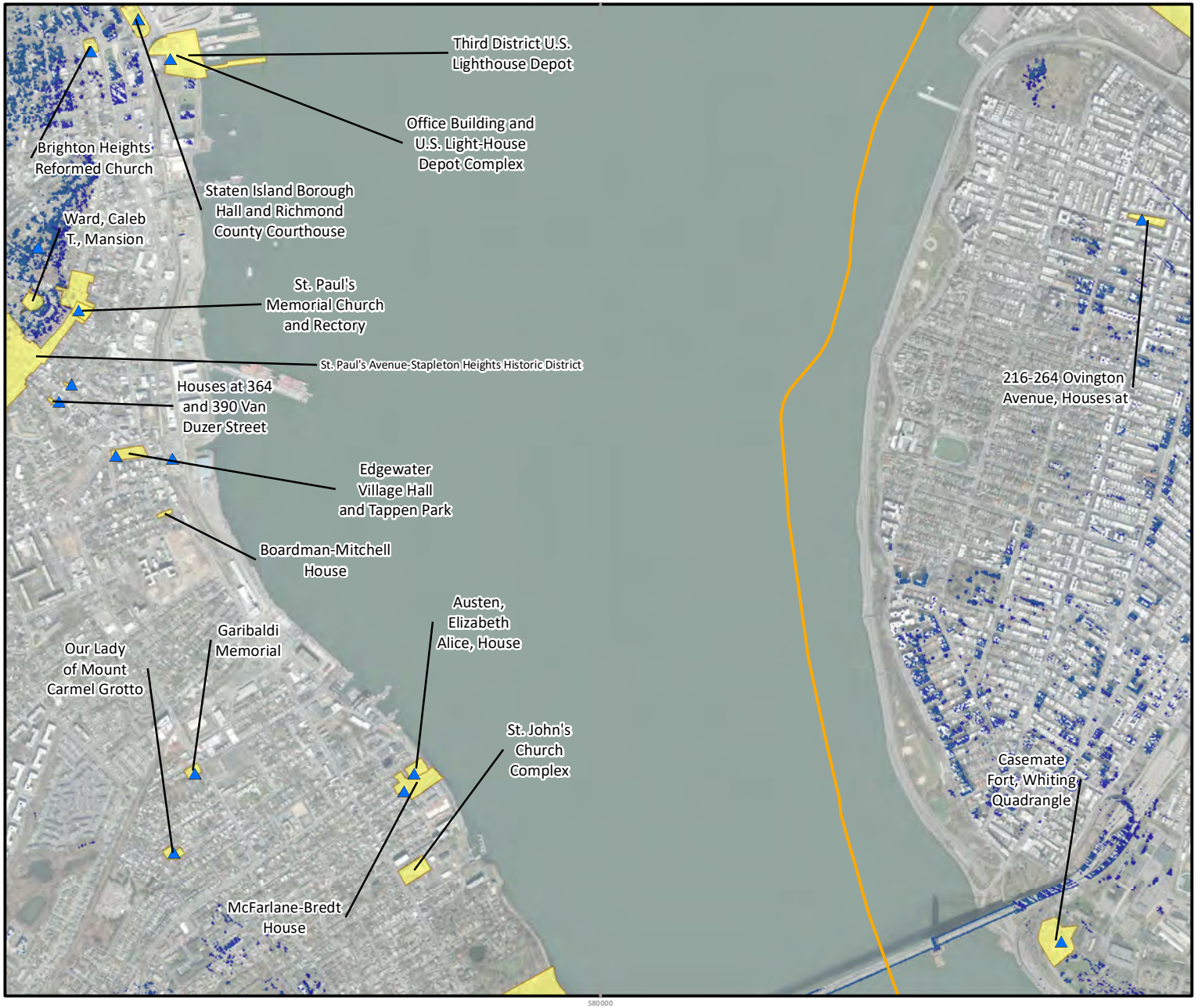


EMPIRE OFFSHORE WIND LEASE: OCS-A 0512 EMPIRE WIND PROJECT

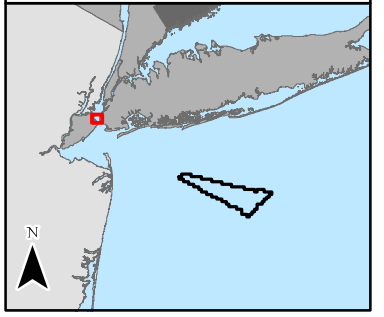
Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166-m viewshed intensity
High : 174
Low : 0
Historic Property Excluded from Effects Assessment
No visibility based on viewshed modeling
Historic District
EW 1 Submarine Export Cable Route

Data Sources: BOEM, ESRI, NOAA, NYS ITS GIS Program Office, NYC Office of Technology & Innovation (OTI)
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

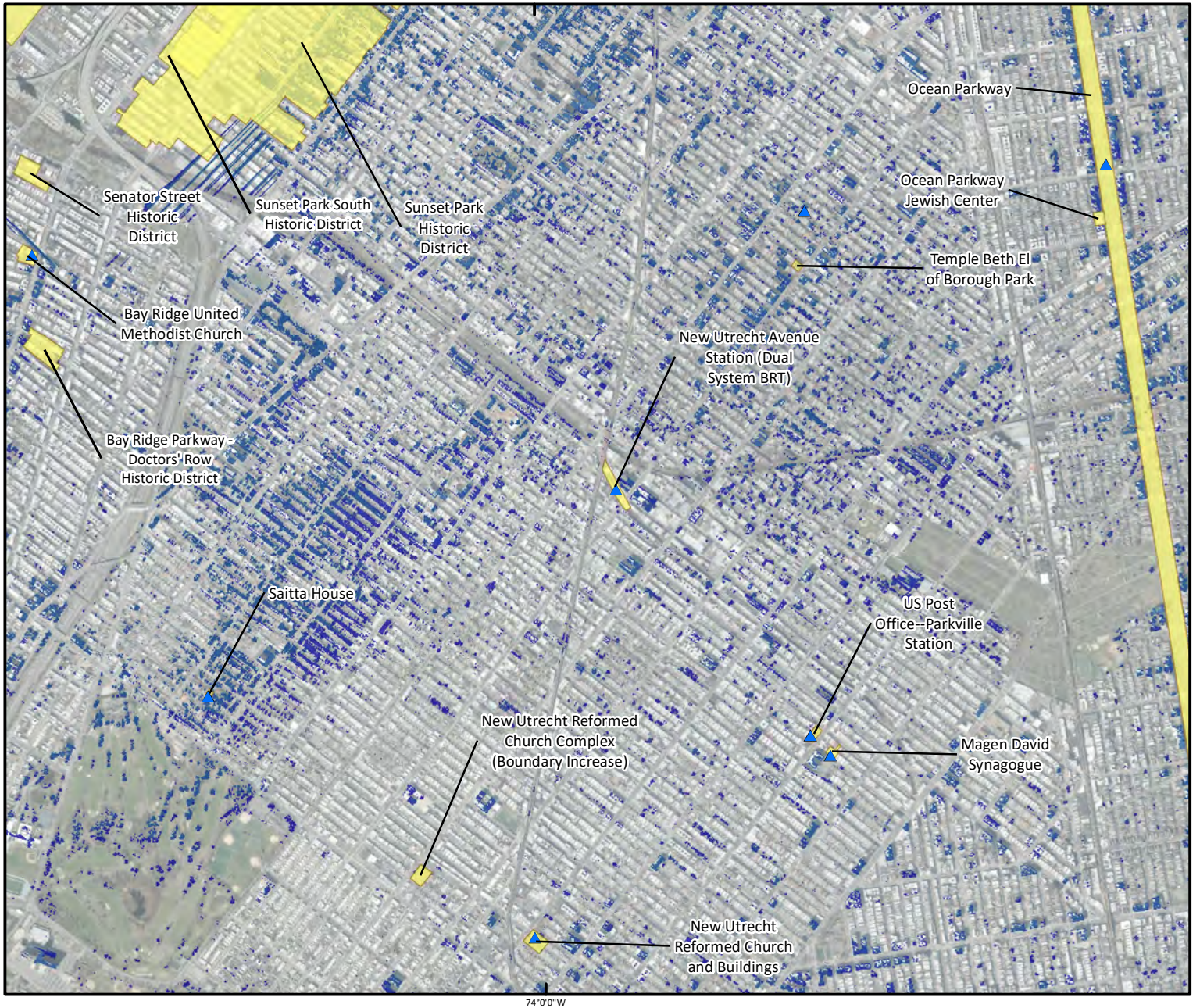
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles
0 0.1 0.2 0.3 0.4 Nautical Miles
0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



NOT FOR CONSTRUCTION



EMPIRE OFFSHORE WIND LEASE: OCS-A 0512 EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166-m viewshed intensity
High : 174
Low : 0

Historic Property Excluded from Effects Assessment
No visibility based on viewshed modeling
Historic District

Data Sources: BOEM, ESRI, NOAA, NYS ITS GIS Program Office, NYC Office of Technology & Innovation (OTI)
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

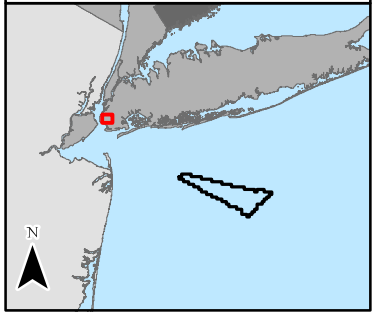
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



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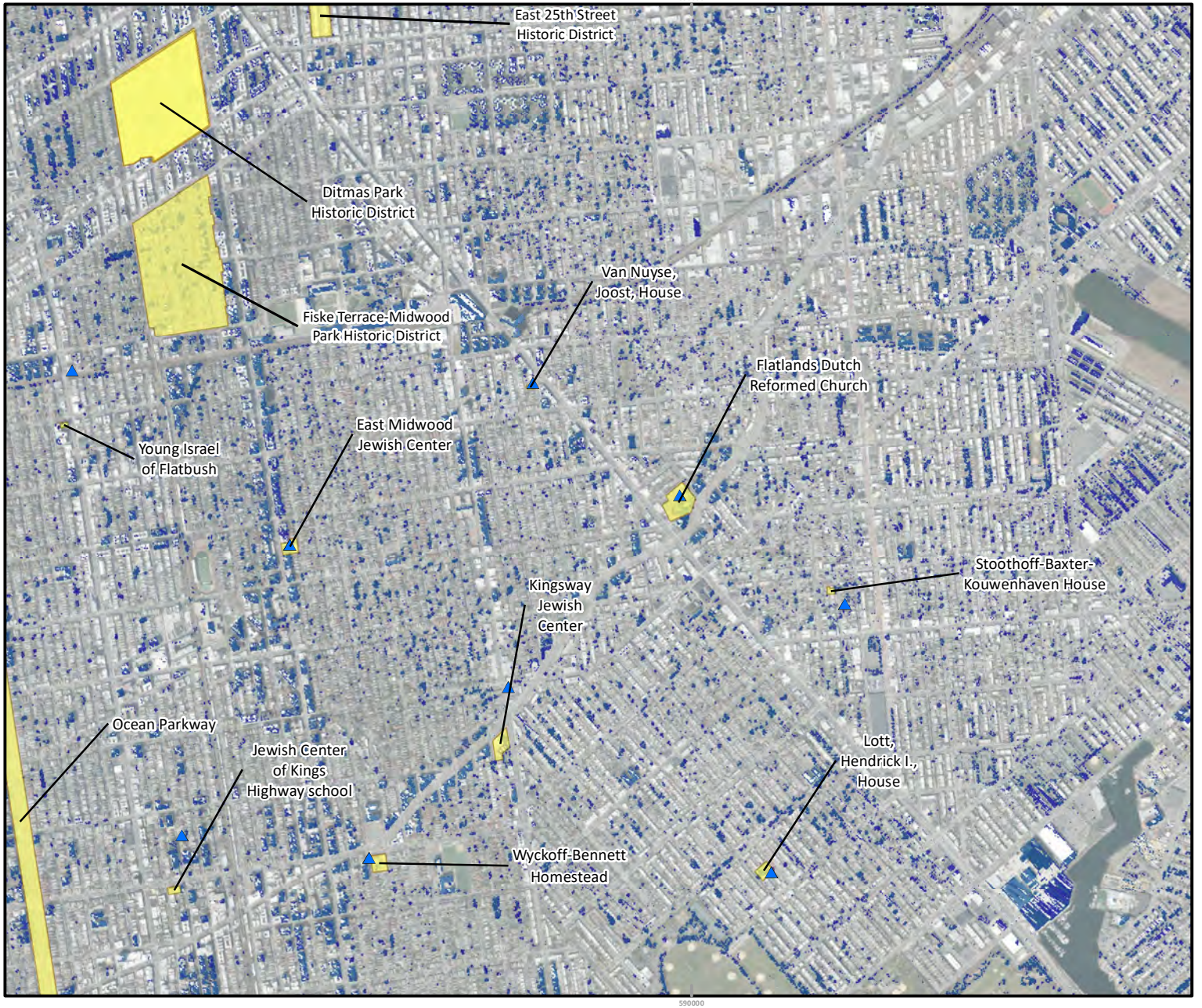


EMPIRE OFFSHORE WIND LEASE: OCS-A 0512 EMPIRE WIND PROJECT

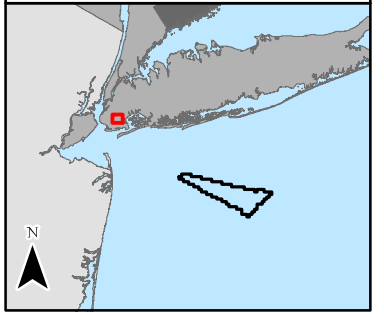
Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166-m viewshed intensity
High : 174
Low : 0
Historic Property Excluded from Effects Assessment
No visibility based on viewshed modeling
Historic District

Data Sources: BOEM, ESRI, NOAA, NYS ITS GIS Program Office, NYC Office of Technology & Innovation (OTI)
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles
0 0.1 0.2 0.3 0.4 Nautical Miles
0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



NOT FOR CONSTRUCTION

EMPIRE OFFSHORE WIND LEASE: OCS-A 0512 EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166-m viewshed intensity
High : 174
Low : 0
Historic District

Data Sources: BOEM, ESRI, NOAA, NYS ITS GIS Program Office, NYC Office of Technology & Innovation (OTI)
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

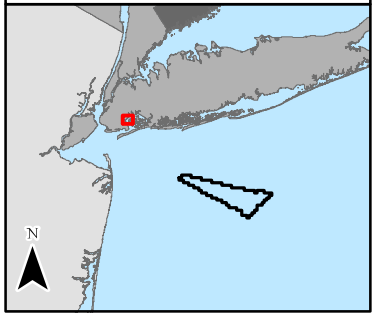
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



NOT FOR CONSTRUCTION

EMPIRE OFFSHORE WIND LEASE: OCS-A 0512 EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166-m viewshed intensity
High : 174
Low : 0

Historic Property Excluded from Effects Assessment
- Potential visibility based on viewshed modeling
- No visibility based on viewshed modeling
- Historic District

Data Sources: BOEM, ESRI, NOAA, NYS ITS GIS Program Office, NYC Office of Technology & Innovation (OTI)
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

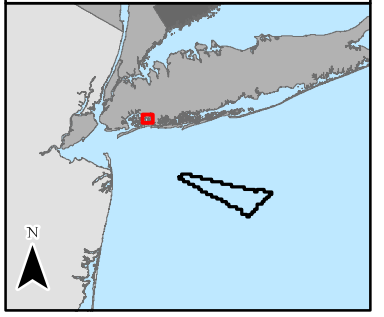
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



NOT FOR CONSTRUCTION

EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166-m viewshed intensity
High : 174
Low : 0

Historic Property Excluded from Effects Assessment
No visibility based on viewshed modeling
Historic District

Data Sources: BOEM, ESRI, NOAA, NYS ITS GIS Program Office, NYC Office of Technology & Innovation (OTI)
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

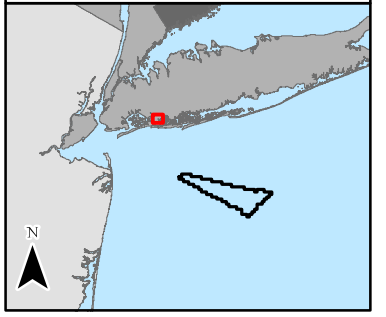
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



NOT FOR CONSTRUCTION

EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166-m viewshed intensity
High : 174
Low : 0
Historic District (Adverse Effect)
Historic District

Data Sources: BOEM, ESRI, NOAA, NYS ITS GIS Program Office, NYC Office of Technology & Innovation (OTI)
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

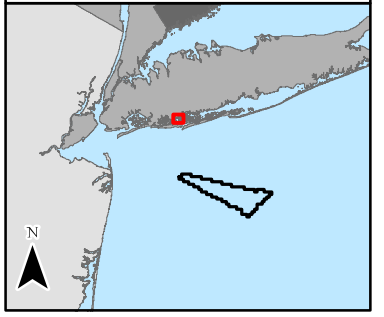
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



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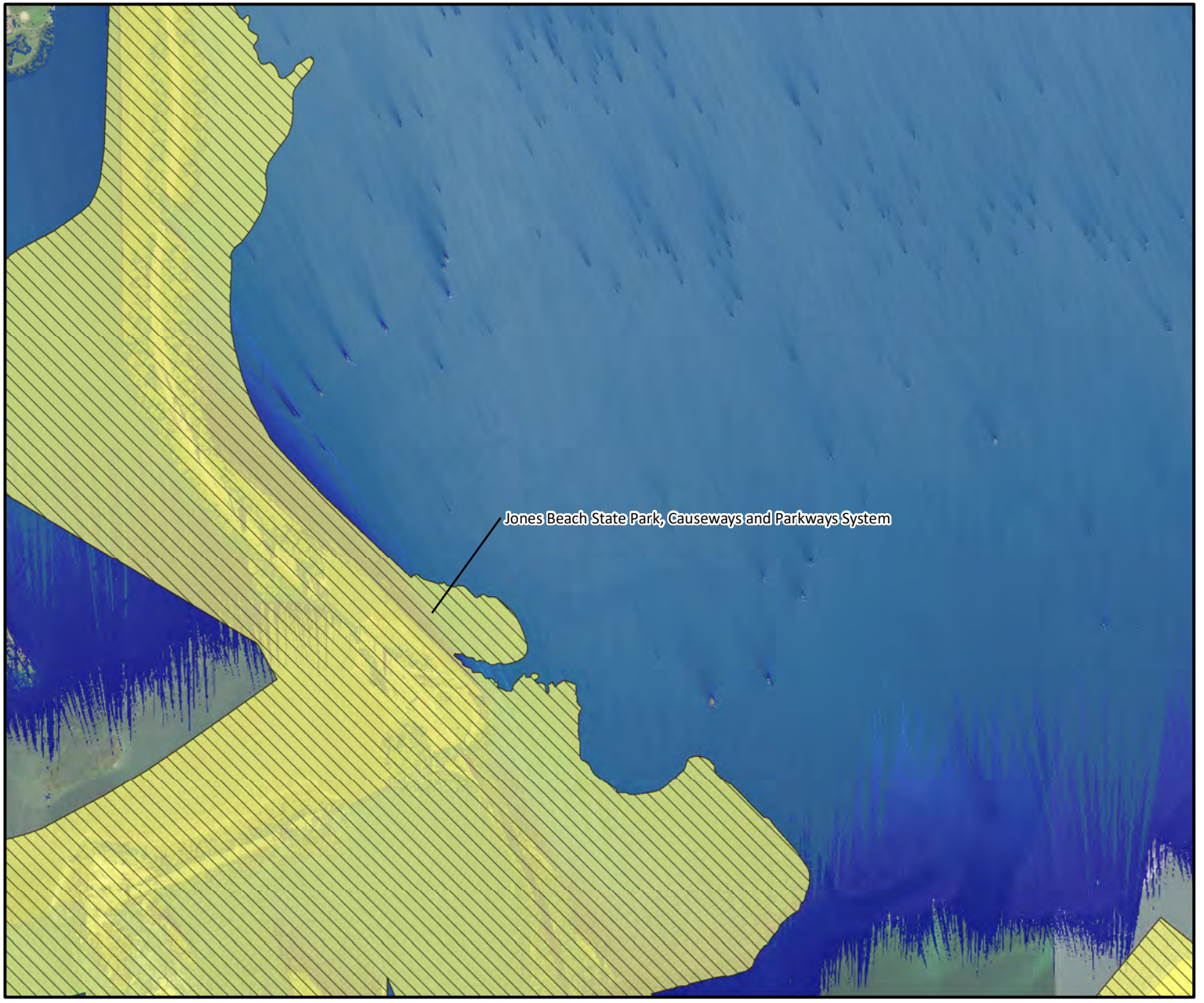


EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166-m viewshed intensity
High : 174
Low : 0
Historic District (Adverse Effect)
Historic District

Data Sources: BOEM, ESRI, NOAA, NYS ITS GIS Program Office, NYC Office of Technology & Innovation (OTI)
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

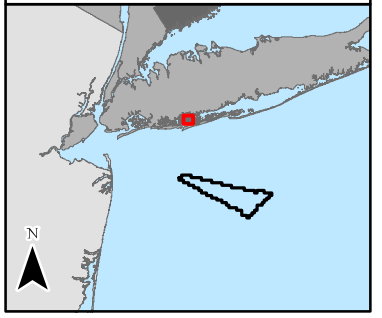
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



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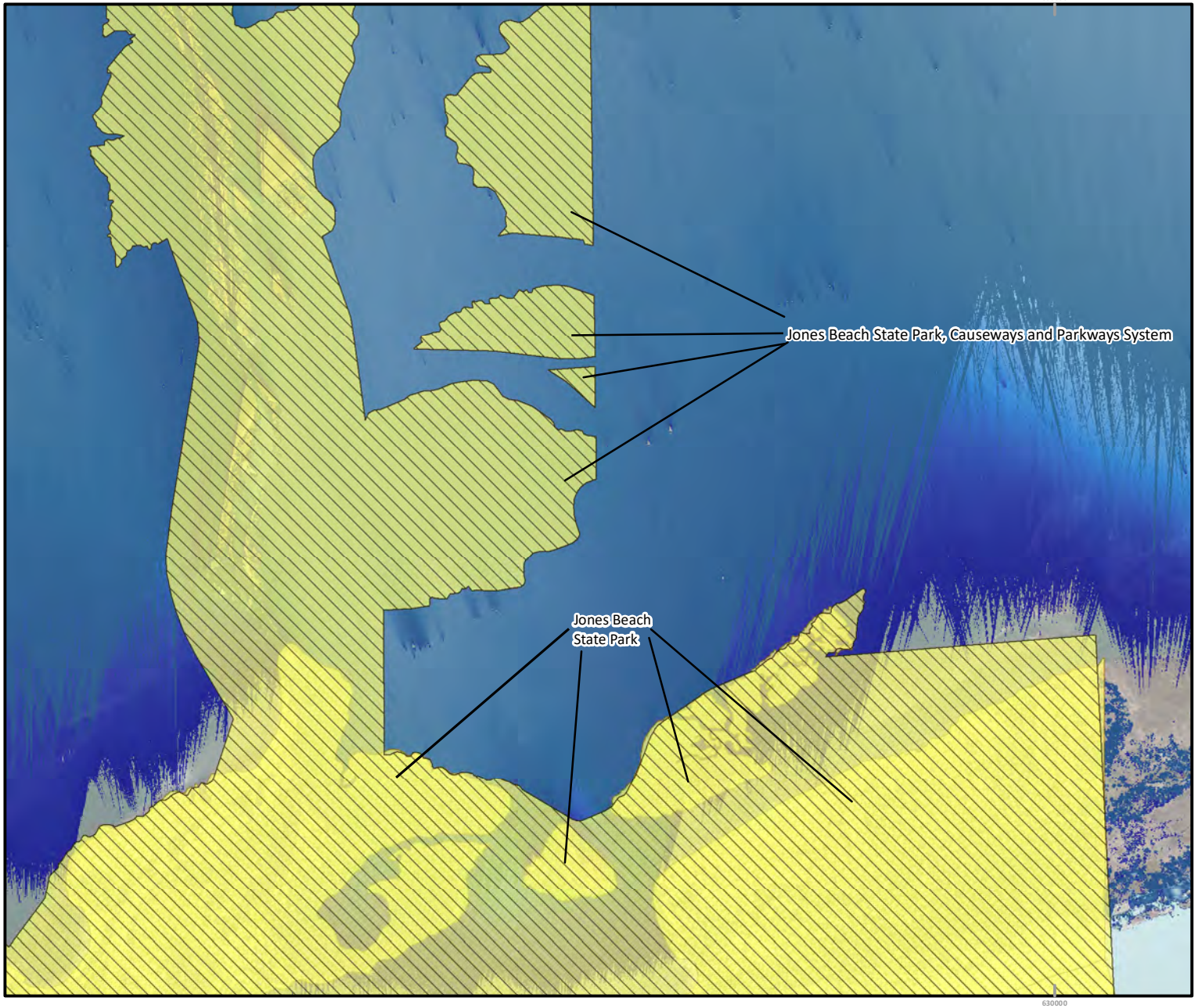


EMPIRE OFFSHORE WIND LEASE: OCS-A 0512 EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166-m viewshed intensity
High : 174
Low : 0
Historic District (Adverse Effect)
Historic District

Data Sources: BOEM, ESRI, NOAA, NYS ITS GIS Program Office, NYC Office of Technology & Innovation (OTI)
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

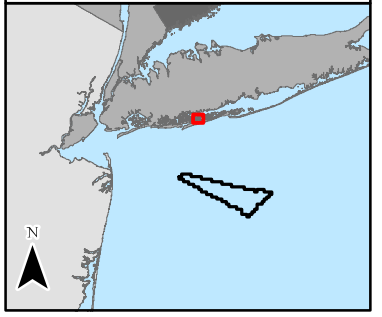
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



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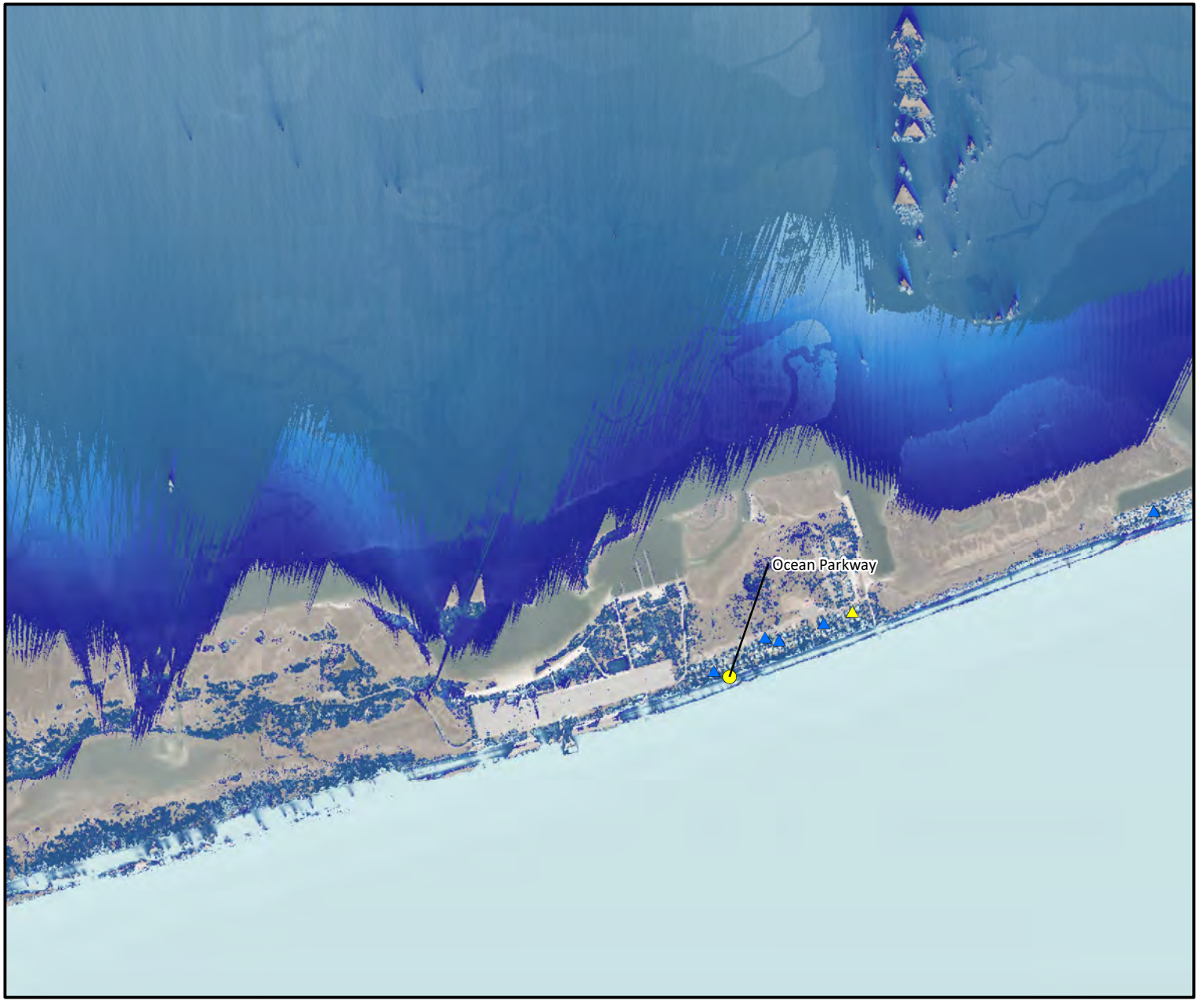


EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166-m viewshed intensity
High : 174
Low : 0
Recommended No Adverse Effect
Historic Property Excluded from Effects Assessment
Potential visibility based on viewshed modeling
No visibility based on viewshed modeling

Data Sources: BOEM, ESRI, NOAA, NYS ITS GIS Program Office, NYC Office of Technology & Innovation (OTI)
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

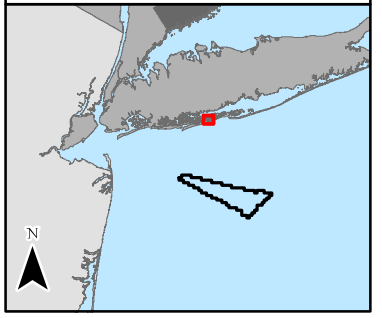
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



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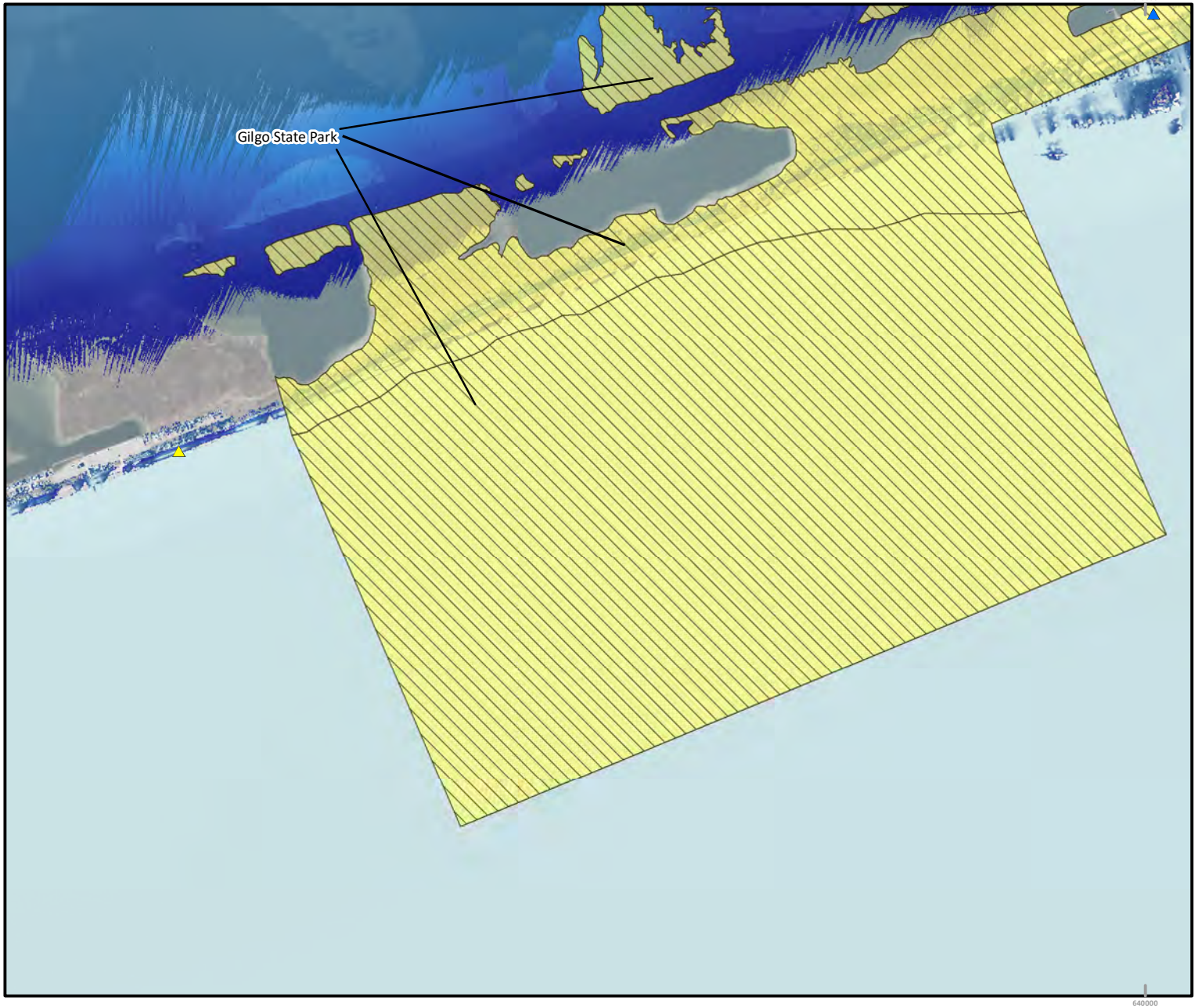


EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

equinor

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166-m viewshed intensity
High : 174
Low : 0

Historic Property Excluded from Effects Assessment
- Potential visibility based on viewshed modeling
- No visibility based on viewshed modeling
- Historic District (Adverse Effect)
- Historic District

Data Sources: BOEM, ESRI, NOAA, NYS ITS GIS Program Office, NYC Office of Technology & Innovation (OTI)
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

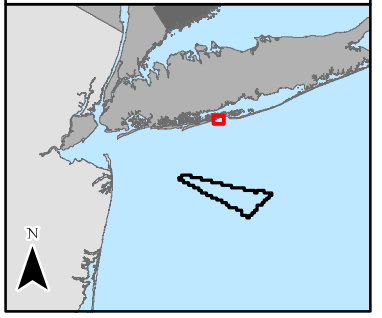
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



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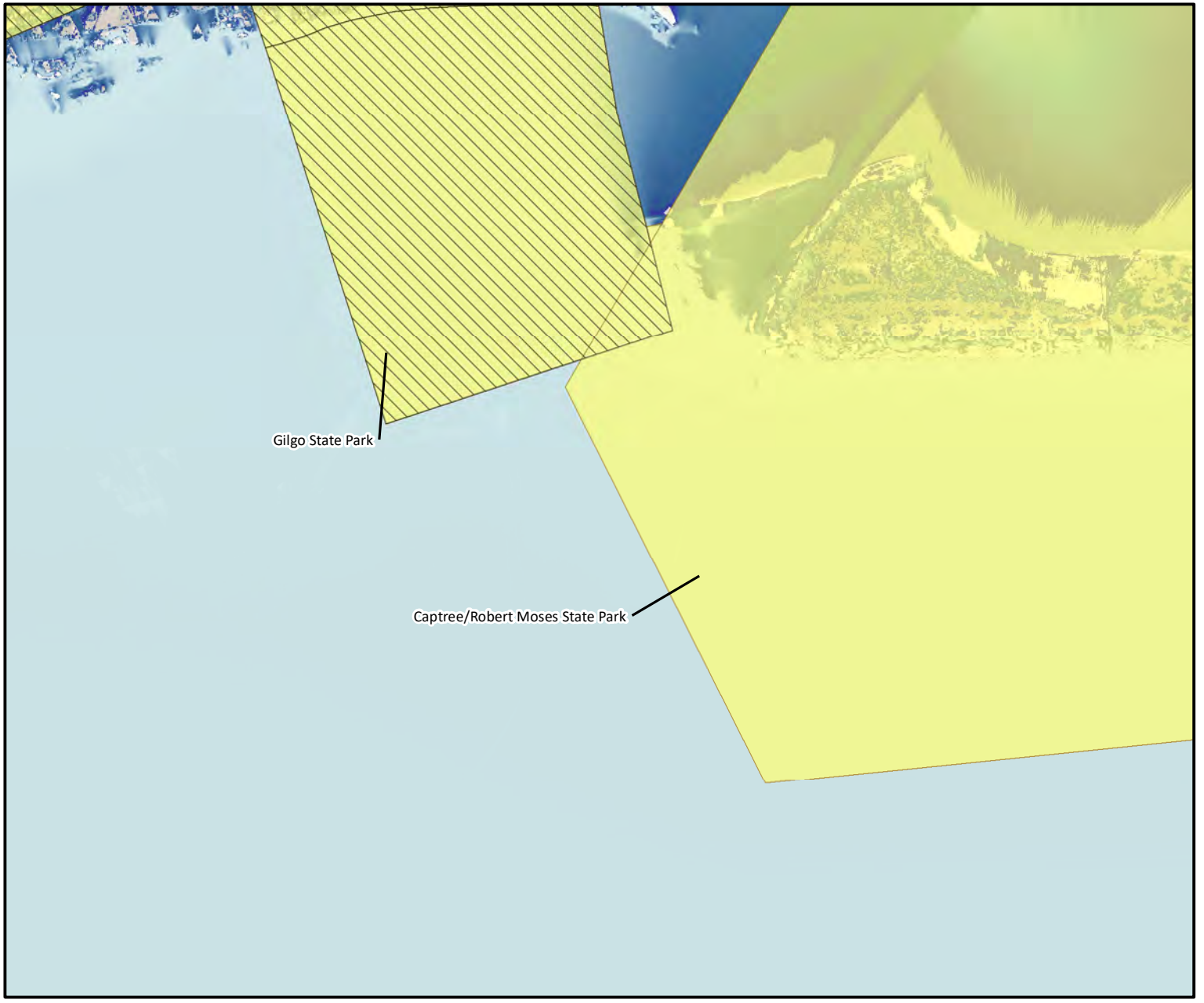


EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166-m viewshed intensity
High : 174
Low : 0
Historic District (Adverse Effect)
Historic District

Data Sources: BOEM, ESRI, NOAA, NYS ITS GIS Program Office, NYC Office of Technology & Innovation (OTI)
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

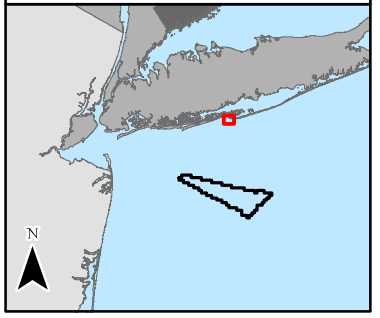
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



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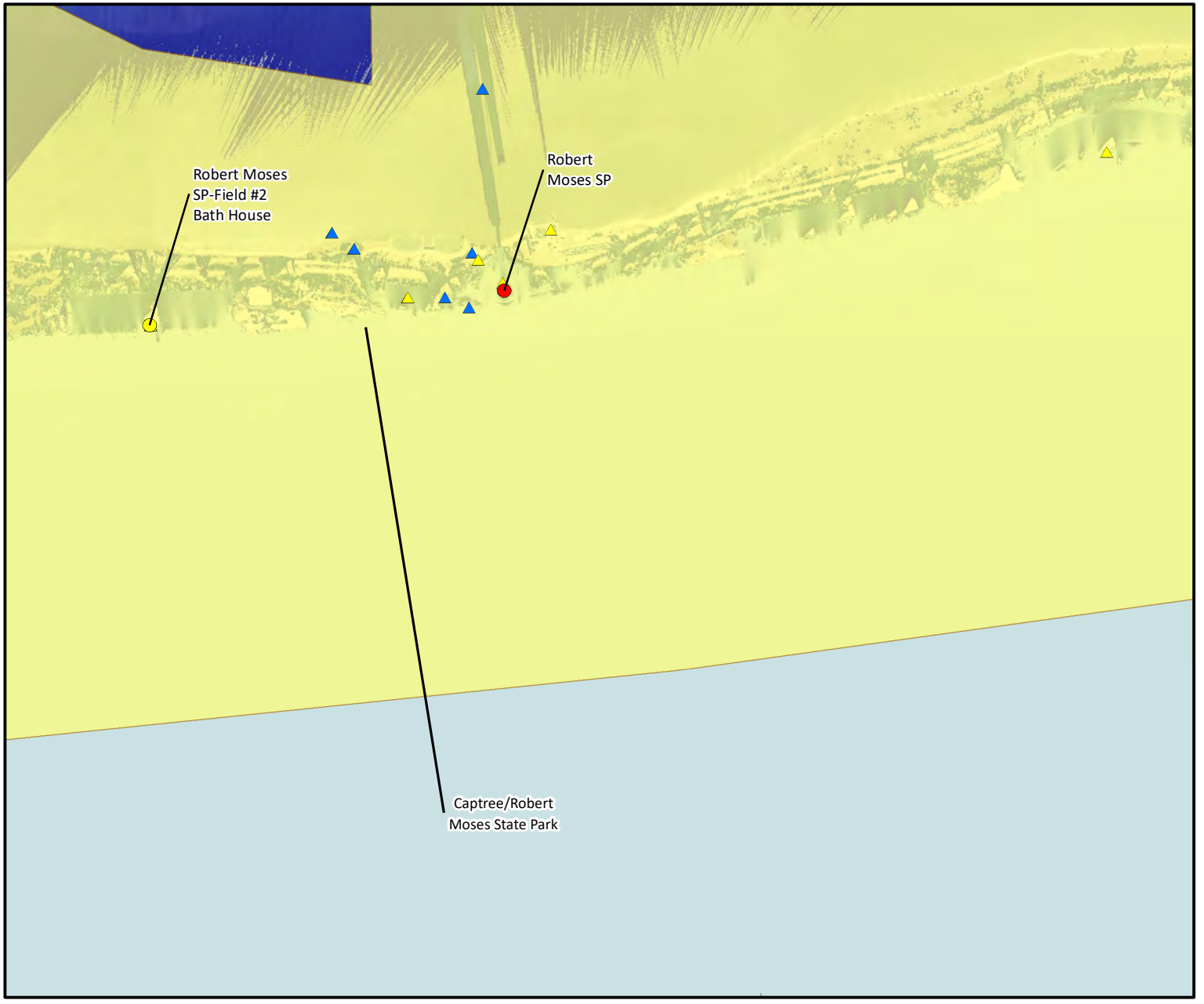


EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166-m viewshed intensity
High : 174
Low : 0
Recommended No Adverse Effect
Recommended Adverse Effect
Historic Property Excluded from Effects Assessment
Potential visibility based on viewshed modeling
No visibility based on viewshed modeling

Data Sources: BOEM, ESRI, NOAA, NYS ITS GIS Program Office, NYC Office of Technology & Innovation (OTI)
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

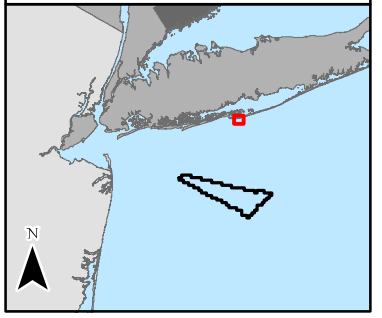
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



NOT FOR CONSTRUCTION

EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166-m viewshed intensity
High : 174
Low : 0
Recommended Adverse Effect
Historic Property Excluded from Effects Assessment
Potential visibility based on viewshed modeling
Historic District (Adverse Effect)
Historic District

Data Sources: BOEM, ESRI, NOAA, NYS ITS GIS Program Office, NYC Office of Technology & Innovation (OTI)
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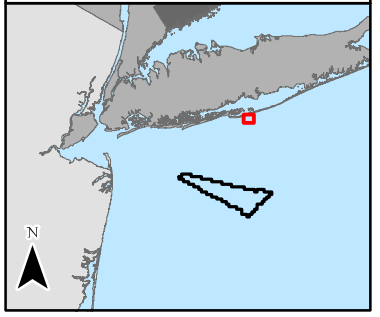
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

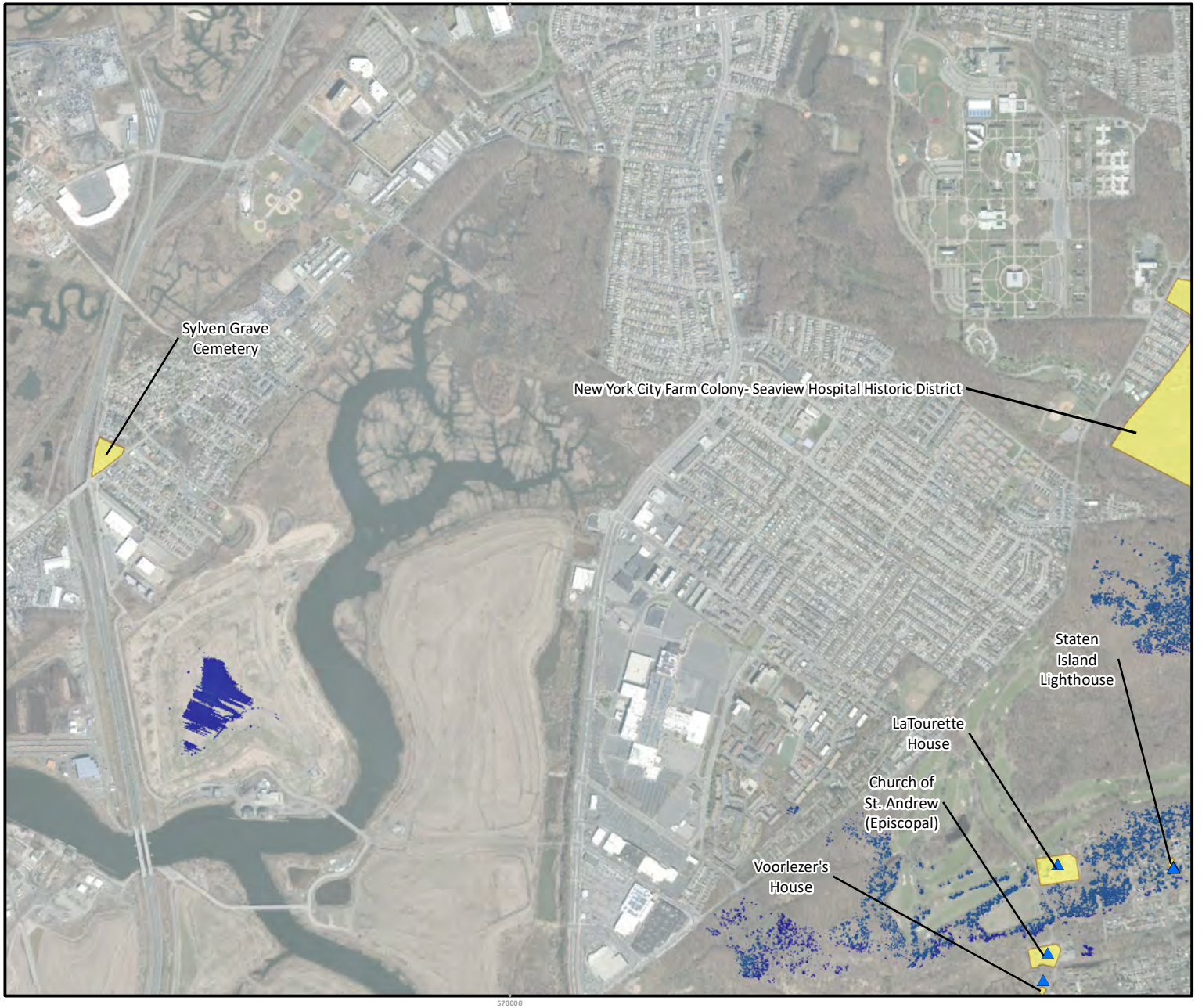
0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



NOT FOR CONSTRUCTION



EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166-m viewshed intensity
High : 174
Low : 0

Historic Property Excluded from Effects Assessment
No visibility based on viewshed modeling
Historic District

Data Sources: BOEM, ESRI, NOAA, NYS ITS GIS Program Office, NYC Office of Technology & Innovation (OTI)
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

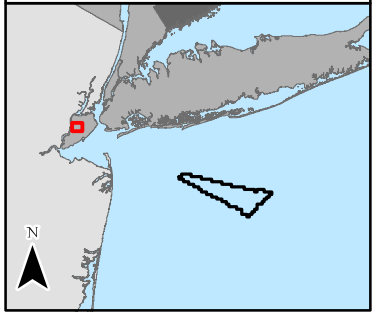
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



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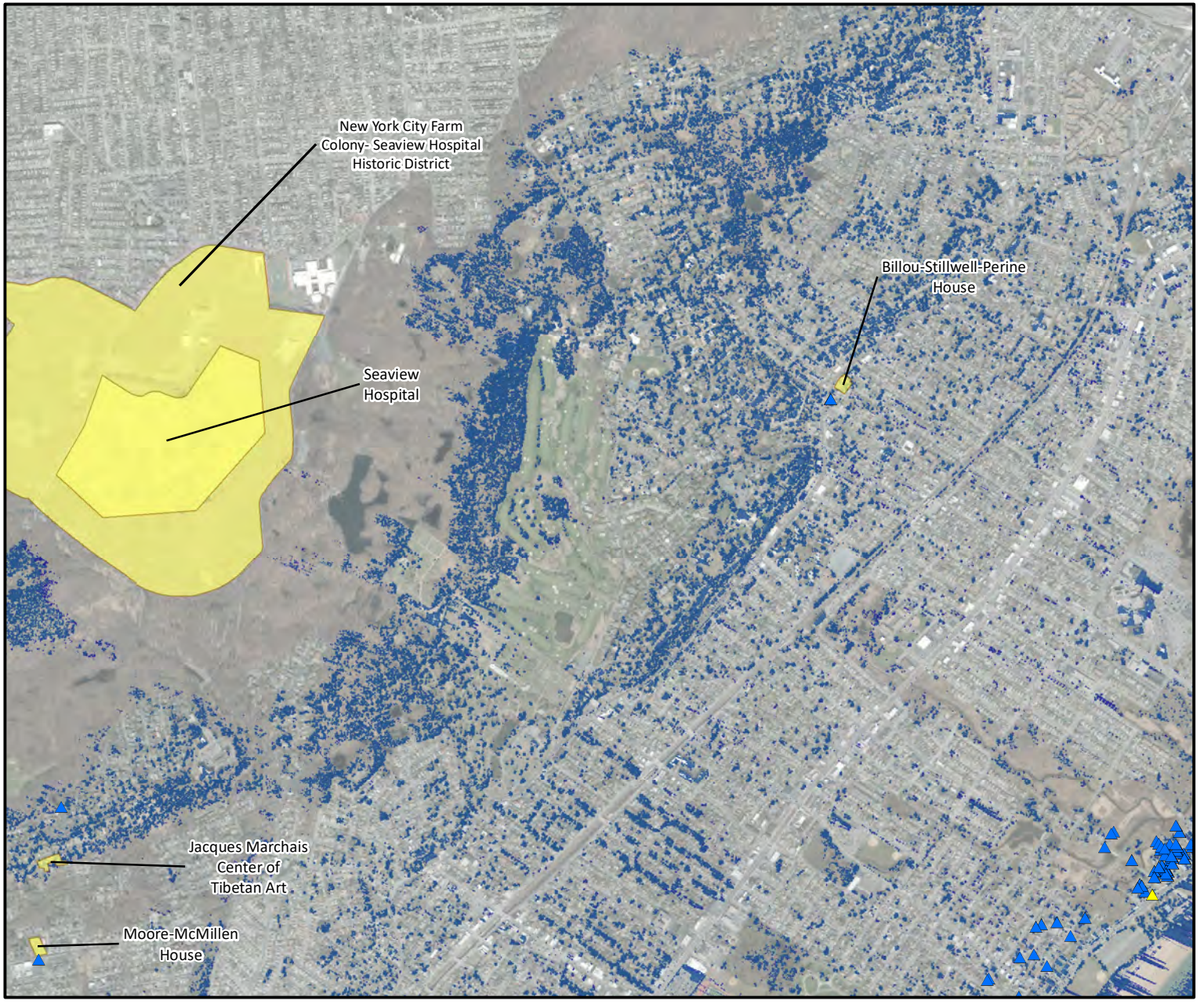


EMPIRE OFFSHORE WIND LEASE: OCS-A 0512 EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166-m viewshed intensity
High : 174
Low : 0

Historic Property Excluded from Effects Assessment
- Potential visibility based on viewshed modeling
- No visibility based on viewshed modeling
- Historic District

Data Sources: BOEM, ESRI, NOAA, NYS ITS GIS Program Office, NYC Office of Technology & Innovation (OTI)
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

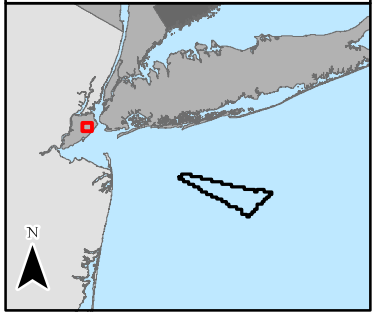
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



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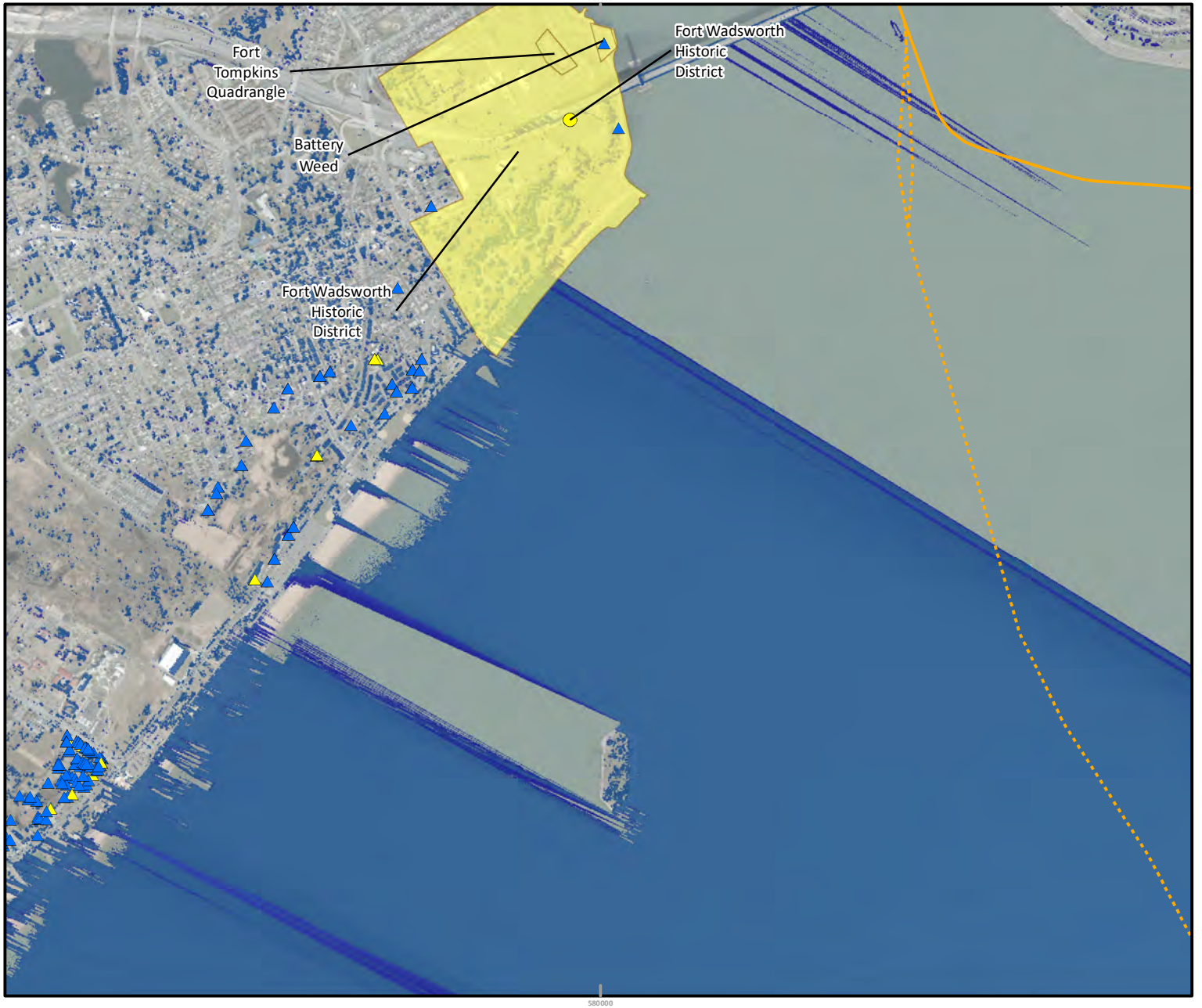


EMPIRE OFFSHORE WIND LEASE: OCS-A 0512 EMPIRE WIND PROJECT

equinor

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166-m viewshed intensity
High : 174
Low : 0
Recommended No Adverse Effect
Historic Property Excluded from Effects Assessment
Potential visibility based on viewshed modeling
No visibility based on viewshed modeling
Historic District
EW 1 Submarine Export Cable Route
EW 1 Submarine Export Cable Route Variant

Data Sources: BOEM, ESRI, NOAA, NYS ITS GIS Program Office, NYC Office of Technology & Innovation (OTI)
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

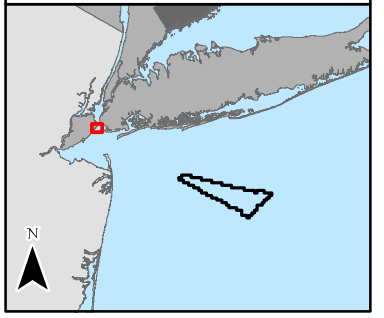
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

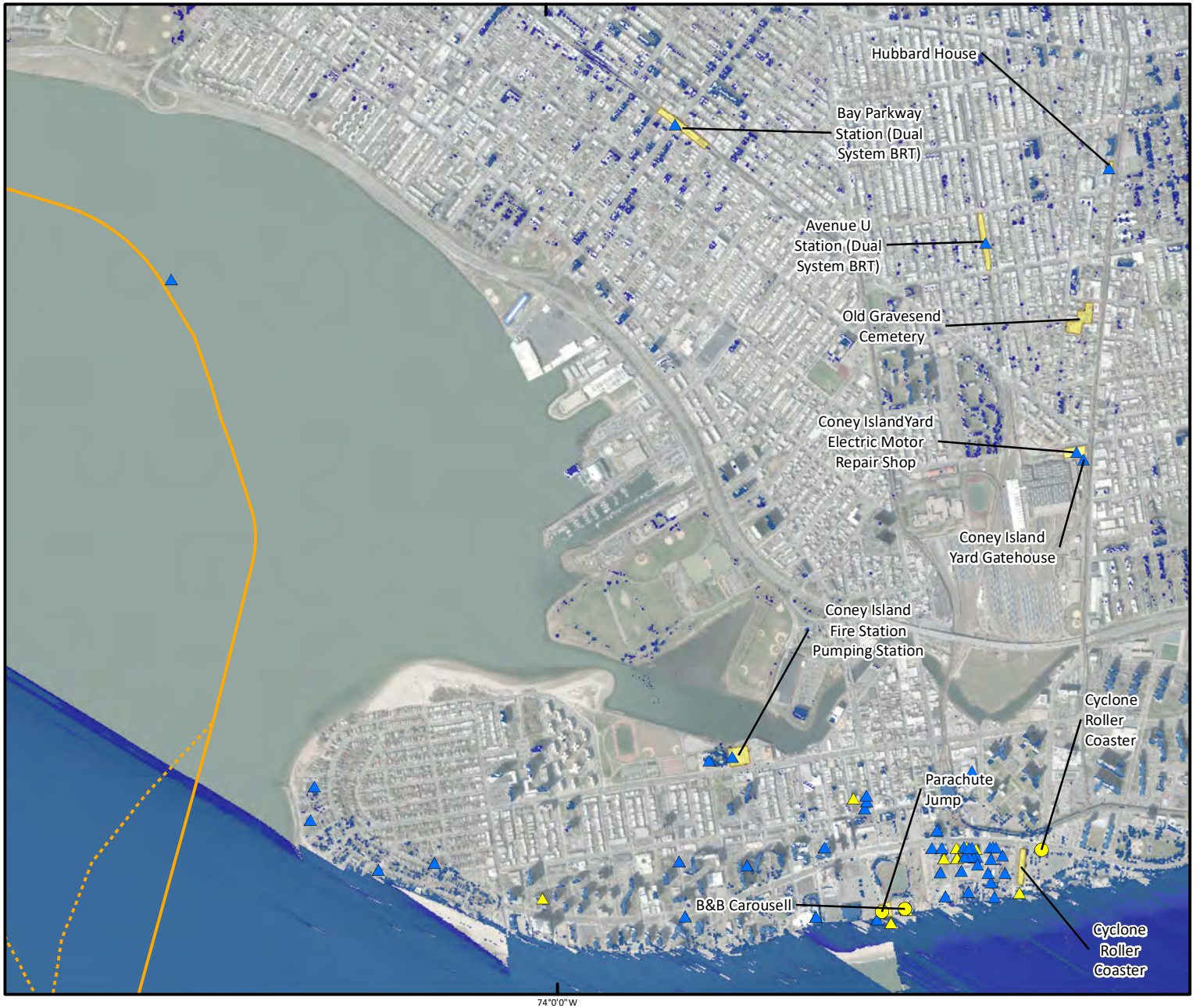
0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



NOT FOR CONSTRUCTION



EMPIRE OFFSHORE WIND LEASE: OCS-A 0512 EMPIRE WIND PROJECT

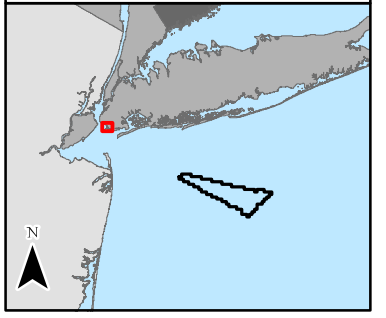
Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166-m viewshed intensity
High : 174
Low : 0
Recommended No Adverse Effect
Historic Property Excluded from Effects Assessment
Potential visibility based on viewshed modeling
No visibility based on viewshed modeling
Historic District
EW 1 Submarine Export Cable Route
EW 1 Submarine Export Cable Route Variant

Data Sources: BOEM, ESRI, NOAA, NYS ITS GIS Program Office, NYC Office of Technology & Innovation (OTI)
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles
0 0.1 0.2 0.3 0.4 Nautical Miles
0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



NOT FOR CONSTRUCTION

EMPIRE OFFSHORE WIND LEASE: OCS-A 0512 EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166-m viewshed intensity
High : 174
Low : 0
Recommended No Adverse Effect
Historic Property Excluded from Effects Assessment
Potential visibility based on viewshed modeling
No visibility based on viewshed modeling
Historic District

Data Sources: BOEM, ESRI, NOAA, NYS ITS GIS Program Office, NYC Office of Technology & Innovation (OTI)
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

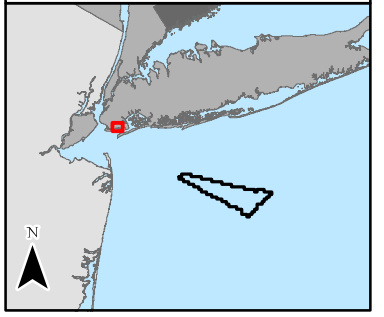
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



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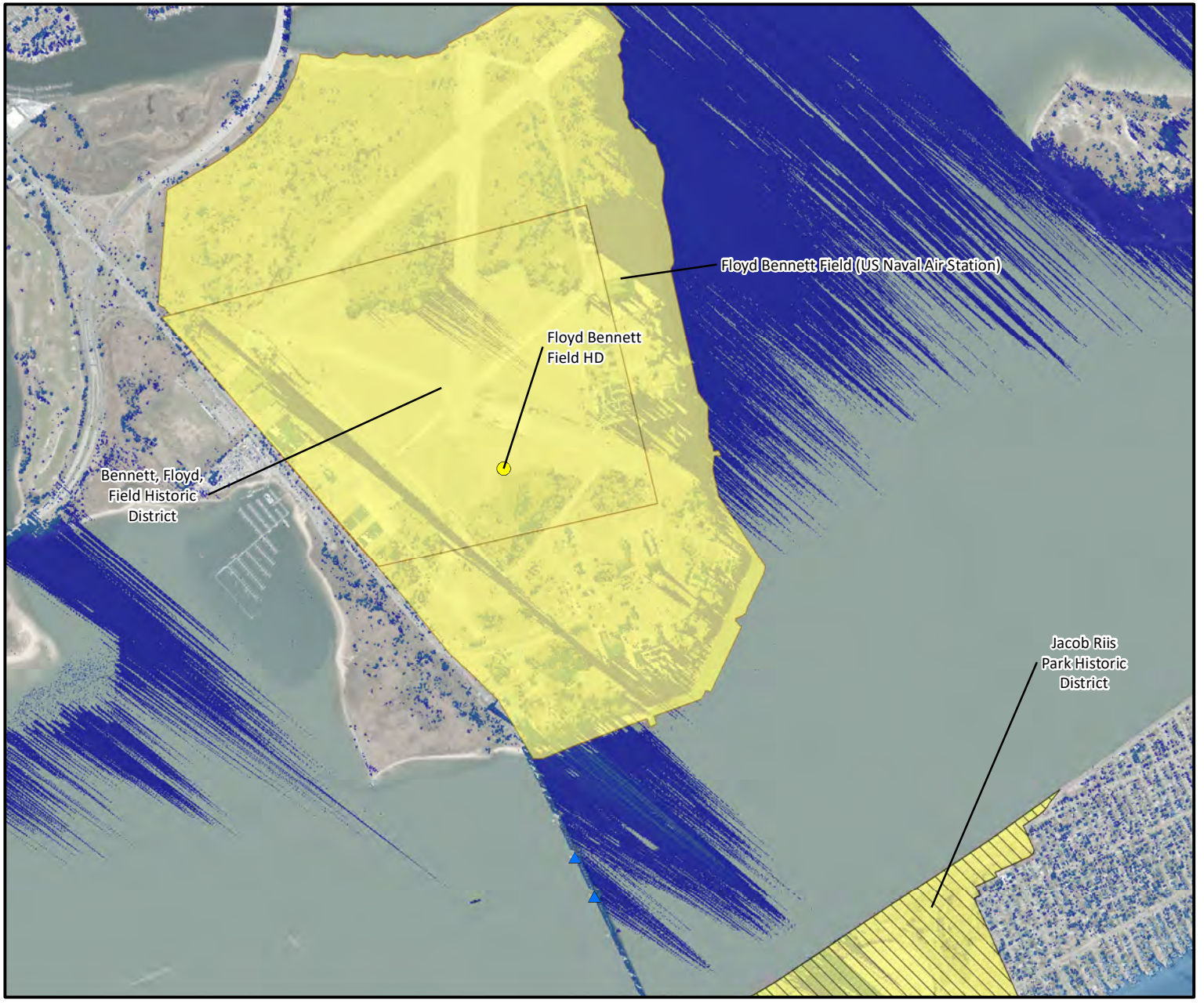


EMPIRE OFFSHORE WIND LEASE: OCS-A 0512 EMPIRE WIND PROJECT

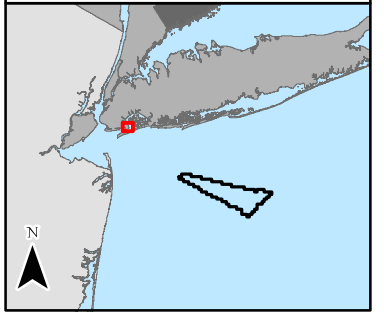
Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166-m viewshed intensity
High : 174
Low : 0
Recommended No Adverse Effect
Historic Property Excluded from Effects Assessment
No visibility based on viewshed modeling
Historic District (Adverse Effect)
Historic District

Data Sources: BOEM, ESRI, NOAA, NYS ITS GIS Program Office, NYC Office of Technology & Innovation (OTI)
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles
0 0.1 0.2 0.3 0.4 Nautical Miles
0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



NOT FOR CONSTRUCTION

EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

equinor

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166-m viewshed intensity
High : 174
Low : 0

Historic Property Excluded from Effects Assessment
- Potential visibility based on viewshed modeling
- No visibility based on viewshed modeling
- Historic District

Data Sources: BOEM, ESRI, NOAA, NYS ITS GIS Program Office, NYC Office of Technology & Innovation (OTI)
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

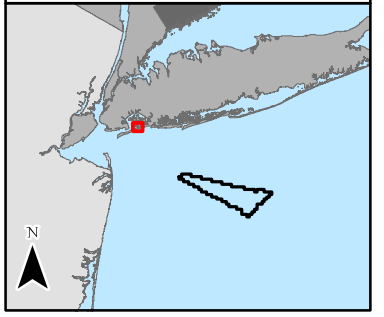
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



NOT FOR CONSTRUCTION

EMPIRE OFFSHORE WIND LEASE: OCS-A 0512 EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0

166-m viewshed intensity
High : 174
Low : 0

Historic Property Excluded from Effects Assessment
- Potential visibility based on viewshed modeling
- No visibility based on viewshed modeling
- Historic District

Data Sources: BOEM, ESRI, NOAA, NYS ITS GIS Program Office, NYC Office of Technology & Innovation (OTI)
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

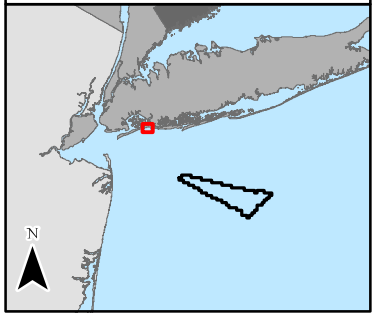
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



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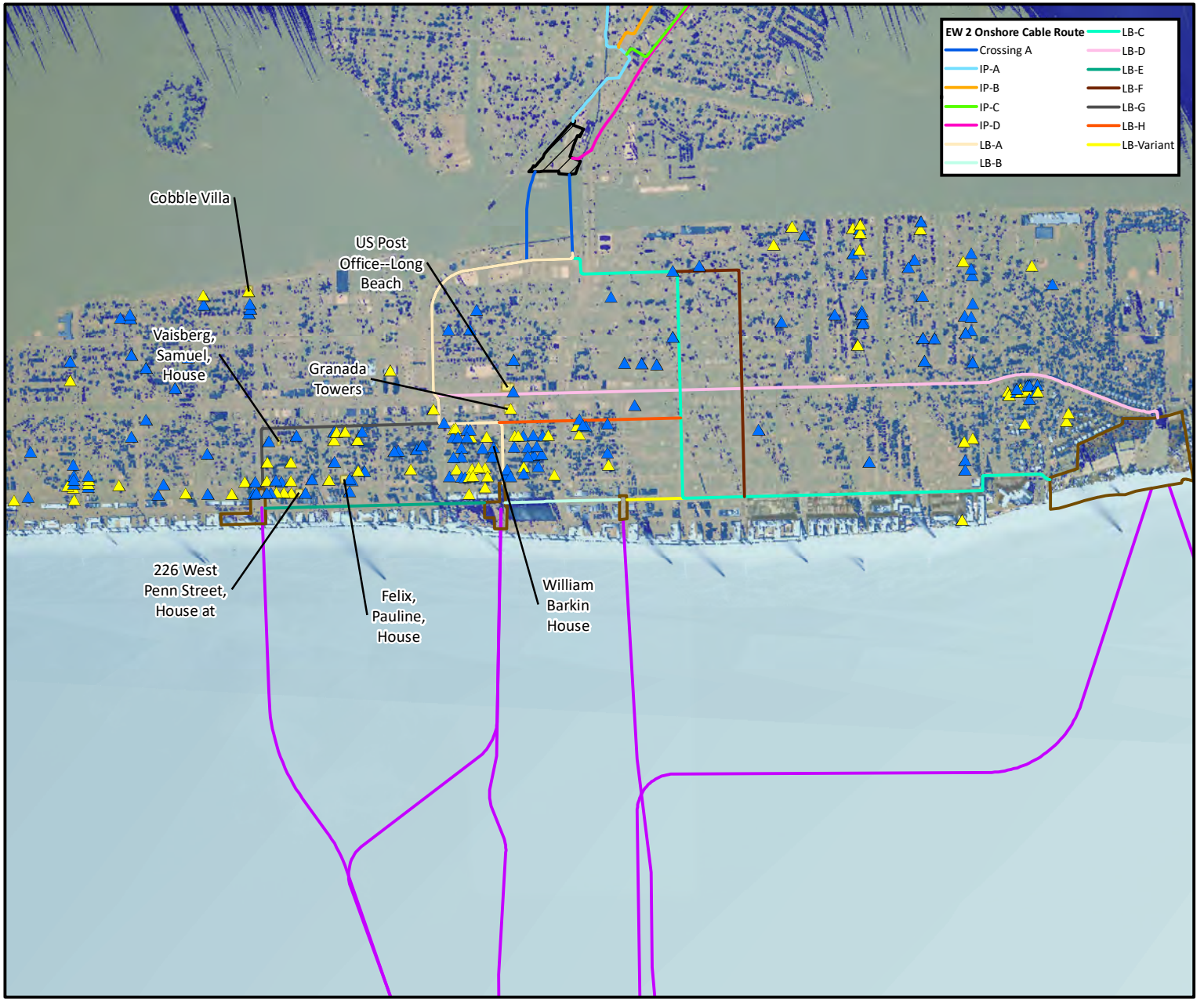


EMPIRE OFFSHORE WIND LEASE: OCS-A 0512 EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166-m viewshed intensity
High : 174
Low : 0

Historic Property Excluded from Effects Assessment
- Potential visibility based on viewshed modeling
- No visibility based on viewshed modeling
- Historic District
- EW 2 Proposed Substation
- EW 2 Landfall Site
- EW 2 Submarine Export Cable Route

Data Sources: BOEM, ESRI, NOAA, NYS ITS GIS Program Office, NYC Office of Technology & Innovation (OTI)
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

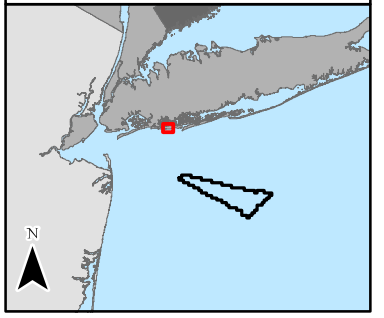
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



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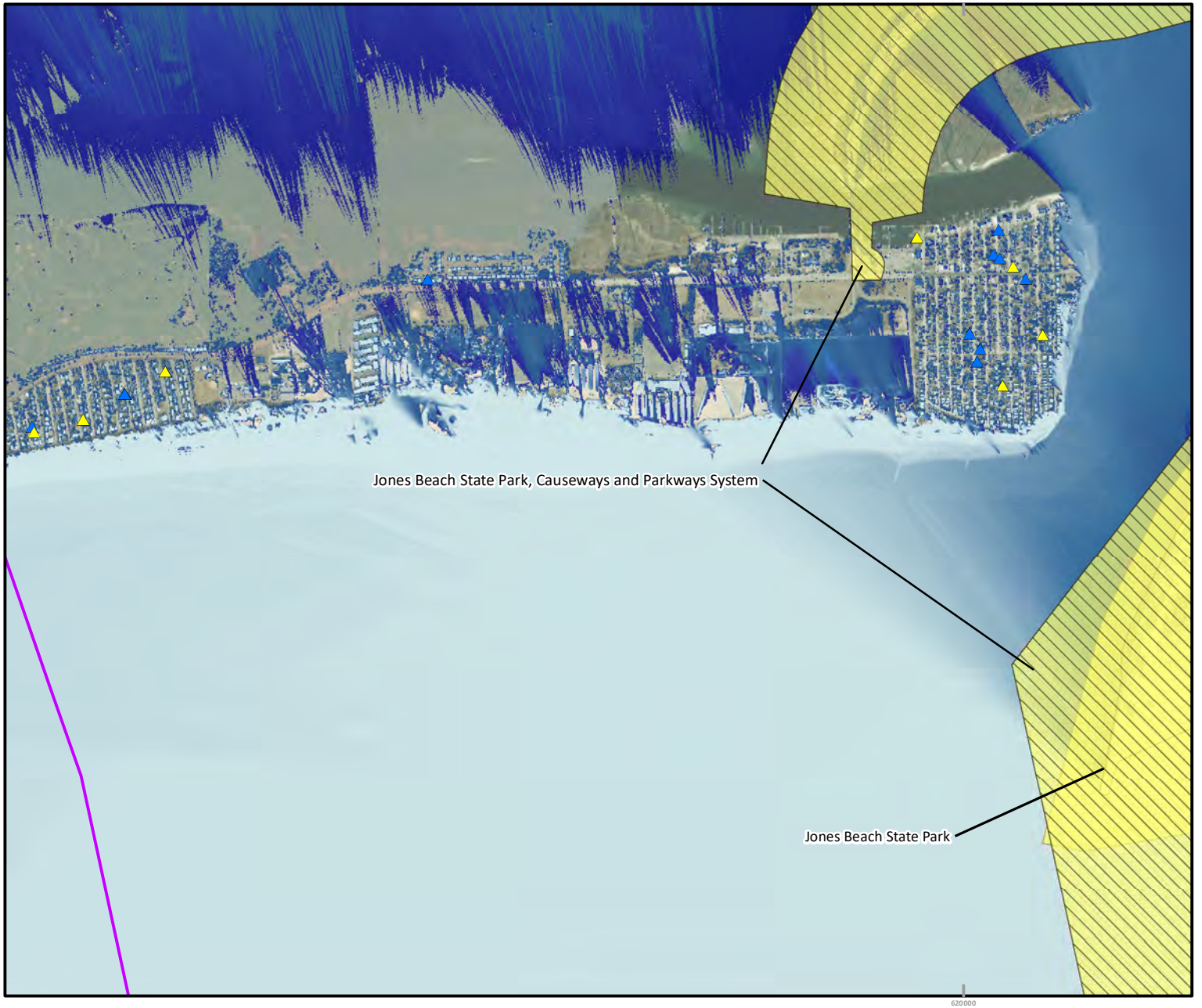


EMPIRE OFFSHORE WIND LEASE: OCS-A 0512 EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166-m viewshed intensity
High : 174
Low : 0

Historic Property Excluded from Effects Assessment
- Potential visibility based on viewshed modeling
- No visibility based on viewshed modeling
- Historic District (Adverse Effect)
- Historic District
- EW 2 Submarine Export Cable Route

Data Sources: BOEM, ESRI, NOAA, NYS ITS GIS Program Office, NYC Office of Technology & Innovation (OTI)
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

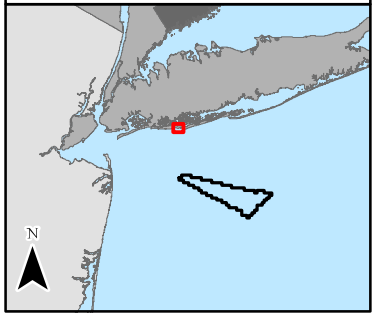
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



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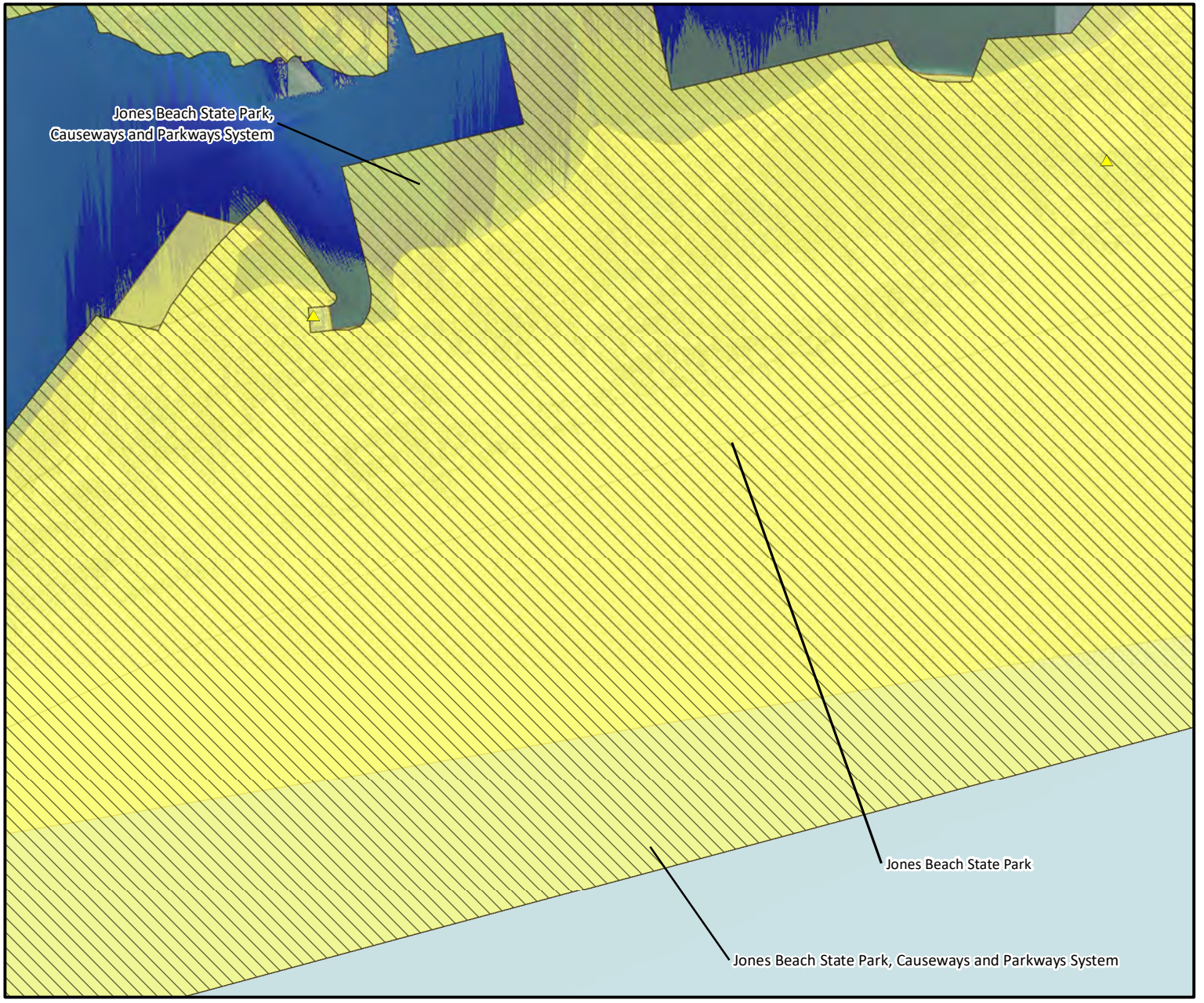


EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166-m viewshed intensity
High : 174
Low : 0

Historic Property Excluded from Effects Assessment
Potential visibility based on viewshed modeling
Historic District (Adverse Effect)
Historic District

Data Sources: BOEM, ESRI, NOAA, NYS ITS GIS Program Office, NYC Office of Technology & Innovation (OTI)
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

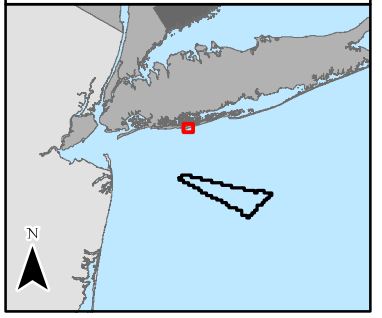
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



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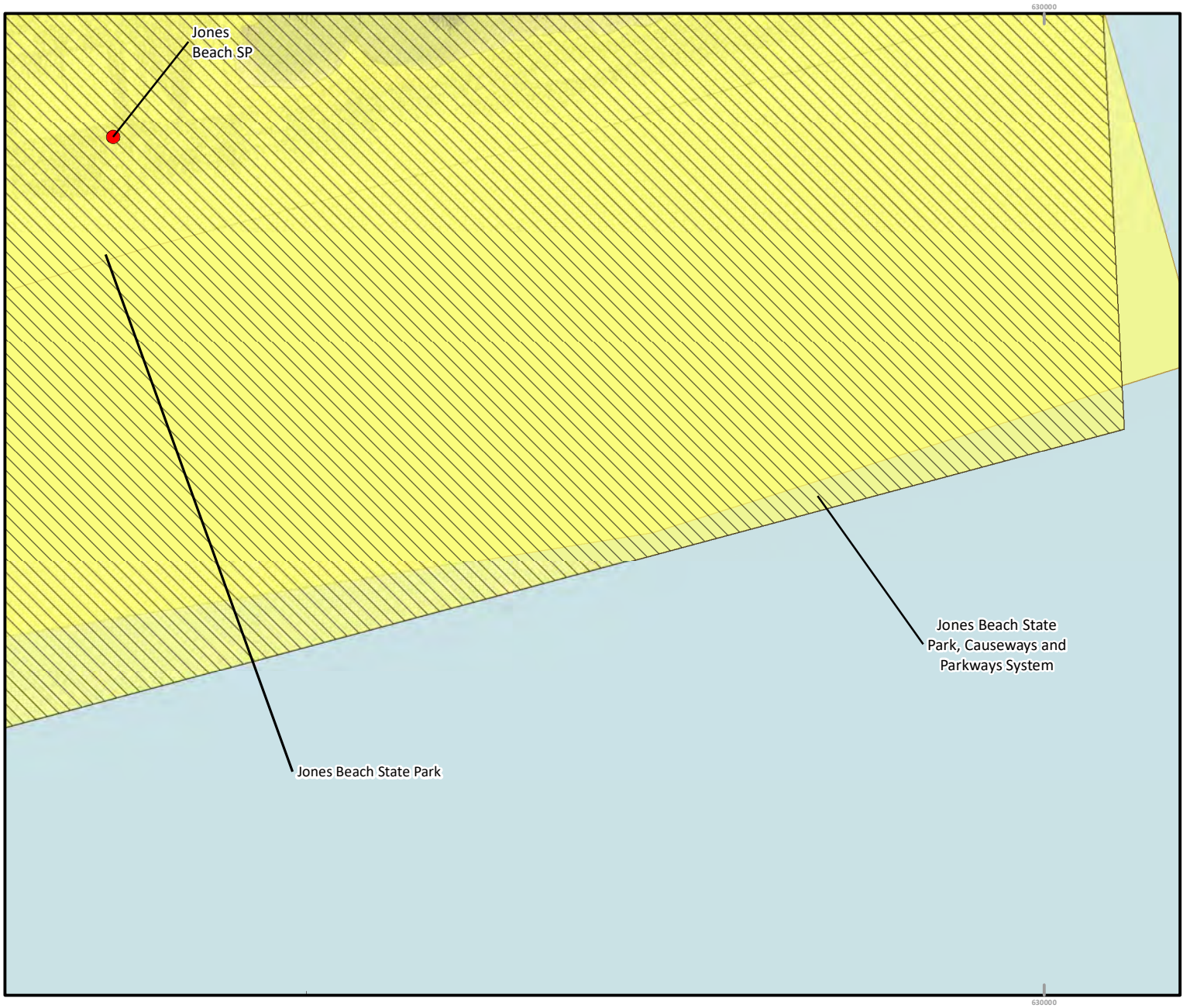


EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166-m viewshed intensity
High : 174
Low : 0
Recommended Adverse Effect
Historic District (Adverse Effect)
Historic District

Data Sources: BOEM, ESRI, NOAA, NYS ITS GIS Program Office, NYC Office of Technology & Innovation (OTI)
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

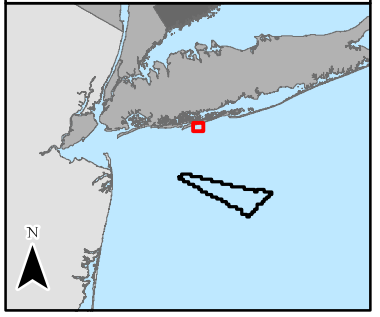
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



NOT FOR CONSTRUCTION

EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166-m viewshed intensity
High : 174
Low : 0
Historic District

Data Sources: BOEM, ESRI, NOAA, NYS ITS GIS Program Office, NYC Office of Technology & Innovation (OTI)
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

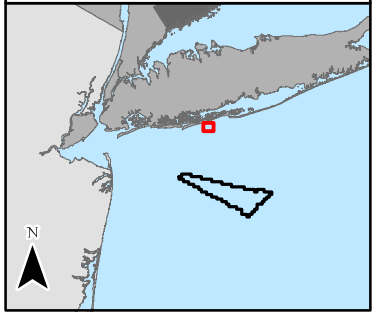
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



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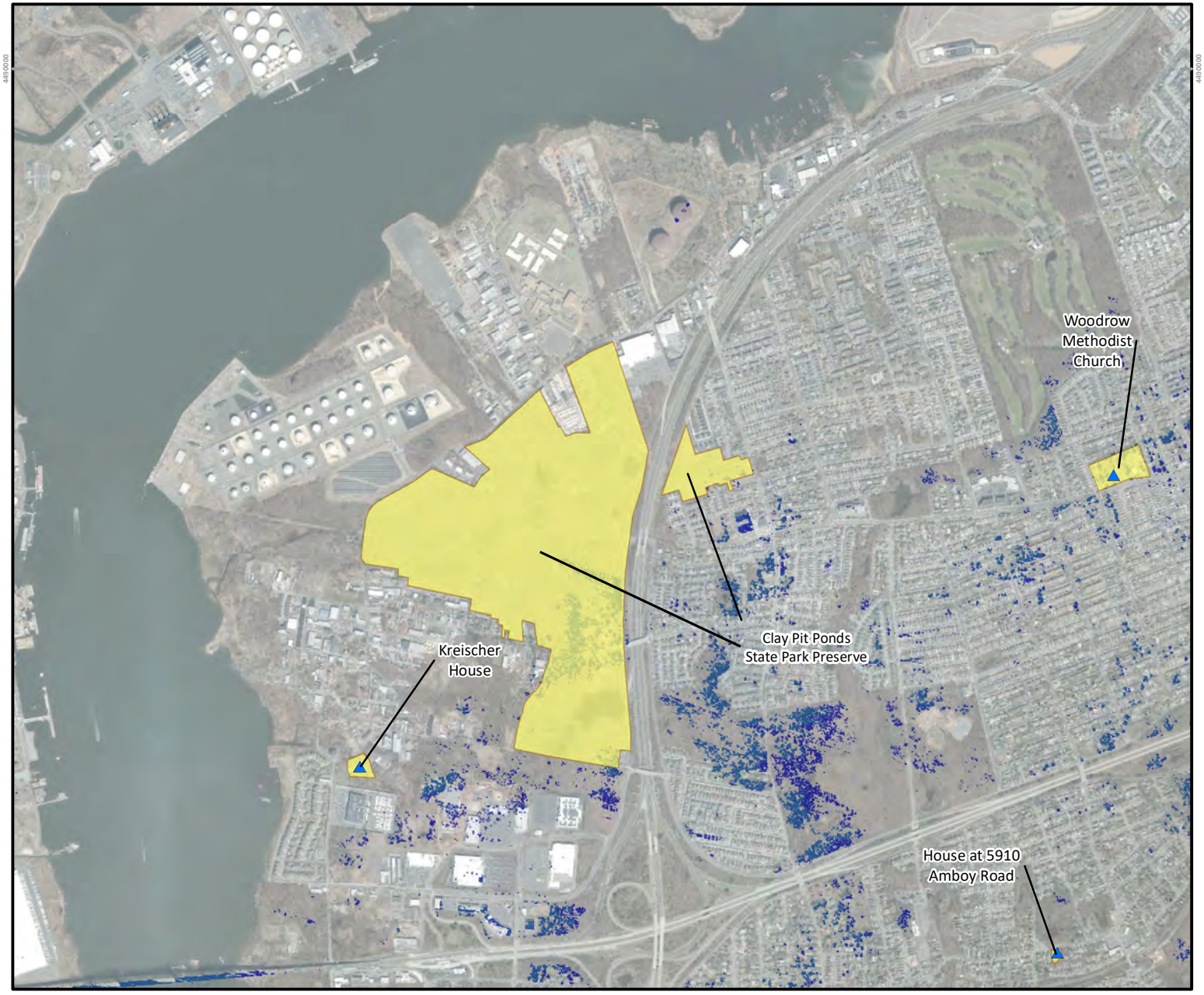


EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166-m viewshed intensity
High : 174
Low : 0
Historic Property Excluded from Effects Assessment
No visibility based on viewshed modeling
Historic District

Data Sources: BOEM, ESRI, NOAA, NYS ITS GIS Program Office, NYC Office of Technology & Innovation (OTI)
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

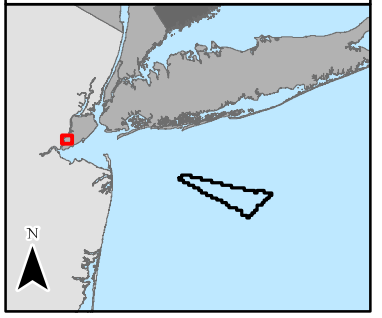
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



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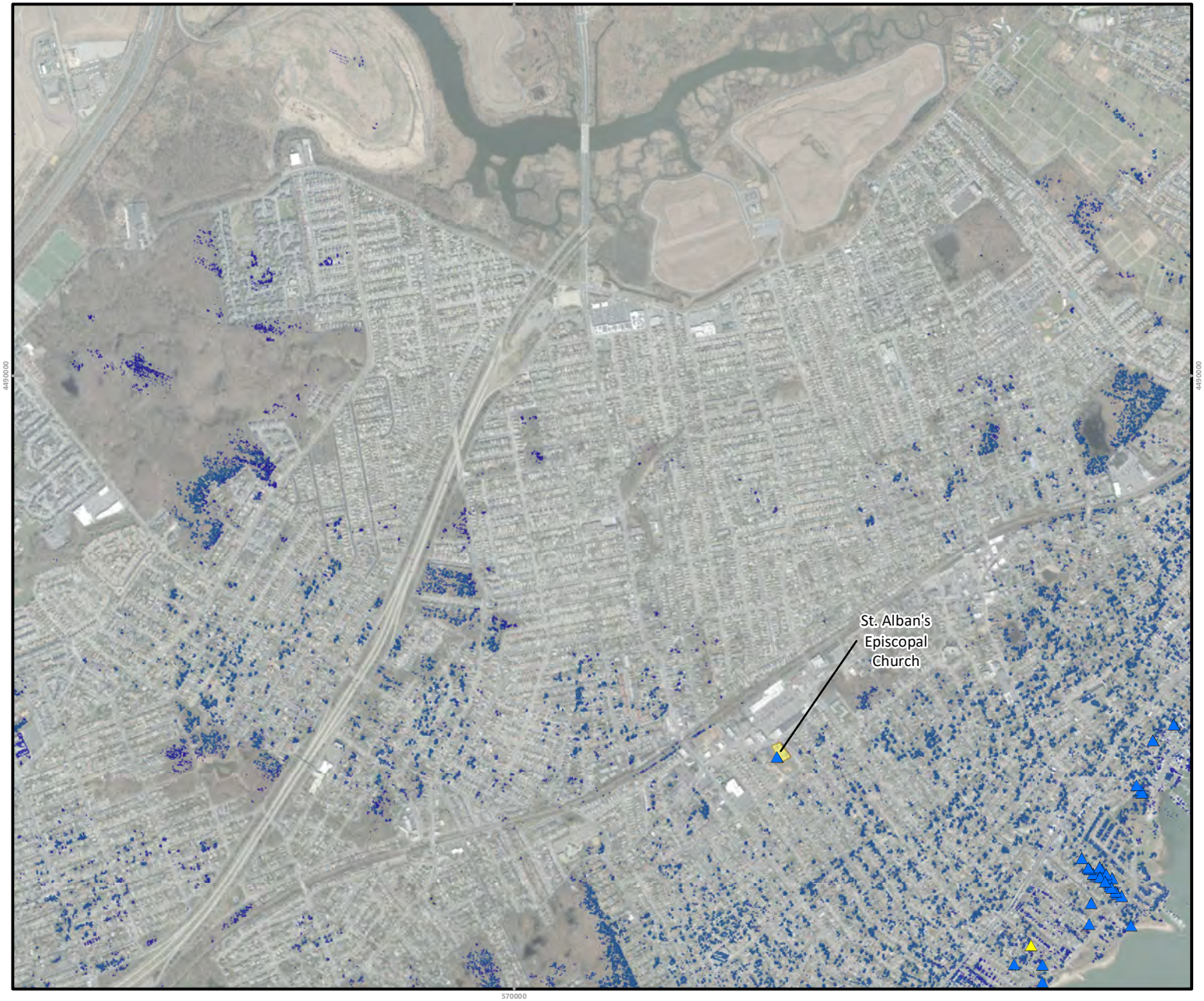


EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0

166-m viewshed intensity
High : 174
Low : 0

Historic Property Excluded from Effects Assessment
- Potential visibility based on viewshed modeling
- No visibility based on viewshed modeling
- Historic District

Data Sources: BOEM, ESRI, NOAA, NYS ITS GIS Program Office, NYC Office of Technology & Innovation (OTI)
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

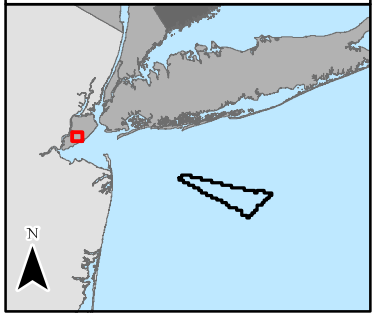
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



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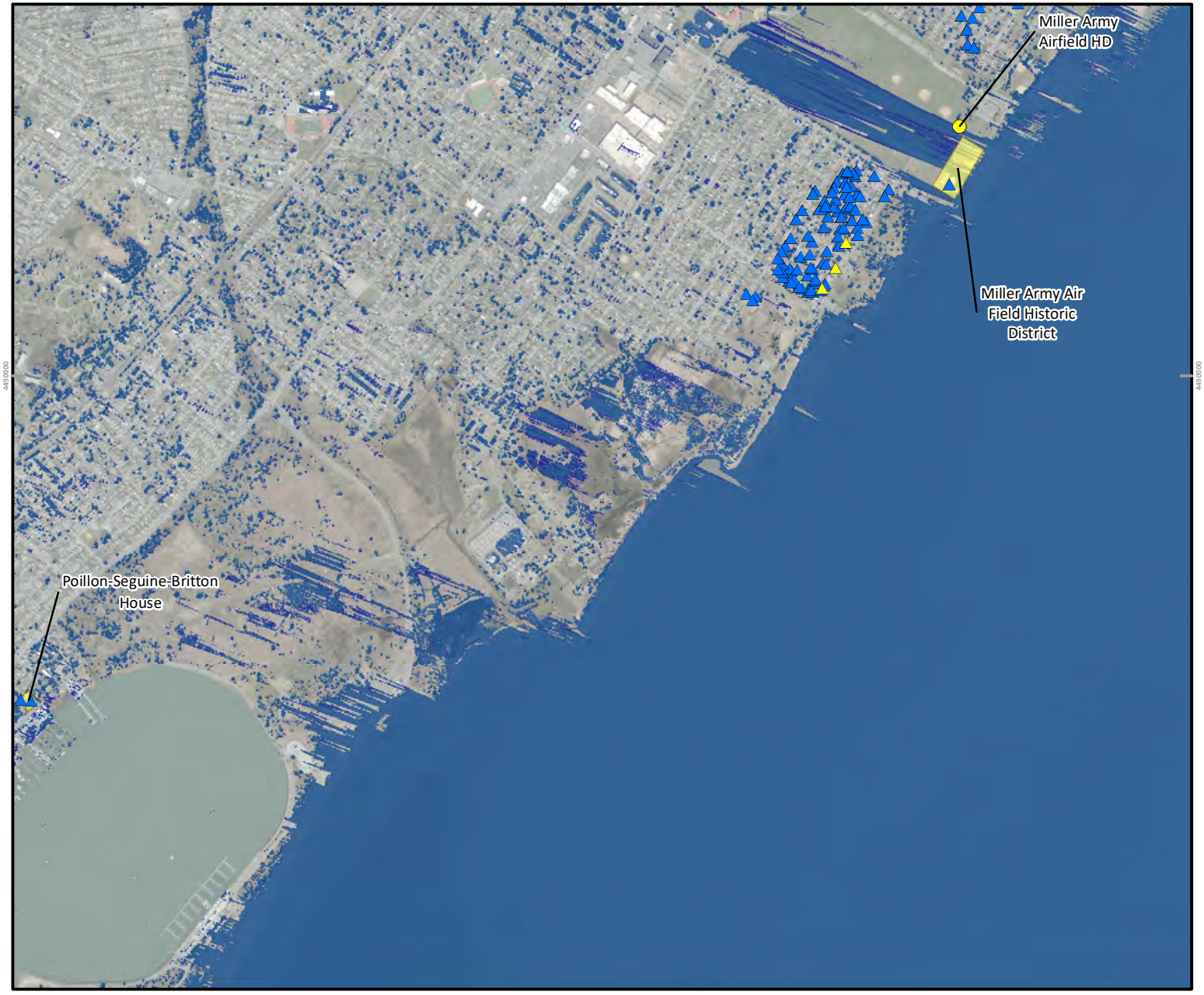


EMPIRE OFFSHORE WIND LEASE: OCS-A 0512 EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166-m viewshed intensity
High : 174
Low : 0
Recommended No Adverse Effect
Historic Property Excluded from Effects Assessment
Potential visibility based on viewshed modeling
No visibility based on viewshed modeling
Historic District

Data Sources: BOEM, ESRI, NOAA, NYS ITS GIS Program Office, NYC Office of Technology & Innovation (OTI)
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

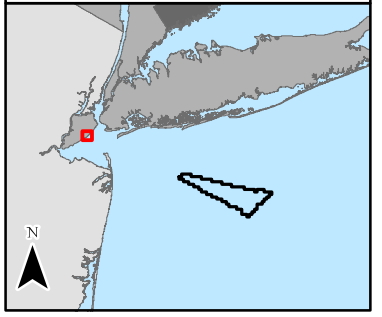
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



NOT FOR CONSTRUCTION

EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166-m viewshed intensity
High : 174
Low : 0
Recommended Adverse Effect
Historic Property Excluded from Effects Assessment
Potential visibility based on viewshed modeling
Historic District (Adverse Effect)
Historic District

Data Sources: BOEM, ESRI, NOAA, NYS ITS GIS Program Office, NYC Office of Technology & Innovation (OTI)
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

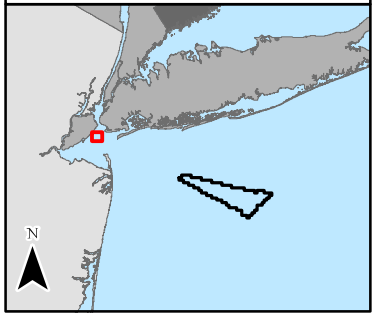
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



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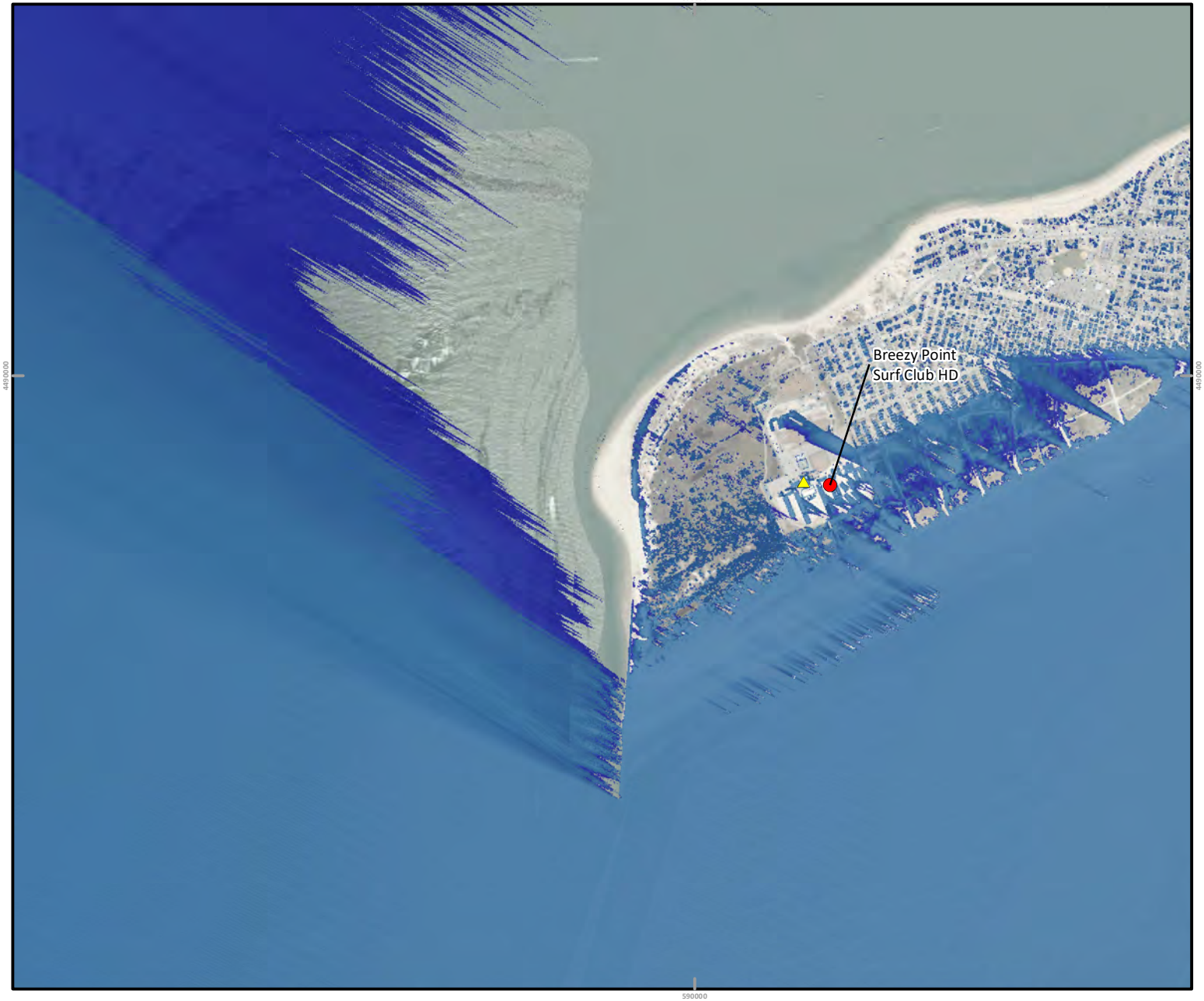


EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166-m viewshed intensity
High : 174
Low : 0
Recommended Adverse Effect
Historic Property Excluded from Effects Assessment
Potential visibility based on viewshed modeling

Data Sources: BOEM, ESRI, NOAA, NYS ITS GIS Program Office, NYC Office of Technology & Innovation (OTI)
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

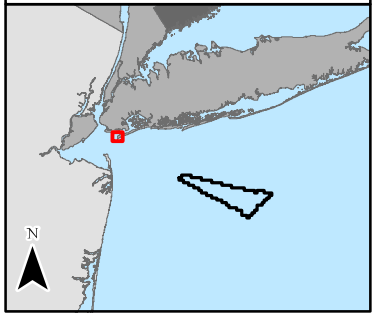
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



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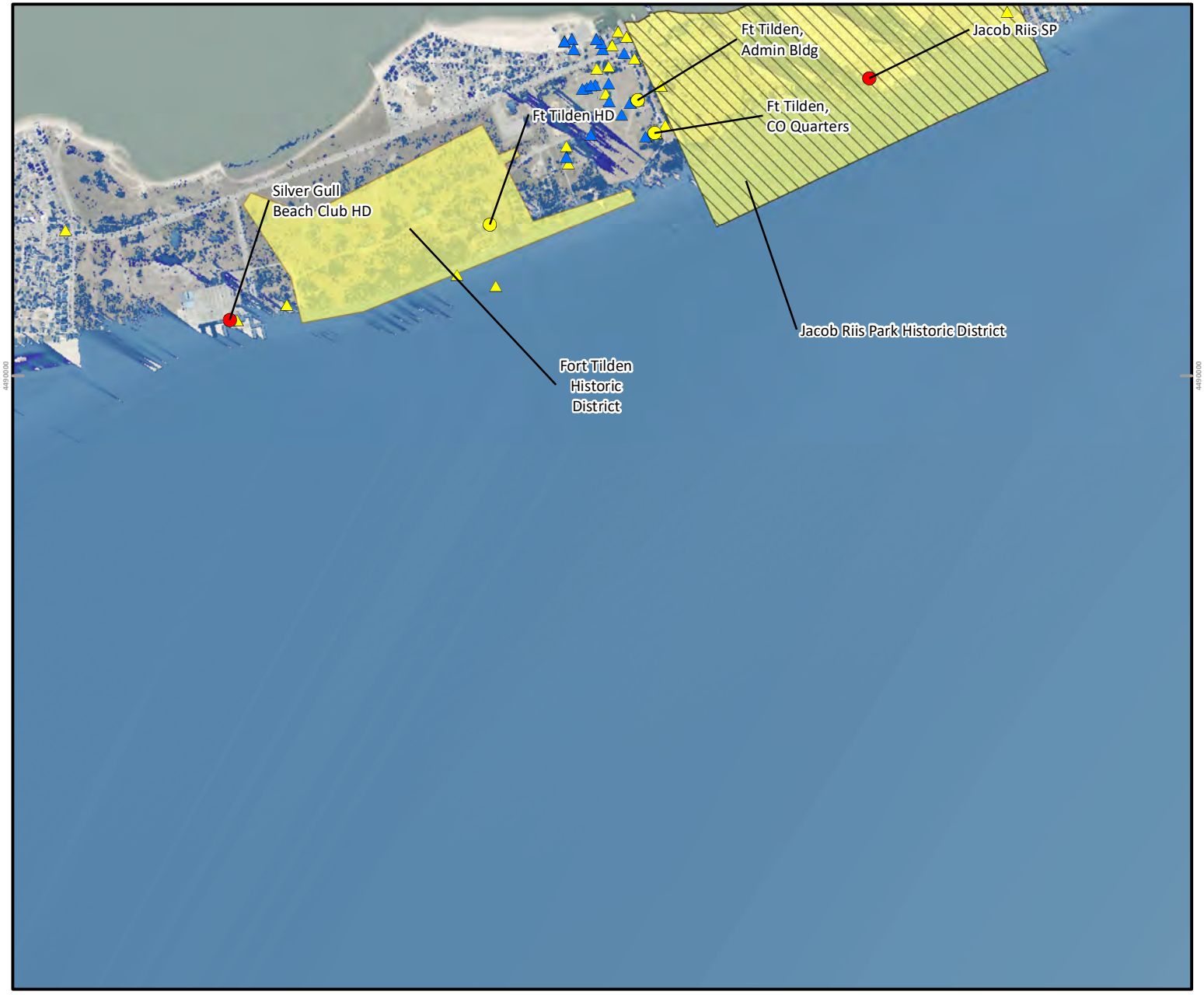


EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166-m viewshed intensity
High : 174
Low : 0
Recommended No Adverse Effect
Recommended Adverse Effect
Historic Property Excluded from Effects Assessment
Potential visibility based on viewshed modeling
No visibility based on viewshed modeling
Historic District (Adverse Effect)
Historic District

Data Sources: BOEM, ESRI, NOAA, NYS ITS GIS Program Office, NYC Office of Technology & Innovation (OTI)
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

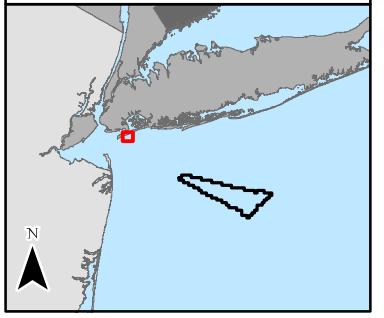
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



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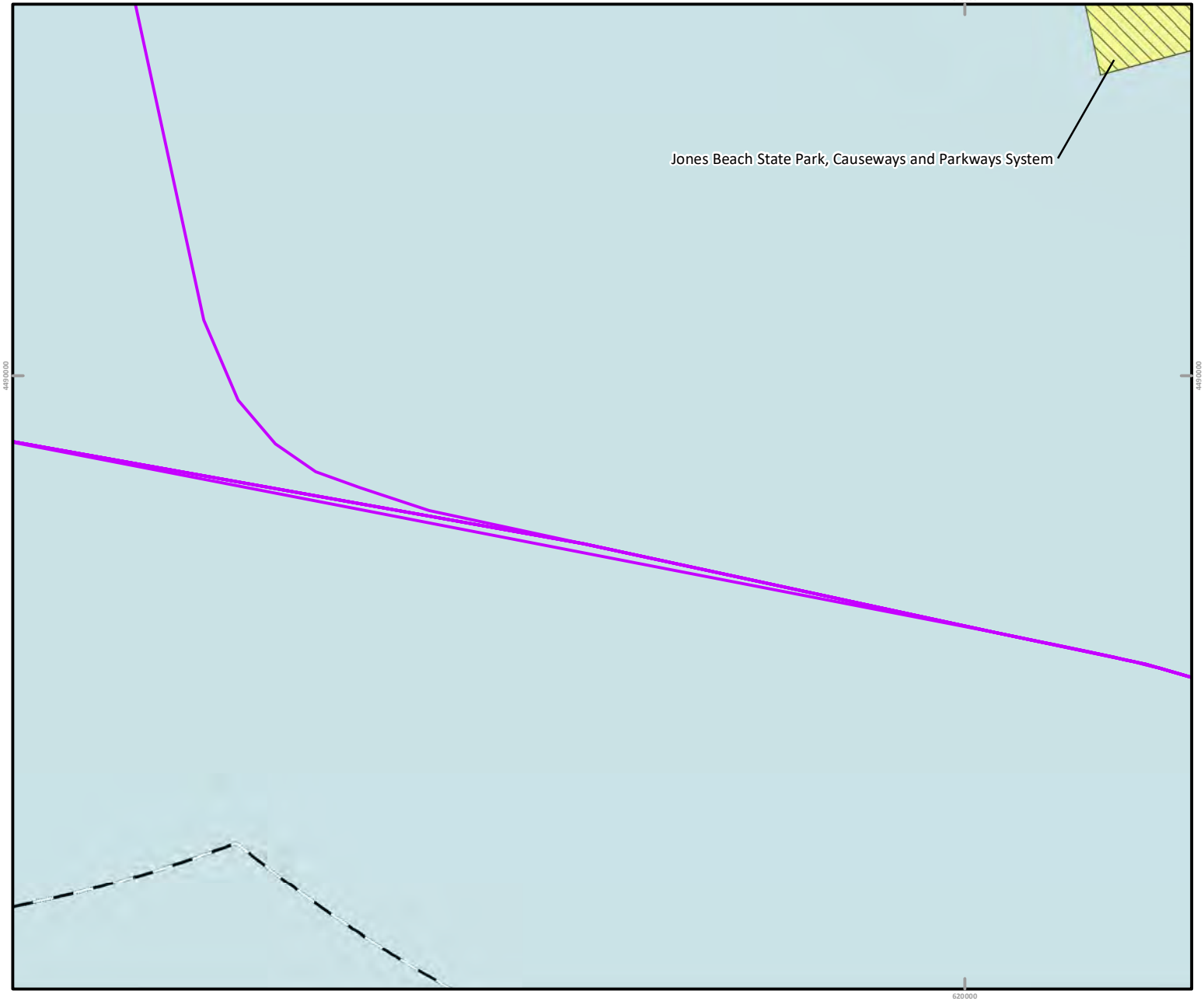


EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166-m viewshed intensity
High : 174
Low : 0
Historic District (Adverse Effect)
Historic District
EW 2 Submarine Export Cable Route
State Territorial Waters Boundary

Data Sources: BOEM, ESRI, NOAA, NYS ITS GIS Program Office, NYC Office of Technology & Innovation (OTI)
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

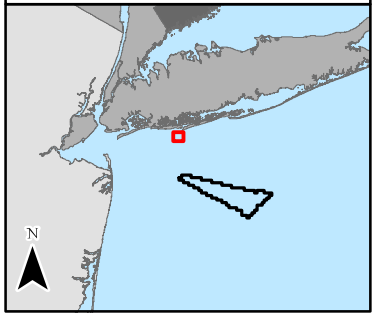
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



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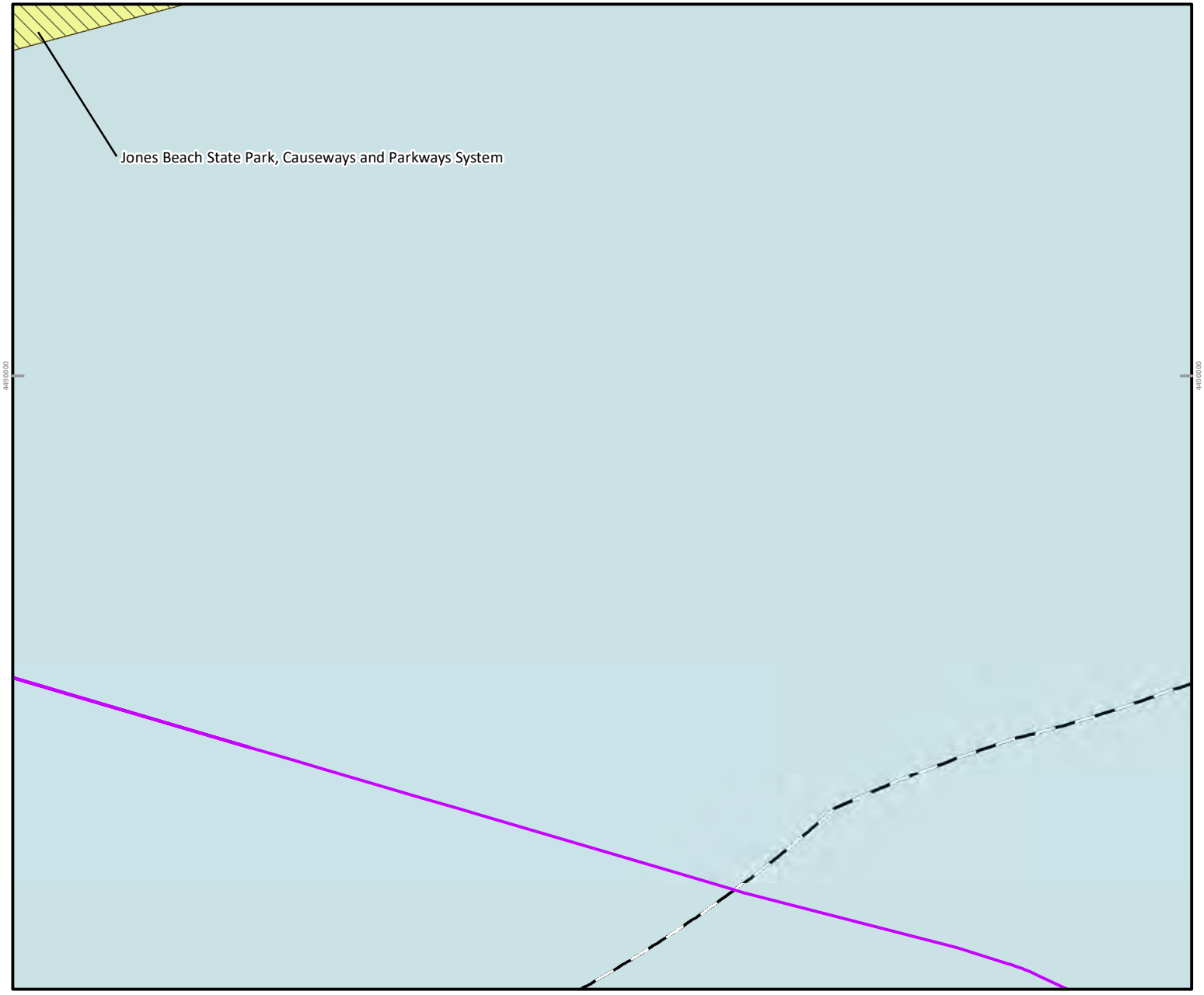

EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166-m viewshed intensity
High : 174
Low : 0
Historic District (Adverse Effect)
Historic District
EW 2 Submarine Export Cable Route
State Territorial Waters Boundary

Data Sources: BOEM, ESRI, NOAA, NYS ITS GIS Program Office, NYC Office of Technology & Innovation (OTI)
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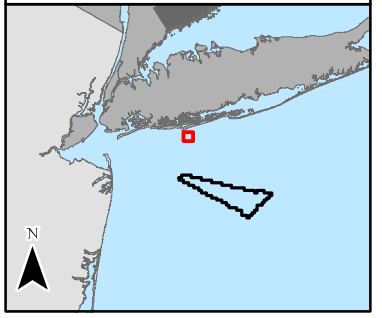
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



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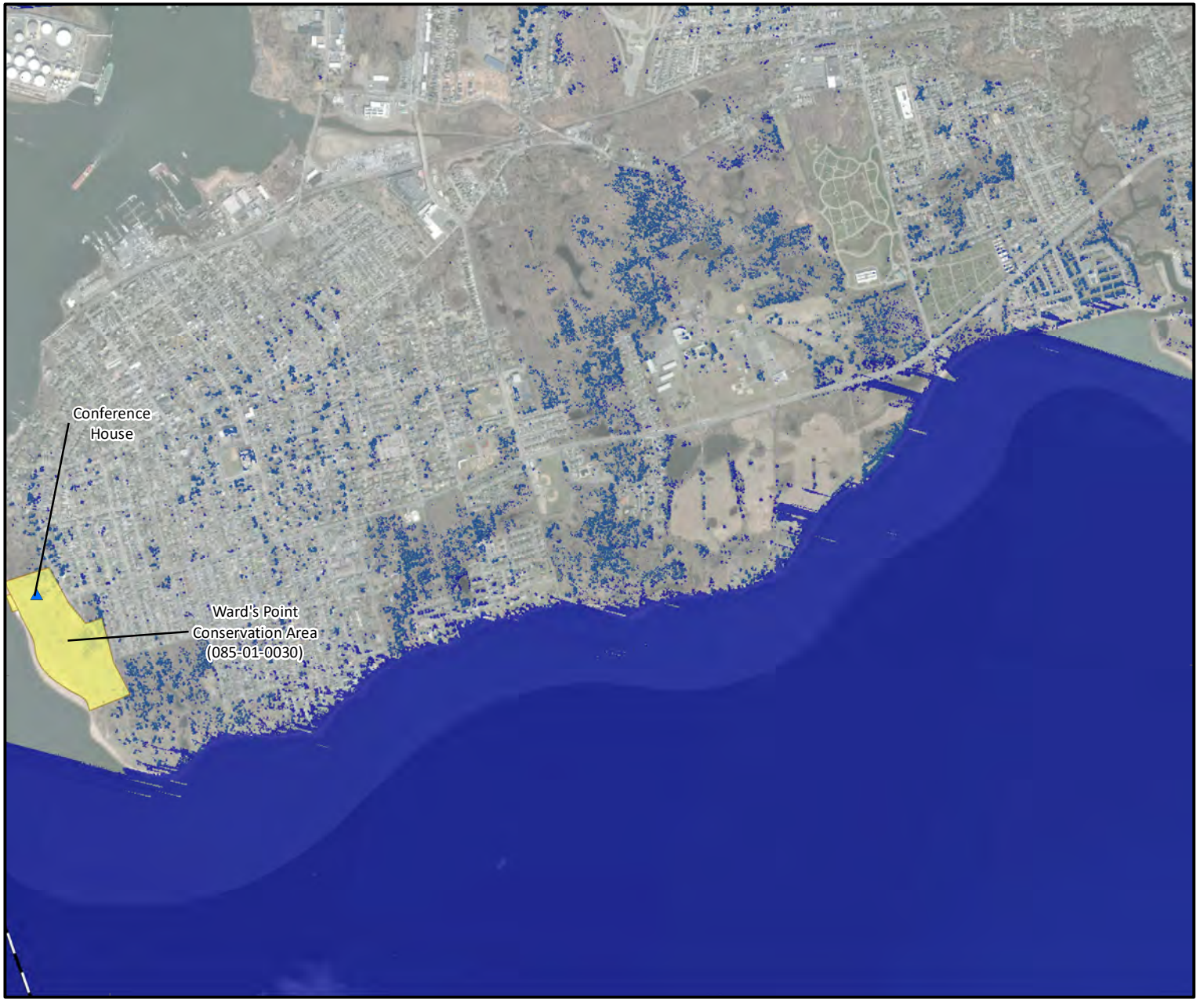


EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0

166-m viewshed intensity
High : 174
Low : 0

Historic Property Excluded from Effects Assessment
No visibility based on viewshed modeling
Historic District
State Territorial Waters Boundary

Data Sources: BOEM, ESRI, NOAA, NYS ITS GIS Program Office, NYC Office of Technology & Innovation (OTI)
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

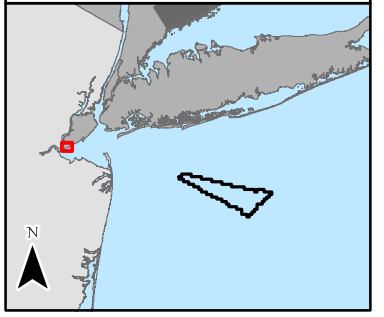
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



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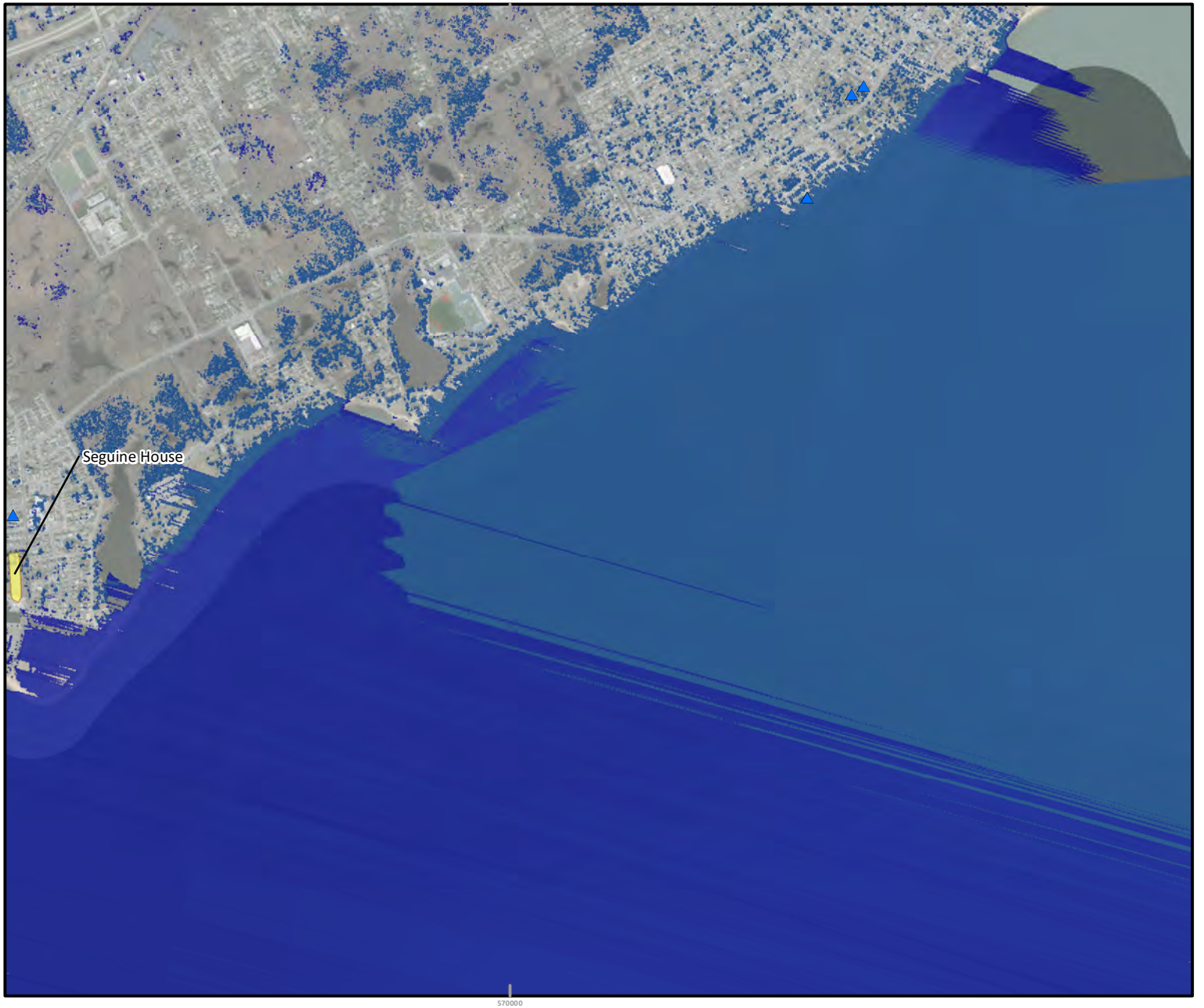

EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166-m viewshed intensity
High : 174
Low : 0

Historic Property Excluded from Effects Assessment
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Historic District

Data Sources: BOEM, ESRI, NOAA, NYS ITS GIS Program Office, NYC Office of Technology & Innovation (OTI)
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

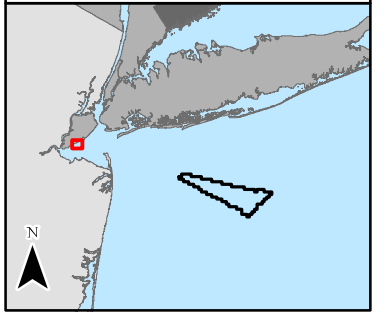
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



NOT FOR CONSTRUCTION

EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166-m viewshed intensity
High : 174
Low : 0

Historic Property Excluded from Effects Assessment
Potential visibility based on viewshed modeling
Historic District
State Territorial Waters Boundary

Data Sources: BOEM, ESRI, NOAA, NYS ITS GIS Program Office, NYC Office of Technology & Innovation (OTI)
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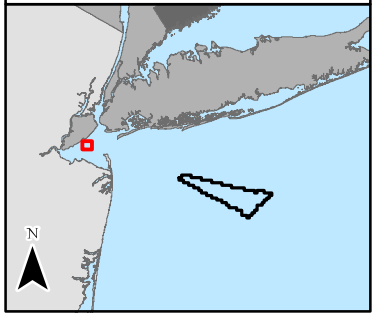
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



NOT FOR CONSTRUCTION

ATTACHMENT 3
MAPBOOK OF INDIVIDUAL PROPERTIES IN THE NEW JERSEY PORTION OF THE PAPE

This attachment is being provided separately due to its large file size.

EMPIRE OFFSHORE WIND LEASE: OCS-A 0512 EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166m viewshed intensity
High : 174
Low : 0
Historic District

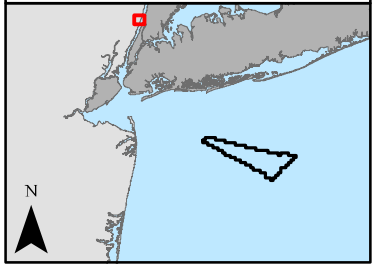
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

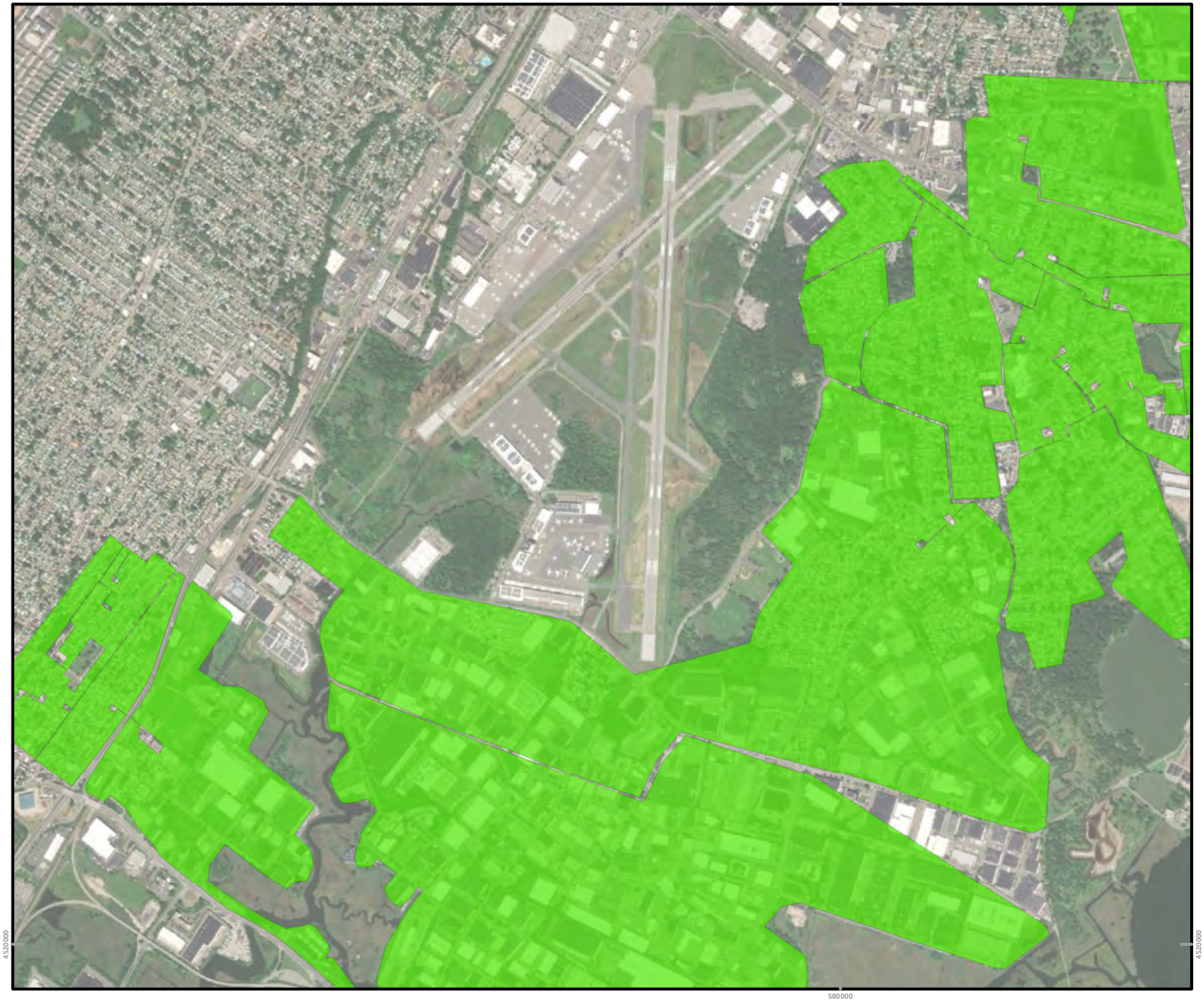
0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



Data Sources: BOEM, ESRI, NOAA, NJ DEP
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

NOT FOR CONSTRUCTION



EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

equinor

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166m viewshed intensity
High : 174
Low : 0
Superstorm Sandy Green Zone Area

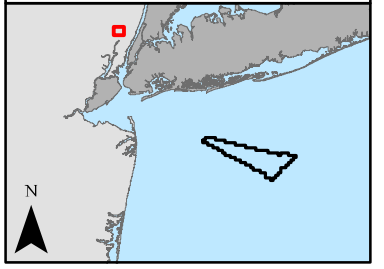
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

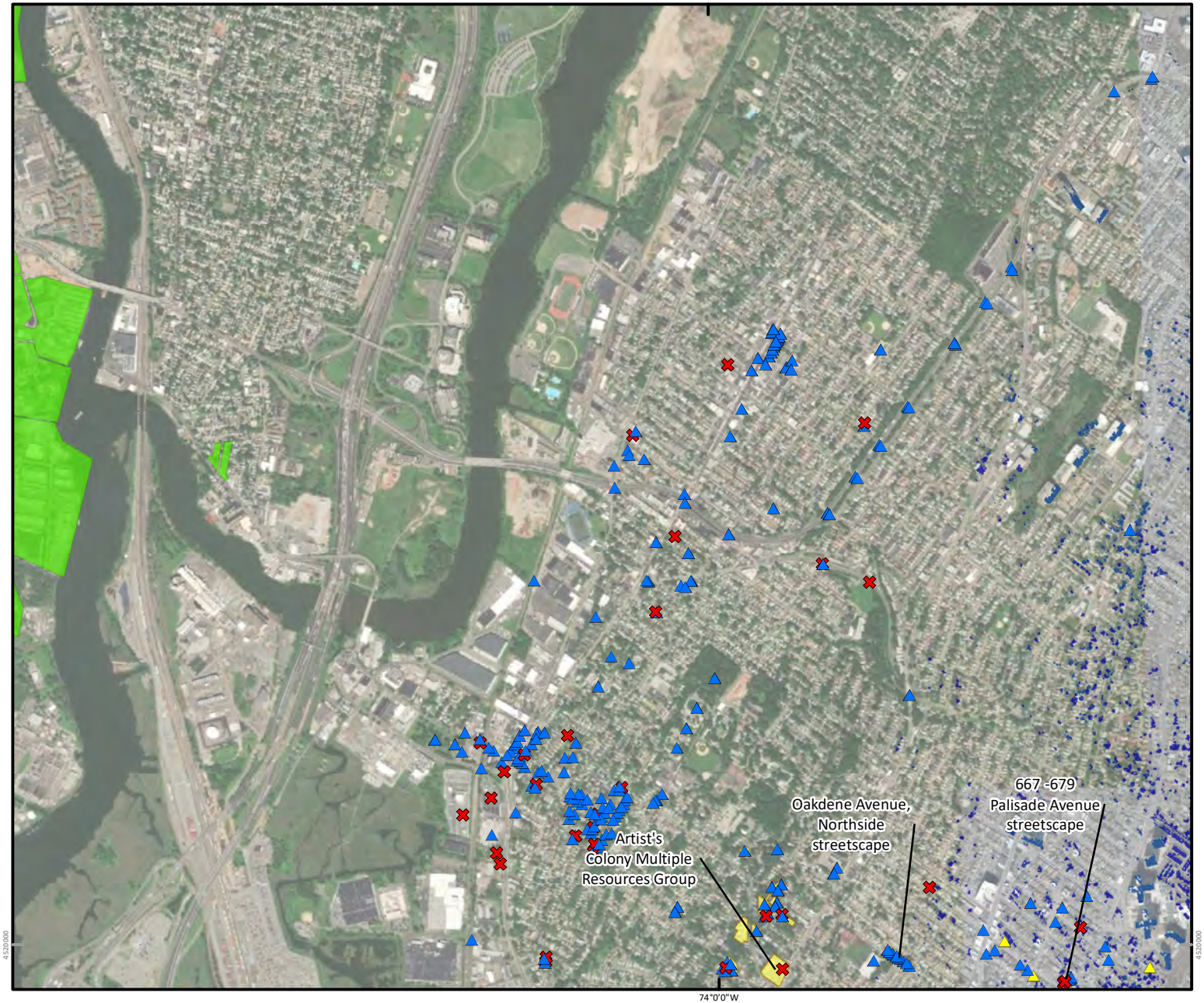
0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



Data Sources: BOEM, ESRI, NOAA, NJ DEP
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

NOT FOR CONSTRUCTION



EMPIRE OFFSHORE WIND LEASE: OCS-A 0512 EMPIRE WIND PROJECT

equinor

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166m viewshed intensity
High : 174
Low : 0
Historic Property Exlcuded from Effects Assessment
Demolished
Potential visibility based on viewshed modeling
No visibility based on viewshed modeling
Historic District
Superstorm Sandy Green Zone Area

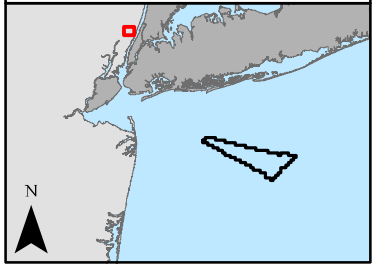
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



Data Sources: BOEM, ESRI, NOAA, NJ DEP
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

NOT FOR CONSTRUCTION

EMPIRE OFFSHORE WIND LEASE: OCS-A 0512 EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166m viewshed intensity
High : 174
Low : 0
Historic Property Exlcuded from Effects Assessment
Demolished
No visibility based on viewshed modeling
Historic District
Superstorm Sandy Green Zone Area

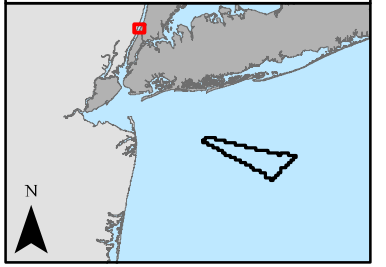
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



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NOT FOR CONSTRUCTION

EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166m viewshed intensity
High : 174
Low : 0
Historic District
Superstorm Sandy Green Zone Area

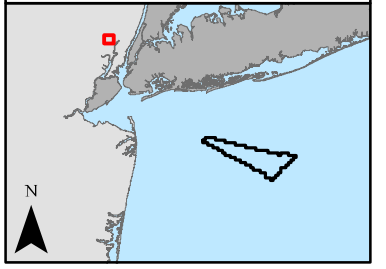
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



Data Sources: BOEM, ESRI, NOAA, NJ DEP
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

NOT FOR CONSTRUCTION

EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

equinor

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166m viewshed intensity
High : 174
Low : 0
Historic Property Exlcuded from Effects Assessment
No visibility based on viewshed modeling
Historic District
Superstorm Sandy Green Zone Area

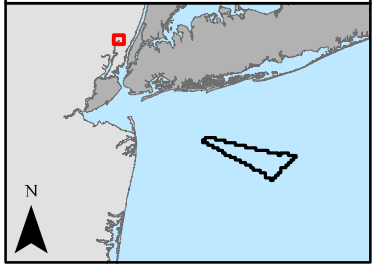
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



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Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

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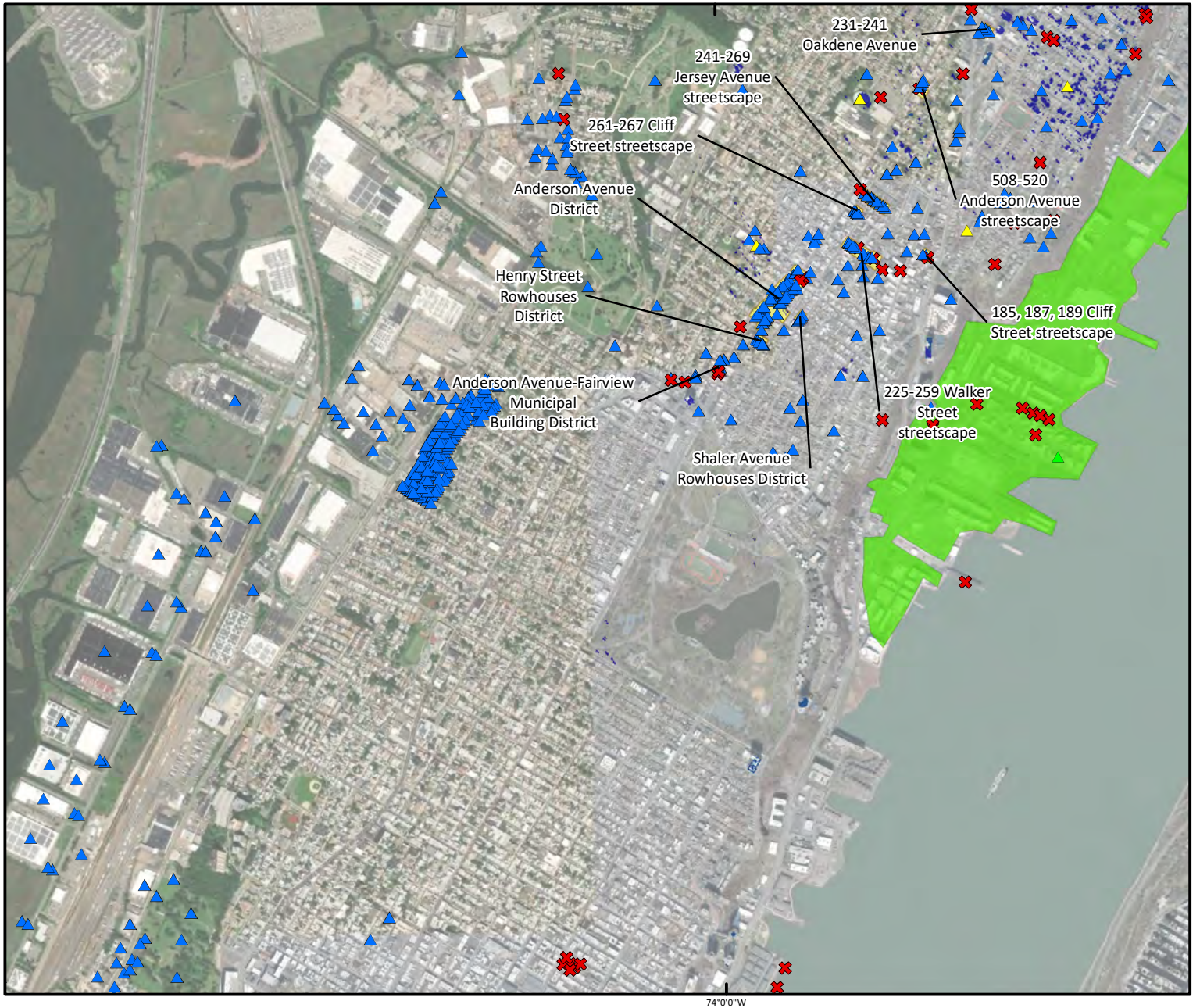


EMPIRE OFFSHORE WIND LEASE: OCS-A 0512 EMPIRE WIND PROJECT

equinor

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166m viewshed intensity
High : 174
Low : 0
Historic Property Exlcuded from Effects Assessment
Demolished
Potential visibility based on viewshed modeling
No visibility based on viewshed modeling
Within Superstorm Sandy Green Zone
Historic District
Superstorm Sandy Green Zone Area

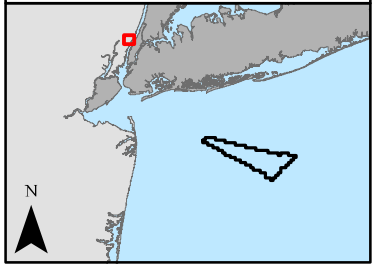
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



Data Sources: BOEM, ESRI, NOAA, NJ DEP
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

NOT FOR CONSTRUCTION

EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

equinor

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166m viewshed intensity
High : 174
Low : 0
Historic Property Exlcuded from Effects Assessment
Demolished
Potential visibility based on viewshed modeling
No visibility based on viewshed modeling
Historic District

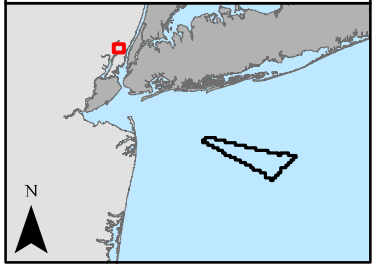
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



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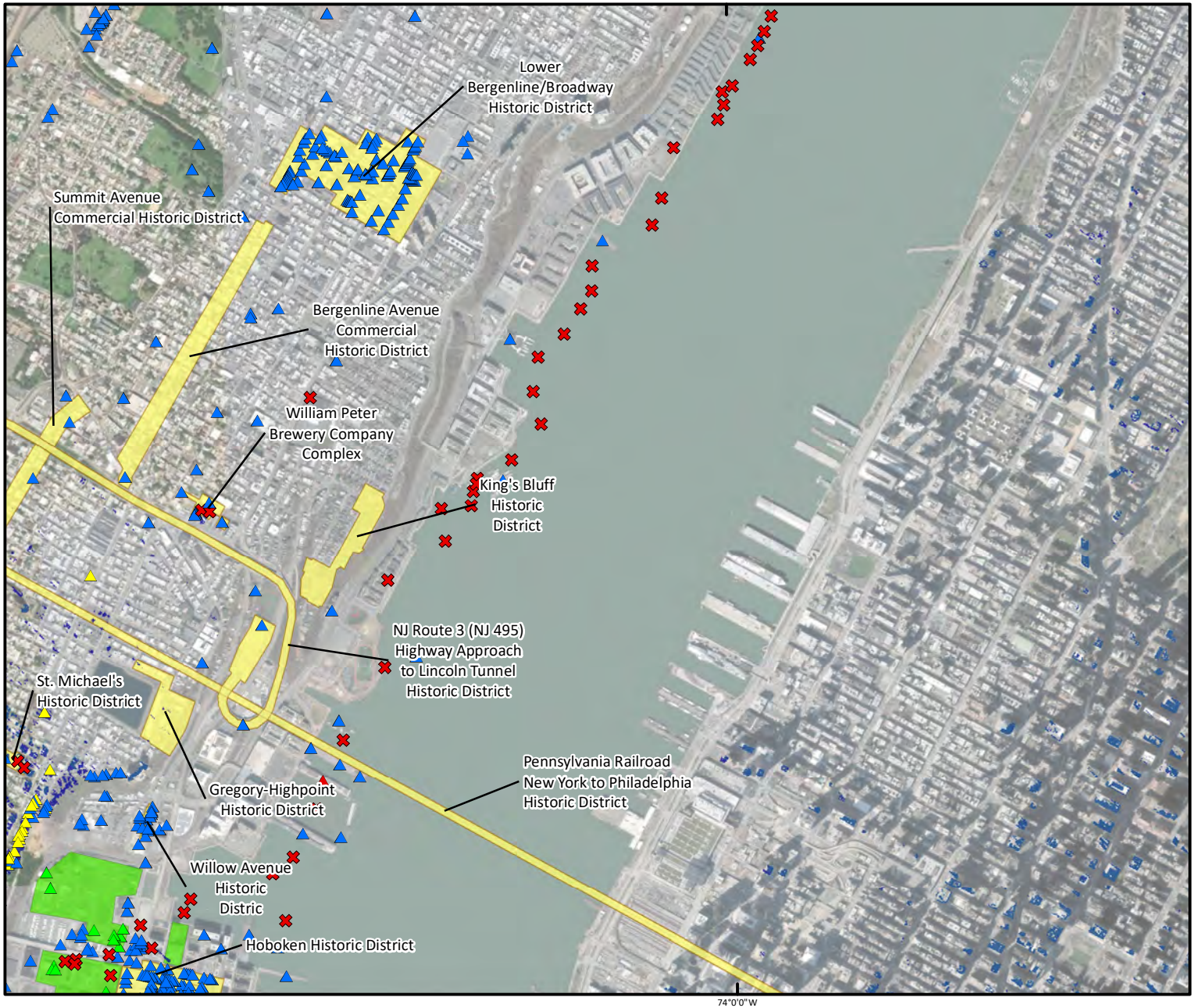
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

NOT FOR CONSTRUCTION



EMPIRE OFFSHORE WIND LEASE: OCS-A 0512 EMPIRE WIND PROJECT

equinor

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166m viewshed intensity
High : 174
Low : 0
Historic Property Exlcuded from Effects Assessment
Demolished
Potential visibility based on viewshed modeling
No visibility based on viewshed modeling
Within Superstorm Sandy Green Zone
Not eligible
Historic District
Superstorm Sandy Green Zone Area

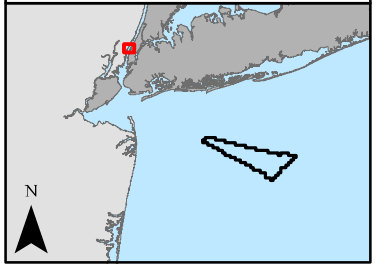
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



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Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

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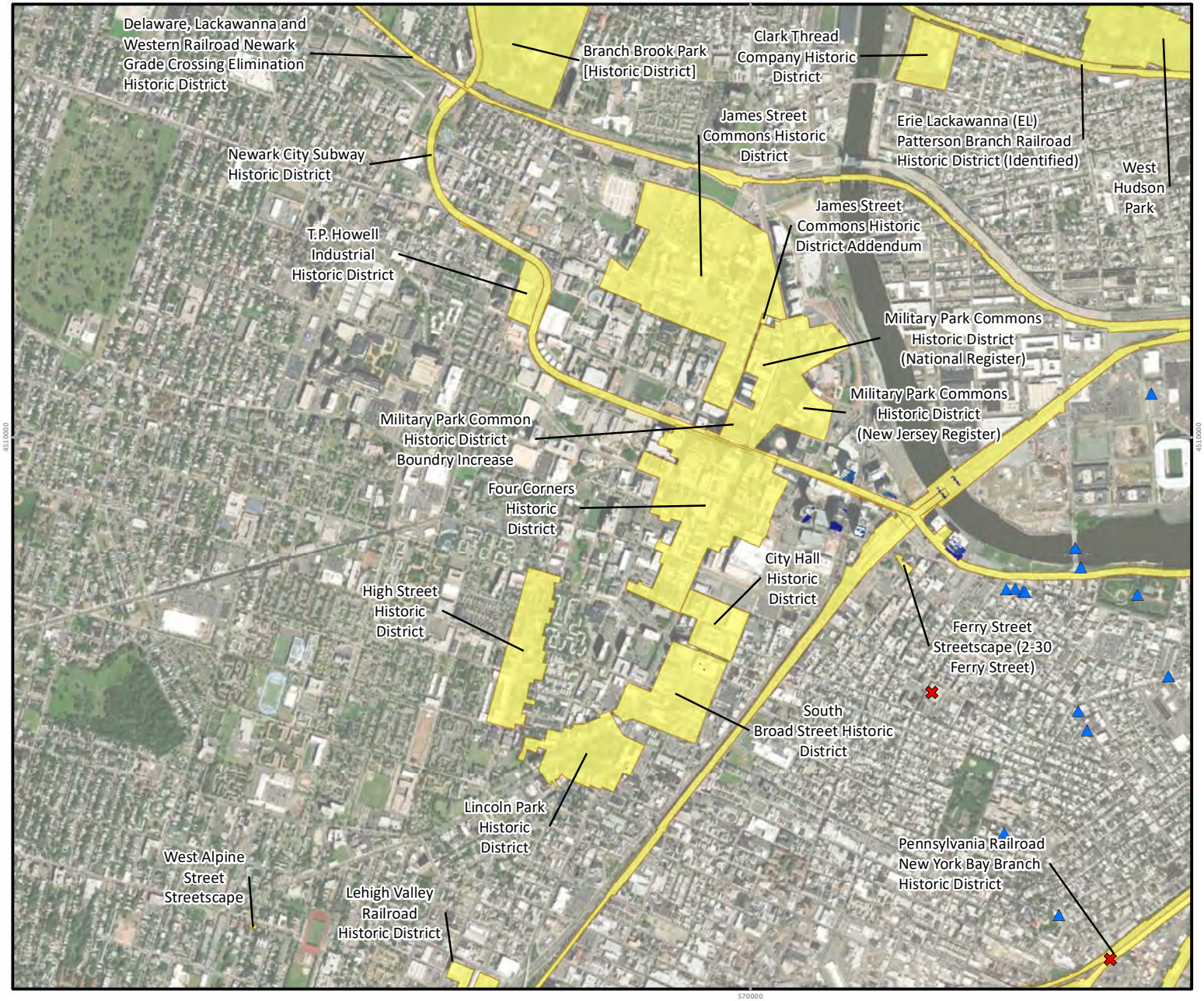

EMPIRE OFFSHORE WIND LEASE: OCS-A 0512 EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166m viewshed intensity
High : 174
Low : 0
Historic Property Exlcuded from Effects Assessment
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Historic District

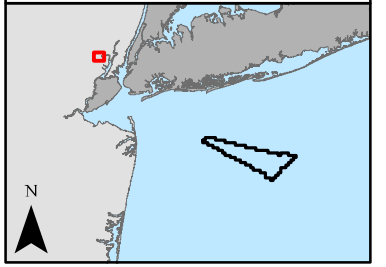
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

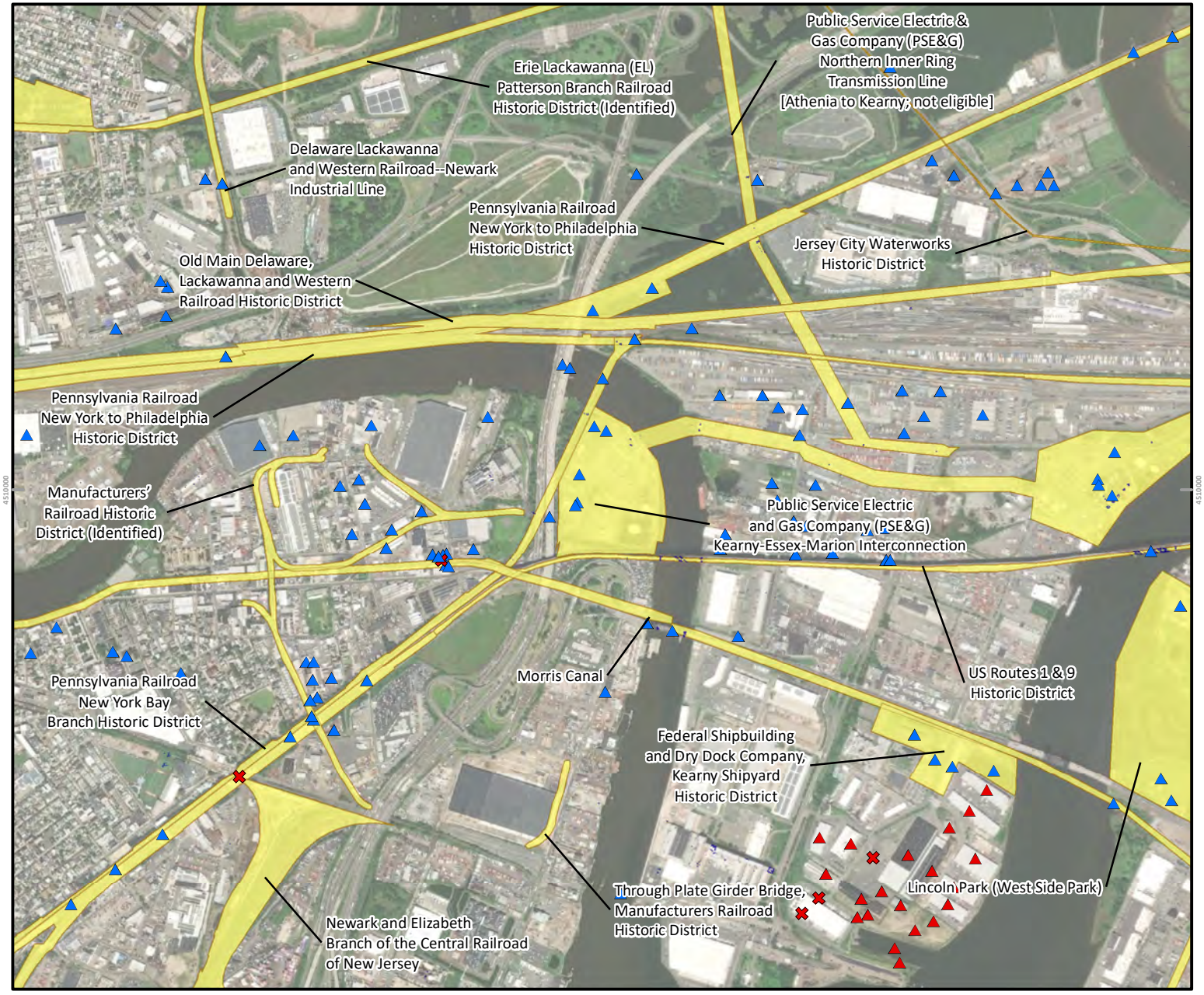
0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



Data Sources: BOEM, ESRI, NOAA, NJ DEP
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

NOT FOR CONSTRUCTION



EMPIRE OFFSHORE WIND LEASE: OCS-A 0512 EMPIRE WIND PROJECT

equinor

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166m viewshed intensity
High : 174
Low : 0
Historic Property Exlcuded from Effects Assessment
Demolished
No visibility based on viewshed modeling
Not eligible
Historic District

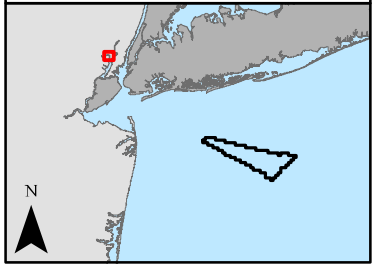
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

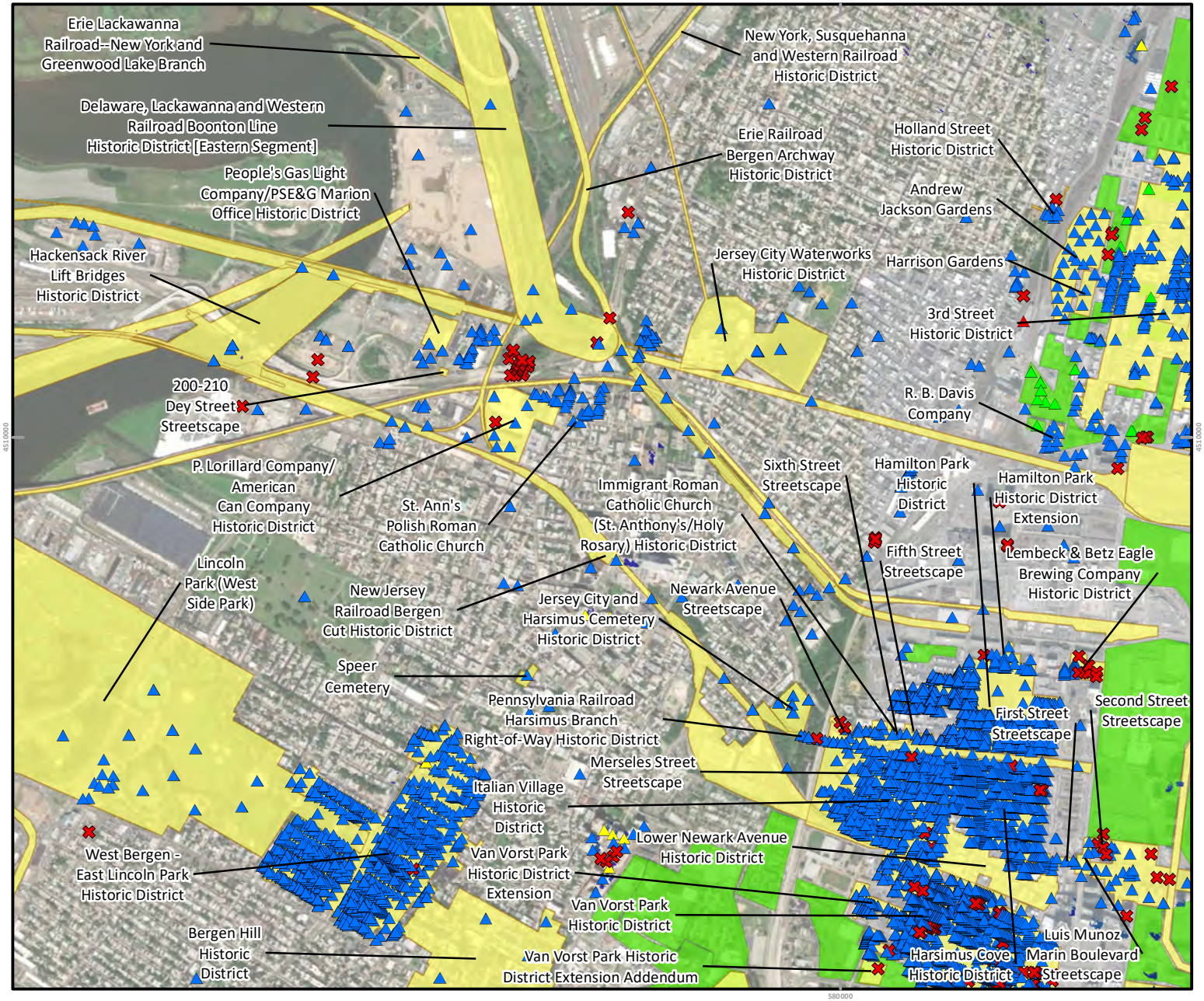
0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



Data Sources: BOEM, ESRI, NOAA, NJ DEP
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

NOT FOR CONSTRUCTION



EMPIRE OFFSHORE WIND LEASE: OCS-A 0512 EMPIRE WIND PROJECT

equinor

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166m viewshed intensity
High : 174
Low : 0
Historic Property Exlcuded from Effects Assessment
Demolished
Potential visibility based on viewshed modeling
No visibility based on viewshed modeling
Within Superstorm Sandy Green Zone
Not eligible
Historic District
Superstorm Sandy Green Zone Area

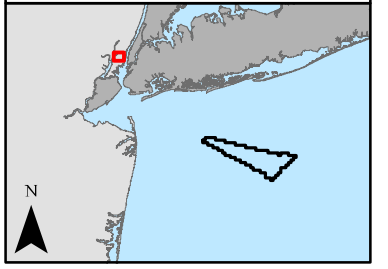
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

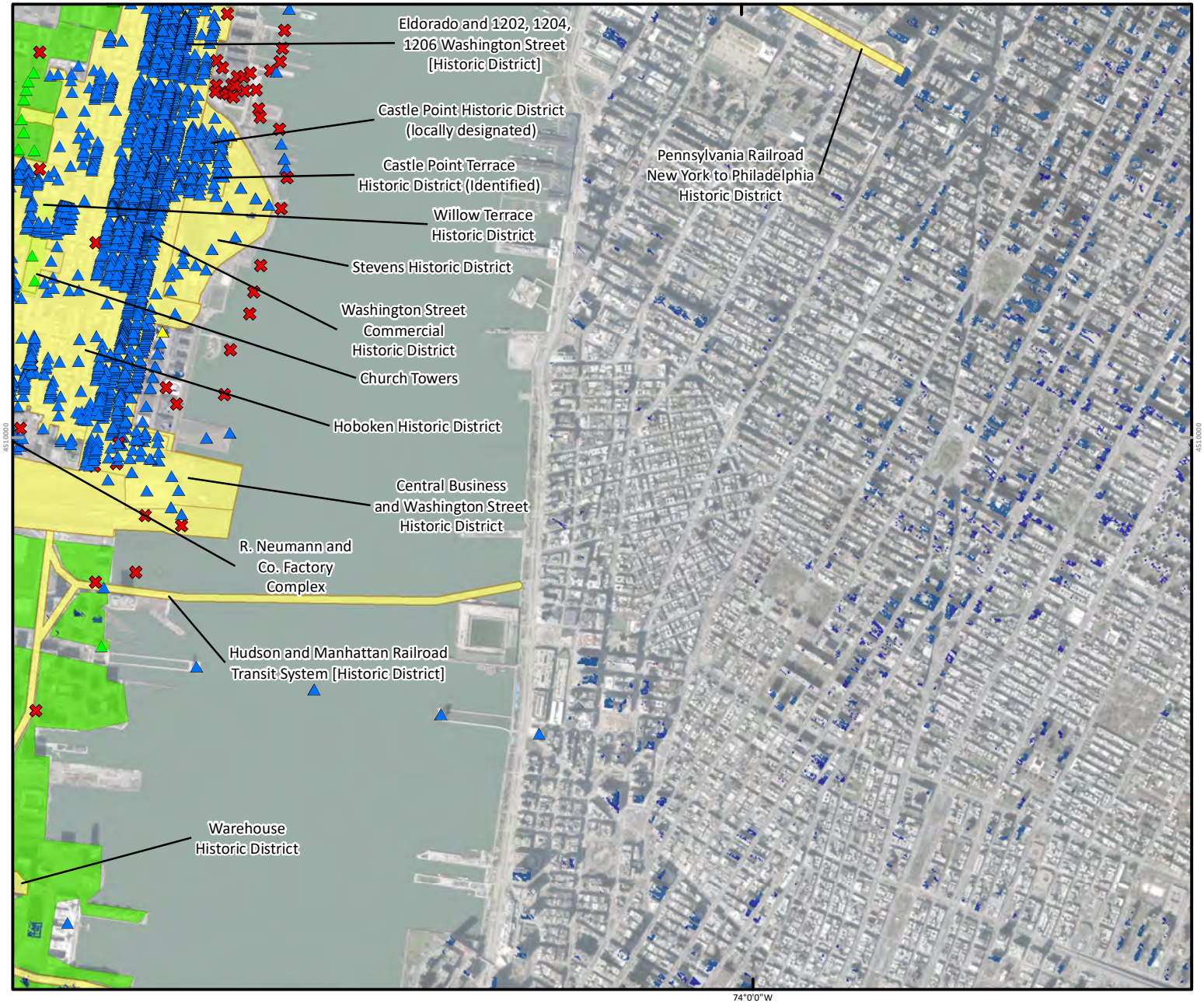
0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



Data Sources: BOEM, ESRI, NOAA, NJ DEP
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

NOT FOR CONSTRUCTION



EMPIRE OFFSHORE WIND LEASE: OCS-A 0512 EMPIRE WIND PROJECT

equinor

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166m viewshed intensity
High : 174
Low : 0
Historic Property Exlcuded from Effects Assessment
Demolished
Potential visibility based on viewshed modeling
No visibility based on viewshed modeling
Within Superstorm Sandy Green Zone
Historic District
Superstorm Sandy Green Zone Area

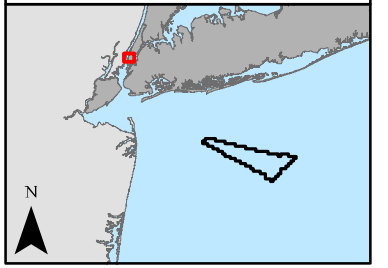
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



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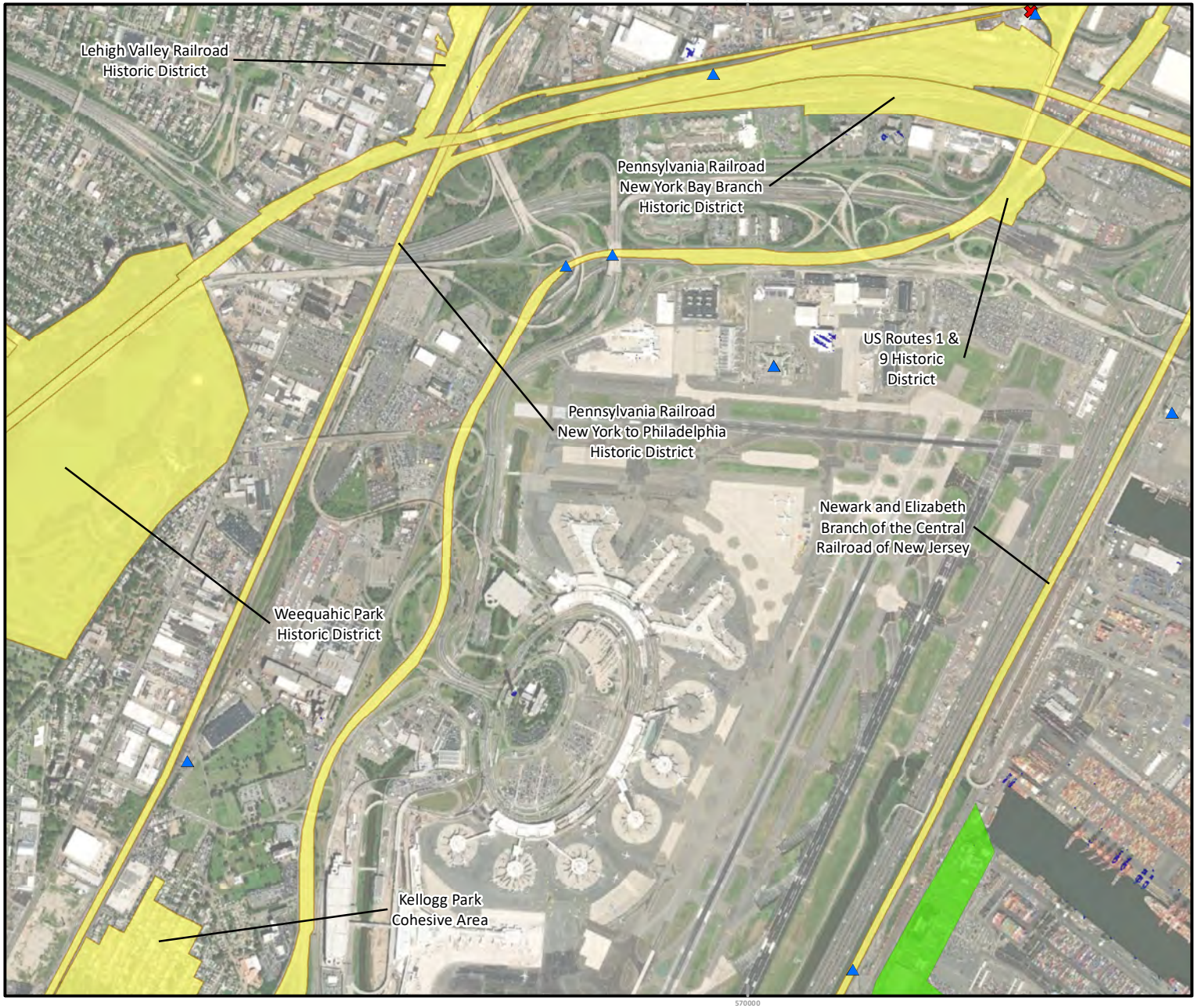

EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

equinor

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Date	November 2, 2022
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0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

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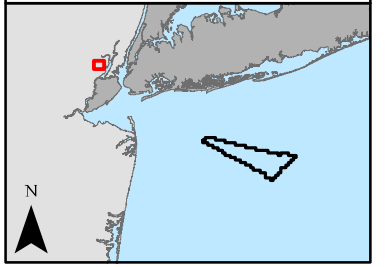

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NOT FOR CONSTRUCTION

EMPIRE OFFSHORE WIND LEASE: OCS-A 0512 EMPIRE WIND PROJECT

equinor

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
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166m viewshed intensity
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Historic District

Date	November 2, 2022
File/Job Number	194-1247-0001
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0 0.1 0.2 0.3 0.4 0.5 Miles

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0 0.2 0.4 0.6 0.8 Kilometers

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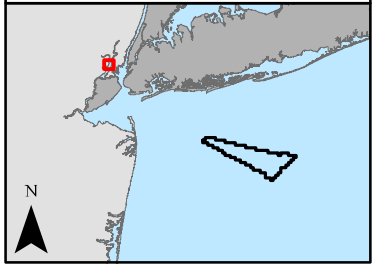

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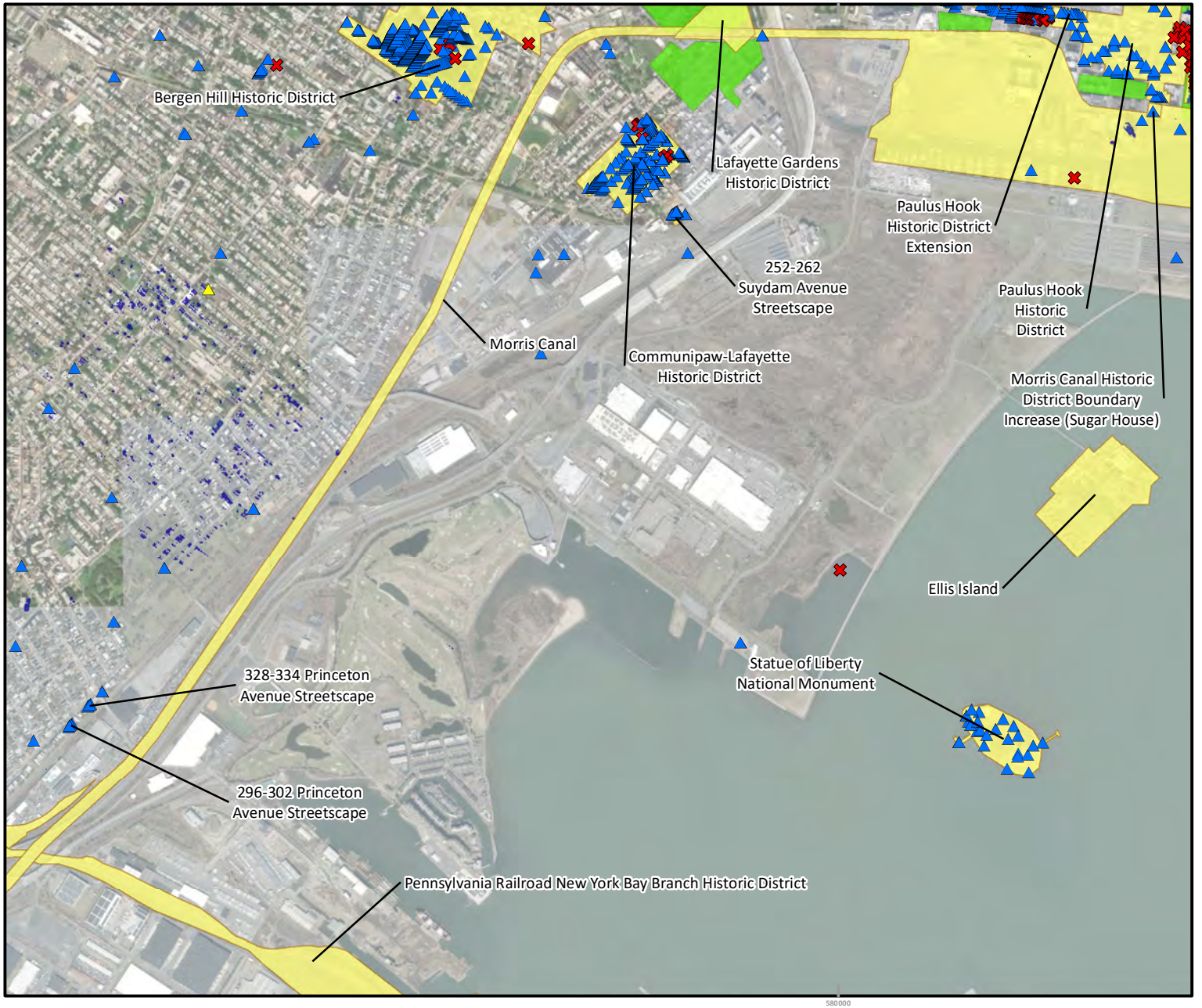

EMPIRE OFFSHORE WIND LEASE: OCS-A 0512 EMPIRE WIND PROJECT

equinor

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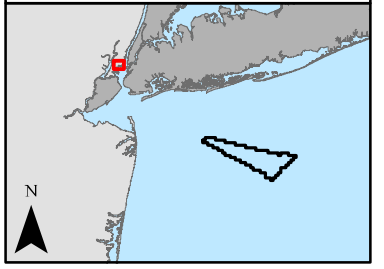

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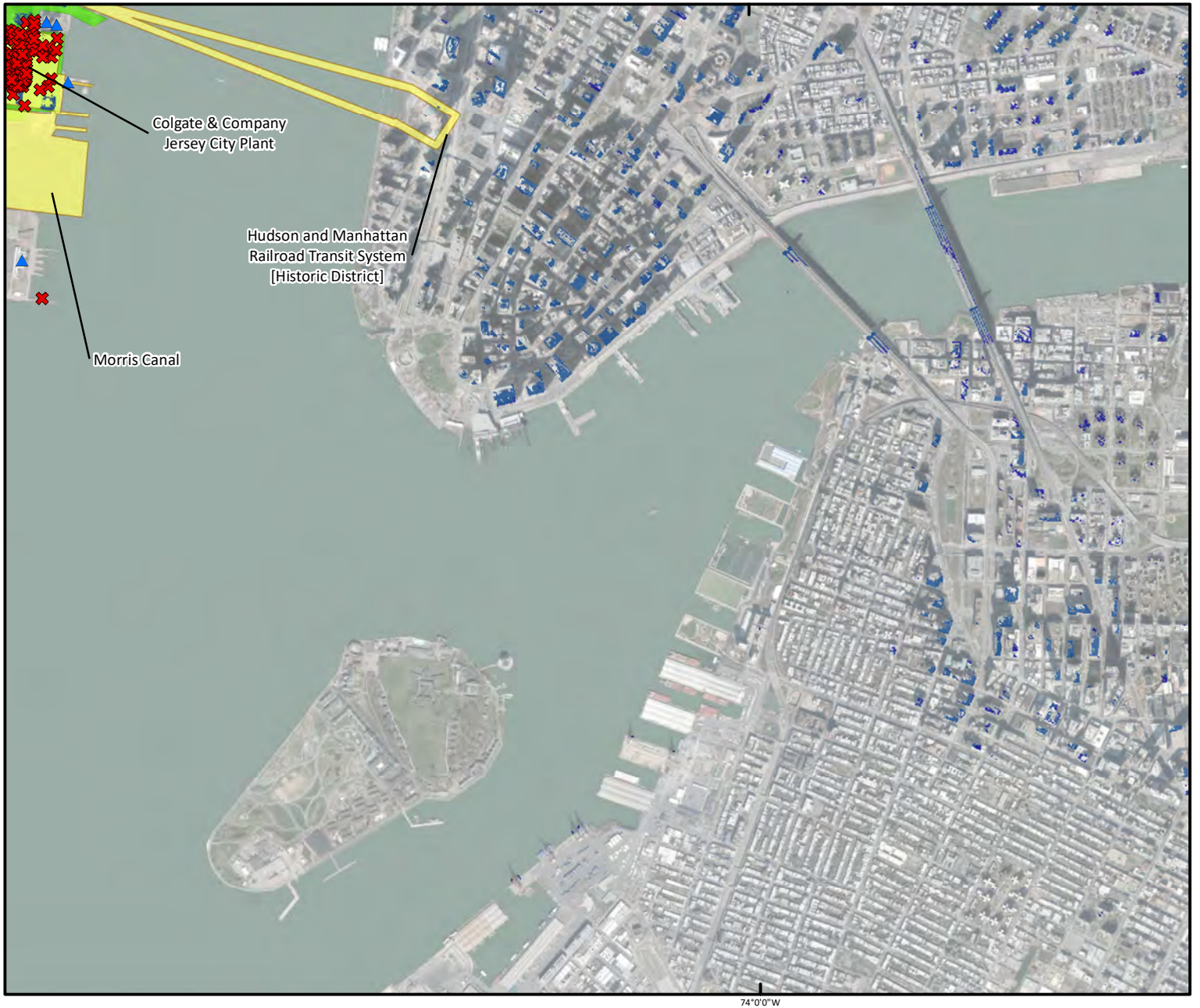

EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

equinor

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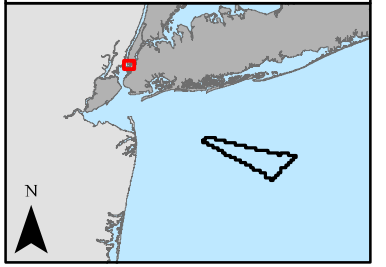

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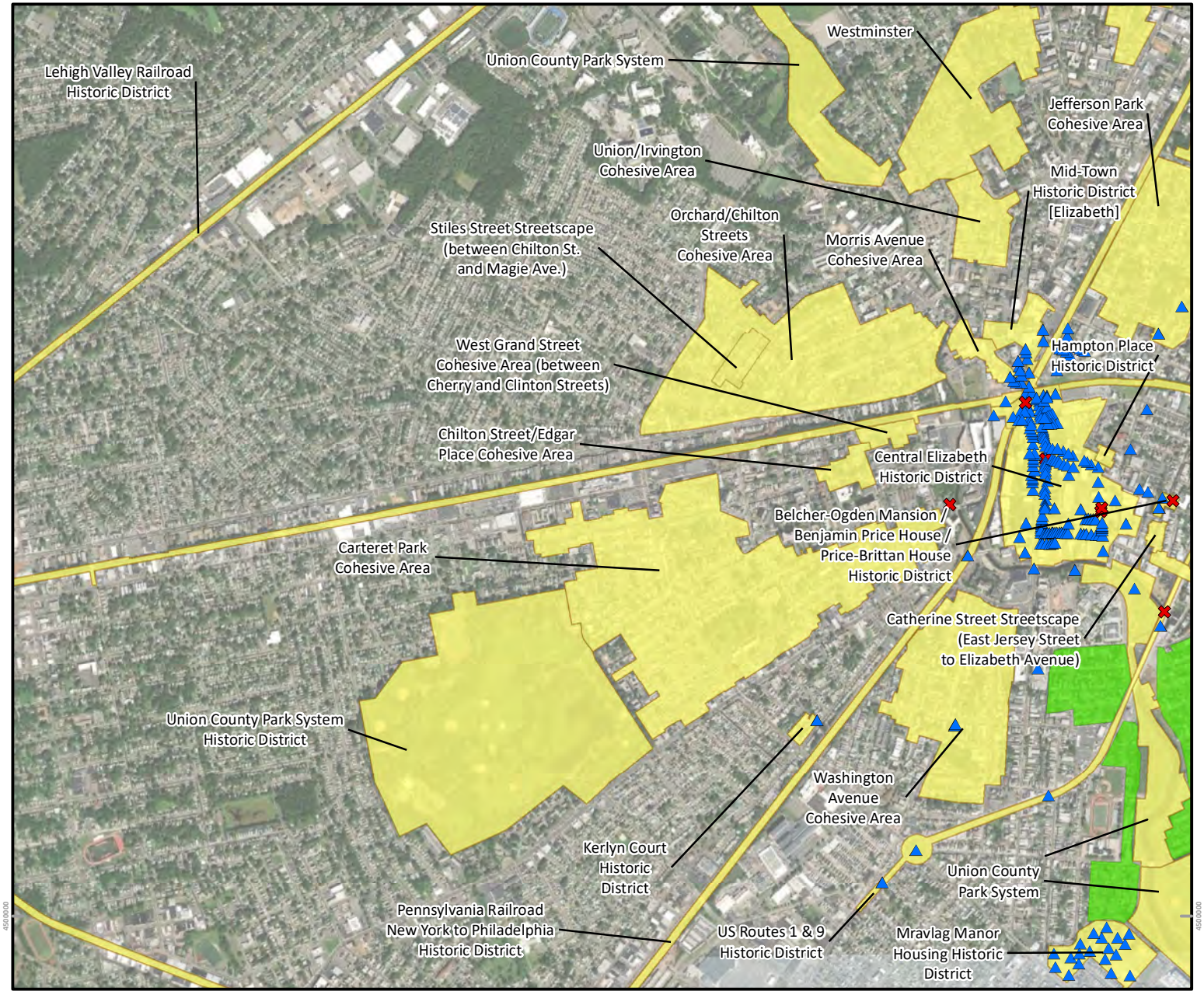

EMPIRE OFFSHORE WIND LEASE: OCS-A 0512 EMPIRE WIND PROJECT

equinor

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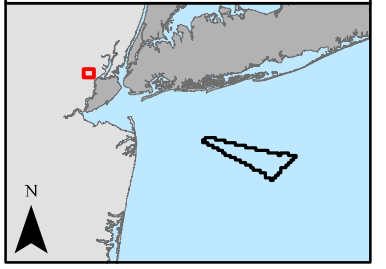

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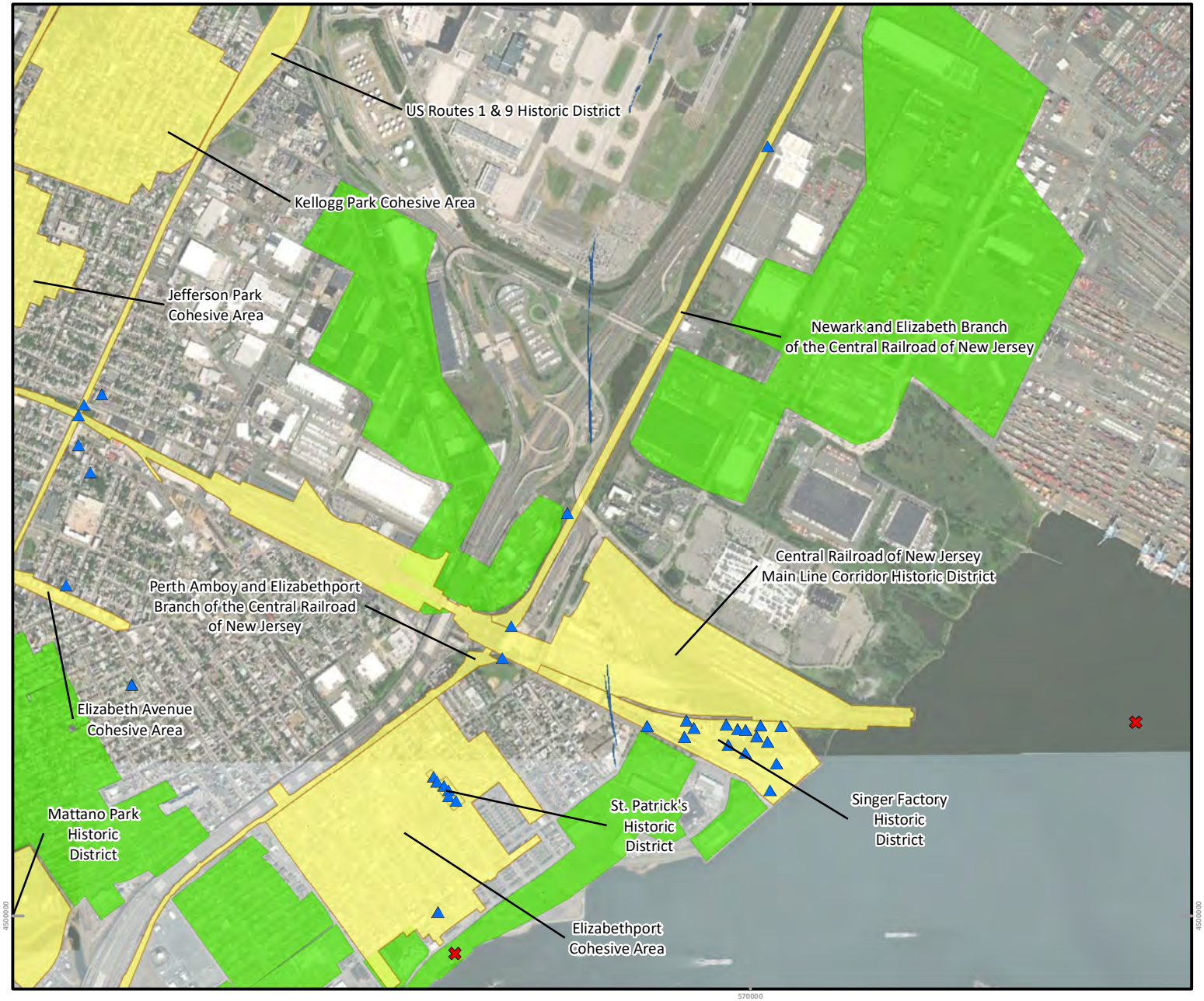

EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

equinor

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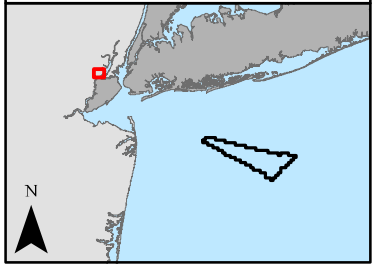

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NOT FOR CONSTRUCTION

EMPIRE OFFSHORE WIND LEASE: OCS-A 0512 EMPIRE WIND PROJECT

equinor

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Historic District
Superstorm Sandy Green Zone Area

Date	November 2, 2022
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0 0.1 0.2 0.3 0.4 0.5 Miles

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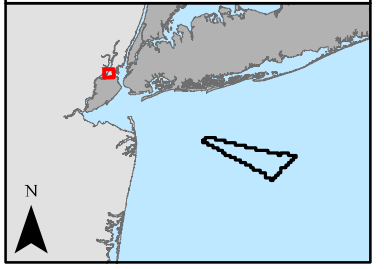

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EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

equinor

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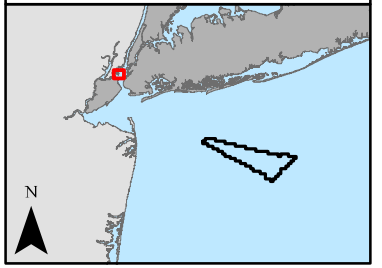

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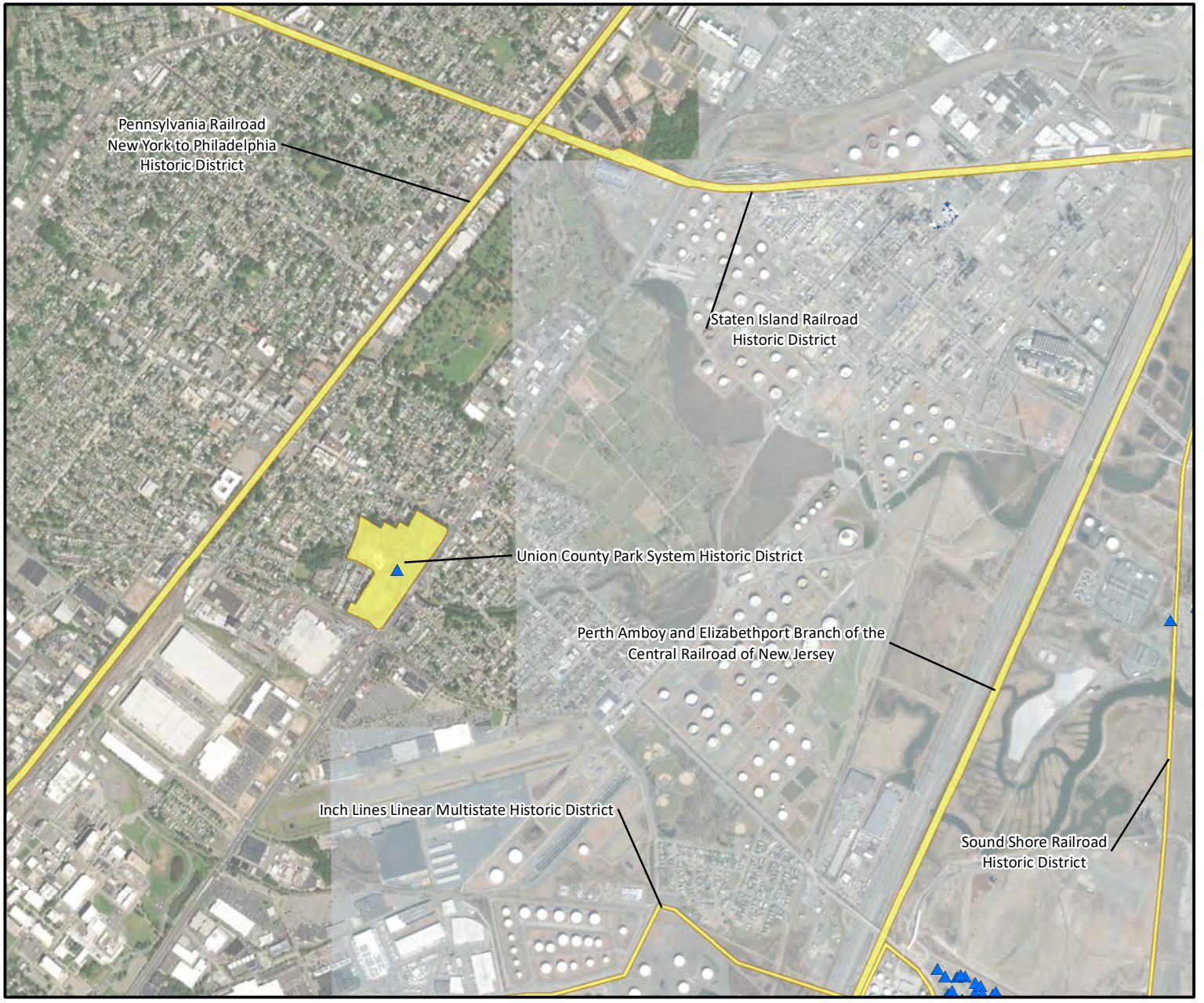

EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

equinor

Offshore AVEHAP PAPE [290-m viewshed intensity]
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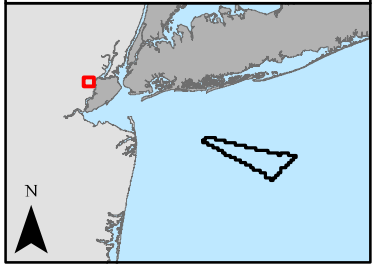

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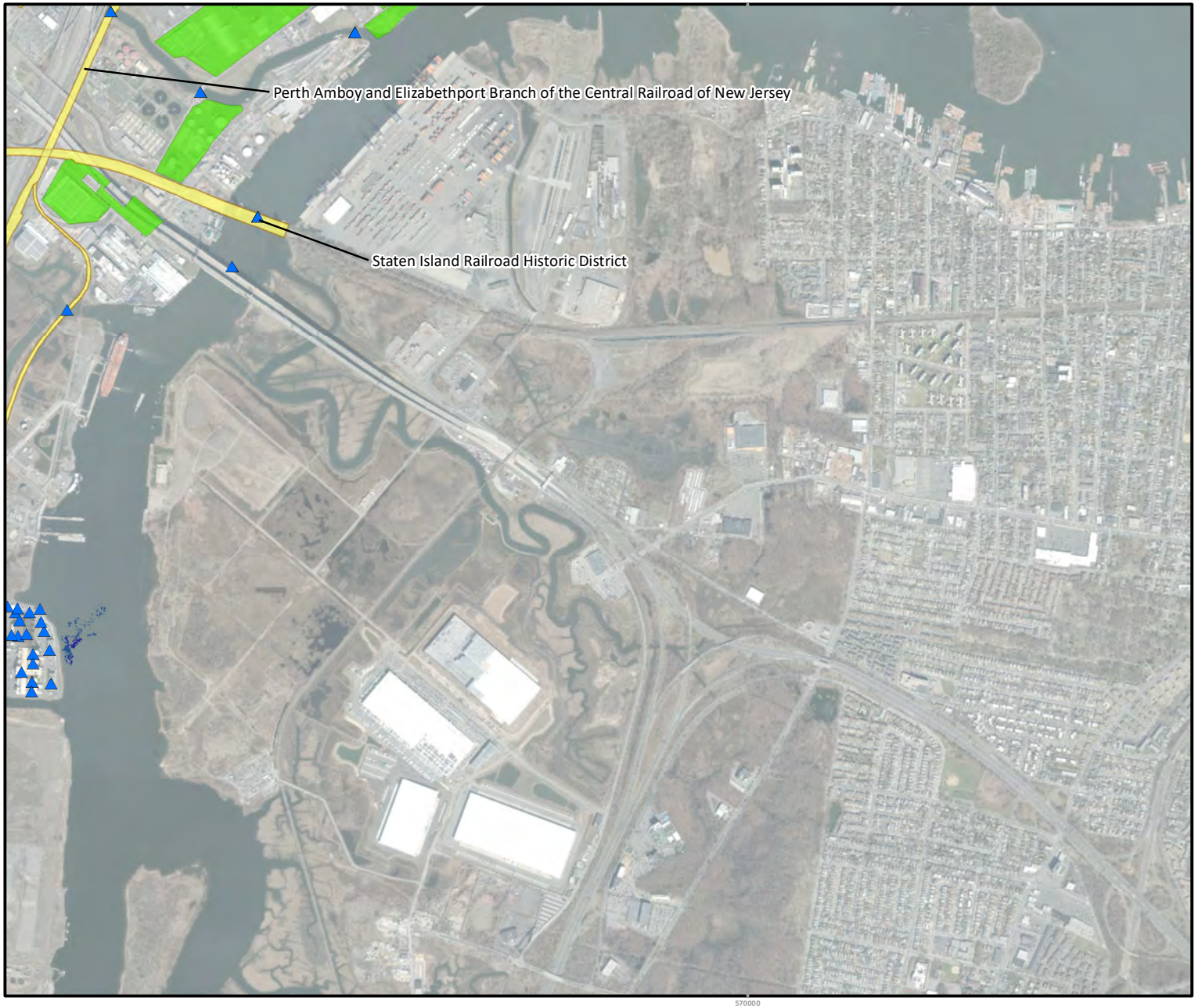

EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
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Historic District
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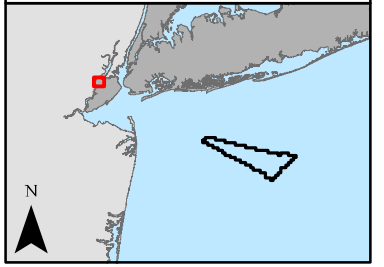

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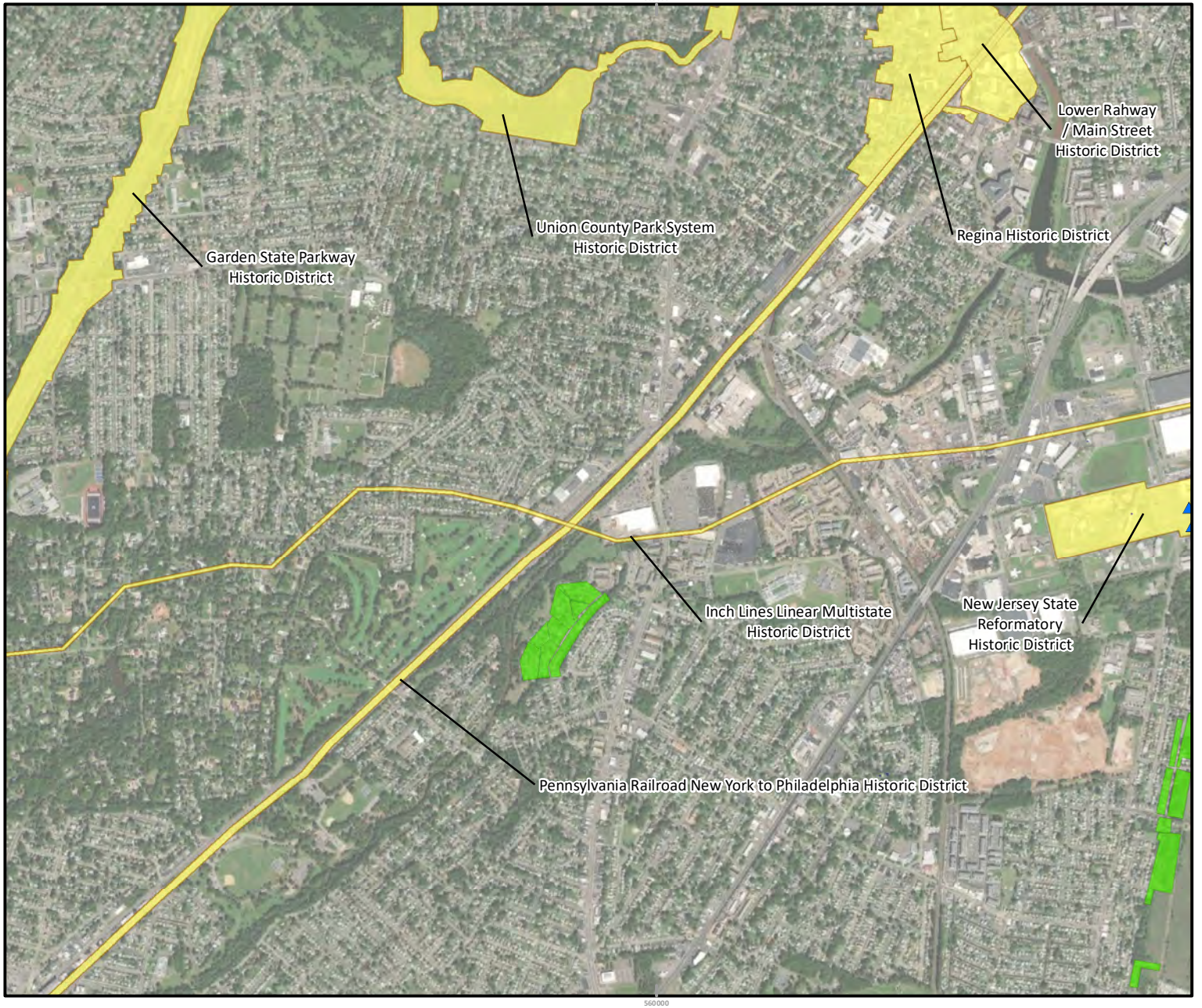

EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

equinor

Offshore AVEHAP PAPE [290-m viewshed intensity]
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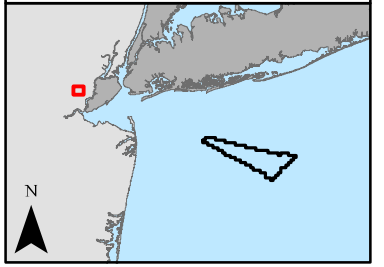

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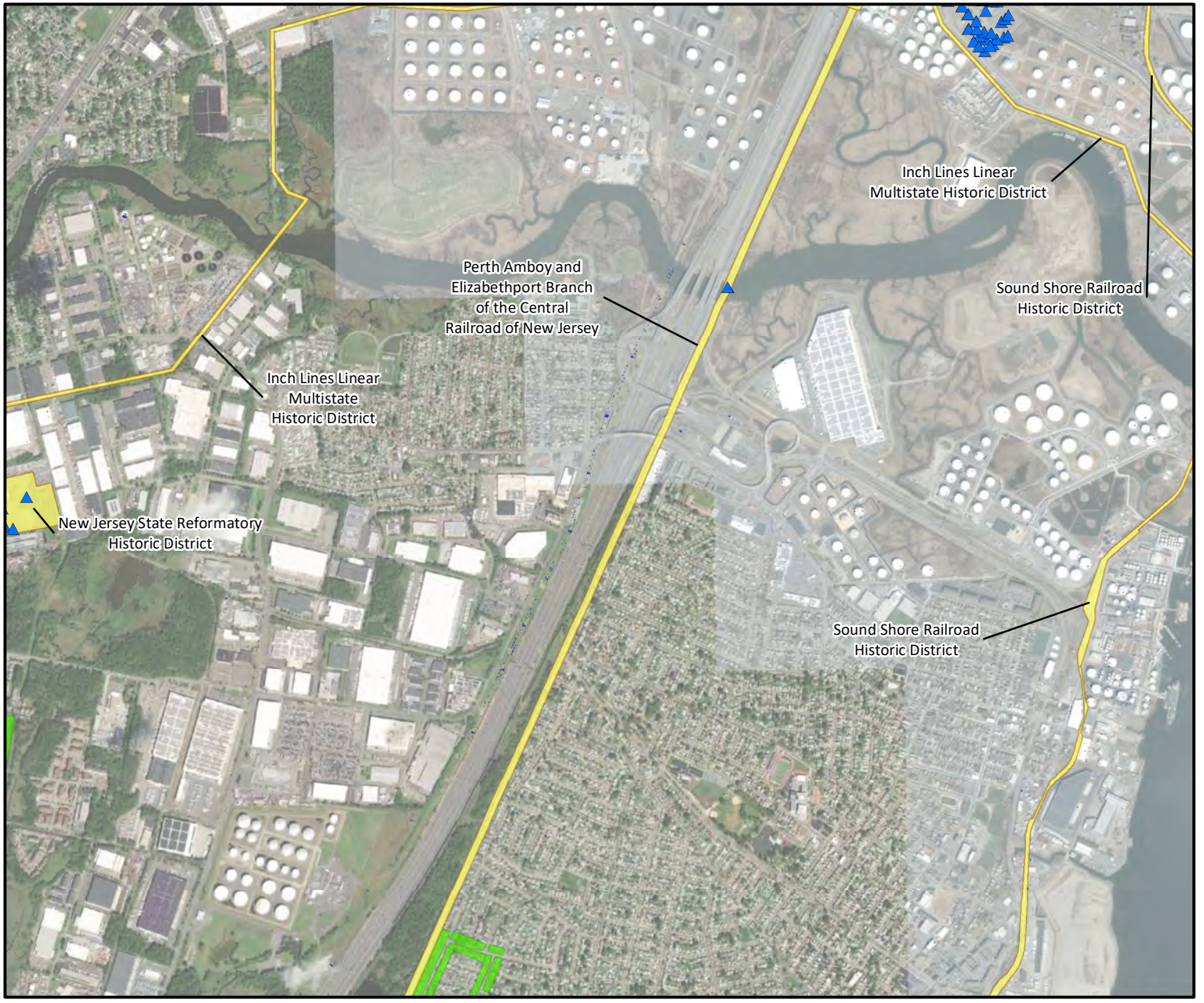

EMPIRE OFFSHORE WIND
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EMPIRE WIND PROJECT

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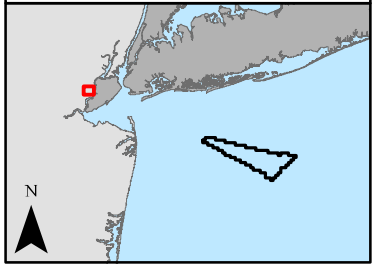

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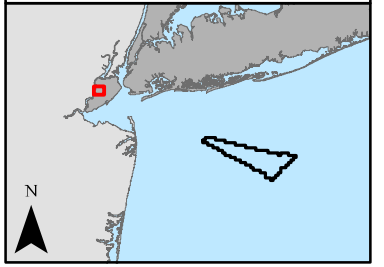

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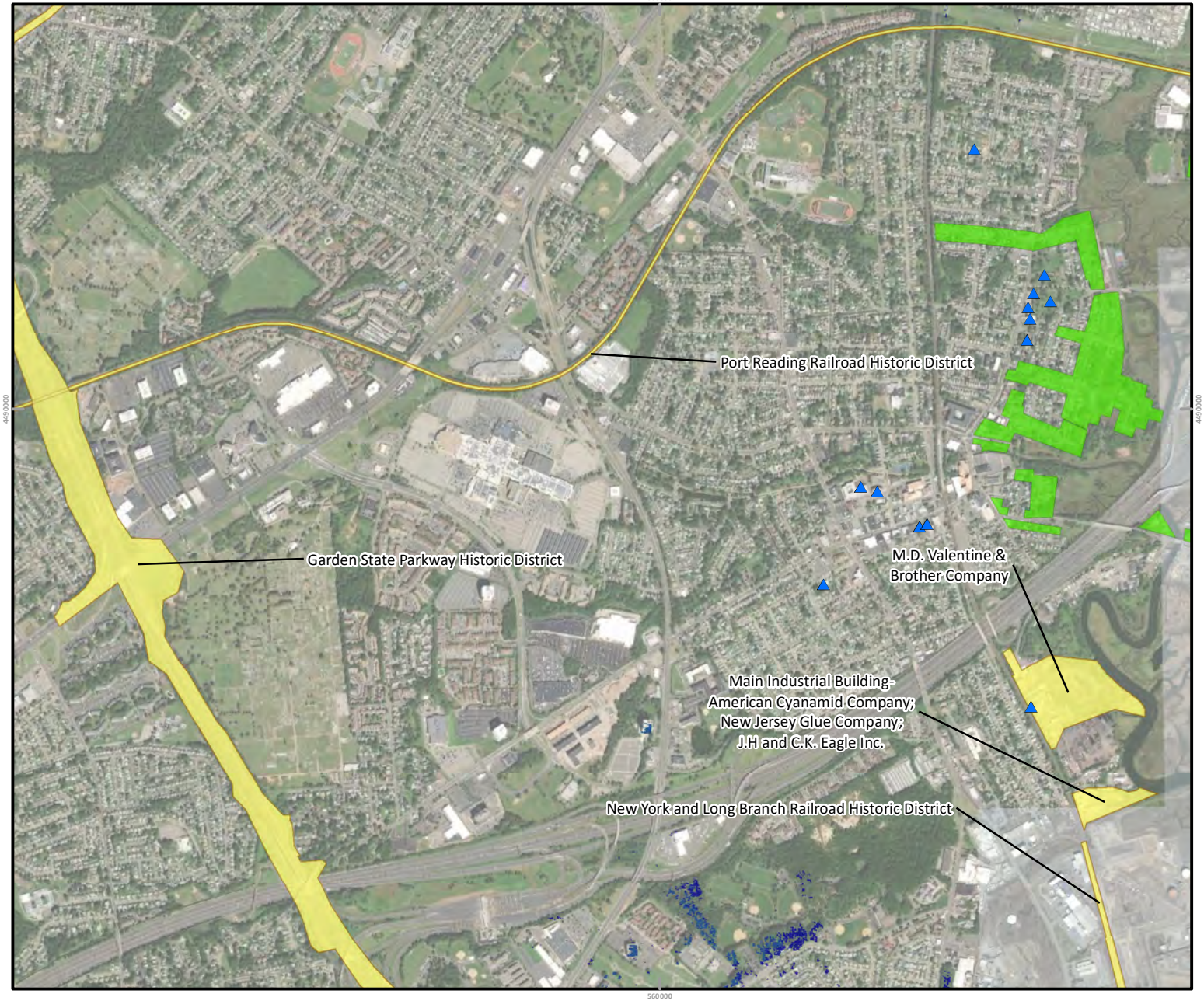

EMPIRE OFFSHORE WIND
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equinor

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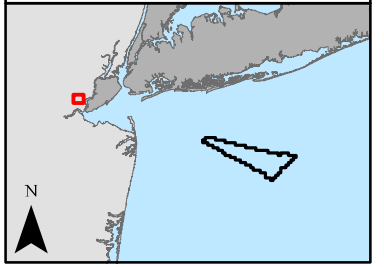

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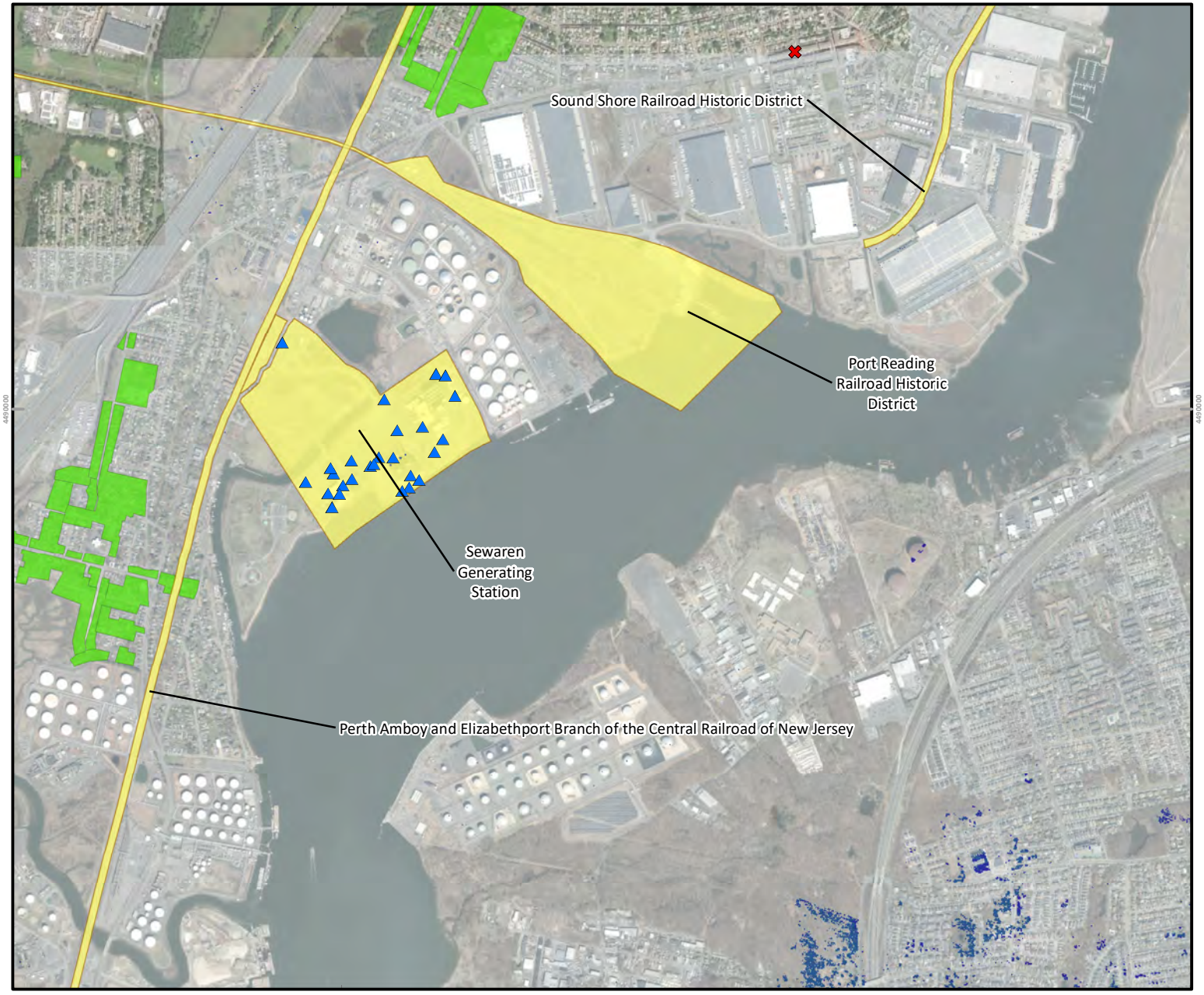

EMPIRE OFFSHORE WIND LEASE: OCS-A 0512 EMPIRE WIND PROJECT

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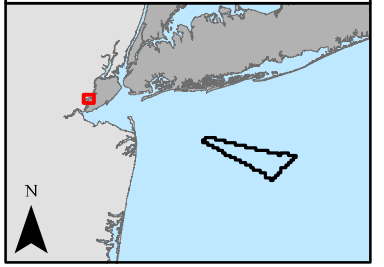
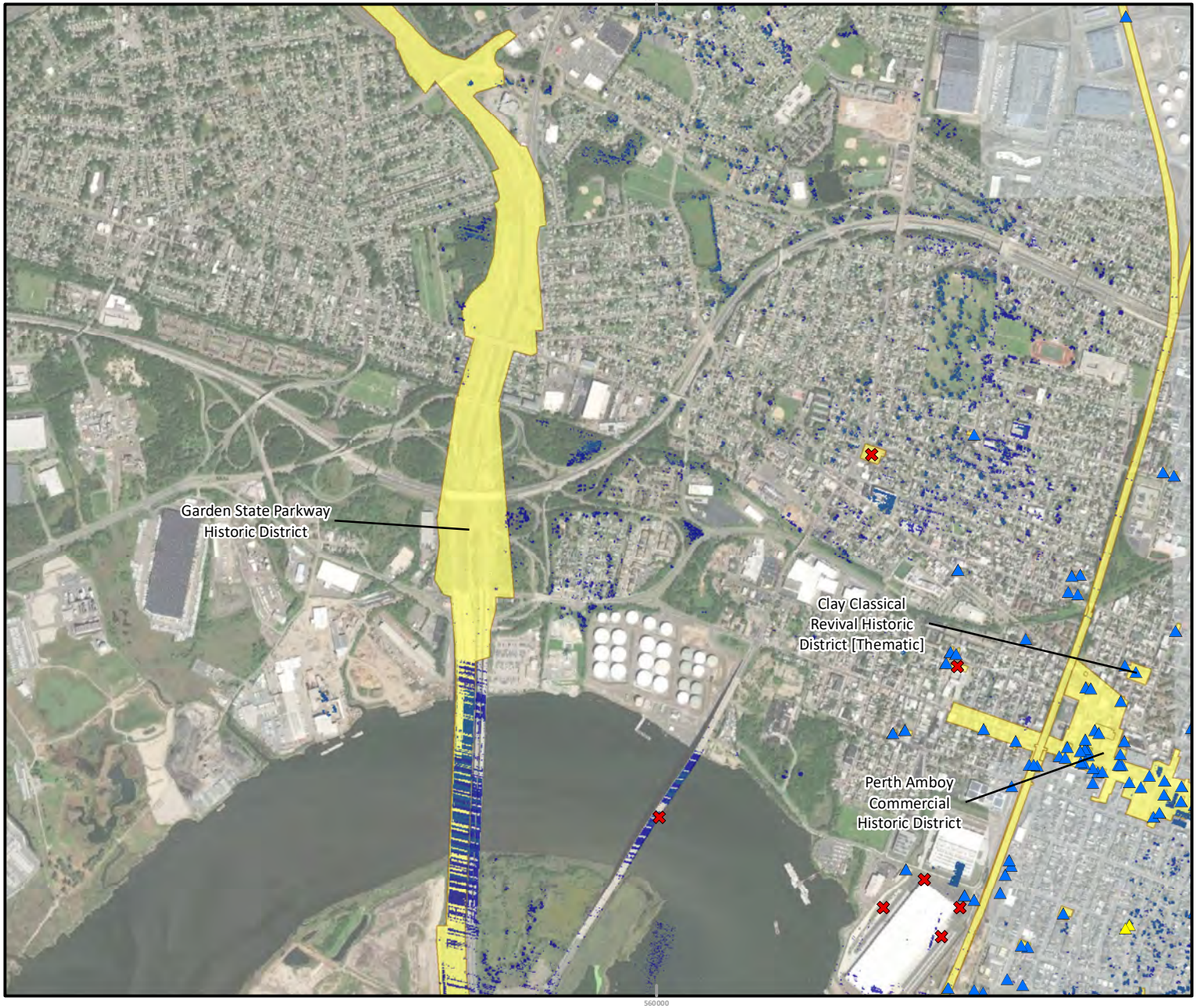
0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



Data Sources: BOEM, ESRI, NOAA, NJ DEP
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

NOT FOR CONSTRUCTION



EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

equinor

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166m viewshed intensity
High : 174
Low : 0
Historic Property Exlcuded from Effects Assessment
Demolished
Potential visibility based on viewshed modeling
No visibility based on viewshed modeling
Historic District

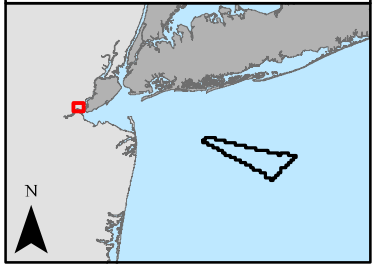
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



Data Sources: BOEM, ESRI, NOAA, NJ DEP
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

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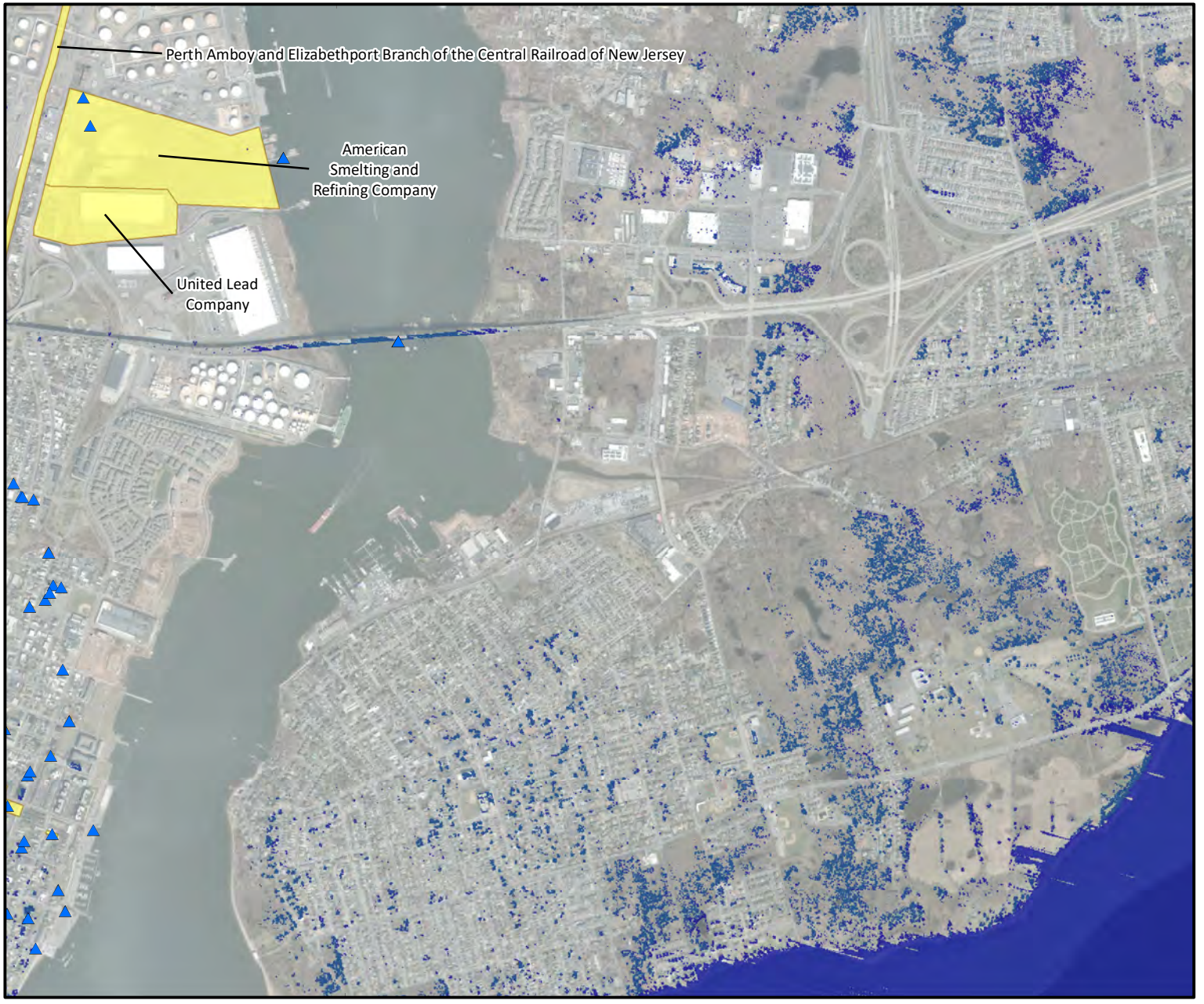


EMPIRE OFFSHORE WIND LEASE: OCS-A 0512 EMPIRE WIND PROJECT

equinor

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166m viewshed intensity
High : 174
Low : 0
Historic Property Exlcuded from Effects Assessment
No visibility based on viewshed modeling
Historic District

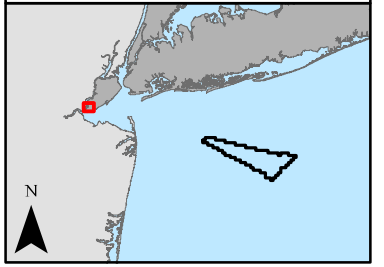
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



Data Sources: BOEM, ESRI, NOAA, NJ DEP
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

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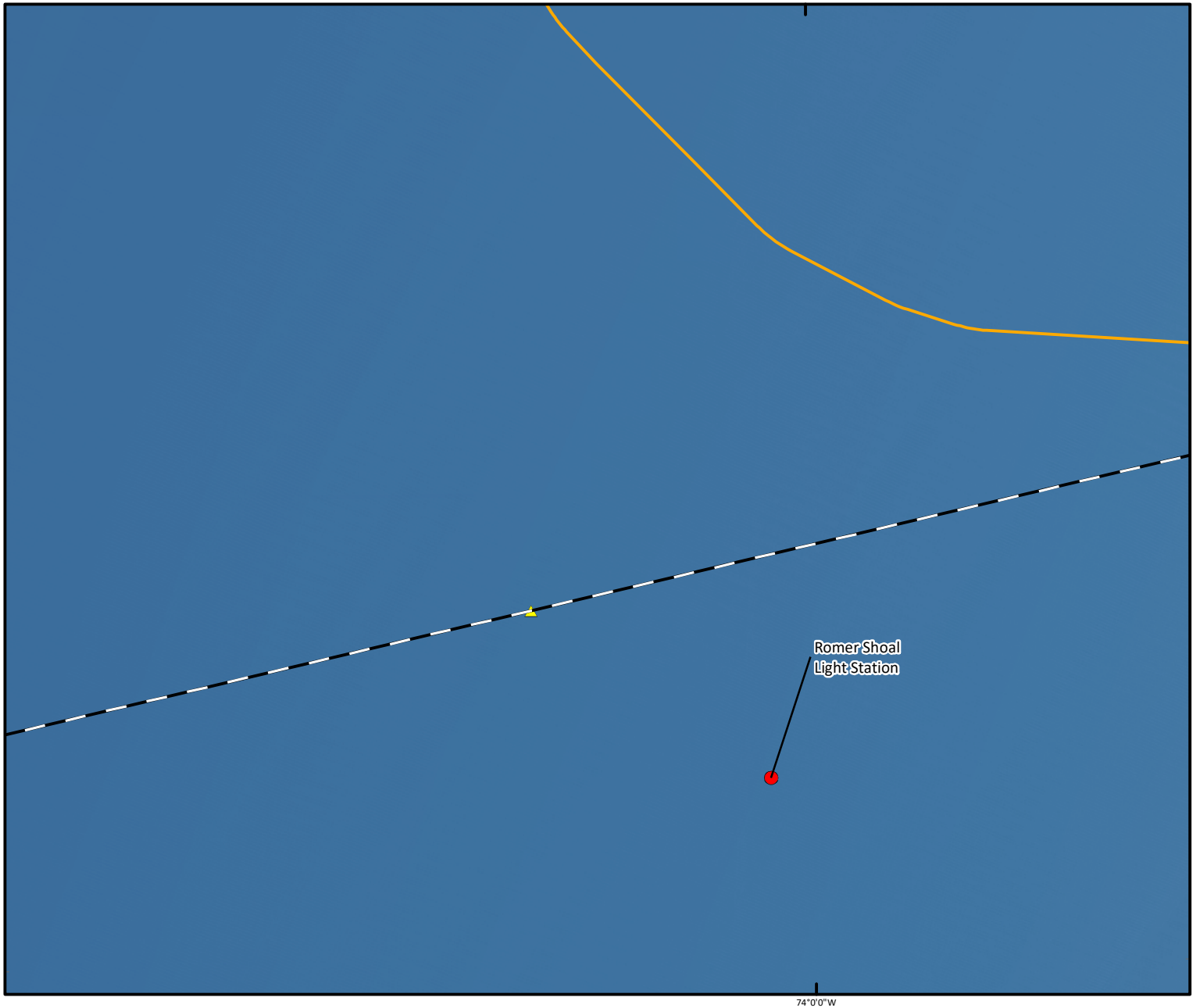


EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166m viewshed intensity
High : 174
Low : 0
Historic Property Included in Effects Assessment
Recommended Adverse Effect
Historic Property Exlcuded from Effects Assessment
Potential visibility based on viewshed modeling
EW 1 Submarine Export Cable Route
State Territorial Waters Boundary

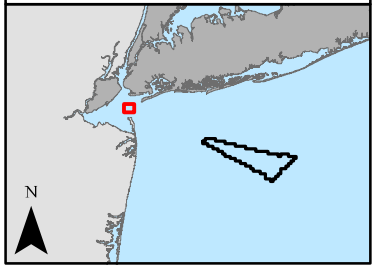
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



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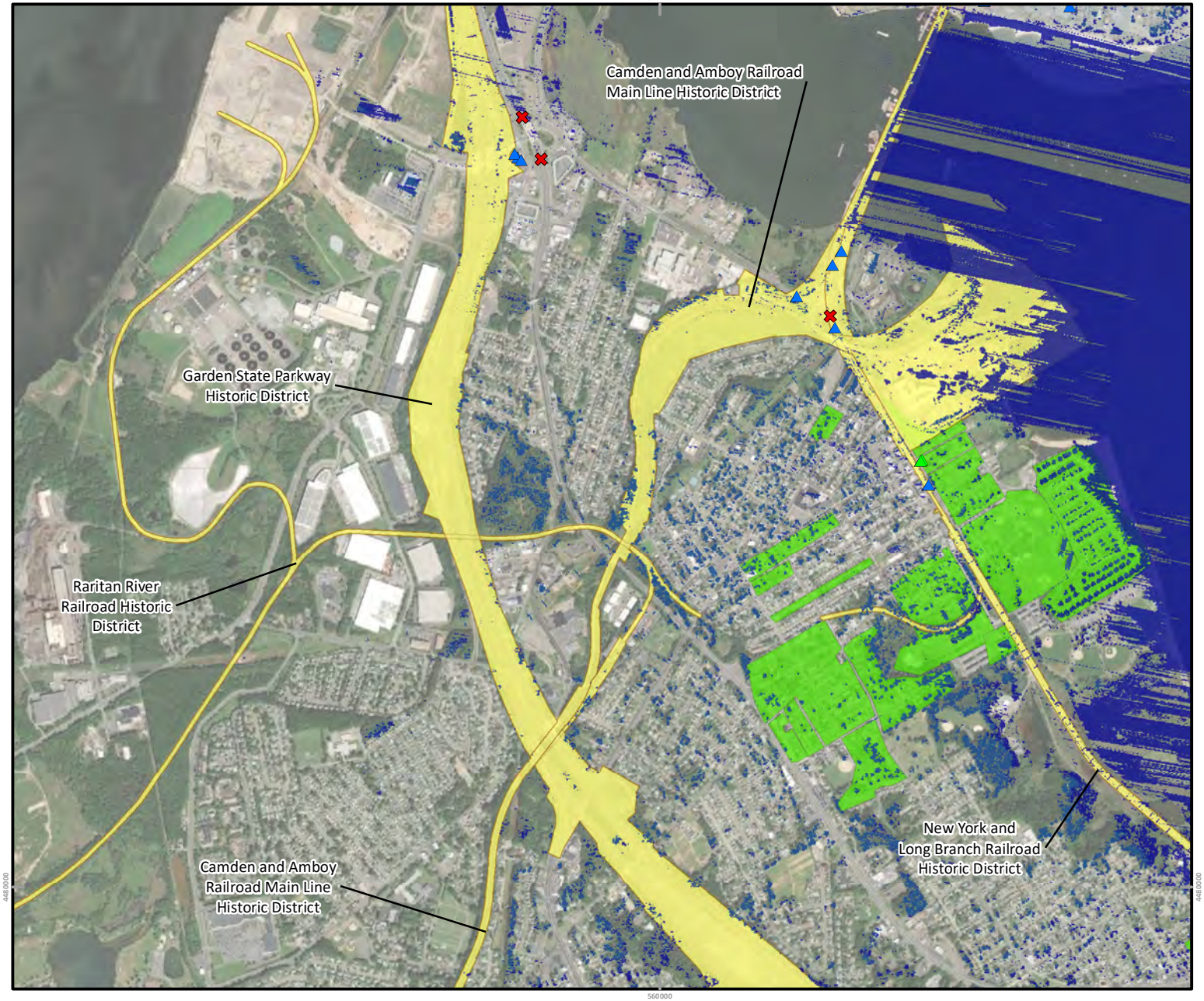
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

NOT FOR CONSTRUCTION



EMPIRE OFFSHORE WIND LEASE: OCS-A 0512 EMPIRE WIND PROJECT

equinor

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166m viewshed intensity
High : 174
Low : 0
Historic Property Exlcuded from Effects Assessment
Demolished
No visibility based on viewshed modeling
Within Superstorm Sandy Green Zone
Historic District
Superstorm Sandy Green Zone Area

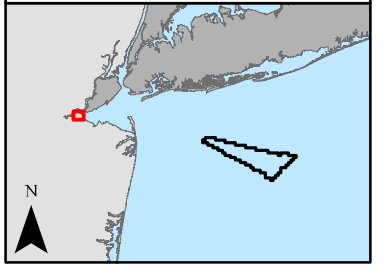
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



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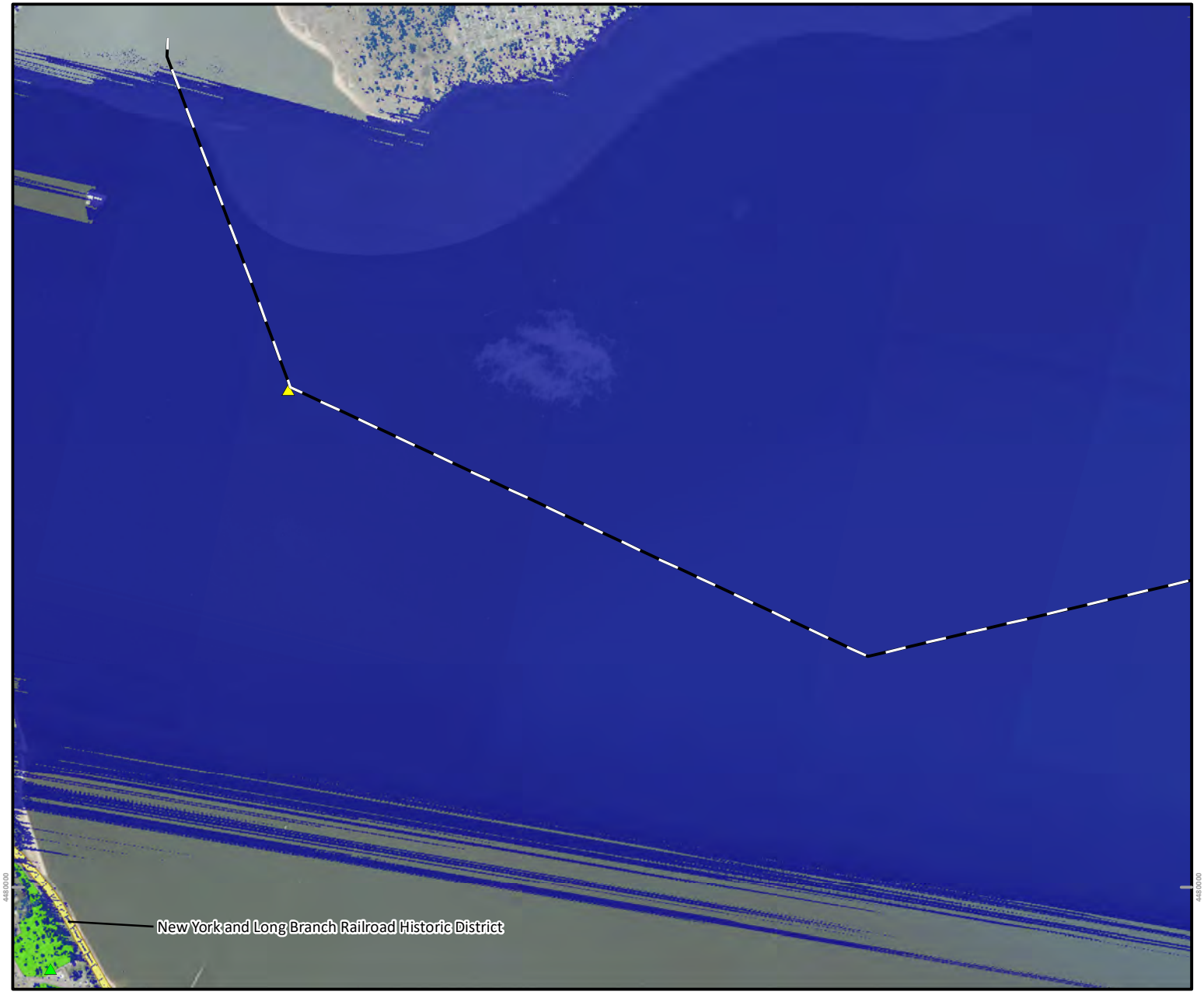
NOT FOR CONSTRUCTION



EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166m viewshed intensity
High : 174
Low : 0
Historic Property Exlcuded from Effects Assessment
Potential visibility based on viewshed modeling
Within Superstorm Sandy Green Zone
Historic District
Superstorm Sandy Green Zone Area
State Territorial Waters Boundary

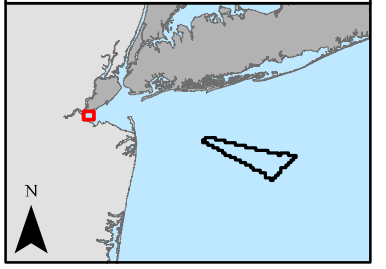
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



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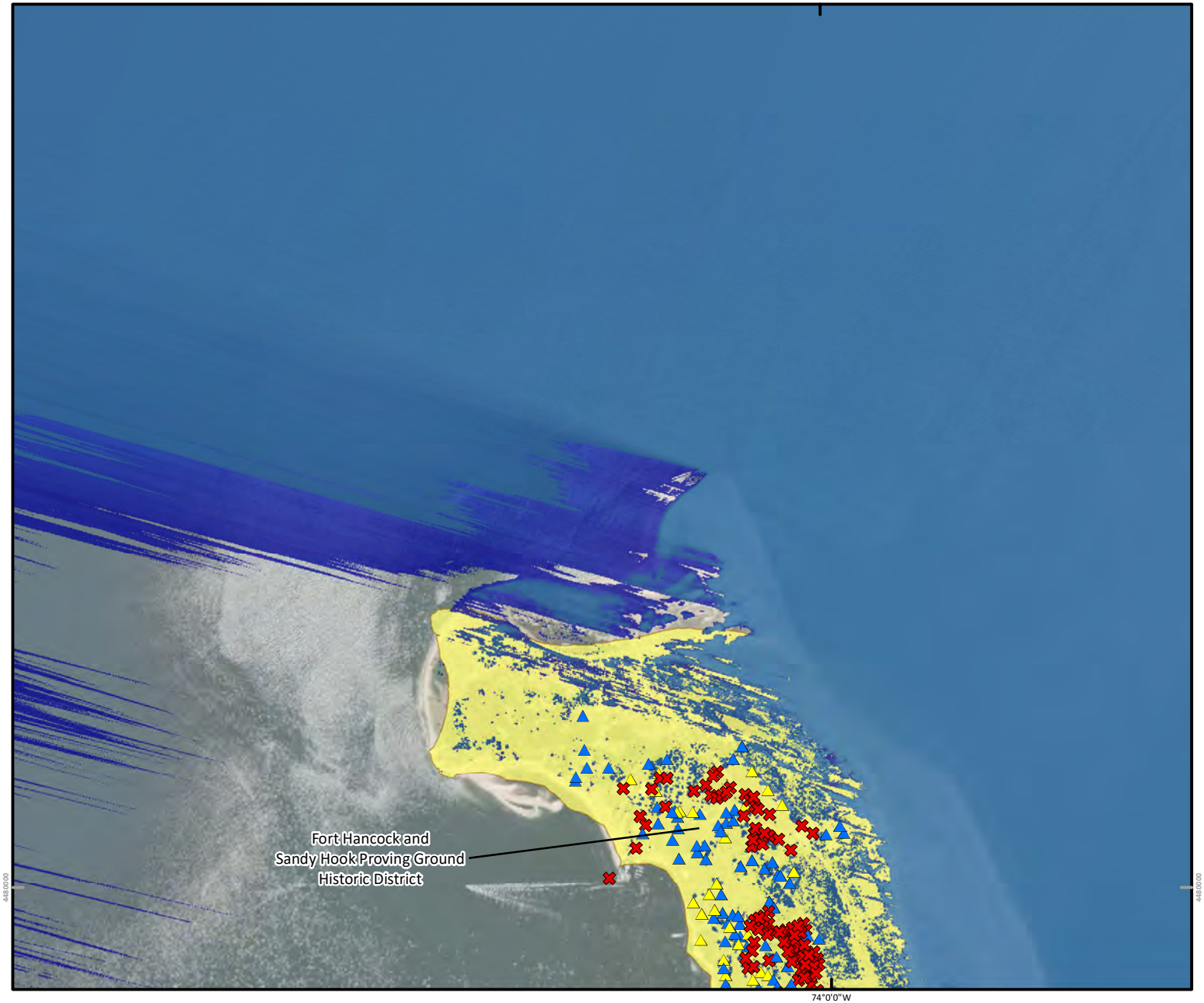
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

NOT FOR CONSTRUCTION



EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

equinor

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166m viewshed intensity
High : 174
Low : 0
Historic Property Exlcuded from Effects Assessment
Demolished
Potential visibility based on viewshed modeling
No visibility based on viewshed modeling
Historic District

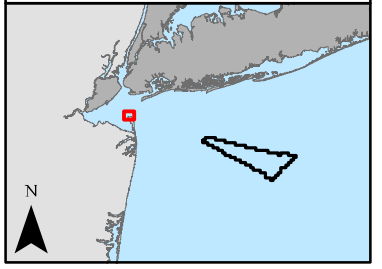
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



Data Sources: BOEM, ESRI, NOAA, NJ DEP
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

NOT FOR CONSTRUCTION

EMPIRE OFFSHORE WIND LEASE: OCS-A 0512 EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166m viewshed intensity
High : 174
Low : 0
Historic District

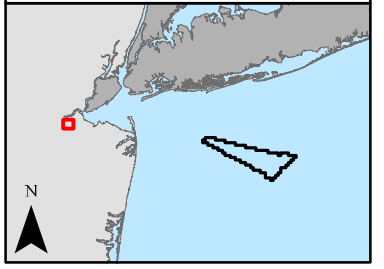
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



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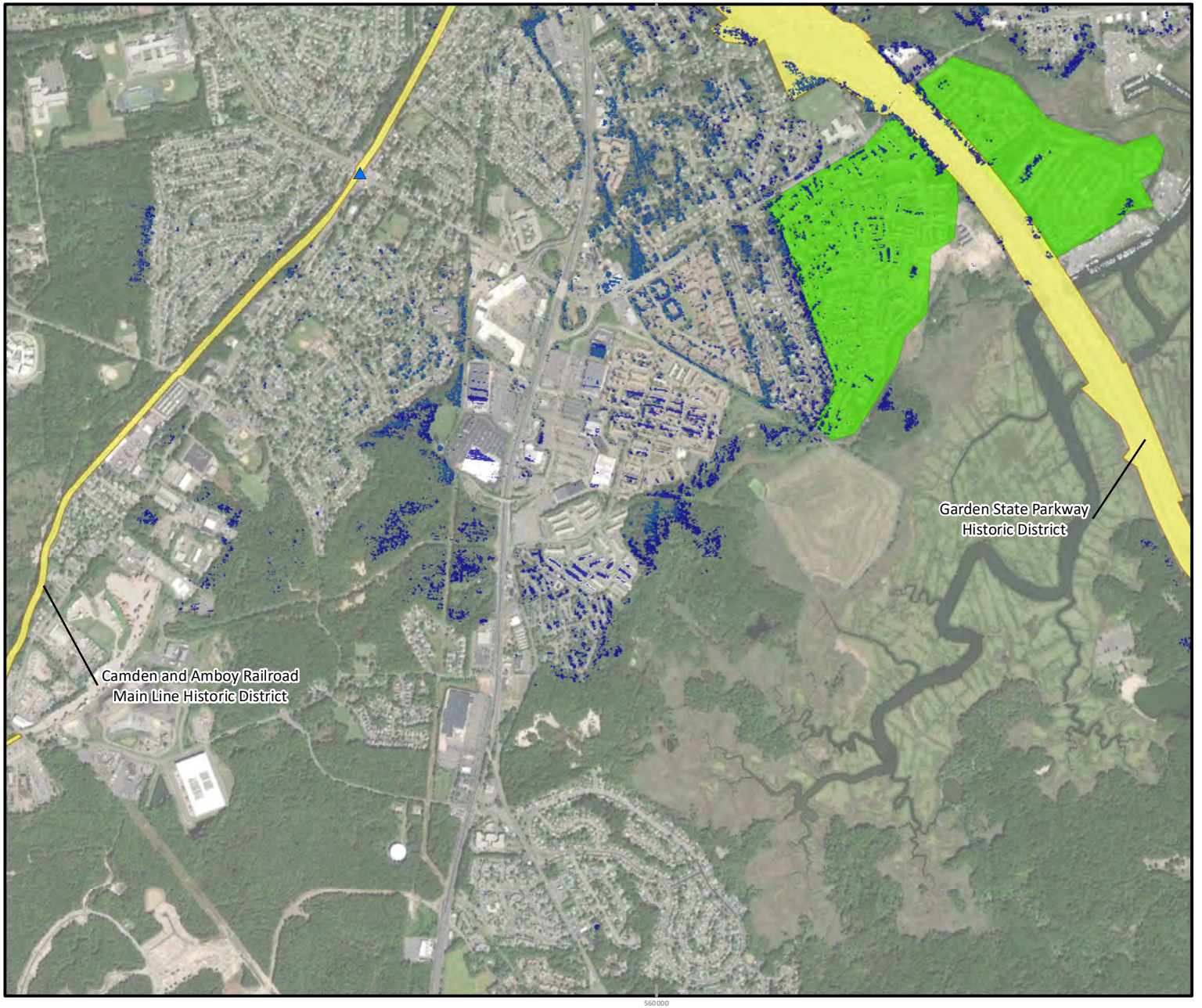


EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

equinor

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166m viewshed intensity
High : 174
Low : 0
Historic Property Exlcuded from Effects Assessment
No visibility based on viewshed modeling
Historic District
Superstorm Sandy Green Zone Area

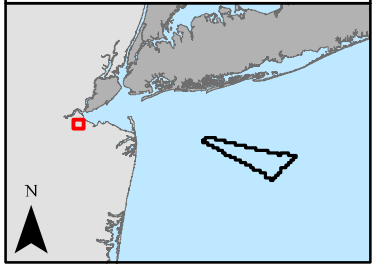
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



Data Sources: BOEM, ESRI, NOAA, NJ DEP
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

NOT FOR CONSTRUCTION

EMPIRE OFFSHORE WIND LEASE: OCS-A 0512 EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166m viewshed intensity
High : 174
Low : 0
Historic Property Exlcuded from Effects Assessment
Demolished
No visibility based on viewshed modeling
Within Superstorm Sandy Green Zone
Historic District
Superstorm Sandy Green Zone Area

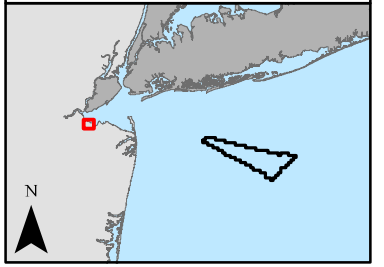
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



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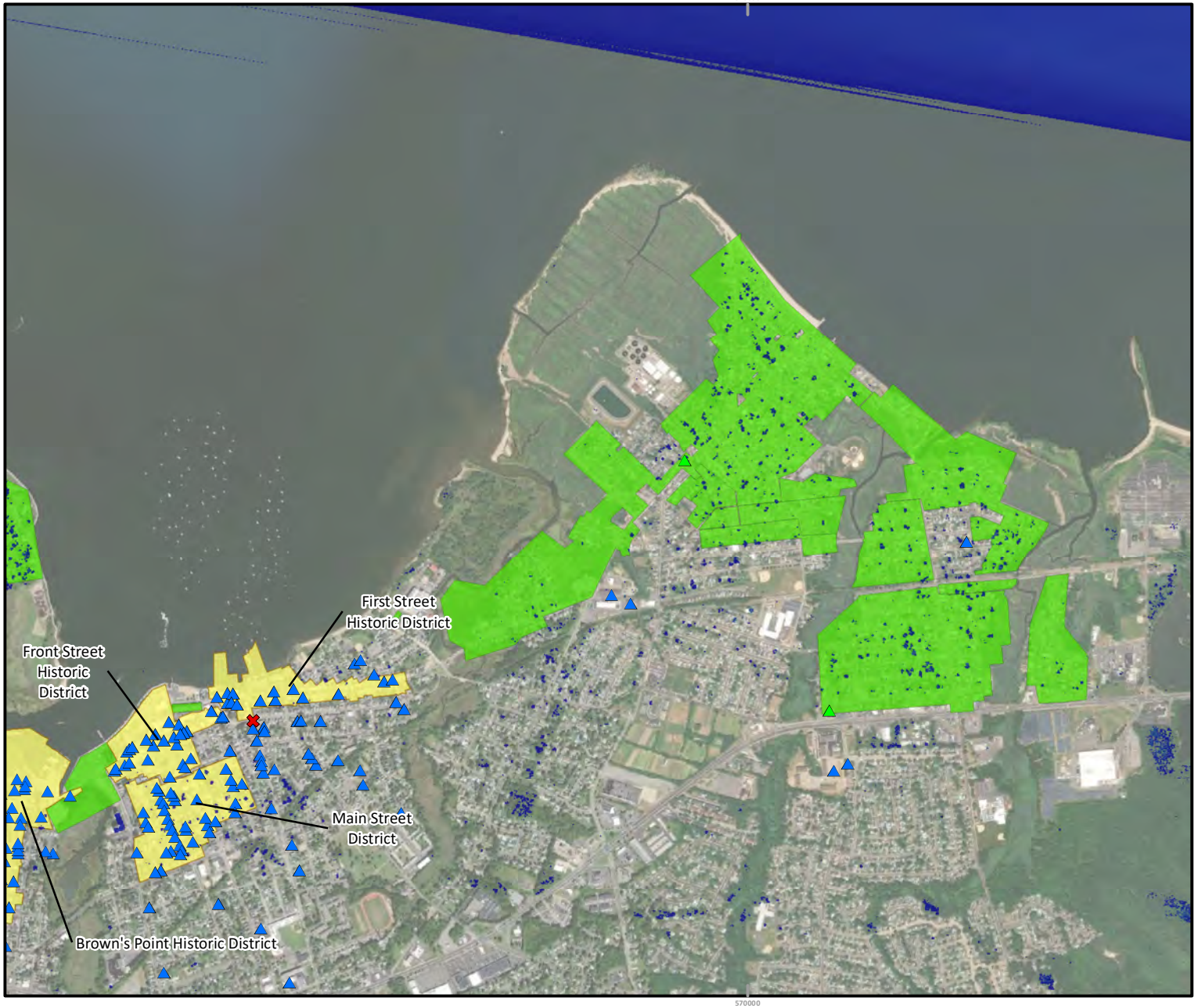


EMPIRE OFFSHORE WIND LEASE: OCS-A 0512 EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0

166m viewshed intensity
High : 174
Low : 0

Historic Property Exlcuded from Effects Assessment
- Demolished
- No visibility based on viewshed modeling
- Within Superstorm Sandy Green Zone
- Historic District
- Superstorm Sandy Green Zone Area

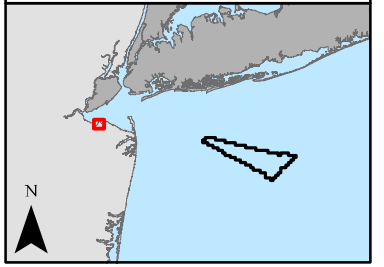
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



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Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

NOT FOR CONSTRUCTION

EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166m viewshed intensity
High : 174
Low : 0
Historic Property Exlcuded from Effects Assessment
Demolished
Potential visibility based on viewshed modeling
No visibility based on viewshed modeling
Within Superstorm Sandy Green Zone
Historic District
Superstorm Sandy Green Zone Area

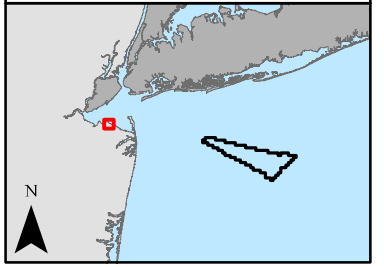
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



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Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

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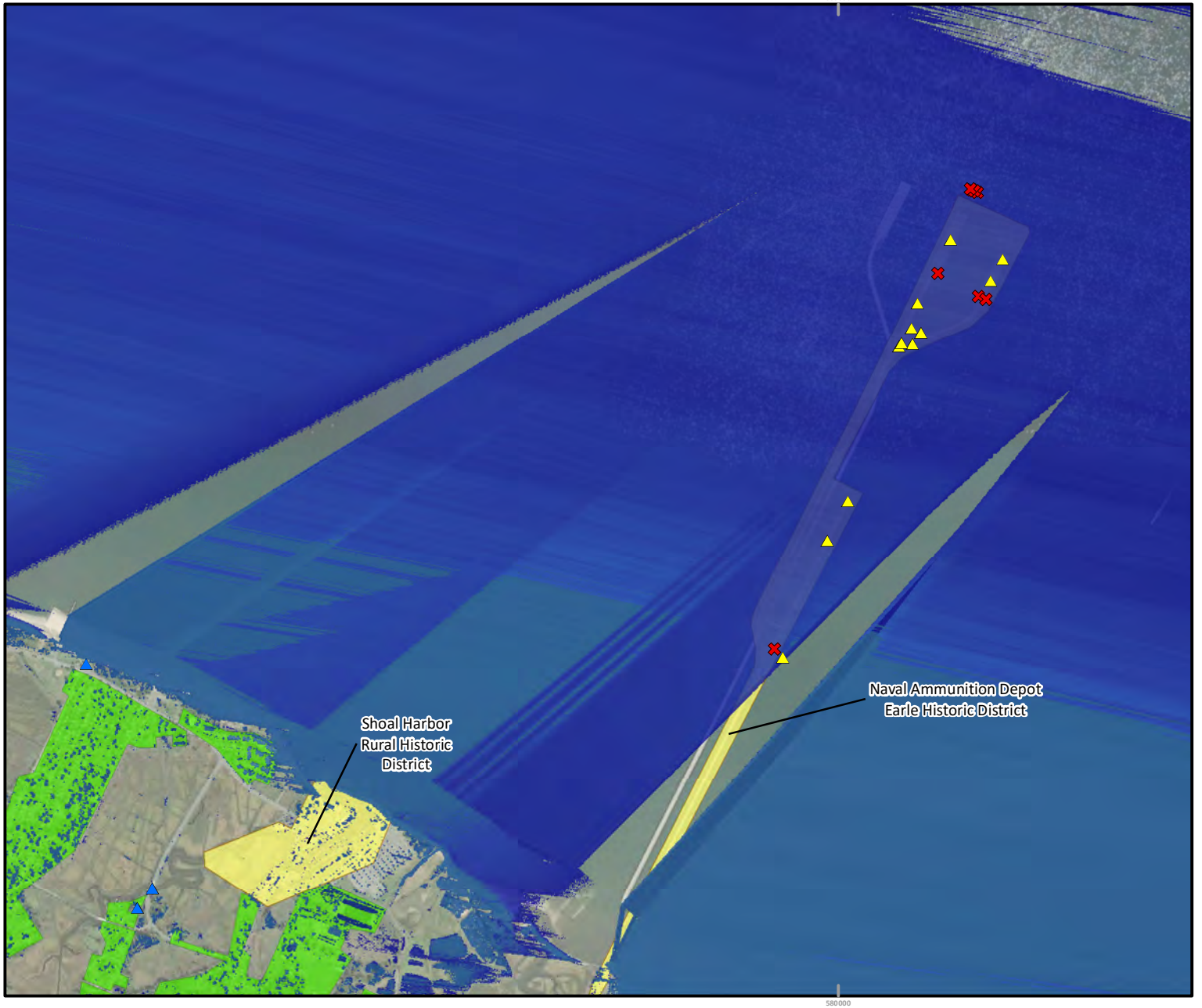


EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166m viewshed intensity
High : 174
Low : 0
Historic Property Exlcuded from Effects Assessment
Demolished
Potential visibility based on viewshed modeling
No visibility based on viewshed modeling
Historic District
Superstorm Sandy Green Zone Area

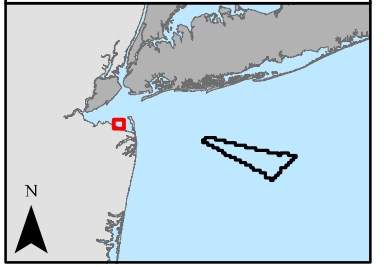
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



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Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

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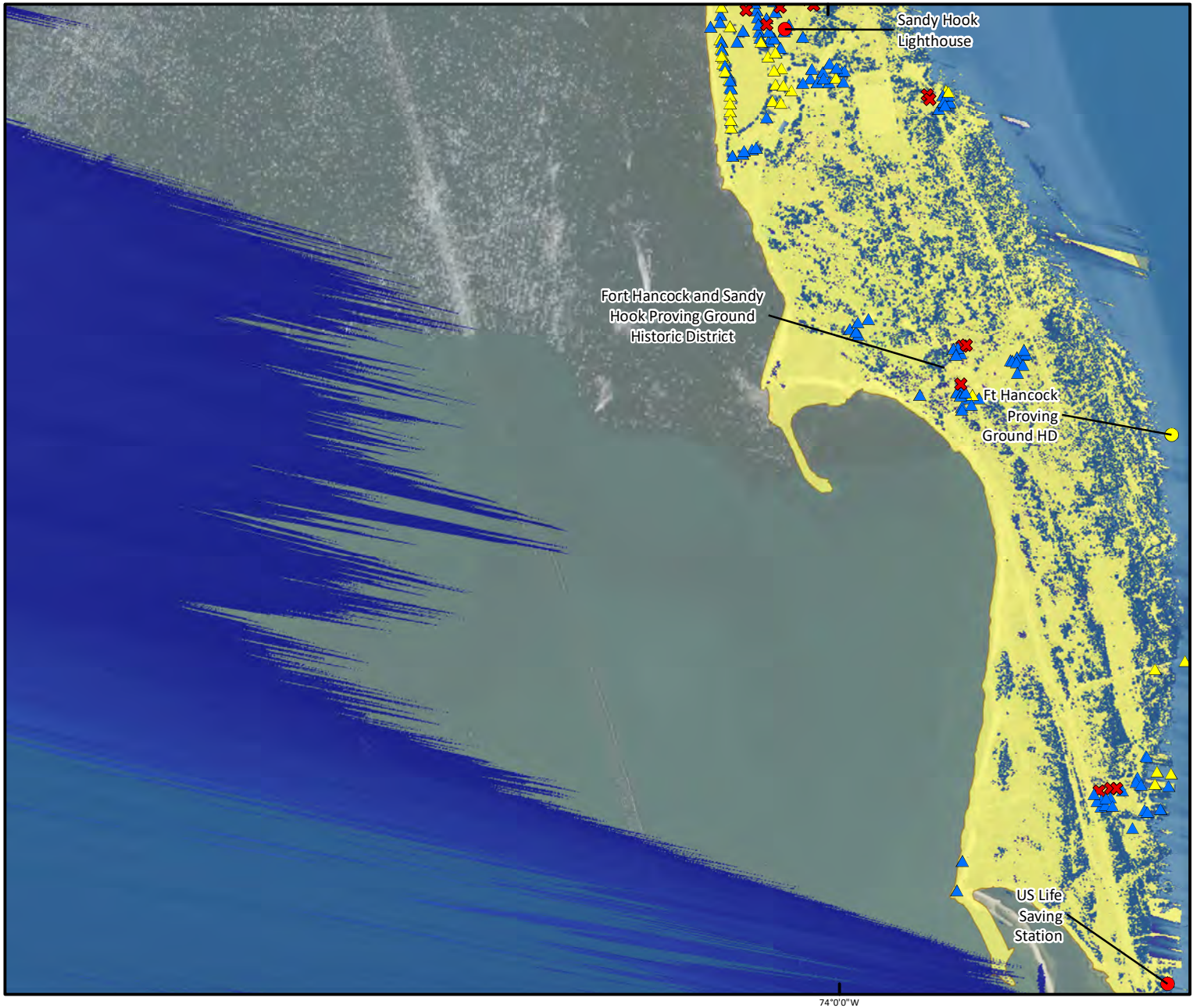


EMPIRE OFFSHORE WIND LEASE: OCS-A 0512 EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0

166m viewshed intensity
High : 174
Low : 0

Historic Property Included in Effects Assessment
- Recommended No Adverse Effect
- Recommended Adverse Effect

Historic Property Exlcuded from Effects Assessment
- Demolished
- Potential visibility based on viewshed modeling
- No visibility based on viewshed modeling
- Historic District

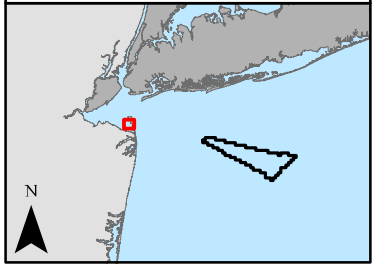
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



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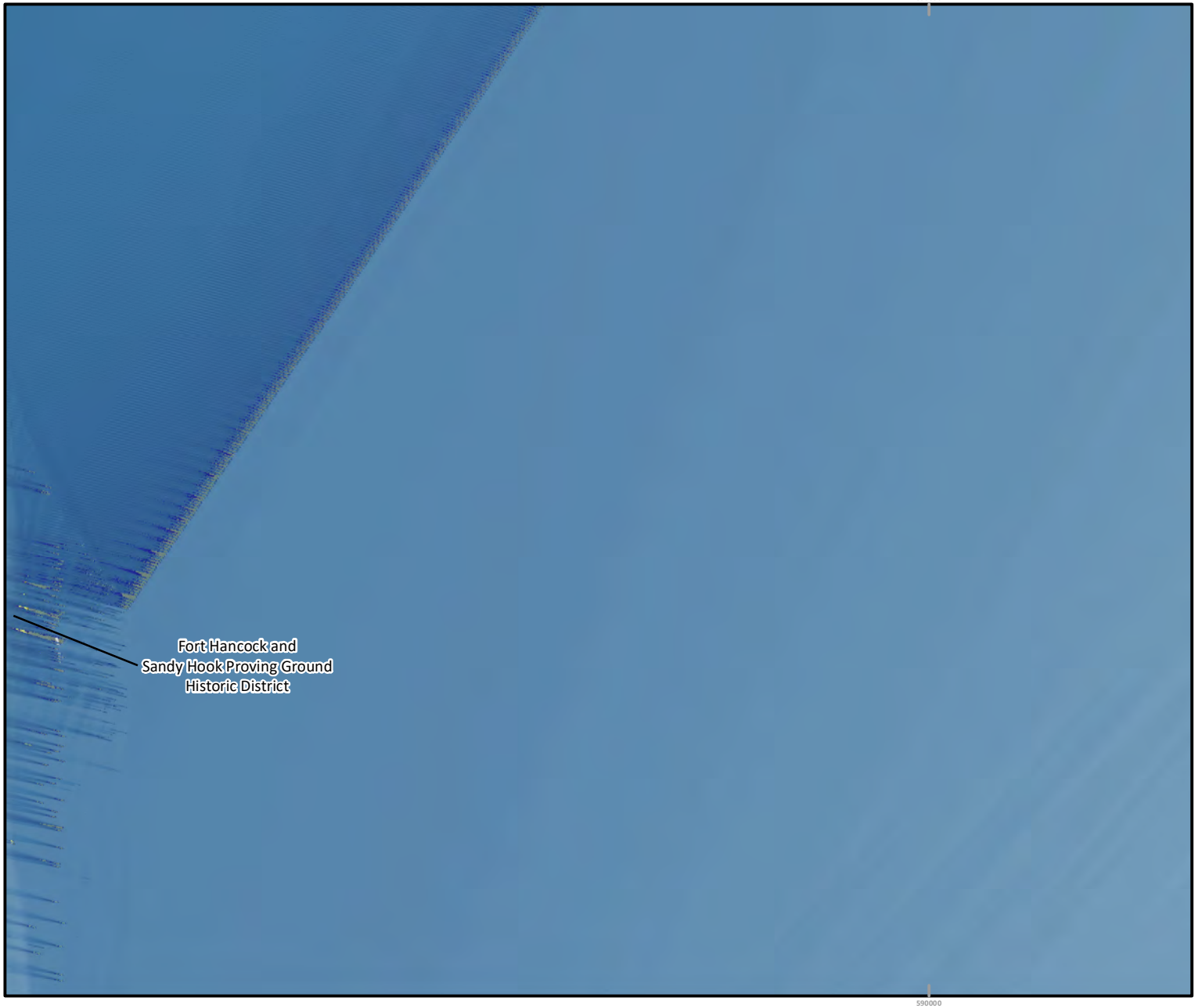
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

NOT FOR CONSTRUCTION



EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166m viewshed intensity
High : 174
Low : 0
Historic Property Exlcuded from Effects Assessment
Potential visibility based on viewshed modeling
Historic District

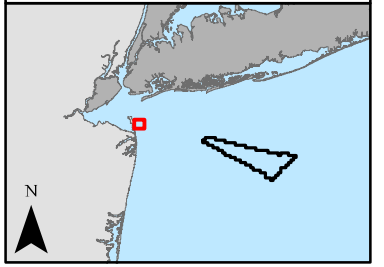
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



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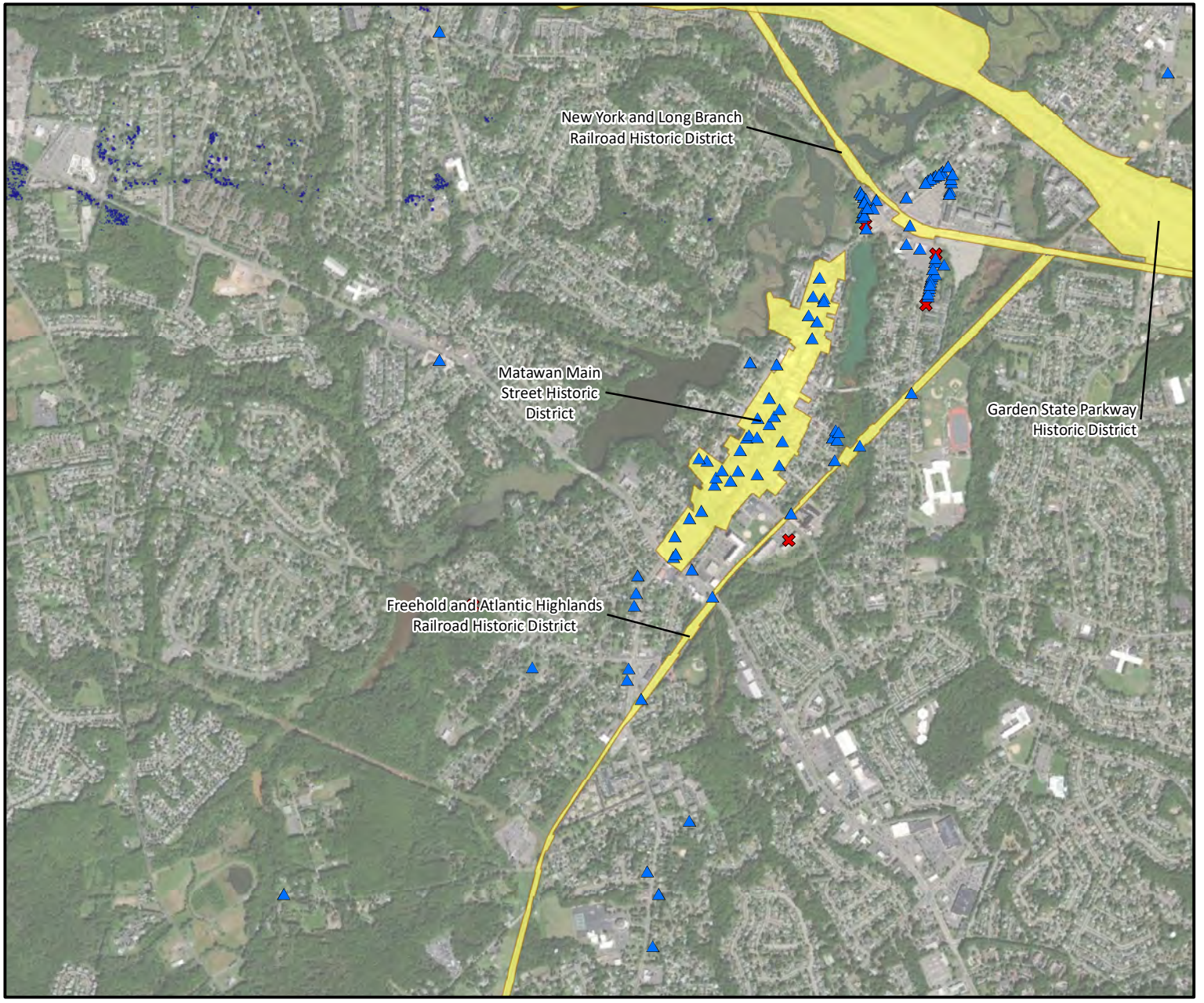
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

NOT FOR CONSTRUCTION



EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

equinor

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166m viewshed intensity
High : 174
Low : 0
Historic Property Exlcuded from Effects Assessment
Demolished
No visibility based on viewshed modeling
Historic District

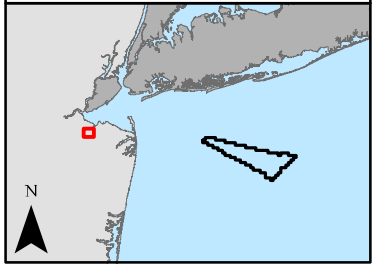
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



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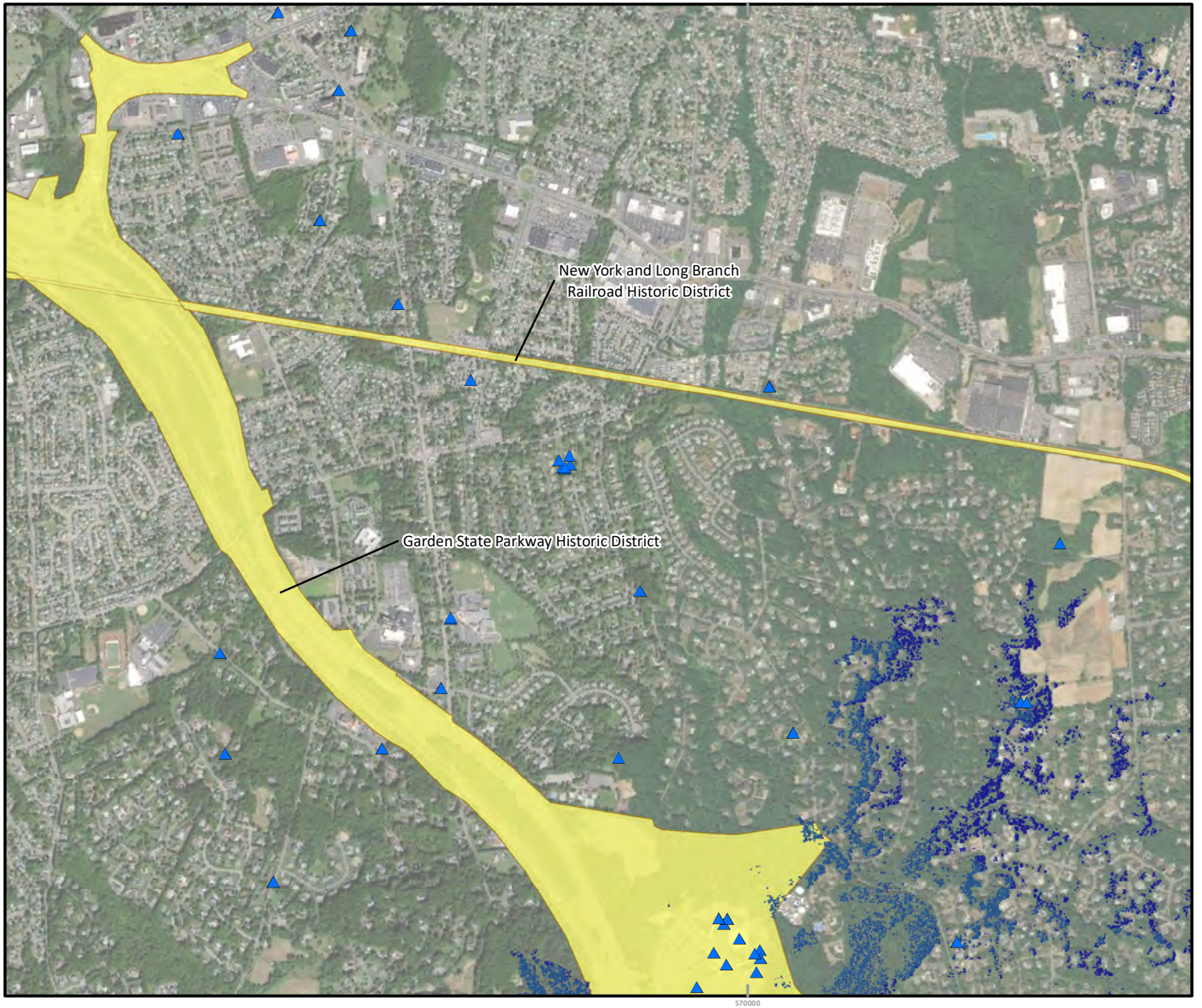
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

NOT FOR CONSTRUCTION



EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166m viewshed intensity
High : 174
Low : 0
Historic Property Exlcuded from Effects Assessment
No visibility based on viewshed modeling
Historic District

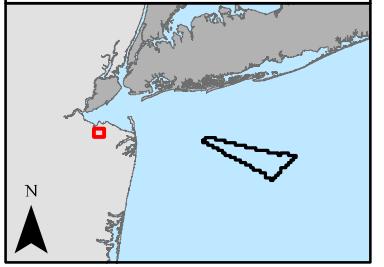
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

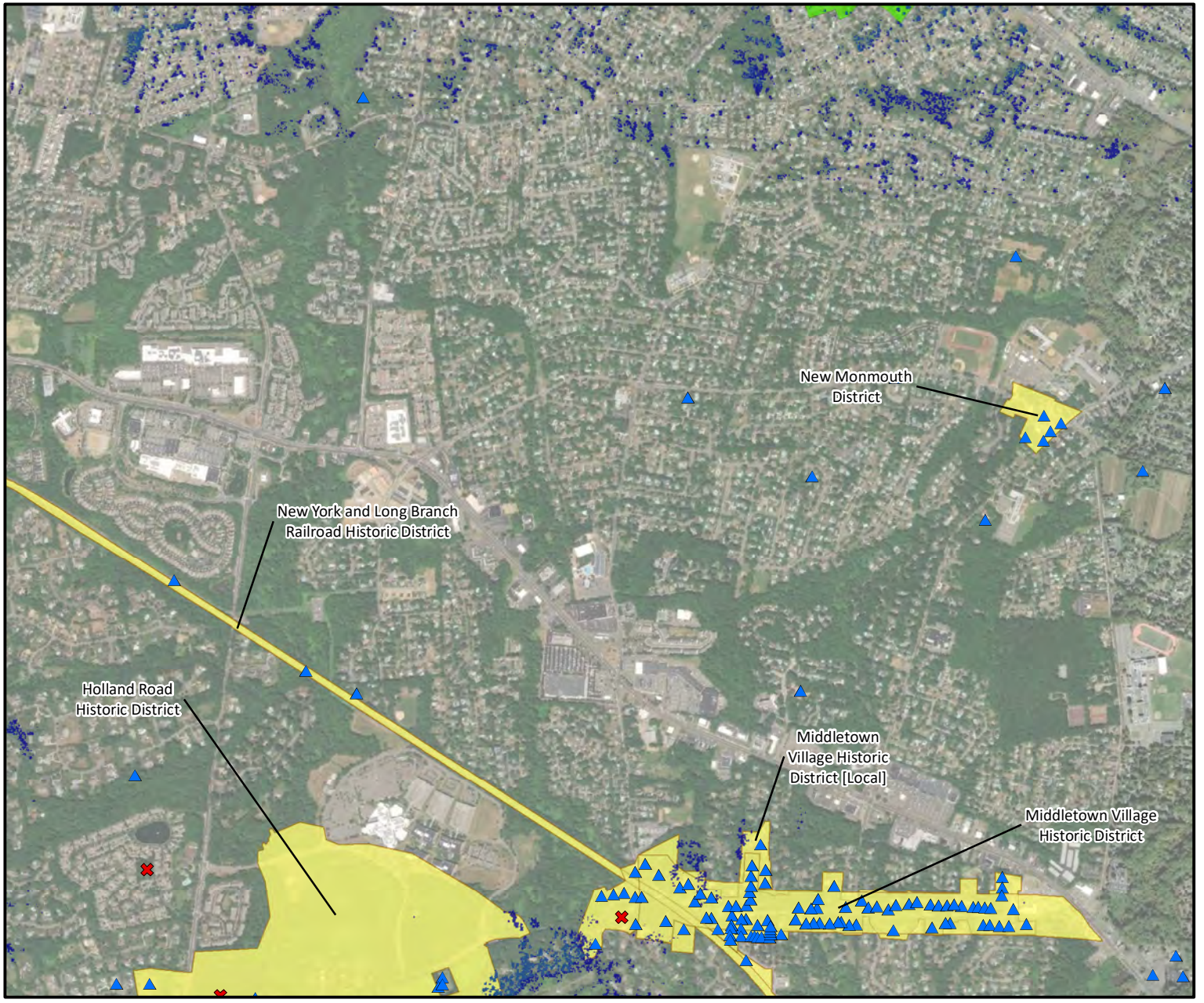
0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



Data Sources: BOEM, ESRI, NOAA, NJ DEP
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

NOT FOR CONSTRUCTION



EMPIRE OFFSHORE WIND LEASE: OCS-A 0512 EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166m viewshed intensity
High : 174
Low : 0
Historic Property Exlcuded from Effects Assessment
Demolished
No visibility based on viewshed modeling
Historic District
Superstorm Sandy Green Zone Area

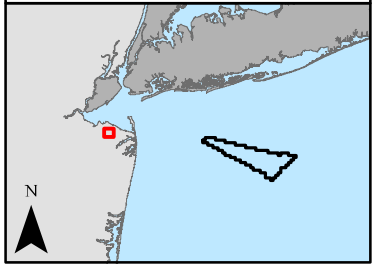
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



Data Sources: BOEM, ESRI, NOAA, NJ DEP
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

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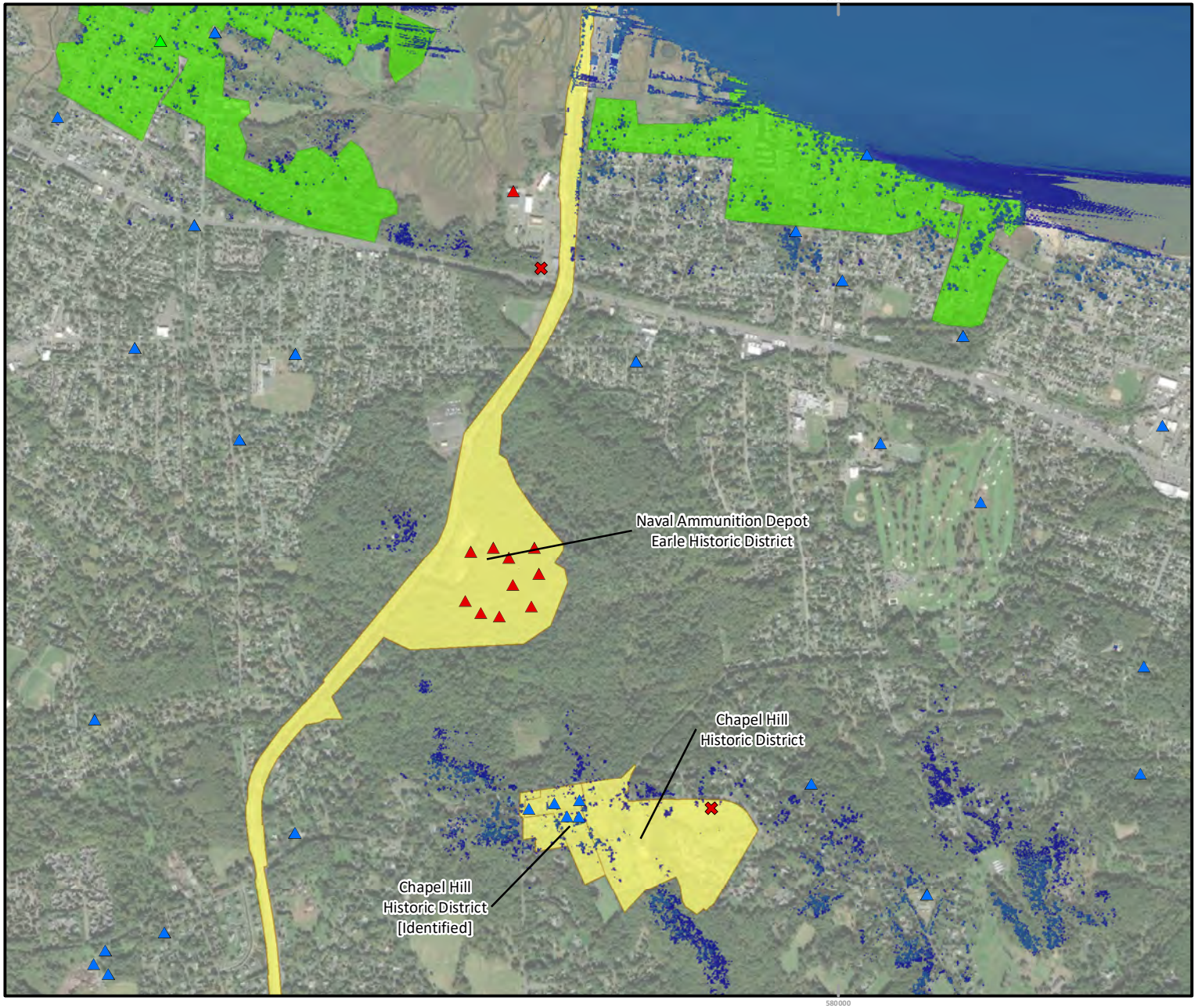


EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

equinor

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166m viewshed intensity
High : 174
Low : 0
Historic Property Exlcuded from Effects Assessment
Demolished
No visibility based on viewshed modeling
Within Superstorm Sandy Green Zone
Not eligible
Historic District
Superstorm Sandy Green Zone Area

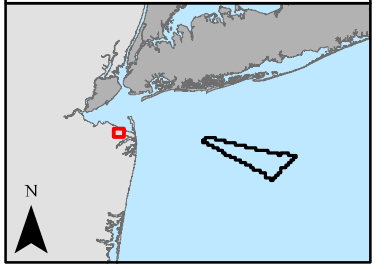
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



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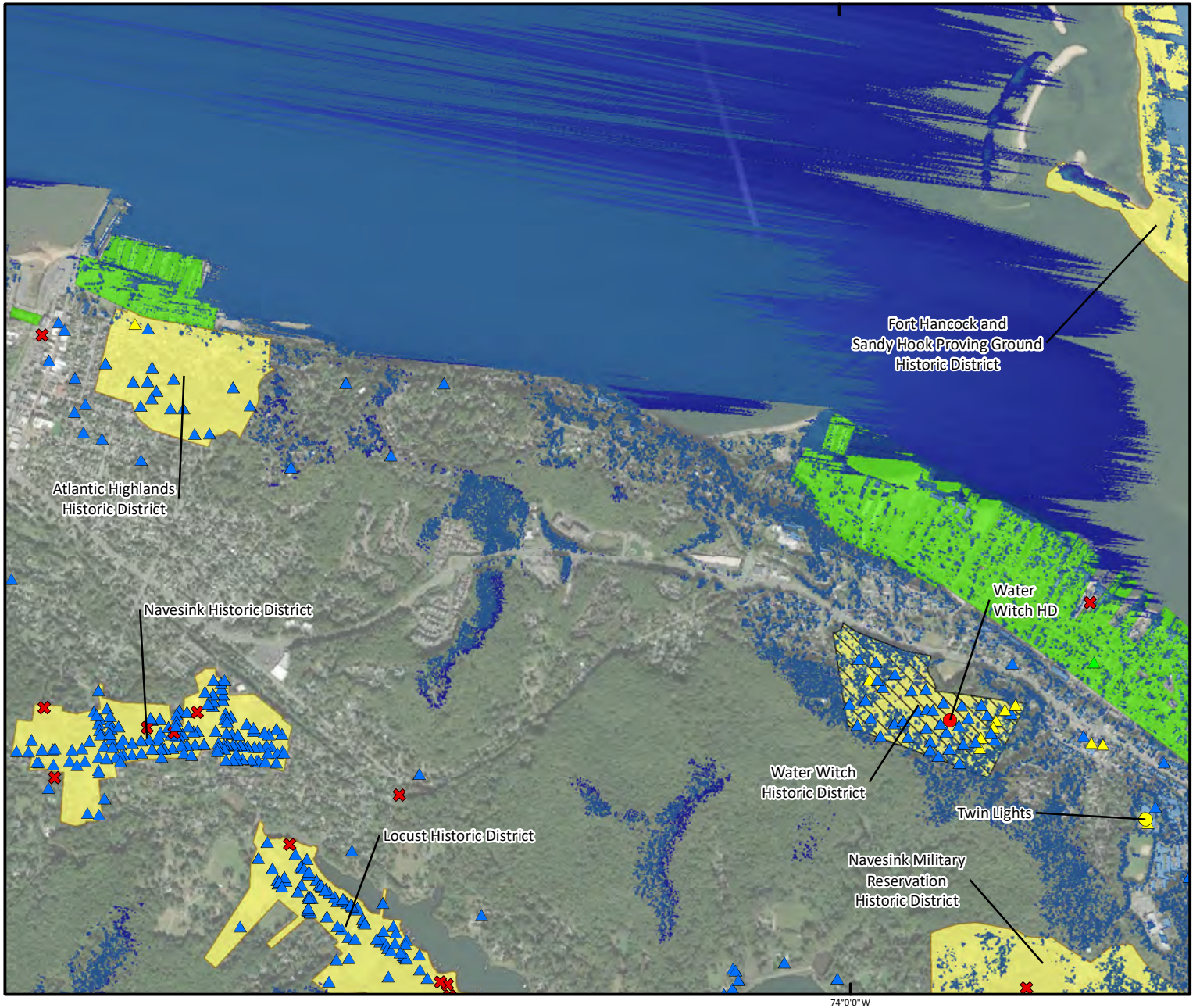
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

NOT FOR CONSTRUCTION



EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

equinor

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166m viewshed intensity
High : 174
Low : 0
Historic Property Included in Effects Assessment
Recommended No Adverse Effect
Recommended Adverse Effect
Historic Property Exlcuded from Effects Assessment
Demolished
Potential visibility based on viewshed modeling
No visibility based on viewshed modeling
Within Superstorm Sandy Green Zone
Historic District
Historic District (Adverse Effect)
Superstorm Sandy Green Zone Area

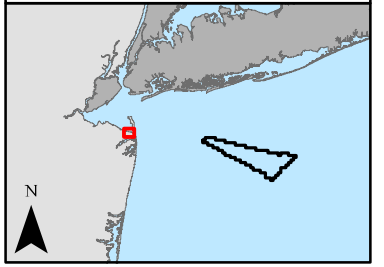
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



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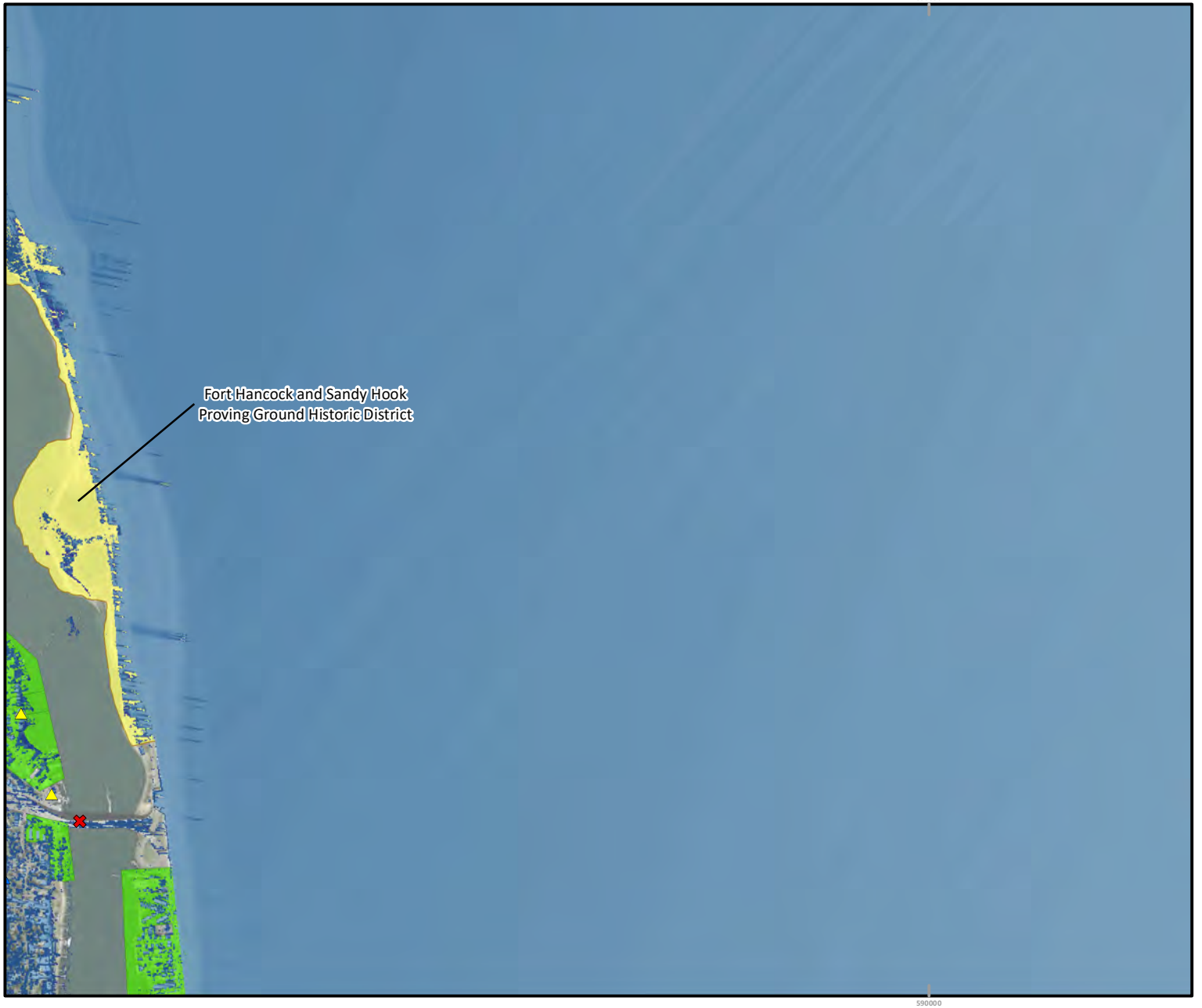


EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166m viewshed intensity
High : 174
Low : 0
Historic Property Exlcuded from Effects Assessment
Demolished
Potential visibility based on viewshed modeling
No visibility based on viewshed modeling
Historic District
Superstorm Sandy Green Zone Area

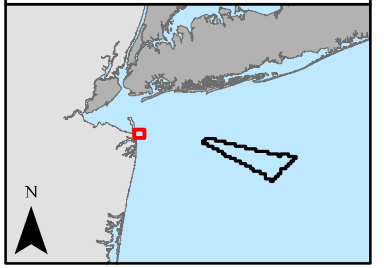
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



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Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

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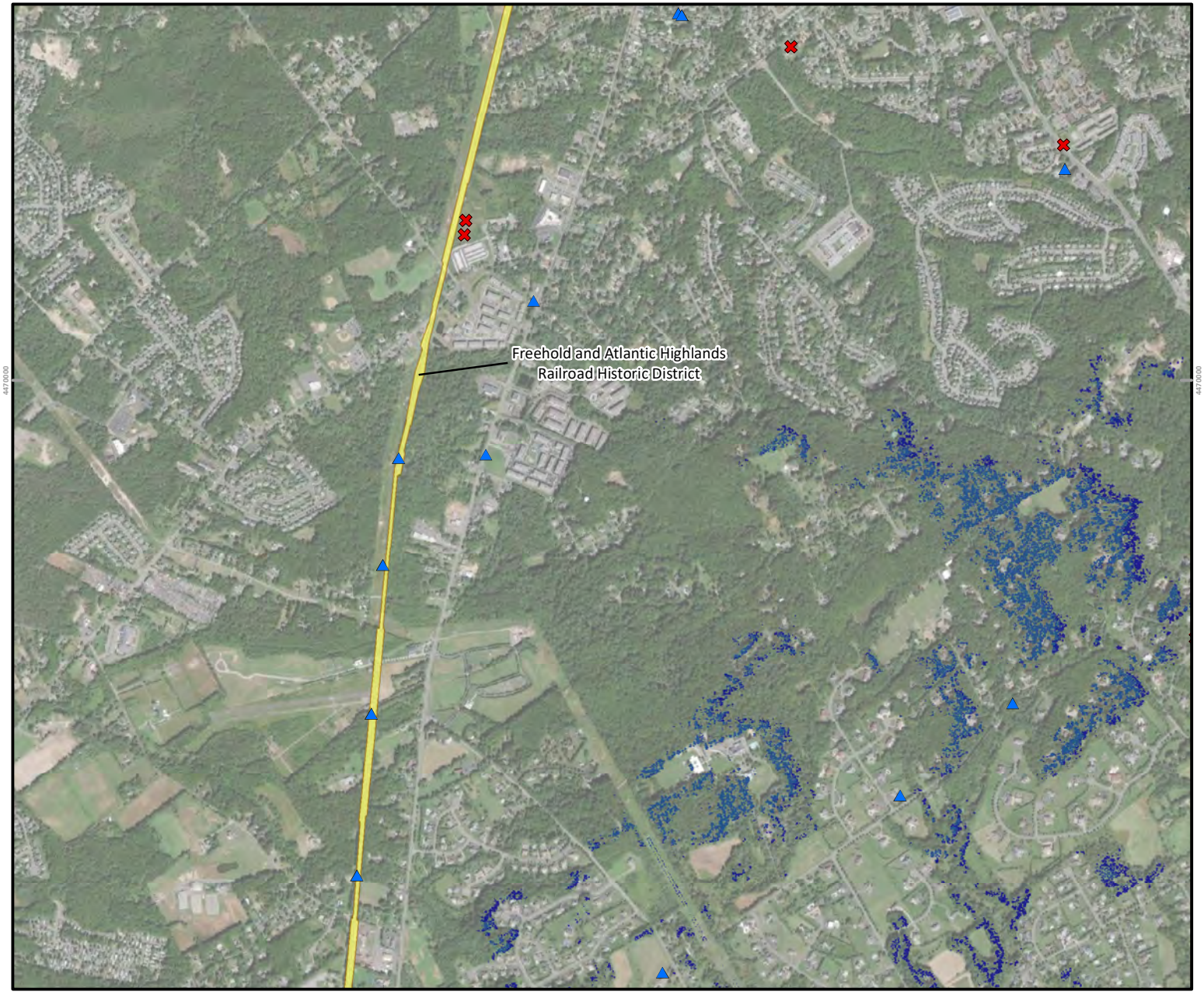


EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166m viewshed intensity
High : 174
Low : 0
Historic Property Exlcuded from Effects Assessment
Demolished
No visibility based on viewshed modeling
Historic District

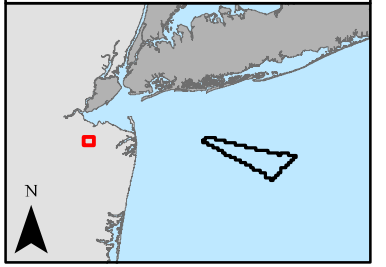
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



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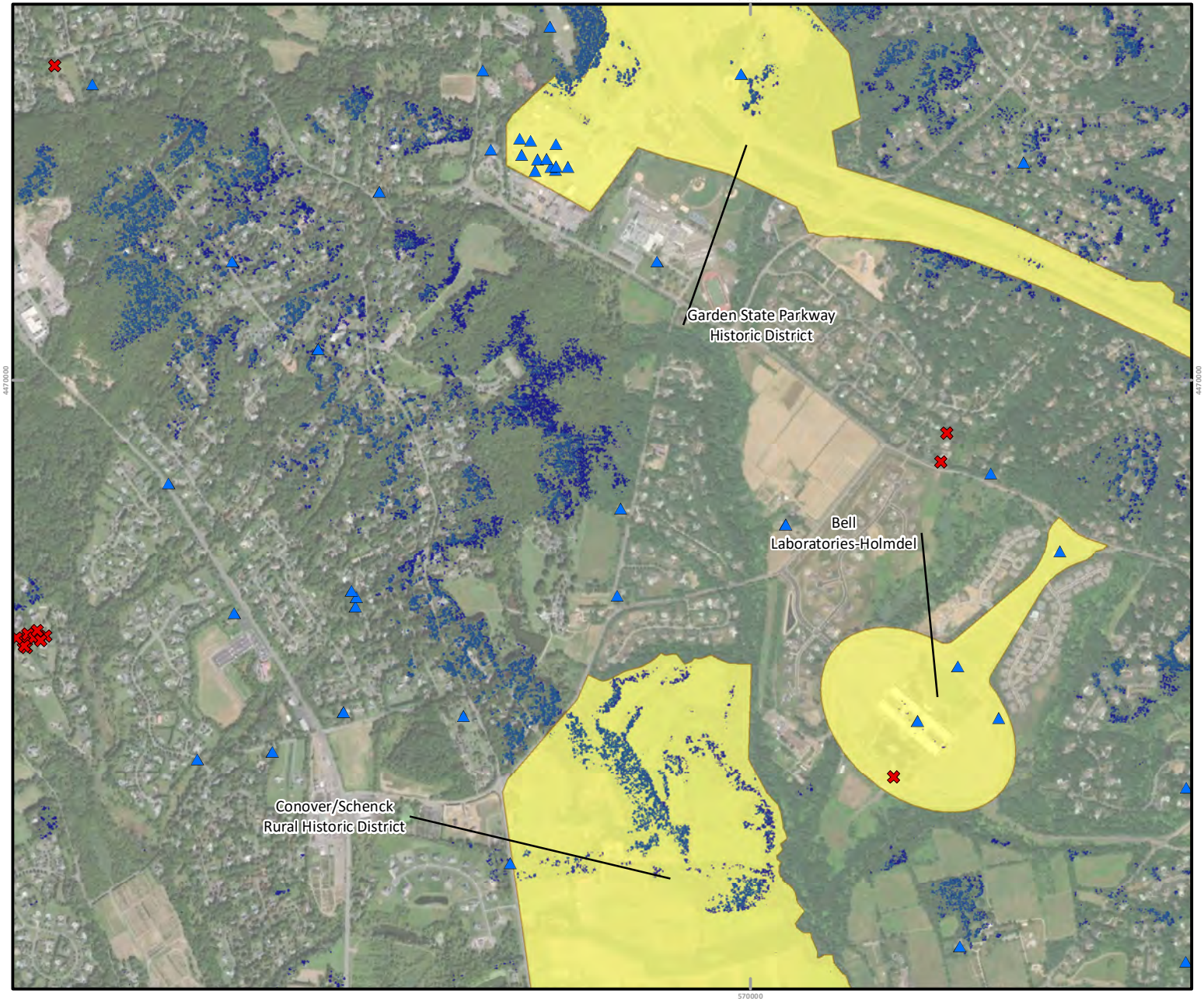


EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166m viewshed intensity
High : 174
Low : 0
Historic Property Exlcuded from Effects Assessment
Demolished
No visibility based on viewshed modeling
Historic District

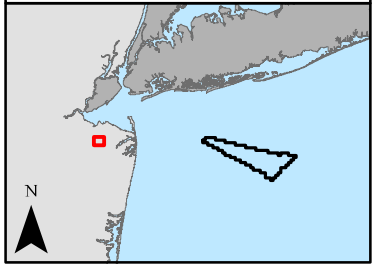
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



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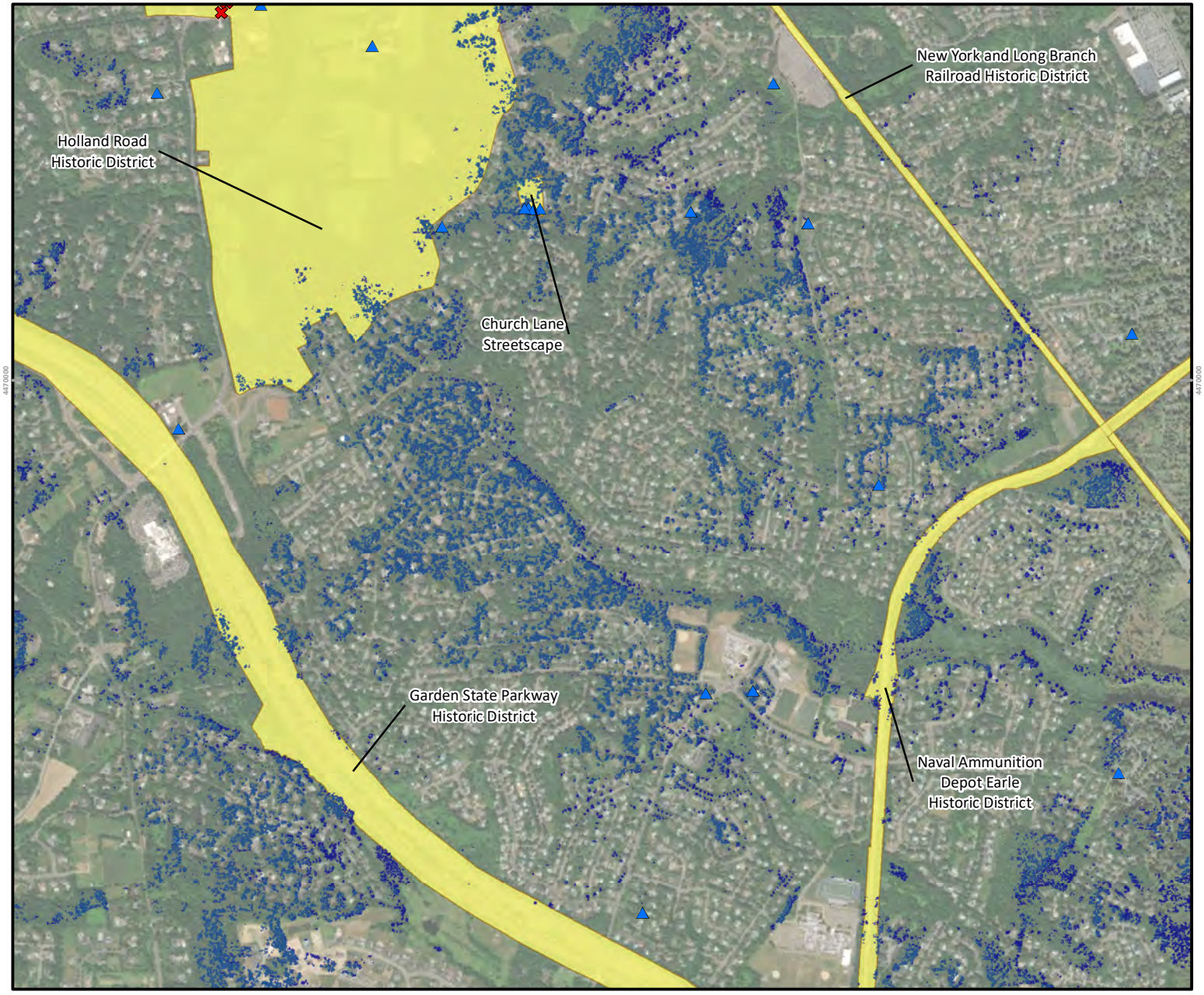


EMPIRE OFFSHORE WIND LEASE: OCS-A 0512 EMPIRE WIND PROJECT

equinor

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166m viewshed intensity
High : 174
Low : 0
Historic Property Exlcuded from Effects Assessment
Demolished
No visibility based on viewshed modeling
Historic District

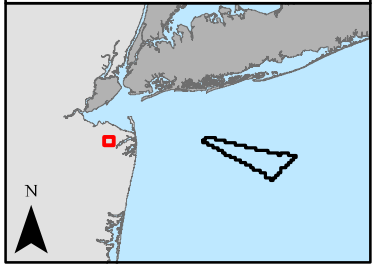
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



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Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

NOT FOR CONSTRUCTION

EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

equinor

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166m viewshed intensity
High : 174
Low : 0
Historic Property Exlcuded from Effects Assessment
Demolished
No visibility based on viewshed modeling
Historic District

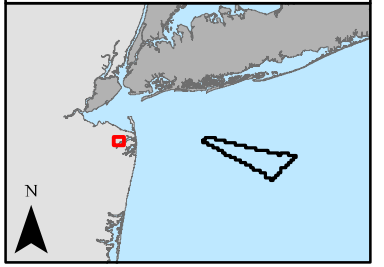
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



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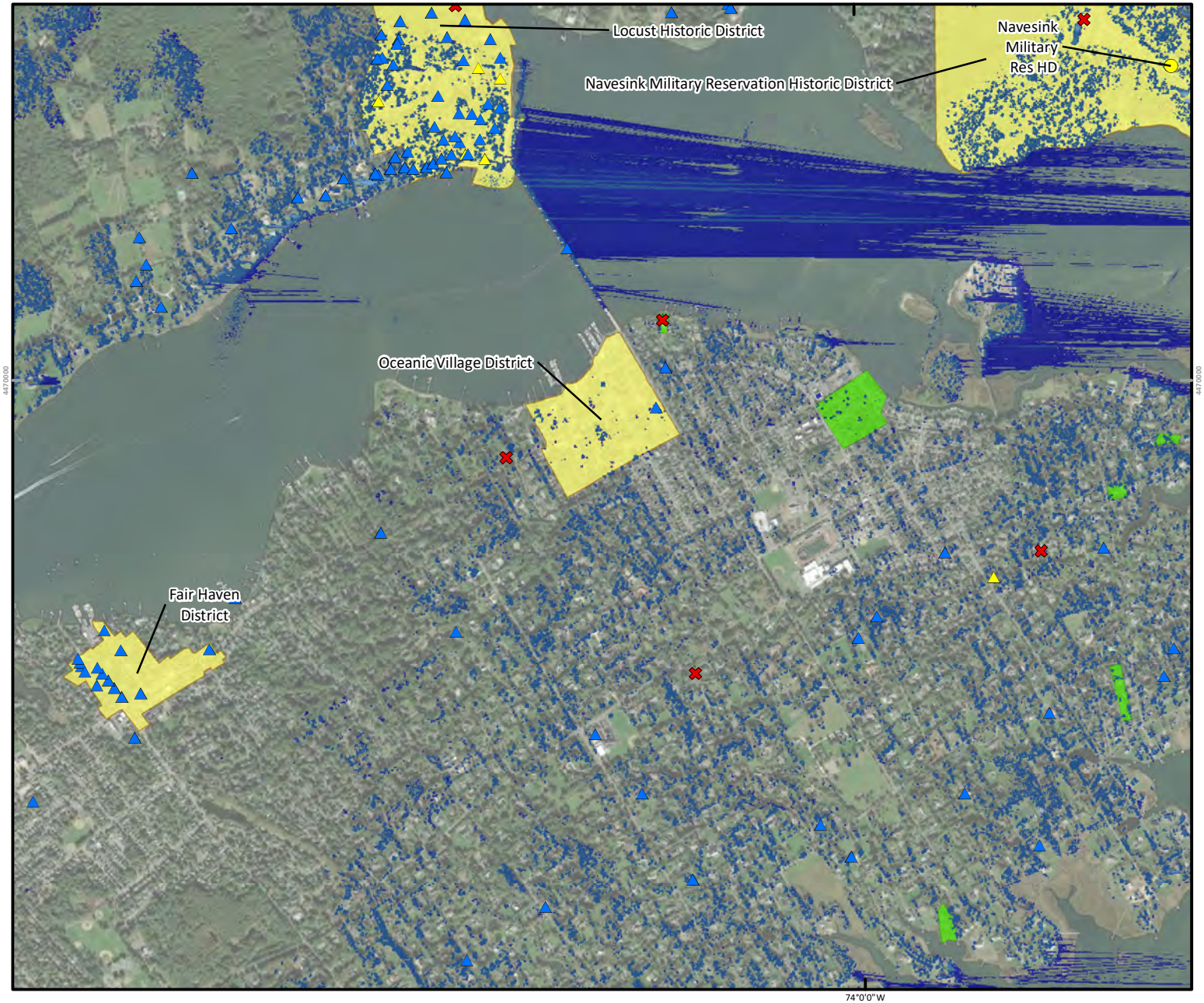


EMPIRE OFFSHORE WIND LEASE: OCS-A 0512 EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166m viewshed intensity
High : 174
Low : 0
Historic Property Included in Effects Assessment
Recommended No Adverse Effect
Historic Property Exlcuded from Effects Assessment
Demolished
Potential visibility based on viewshed modeling
No visibility based on viewshed modeling
Historic District
Superstorm Sandy Green Zone Area

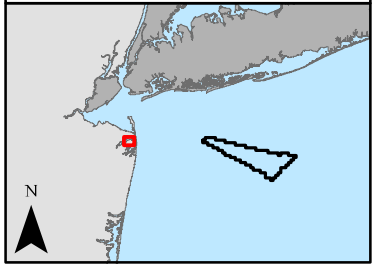
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



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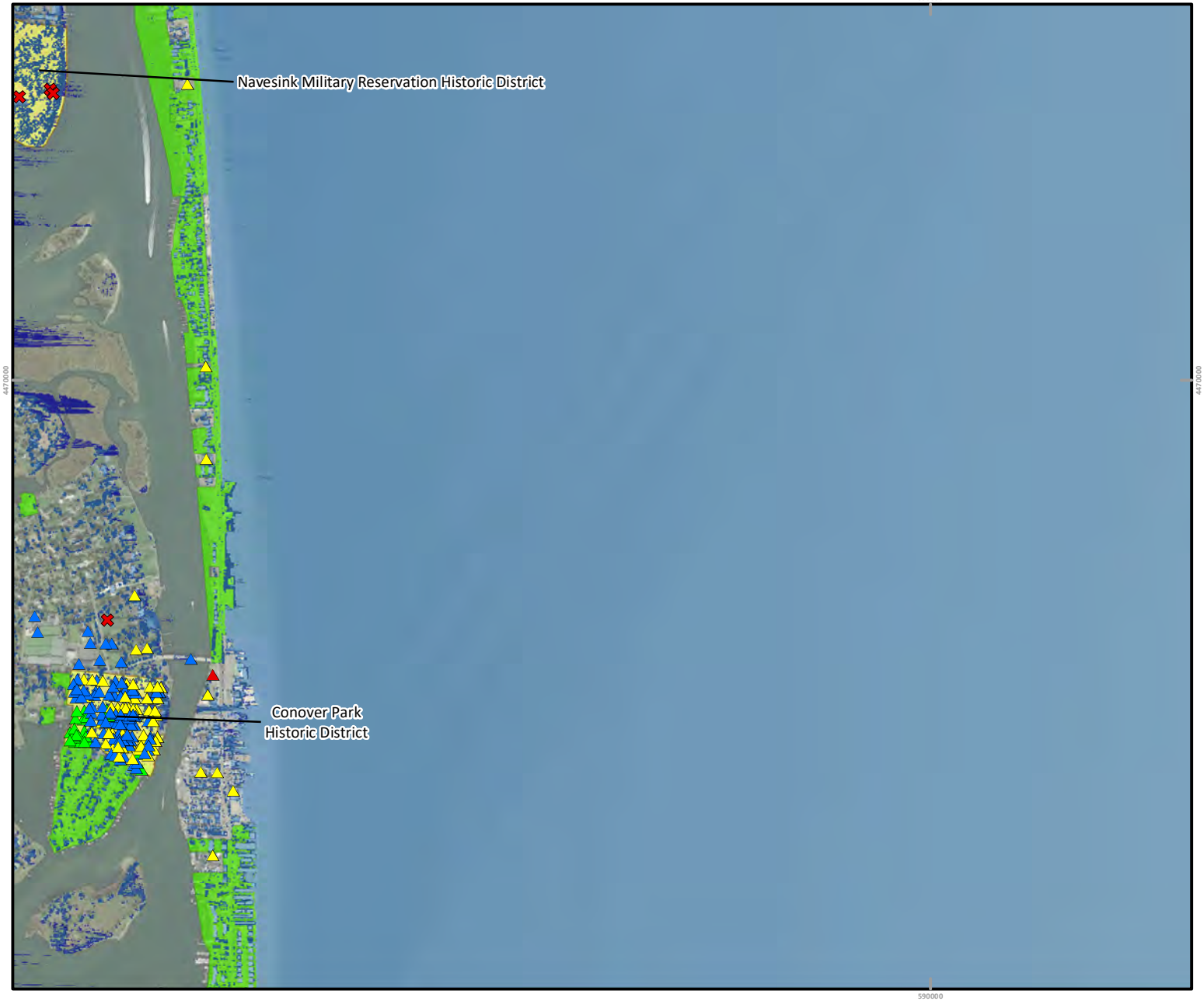
NOT FOR CONSTRUCTION



EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0

166m viewshed intensity
High : 174
Low : 0

Historic Property Exlcuded from Effects Assessment

- Demolished
- Potential visibility based on viewshed modeling
- No visibility based on viewshed modeling
- Within Superstorm Sandy Green Zone
- Not eligible
- Historic District
- Superstorm Sandy Green Zone Area

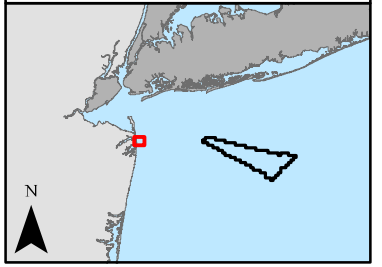
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



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Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

NOT FOR CONSTRUCTION

EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

equinor

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166m viewshed intensity
High : 174
Low : 0
Historic Property Exlcuded from Effects Assessment
Demolished
No visibility based on viewshed modeling
Historic District

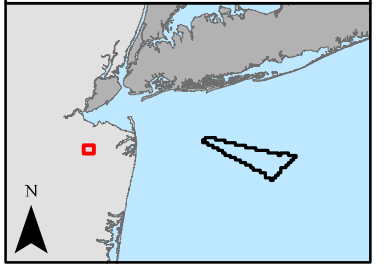
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



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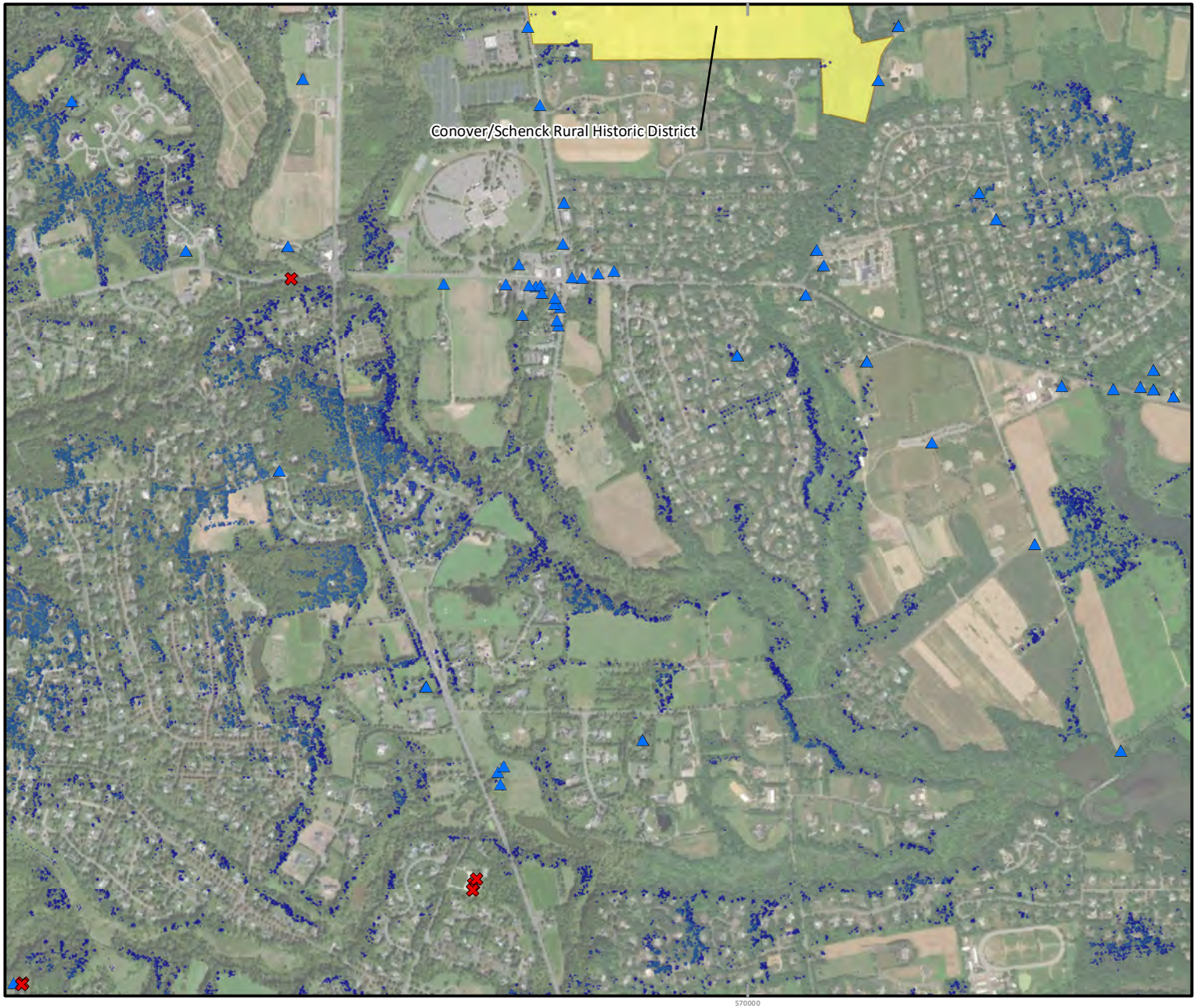


EMPIRE OFFSHORE WIND LEASE: OCS-A 0512 EMPIRE WIND PROJECT

equinor

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166m viewshed intensity
High : 174
Low : 0
Historic Property Exlcuded from Effects Assessment
Demolished
No visibility based on viewshed modeling
Historic District

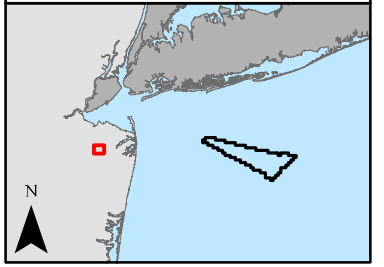
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



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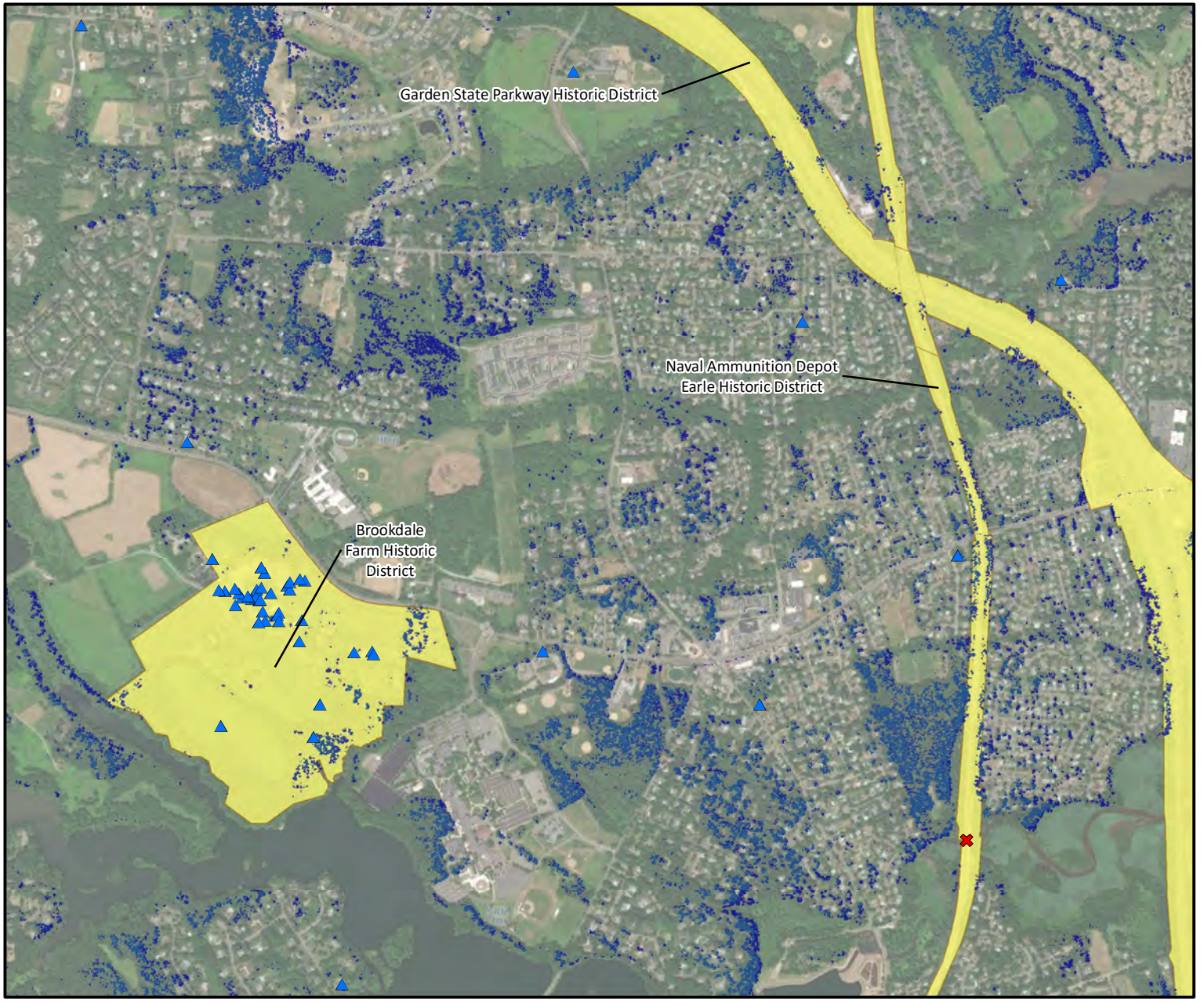
NOT FOR CONSTRUCTION



EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

equinor

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166m viewshed intensity
High : 174
Low : 0
Historic Property Exlcuded from Effects Assessment
Demolished
No visibility based on viewshed modeling
Historic District

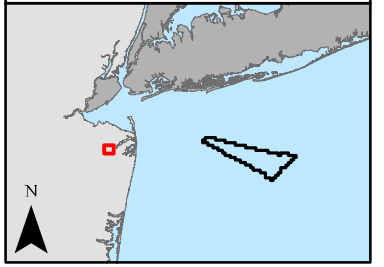
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



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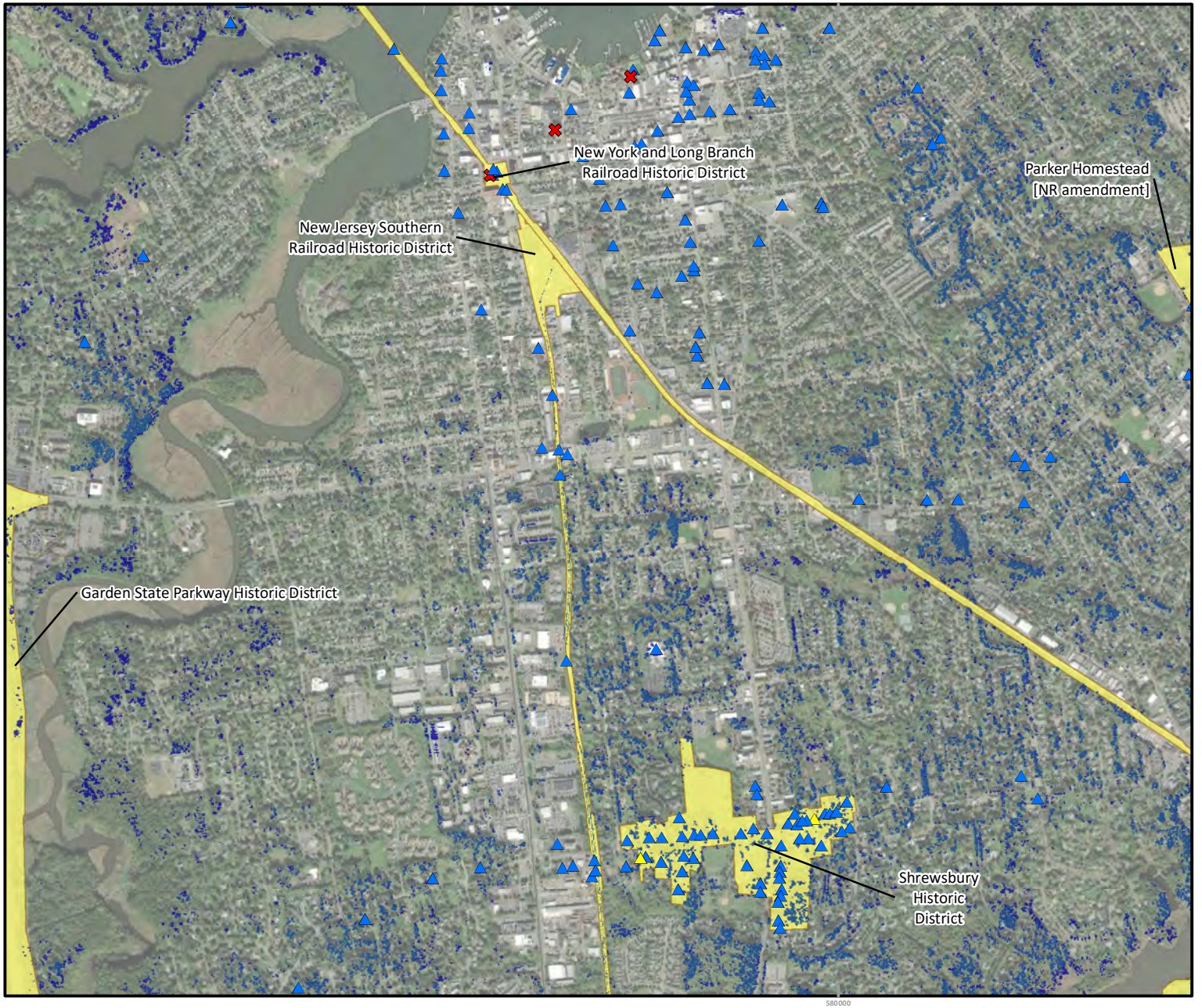
NOT FOR CONSTRUCTION



EMPIRE OFFSHORE WIND LEASE: OCS-A 0512 EMPIRE WIND PROJECT

equinor

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0

166m viewshed intensity
High : 174
Low : 0

Historic Property Exlcuded from Effects Assessment
- Demolished
- Potential visibility based on viewshed modeling
- No visibility based on viewshed modeling
- Historic District

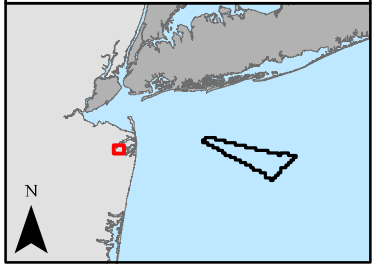
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



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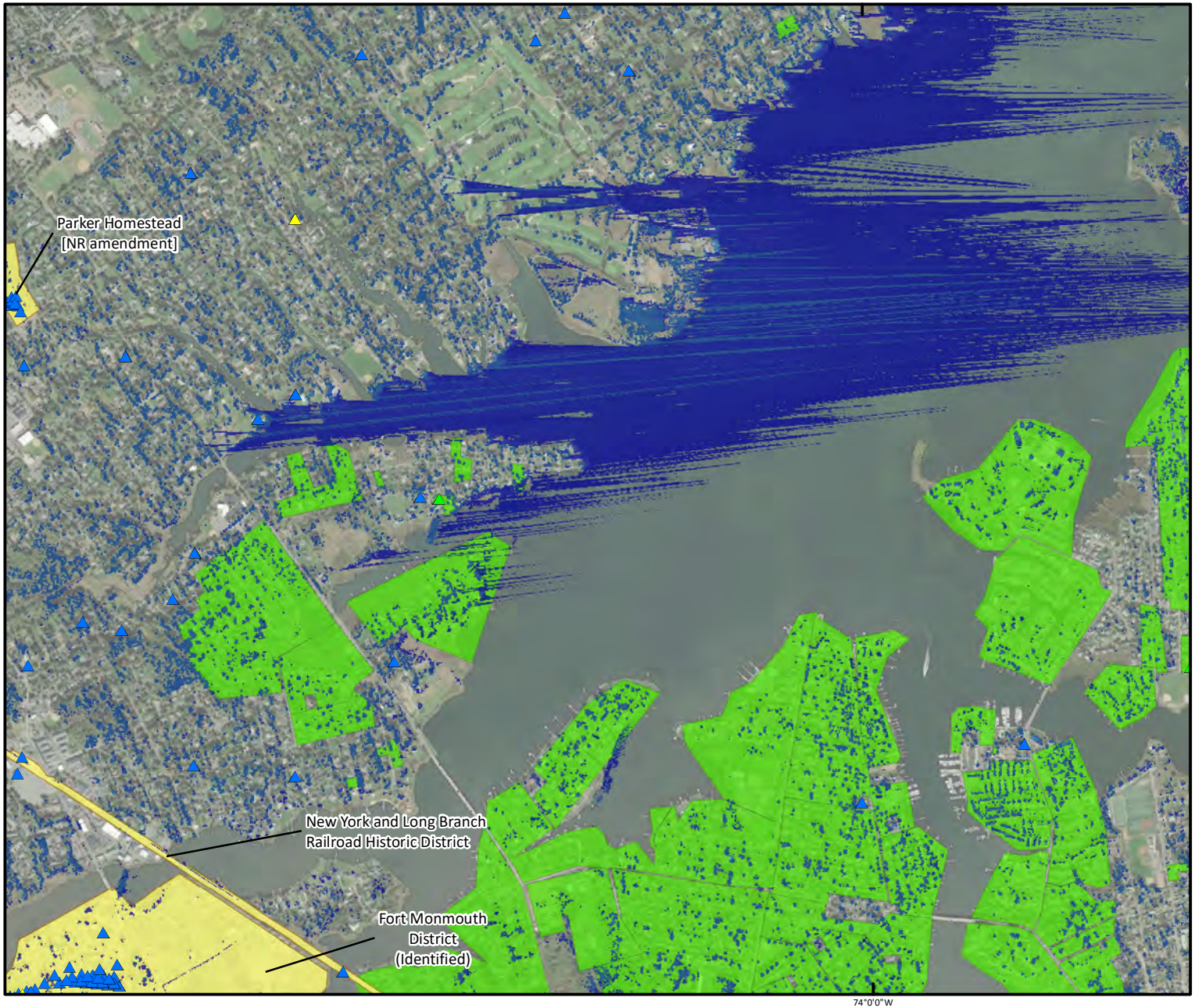
NOT FOR CONSTRUCTION



EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

equinor

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166m viewshed intensity
High : 174
Low : 0
Historic Property Exlcuded from Effects Assessment
Potential visibility based on viewshed modeling
No visibility based on viewshed modeling
Within Superstorm Sandy Green Zone
Historic District
Superstorm Sandy Green Zone Area

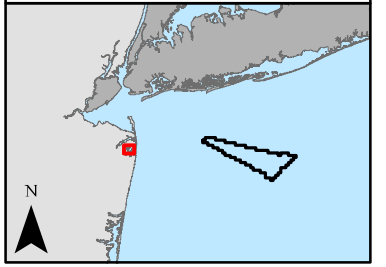
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



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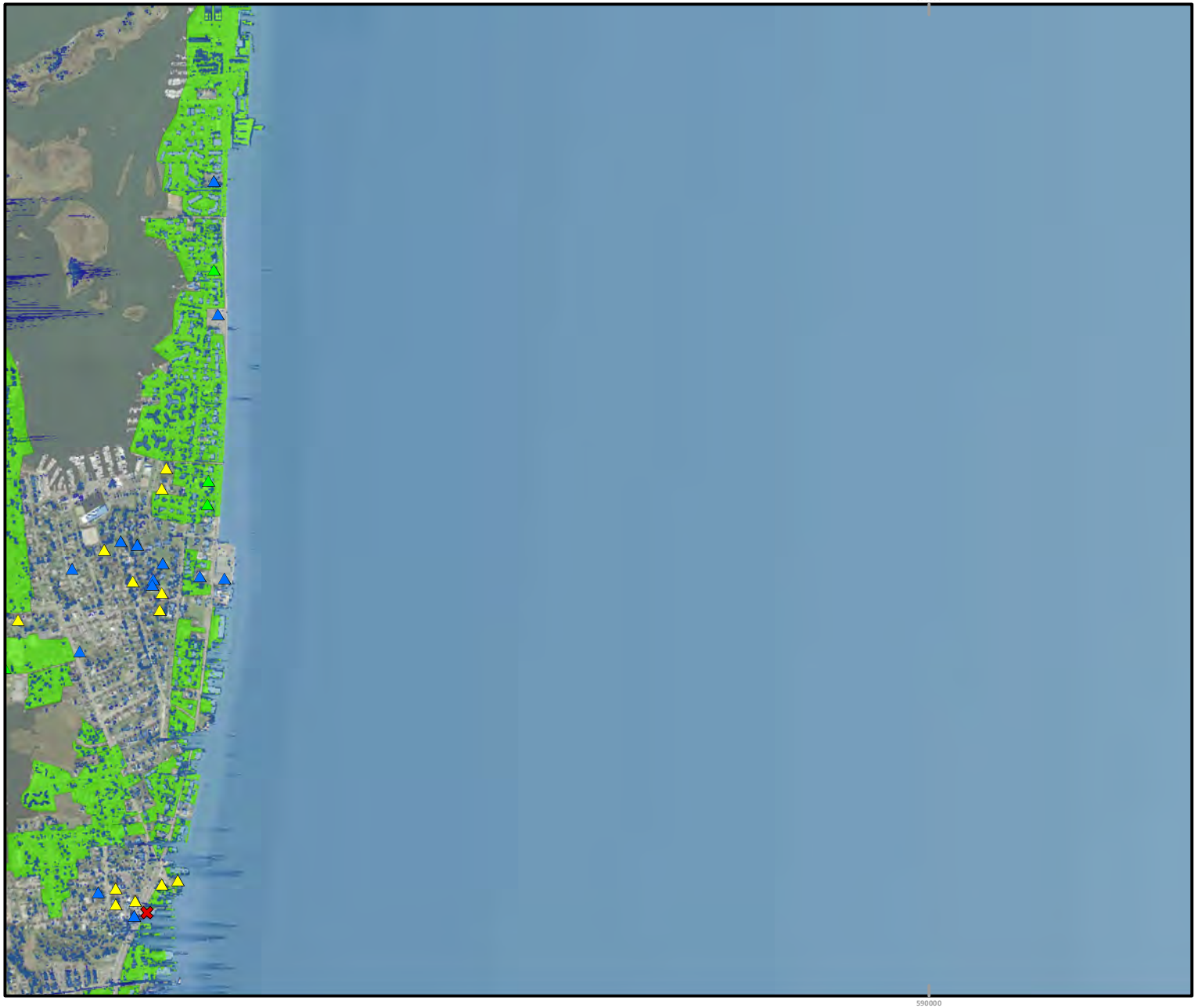
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

NOT FOR CONSTRUCTION



EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0

166m viewshed intensity
High : 174
Low : 0

Historic Property Exlcuded from Effects Assessment
- Demolished
- Potential visibility based on viewshed modeling
- No visibility based on viewshed modeling
- Within Superstorm Sandy Green Zone
- Superstorm Sandy Green Zone Area

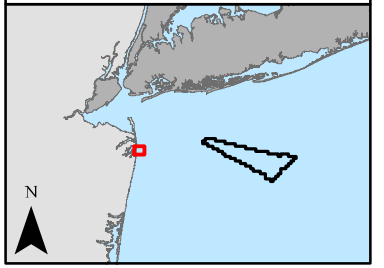
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



Data Sources: BOEM, ESRI, NOAA, NJ DEP
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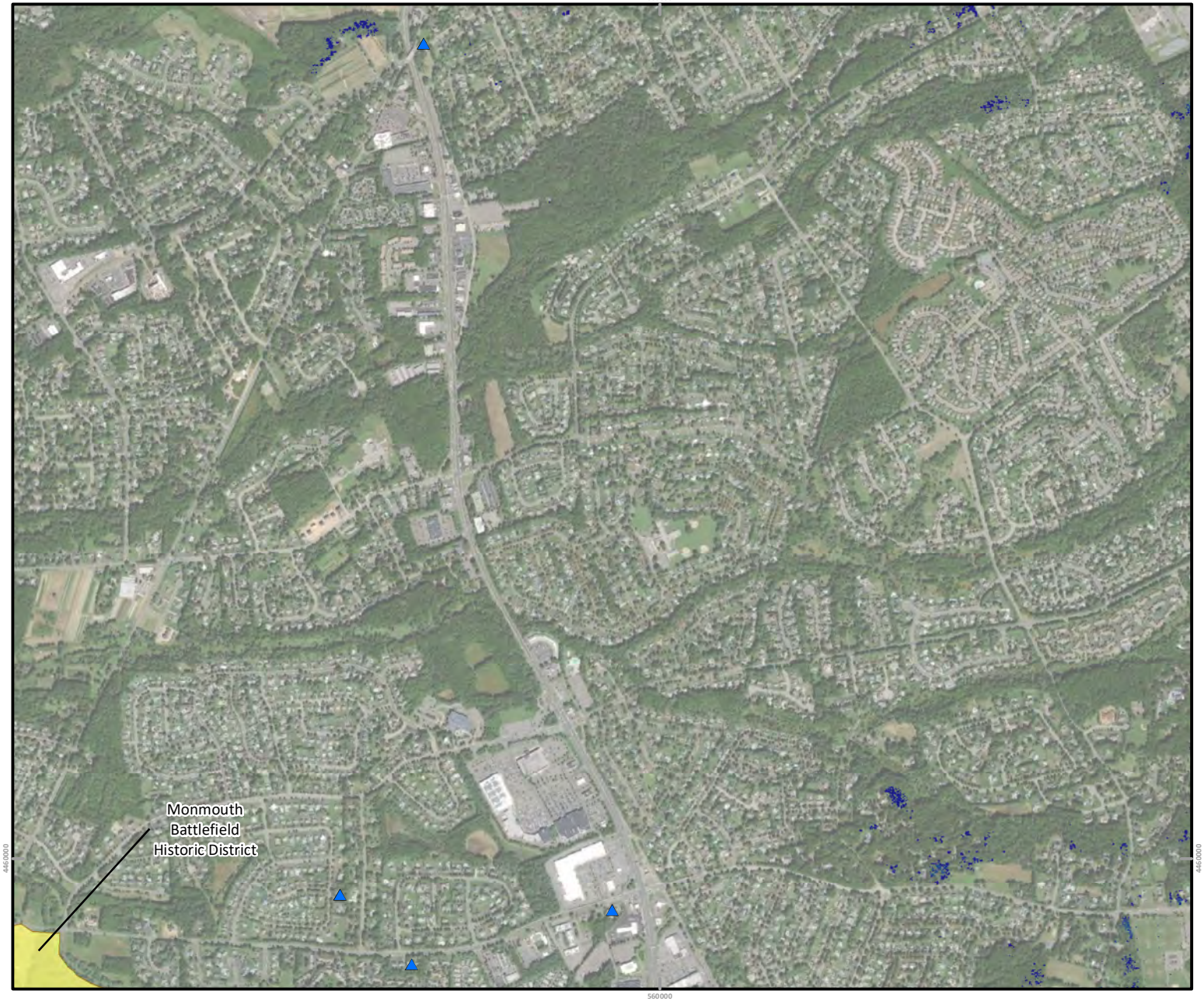

EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

equinor

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166m viewshed intensity
High : 174
Low : 0
Historic Property Exlcuded from Effects Assessment
No visibility based on viewshed modeling
Historic District

Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

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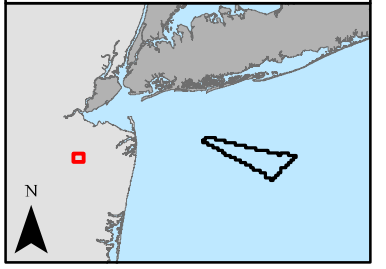

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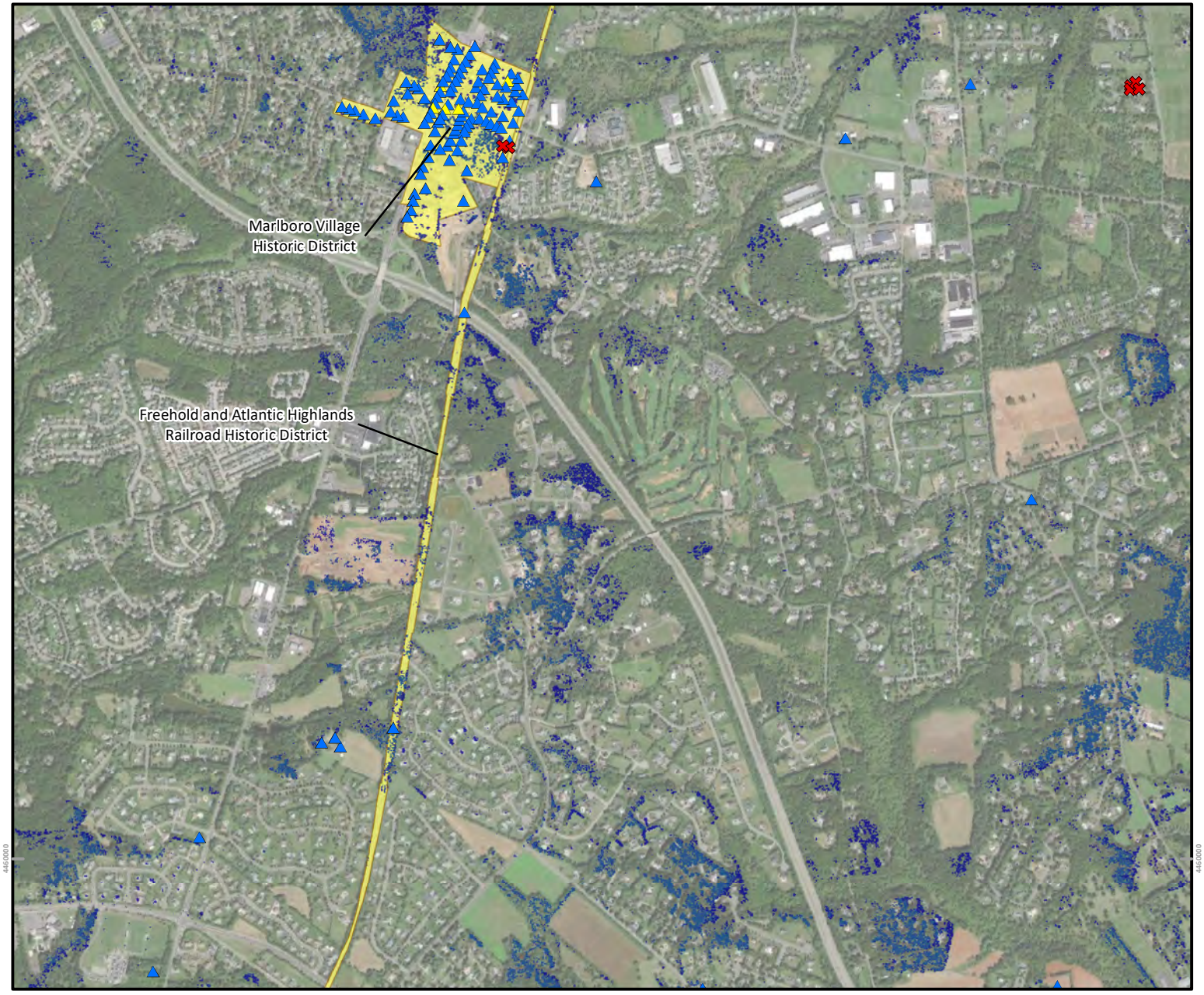

EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

equinor

Offshore AVEHAP PAPE [290-m viewshed intensity]
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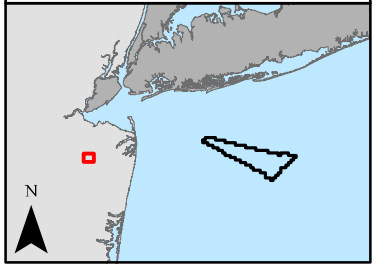

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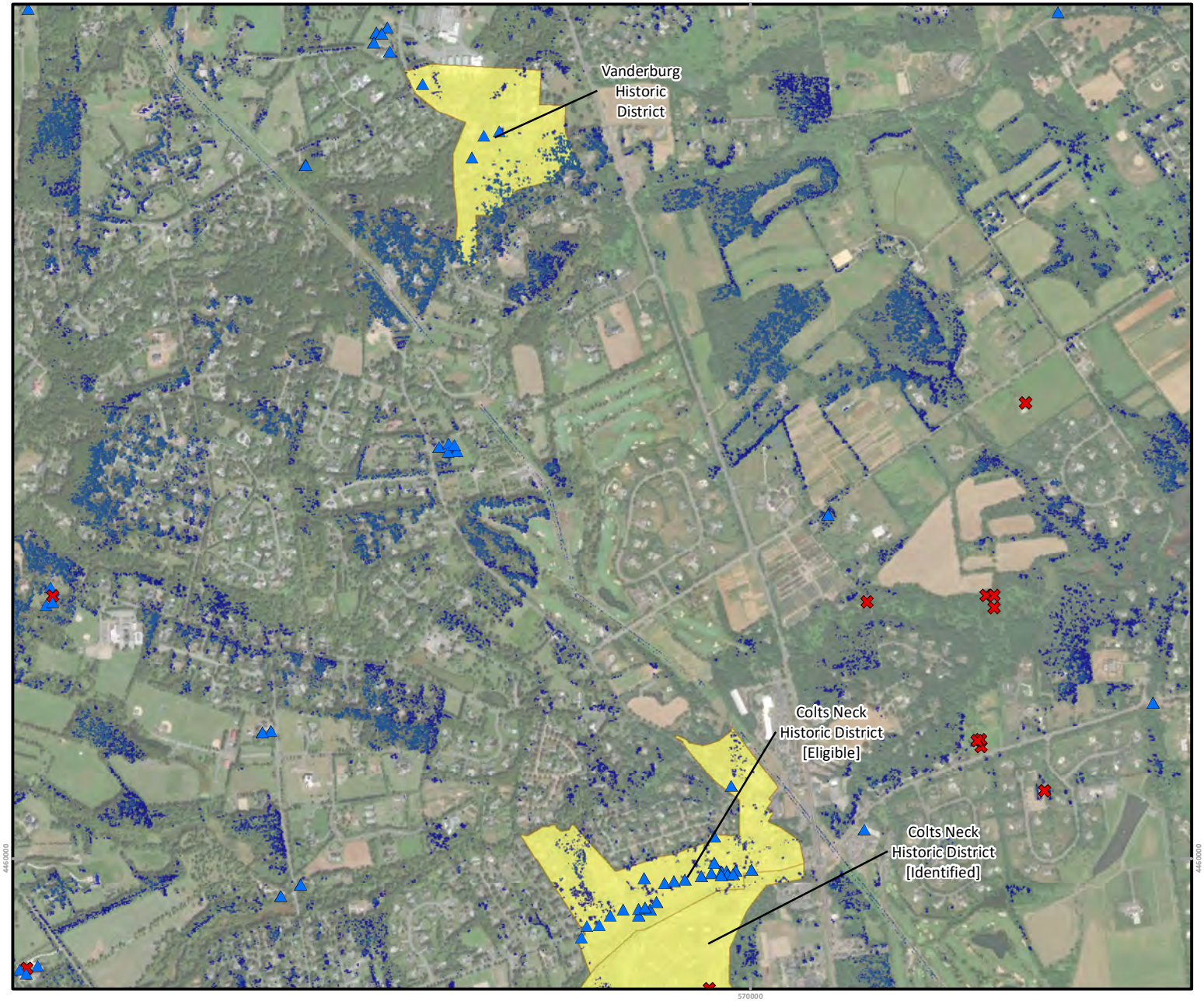

EMPIRE OFFSHORE WIND
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EMPIRE WIND PROJECT

equinor

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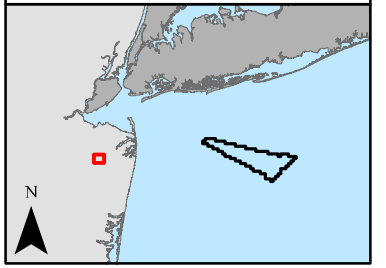

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EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

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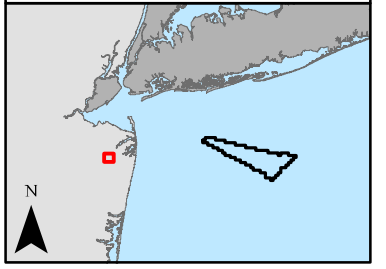

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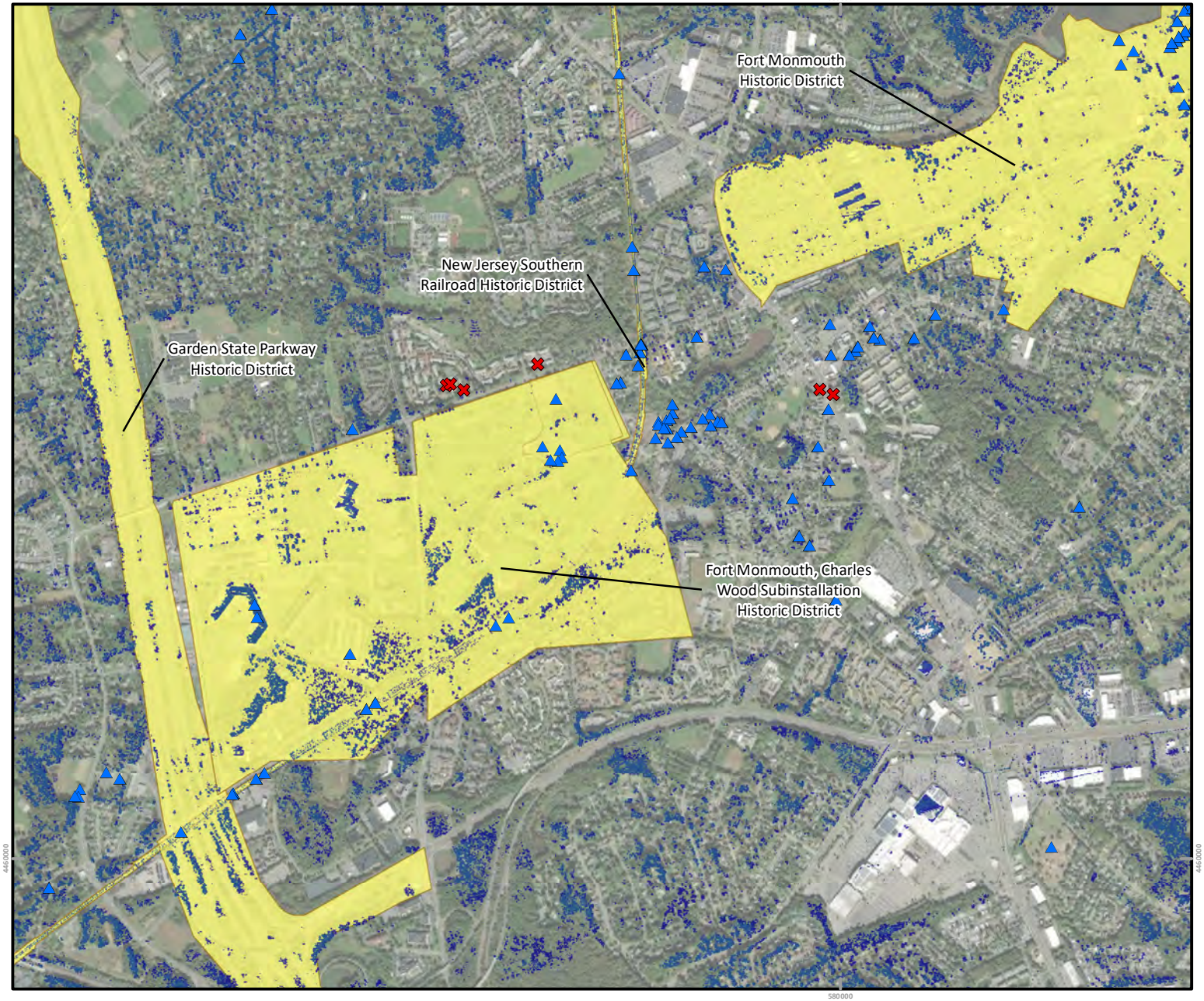

EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

equinor

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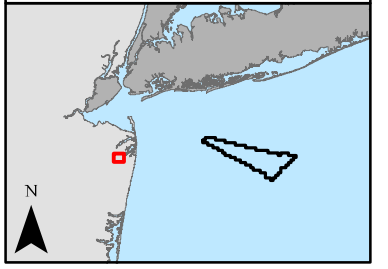

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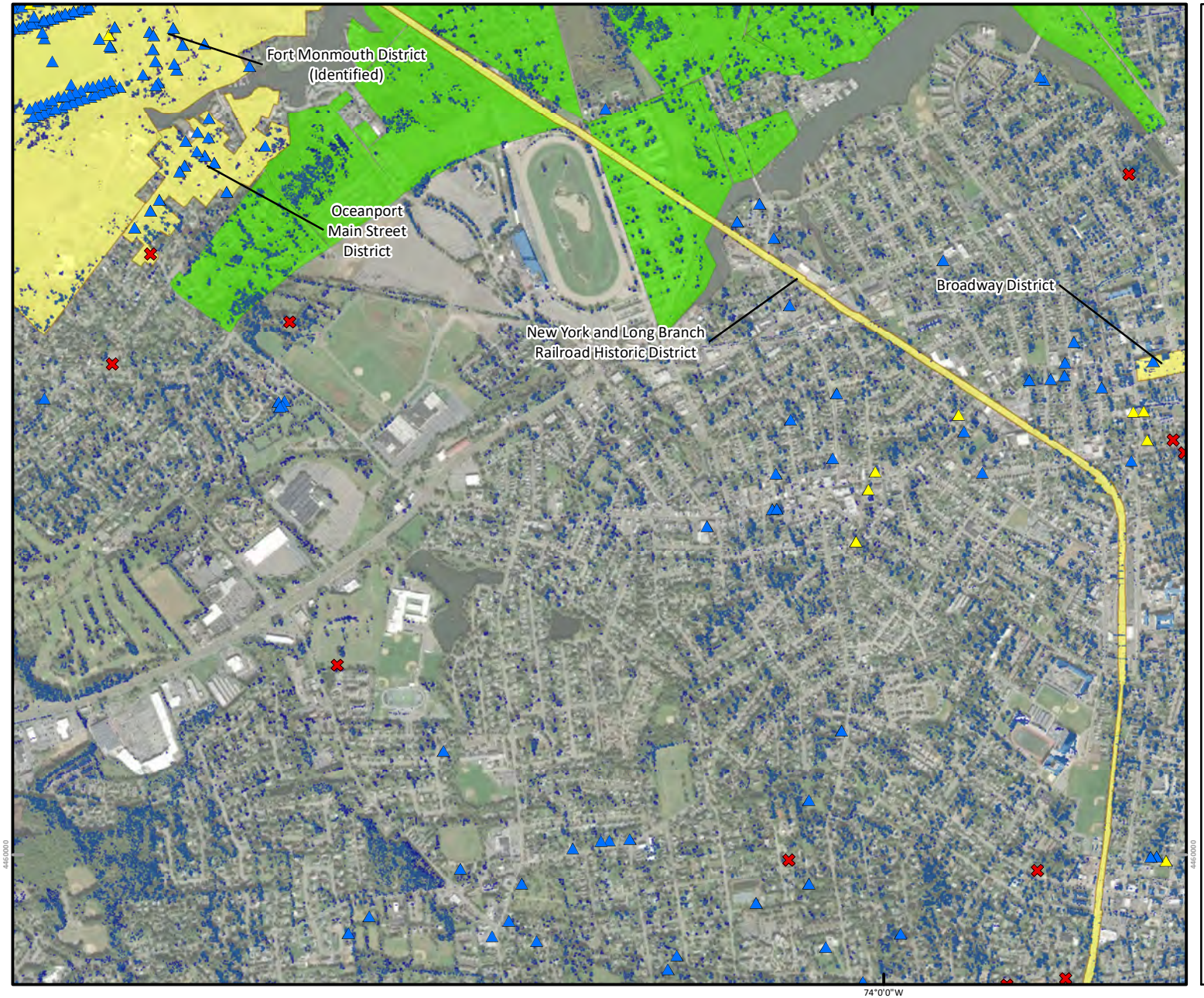

EMPIRE OFFSHORE WIND
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equinor

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Superstorm Sandy Green Zone Area

Date	November 2, 2022
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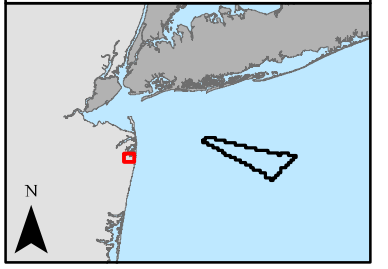

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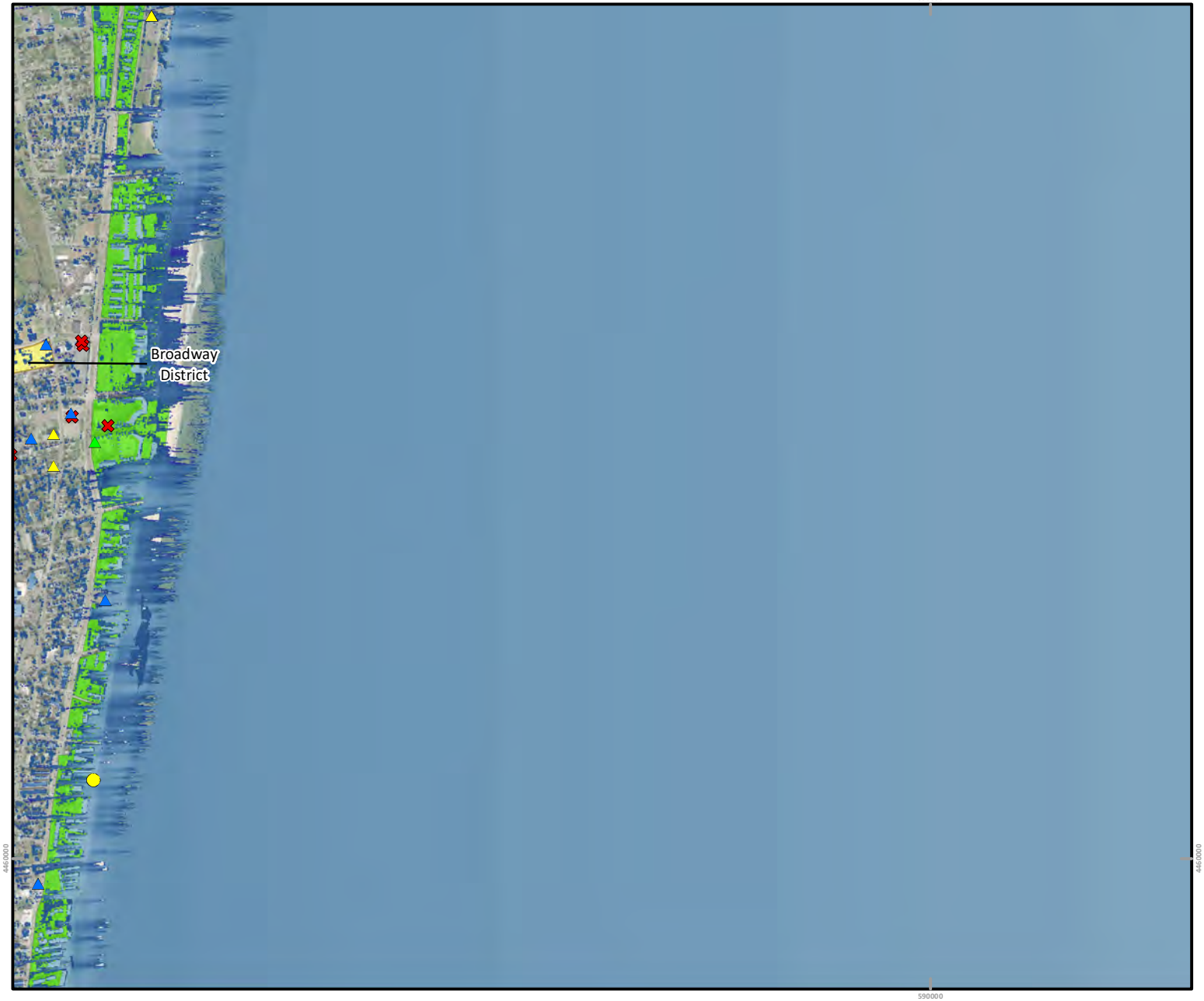

EMPIRE OFFSHORE WIND
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EMPIRE WIND PROJECT

equinor

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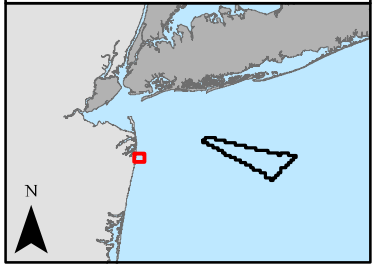

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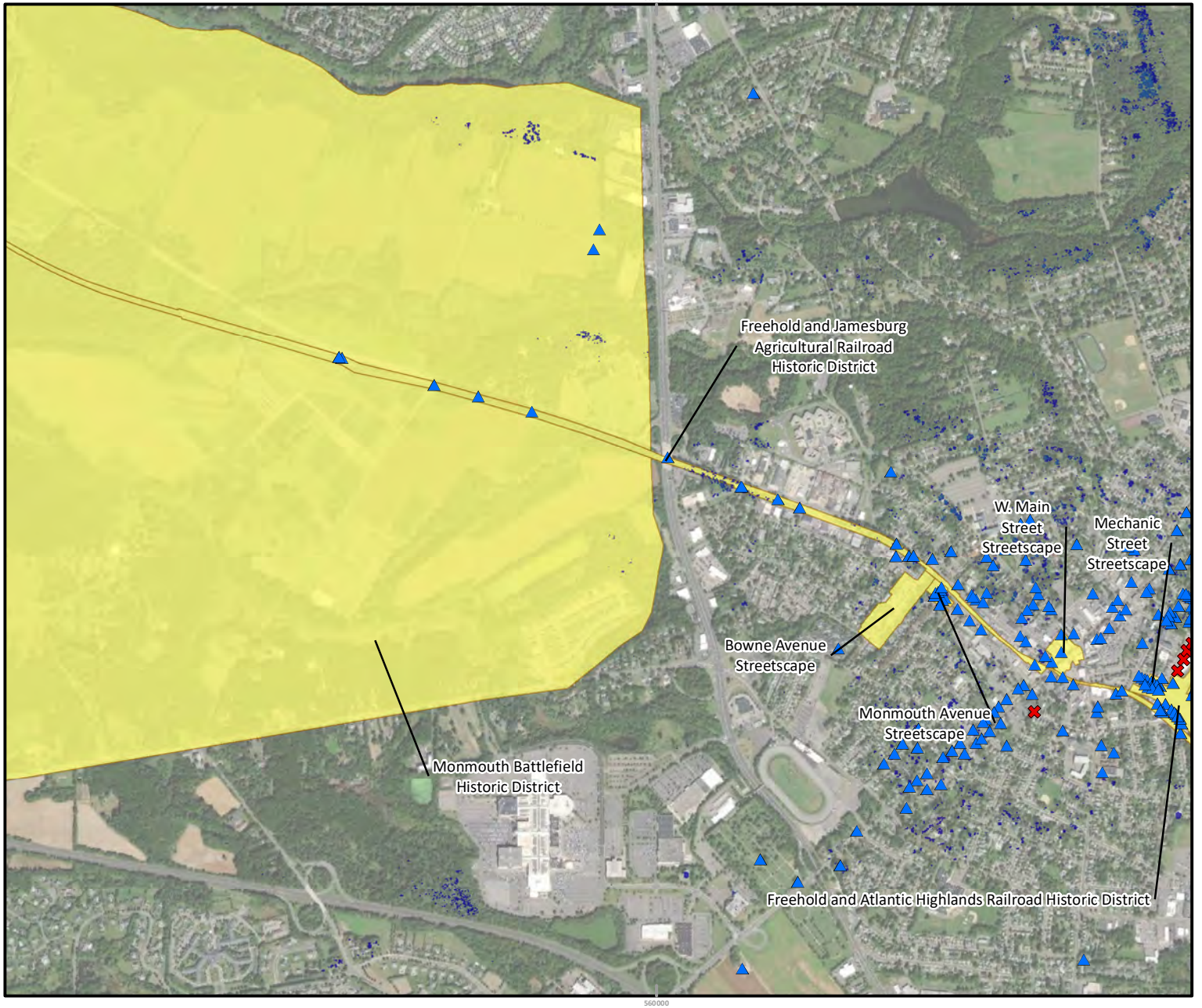

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equinor

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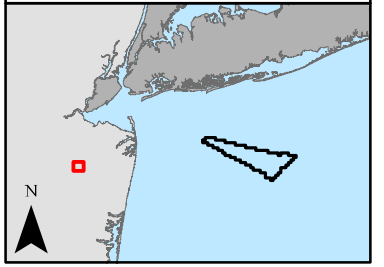

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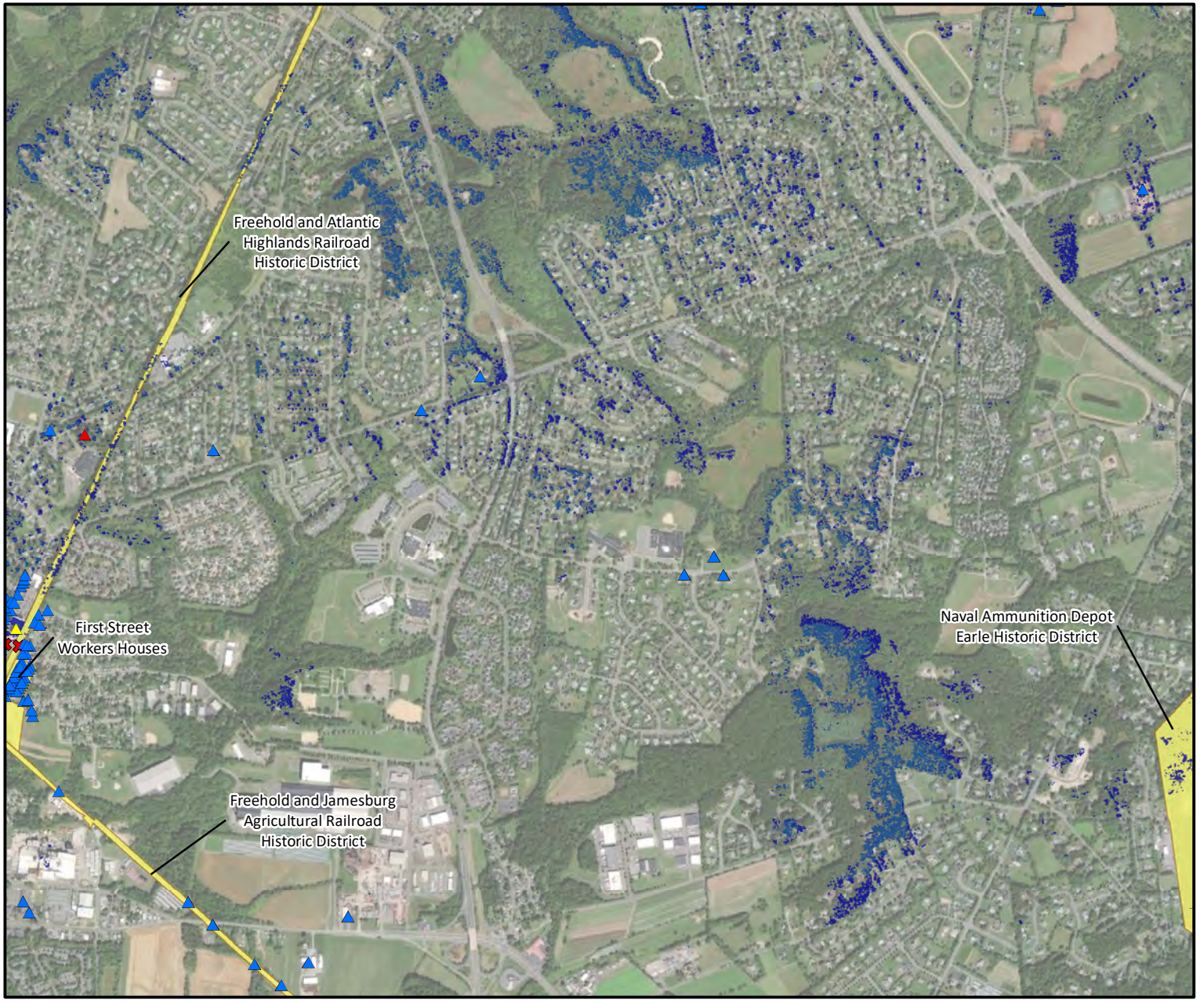

EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

equinor

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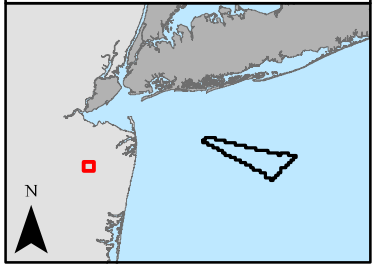

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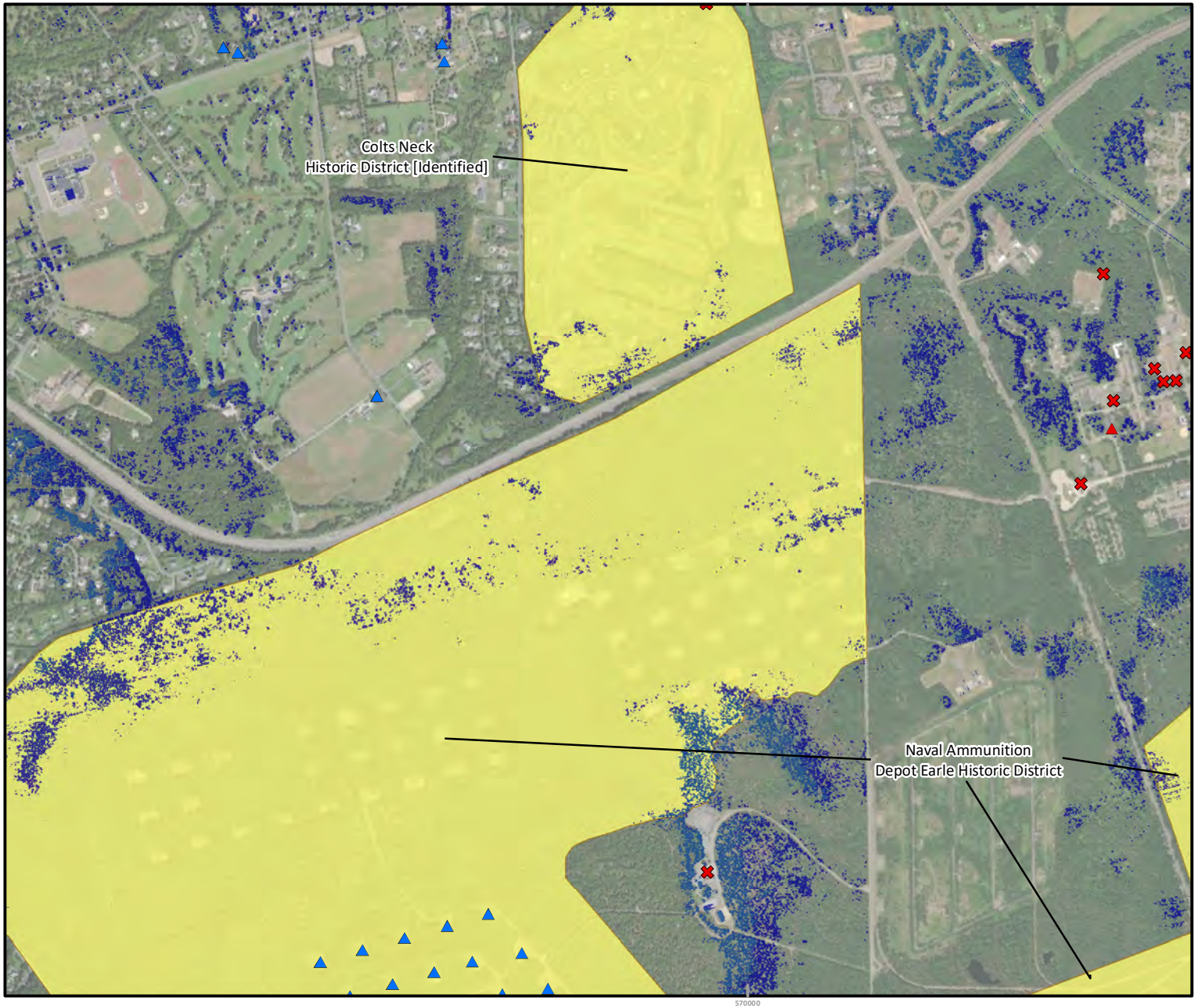

EMPIRE OFFSHORE WIND
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EMPIRE WIND PROJECT

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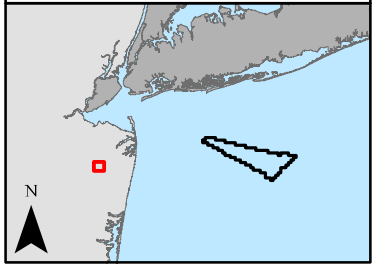

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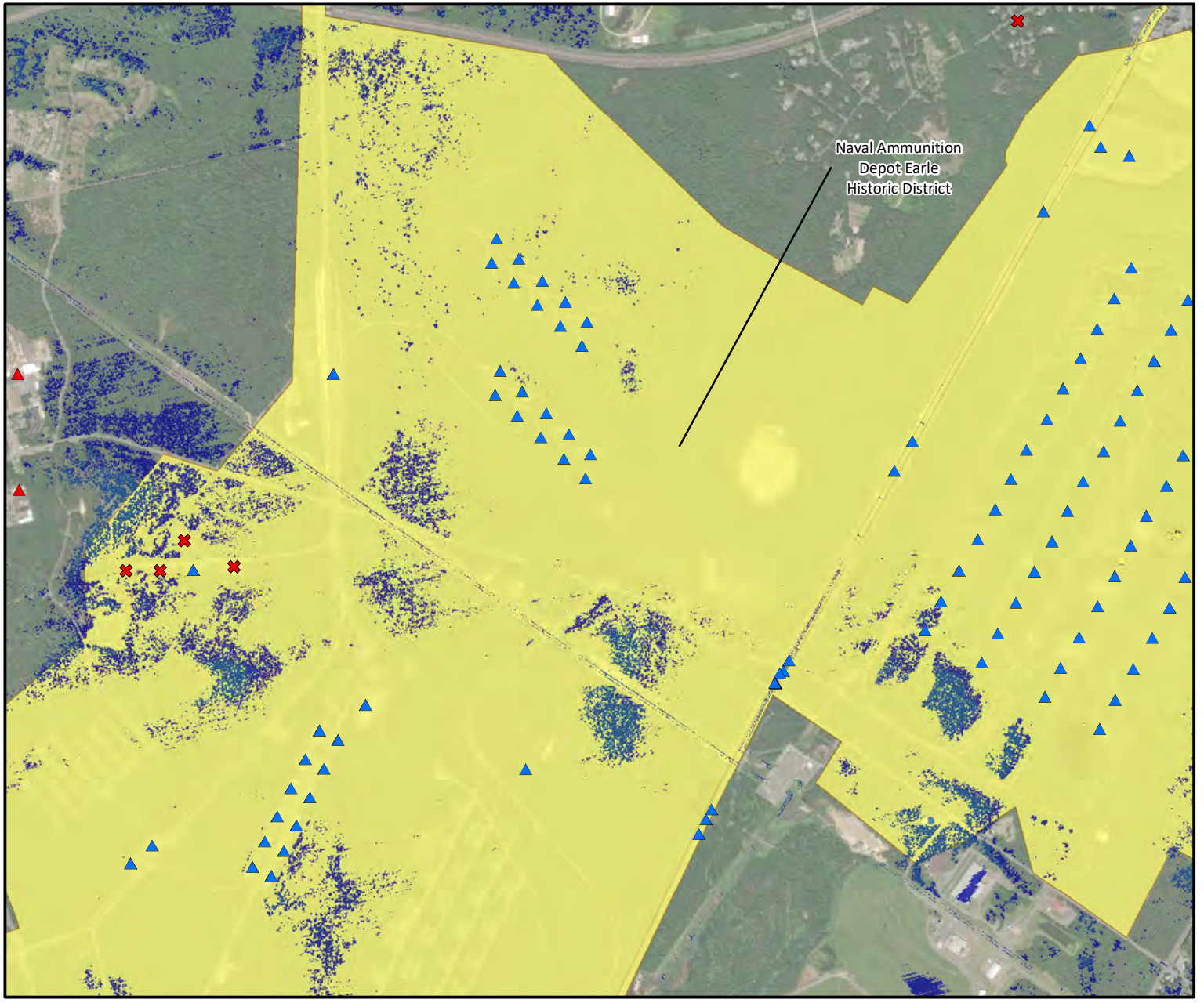

EMPIRE OFFSHORE WIND
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EMPIRE WIND PROJECT

equinor

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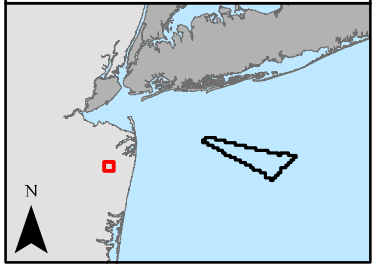

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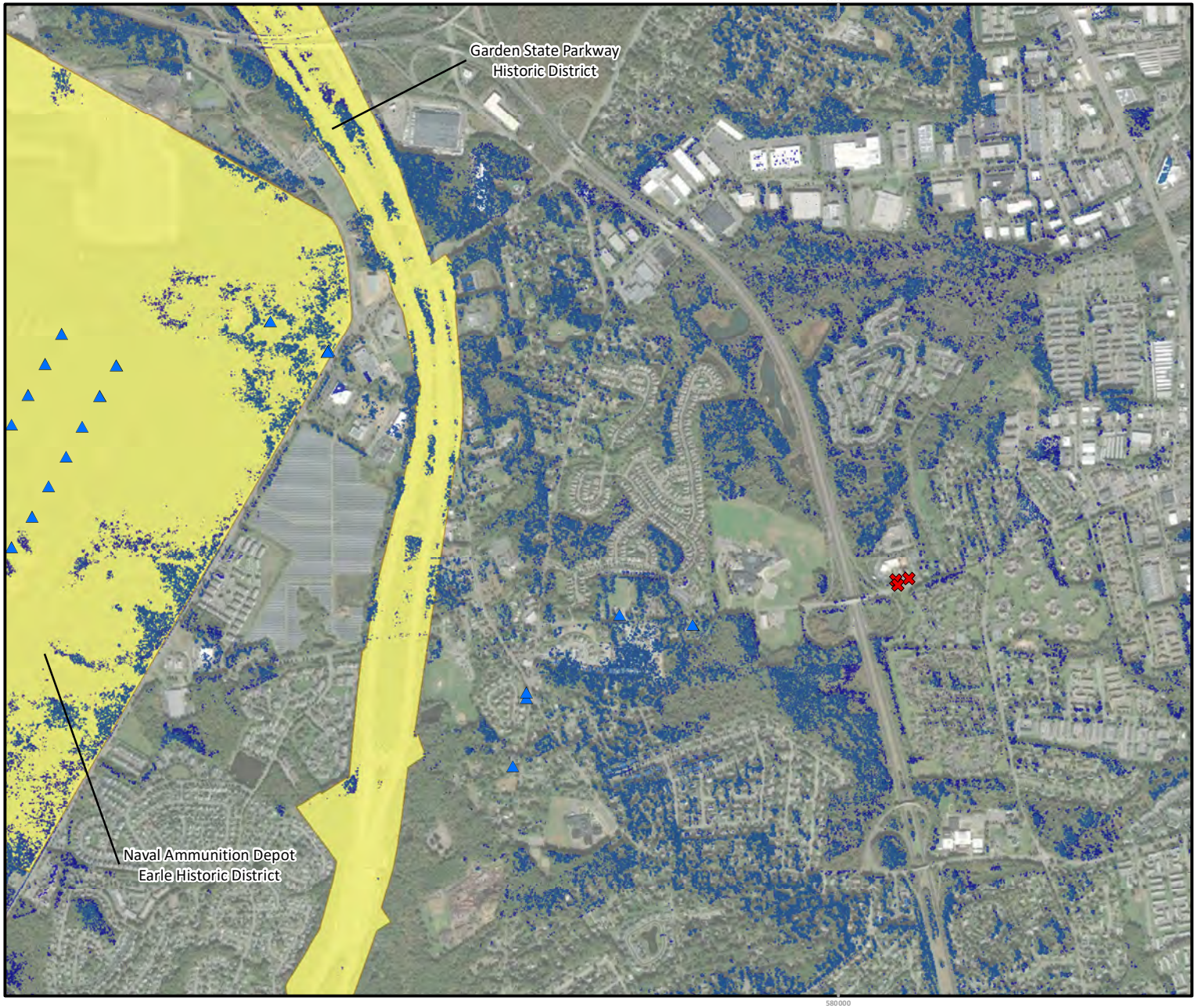

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equinor

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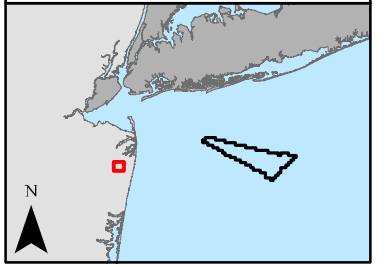

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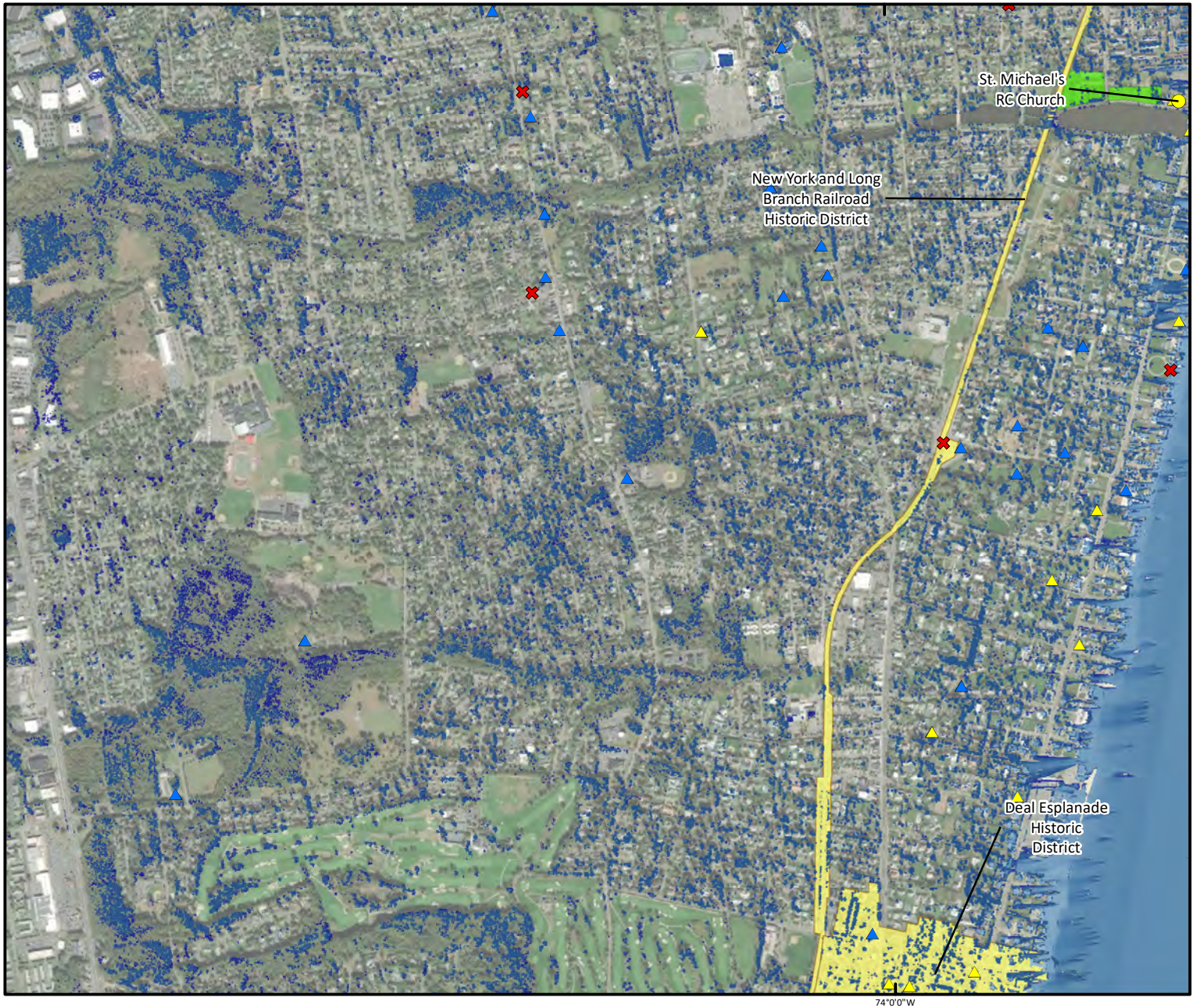

EMPIRE OFFSHORE WIND LEASE: OCS-A 0512 EMPIRE WIND PROJECT

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Date	November 2, 2022
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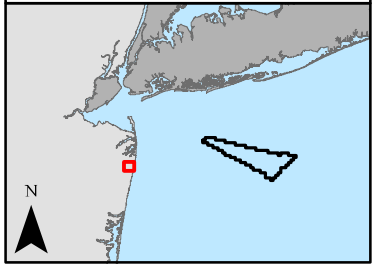

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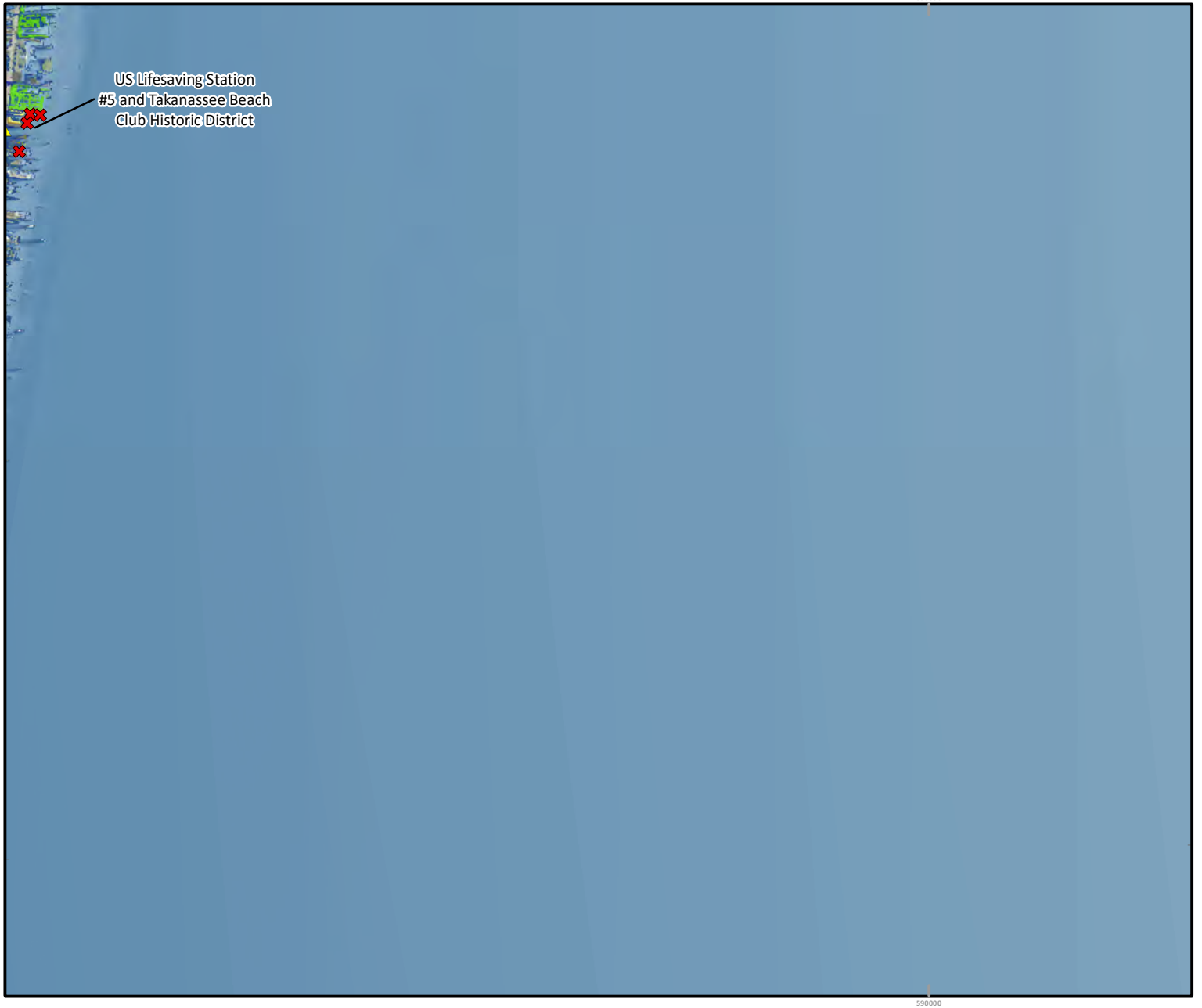

EMPIRE OFFSHORE WIND
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EMPIRE WIND PROJECT

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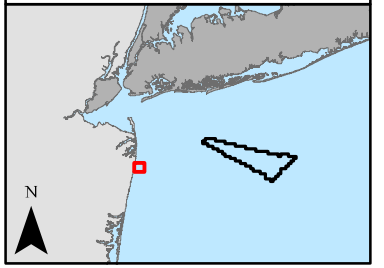

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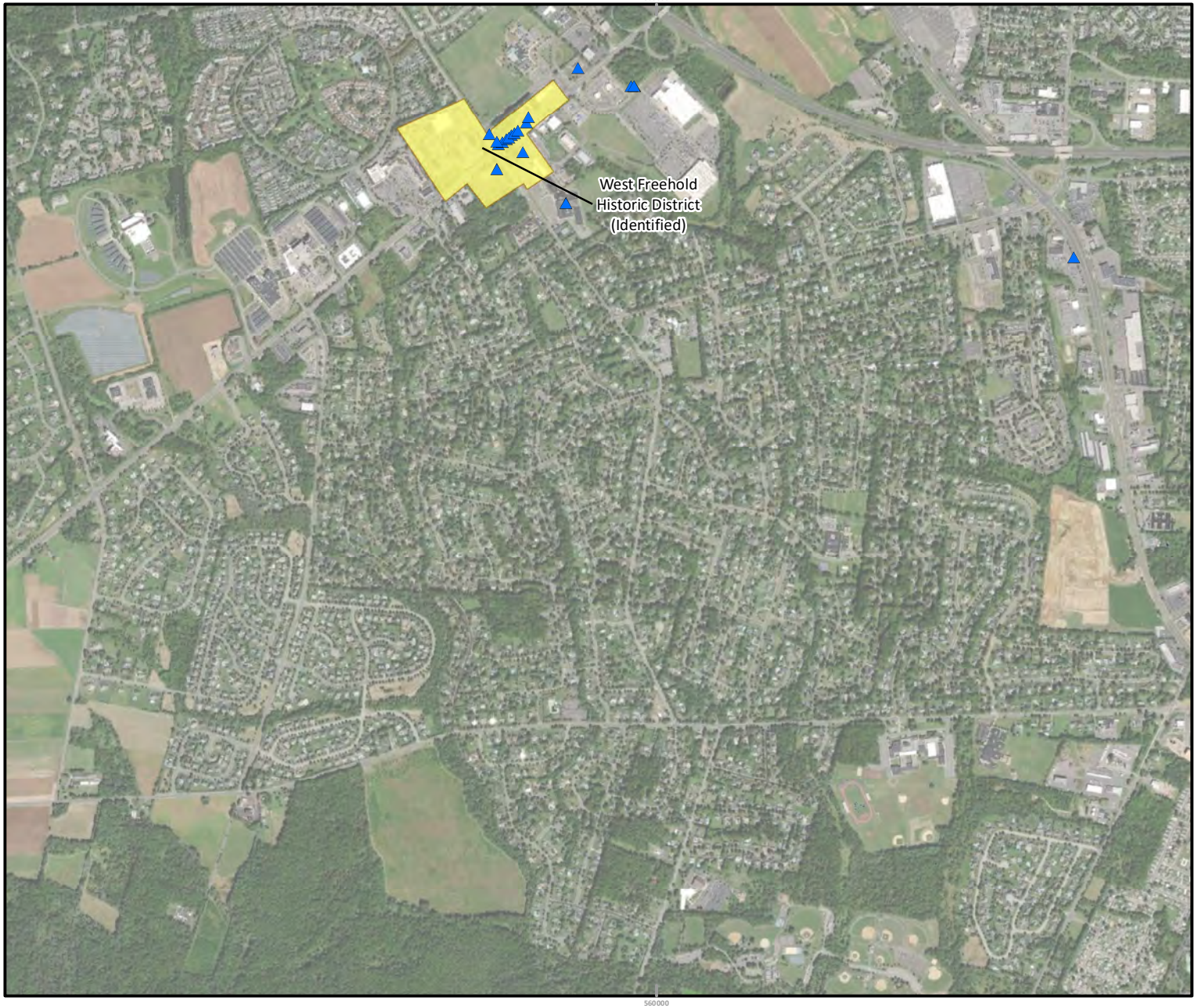

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High : 174
Low : 0
Historic Property Exlcuded from Effects Assessment
No visibility based on viewshed modeling
Historic District

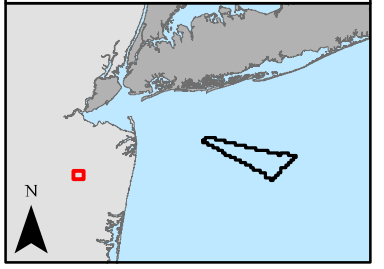
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



Data Sources: BOEM, ESRI, NOAA, NJ DEP
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

NOT FOR CONSTRUCTION

EMPIRE OFFSHORE WIND LEASE: OCS-A 0512 EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166m viewshed intensity
High : 174
Low : 0
Historic Property Exlcuded from Effects Assessment
No visibility based on viewshed modeling
Historic District

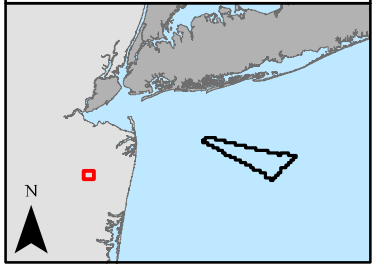
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

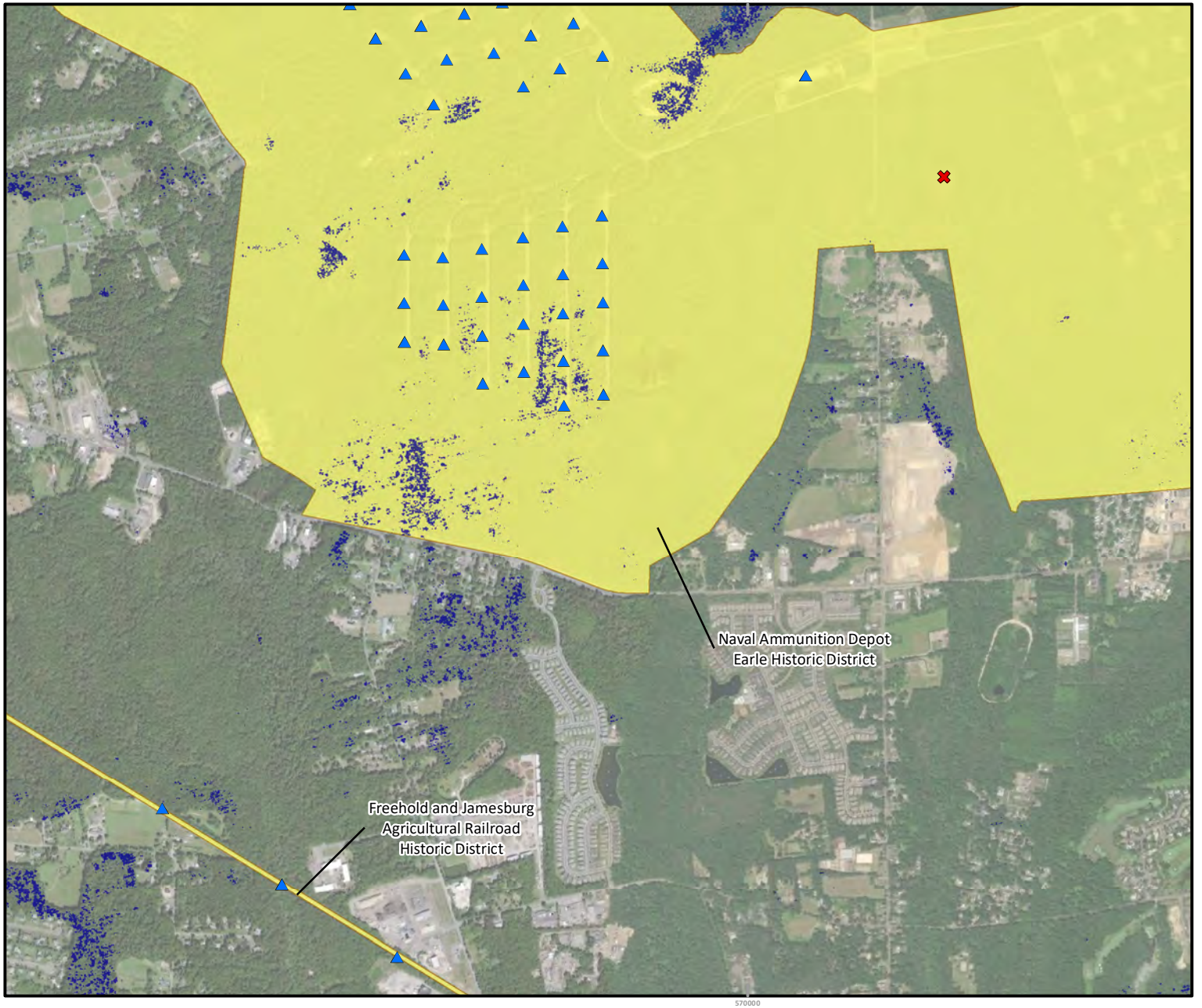
0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



Data Sources: BOEM, ESRI, NOAA, NJ DEP
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

NOT FOR CONSTRUCTION



EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166m viewshed intensity
High : 174
Low : 0
Historic Property Exlcuded from Effects Assessment
Demolished
No visibility based on viewshed modeling
Historic District

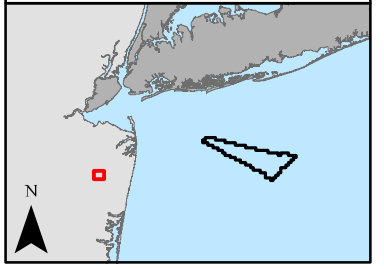
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

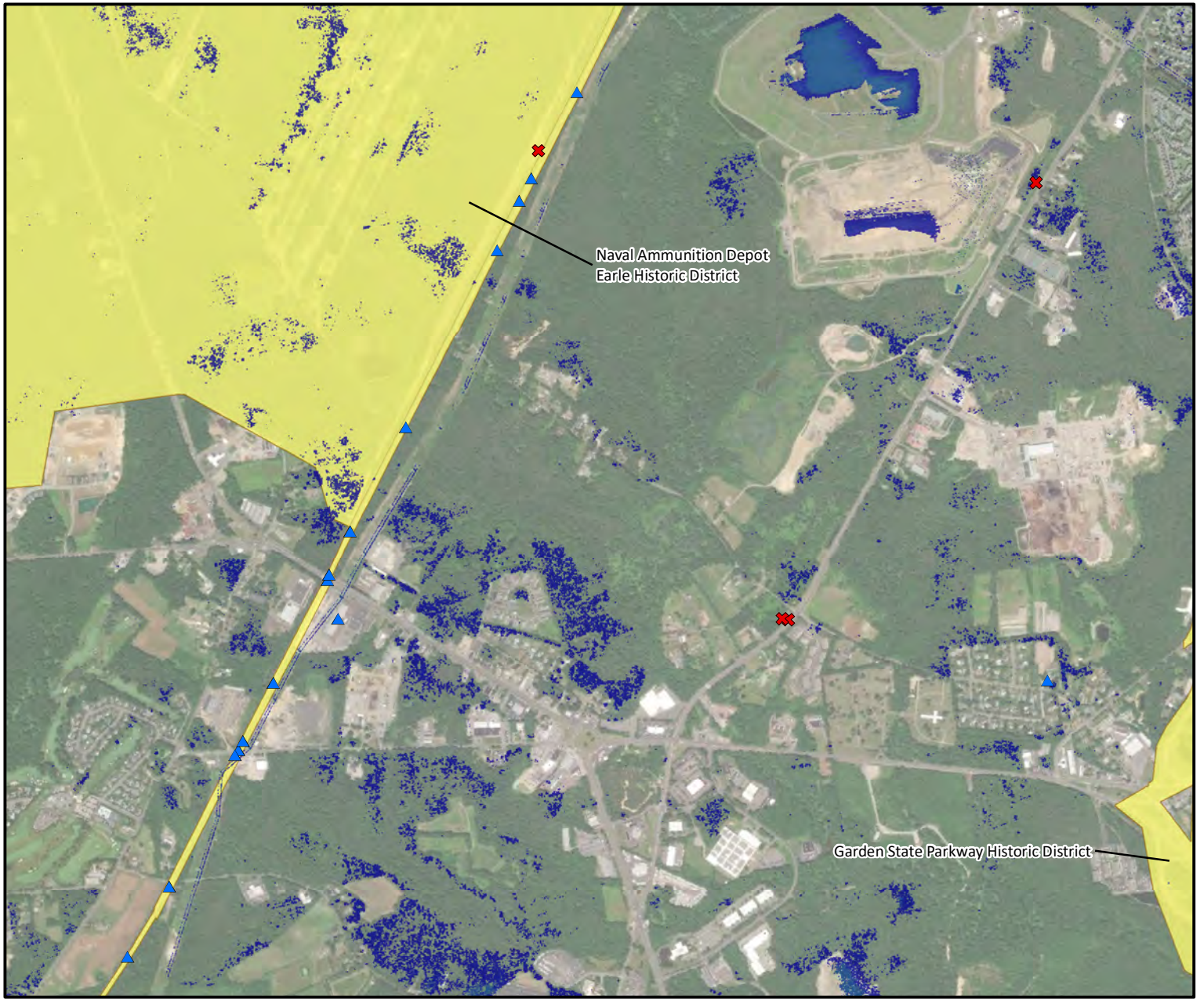
0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



Data Sources: BOEM, ESRI, NOAA, NJ DEP
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

NOT FOR CONSTRUCTION



EMPIRE OFFSHORE WIND LEASE: OCS-A 0512 EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166m viewshed intensity
High : 174
Low : 0
Historic Property Exlcuded from Effects Assessment
Demolished
No visibility based on viewshed modeling
Historic District

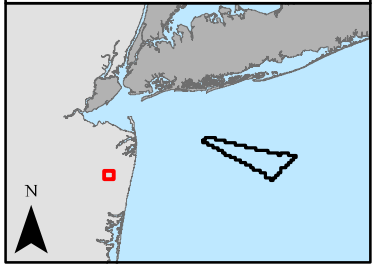
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

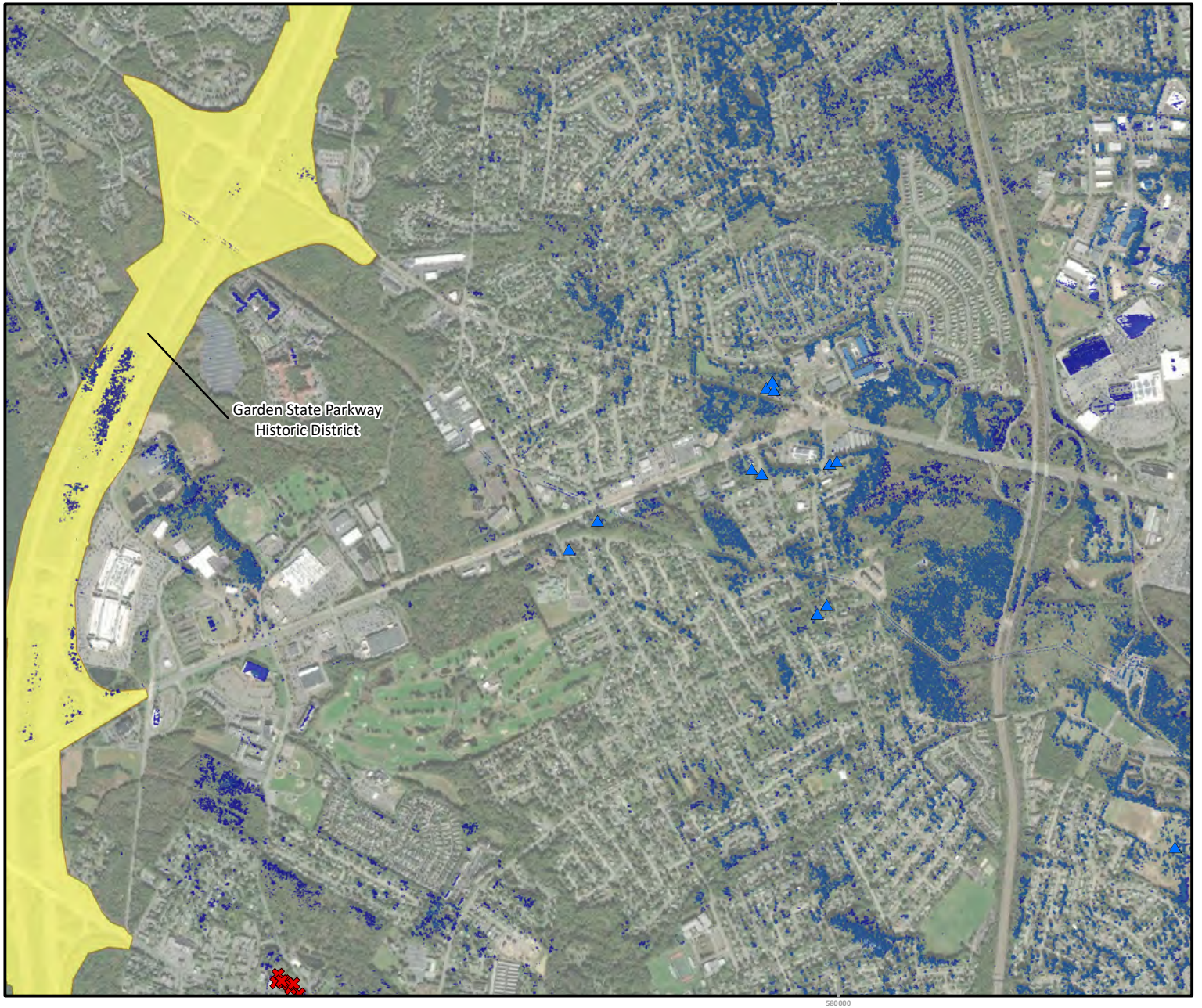
0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



Data Sources: BOEM, ESRI, NOAA, NJ DEP
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

NOT FOR CONSTRUCTION



EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

equinor

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166m viewshed intensity
High : 174
Low : 0
Historic Property Exlcuded from Effects Assessment
Demolished
No visibility based on viewshed modeling
Historic District

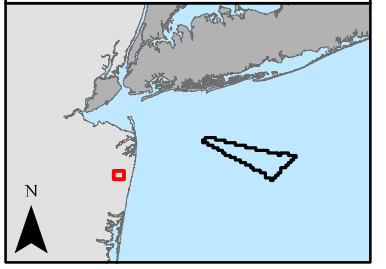
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

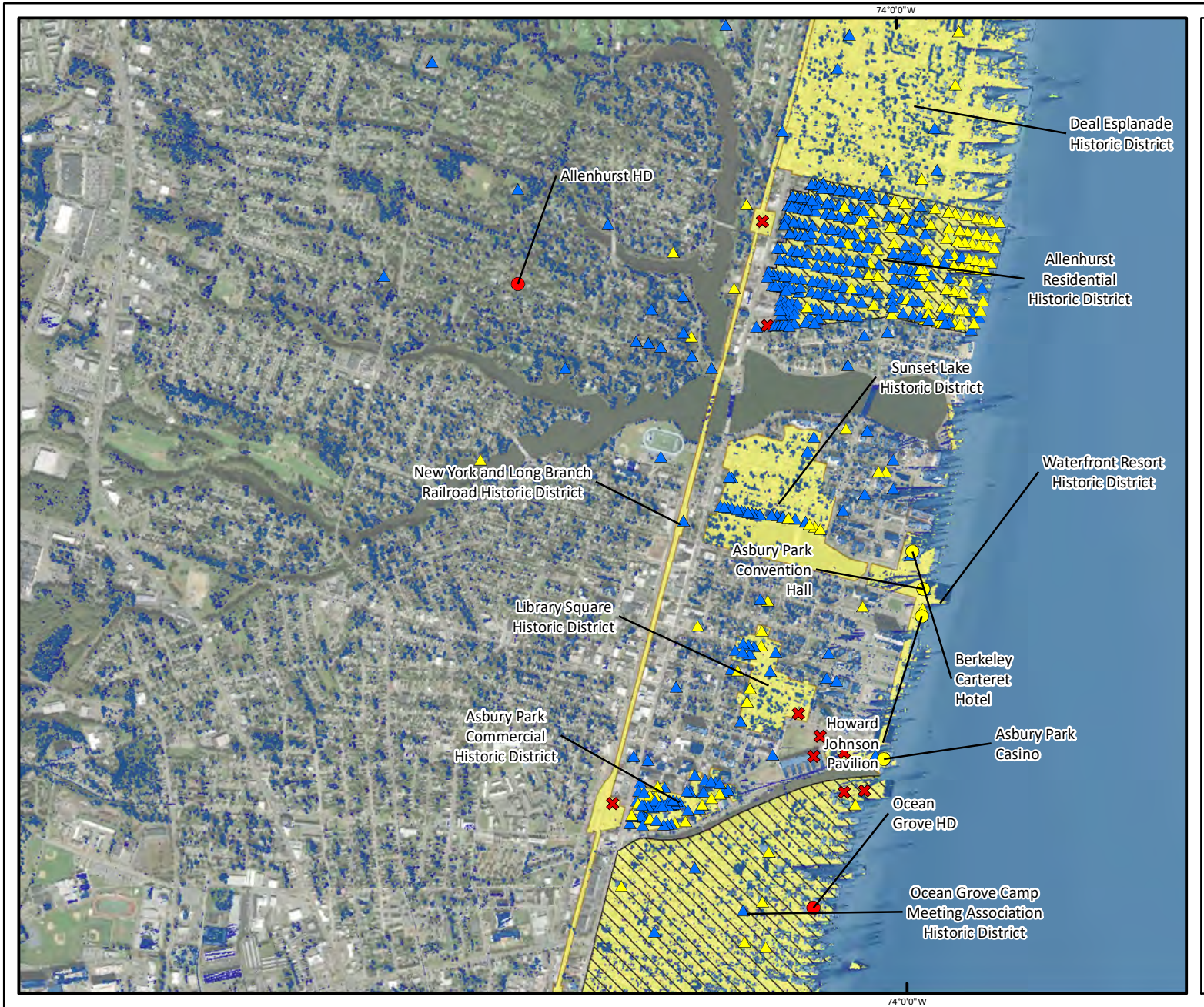
0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



Data Sources: BOEM, ESRI, NOAA, NJ DEP
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

NOT FOR CONSTRUCTION



EMPIRE OFFSHORE WIND LEASE: OCS-A 0512 EMPIRE WIND PROJECT

equinor

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166m viewshed intensity
High : 174
Low : 0
Historic Property Included in Effects Assessment
Recommended No Adverse Effect
Recommended Adverse Effect
Historic Property Exlcuded from Effects Assessment
Demolished
Potential visibility based on viewshed modeling
No visibility based on viewshed modeling
Historic District
Historic District (Adverse Effect)

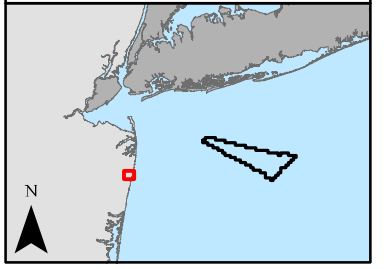
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



Data Sources: BOEM, ESRI, NOAA, NJ DEP
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

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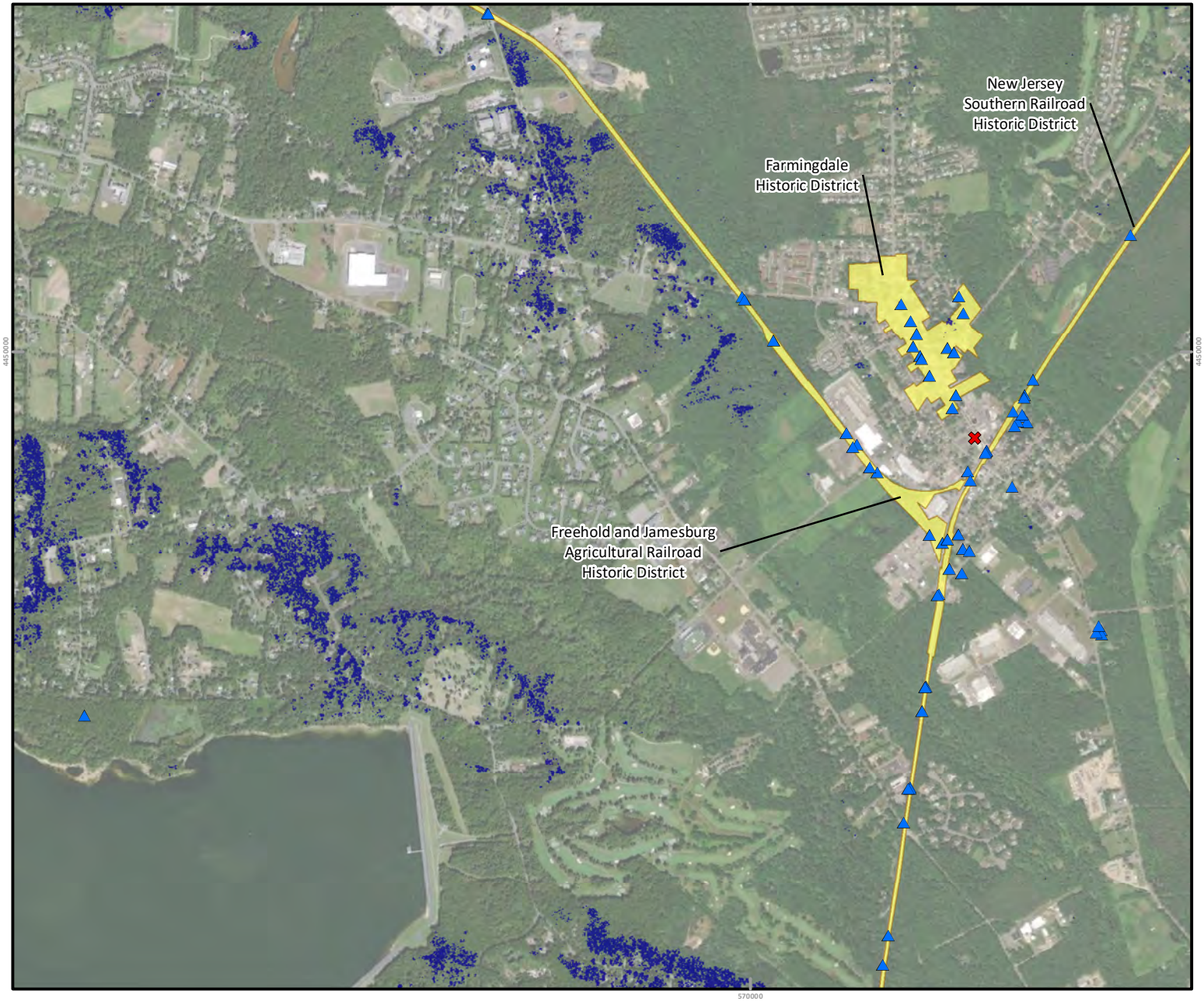


EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

equinor

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166m viewshed intensity
High : 174
Low : 0
Historic Property Exlcuded from Effects Assessment
Demolished
No visibility based on viewshed modeling
Historic District

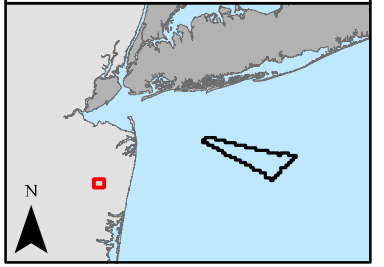
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



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Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

NOT FOR CONSTRUCTION

EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

equinor

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166m viewshed intensity
High : 174
Low : 0
Historic Property Exlcuded from Effects Assessment
Demolished
Historic District

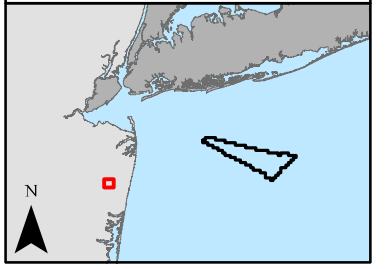
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



Data Sources: BOEM, ESRI, NOAA, NJ DEP
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

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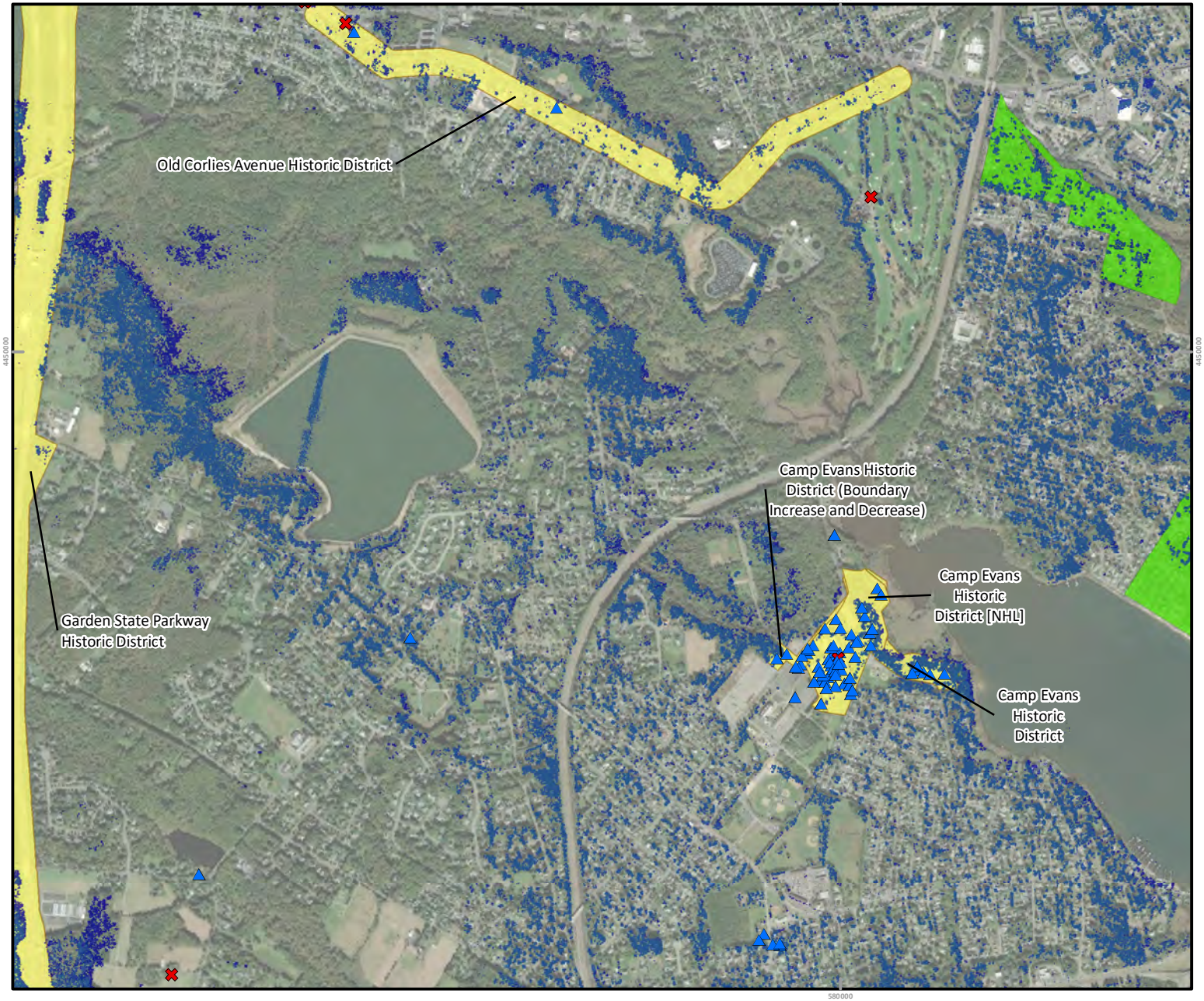


EMPIRE OFFSHORE WIND LEASE: OCS-A 0512 EMPIRE WIND PROJECT

equinor

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166m viewshed intensity
High : 174
Low : 0
Historic Property Exlcuded from Effects Assessment
Demolished
No visibility based on viewshed modeling
Historic District
Superstorm Sandy Green Zone Area

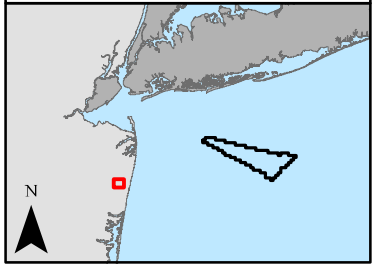
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

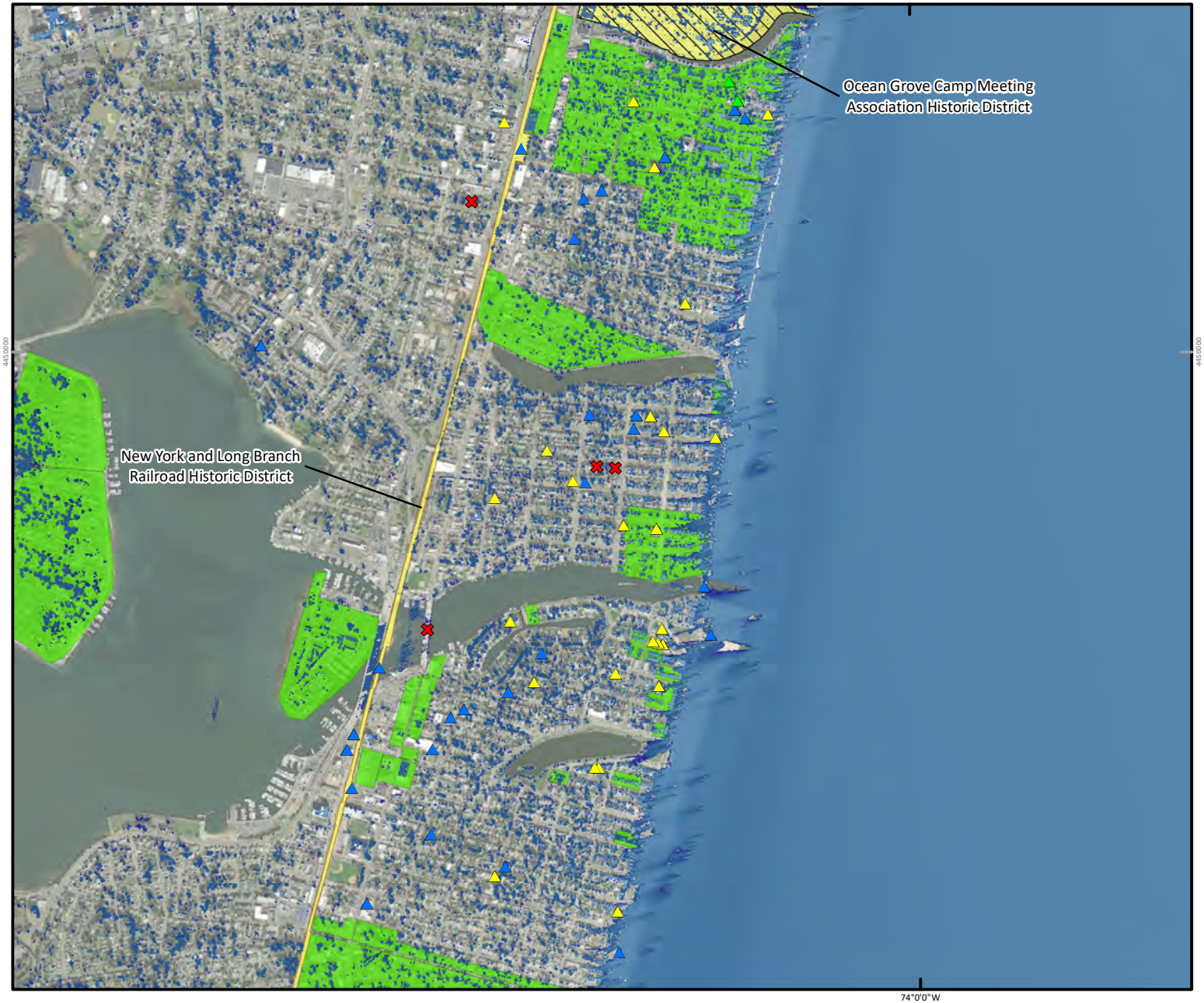
0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



Data Sources: BOEM, ESRI, NOAA, NJ DEP
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

NOT FOR CONSTRUCTION



EMPIRE OFFSHORE WIND LEASE: OCS-A 0512 EMPIRE WIND PROJECT

equinor

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0

166m viewshed intensity
High : 174
Low : 0

Historic Property Exlcuded from Effects Assessment
- Demolished
- Potential visibility based on viewshed modeling
- No visibility based on viewshed modeling
- Within Superstorm Sandy Green Zone
- Historic District
- Historic District (Adverse Effect)
- Superstorm Sandy Green Zone Area

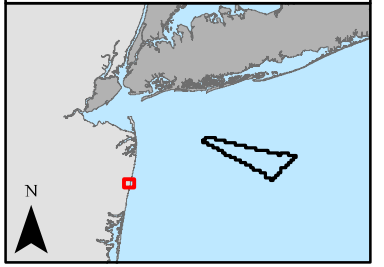
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

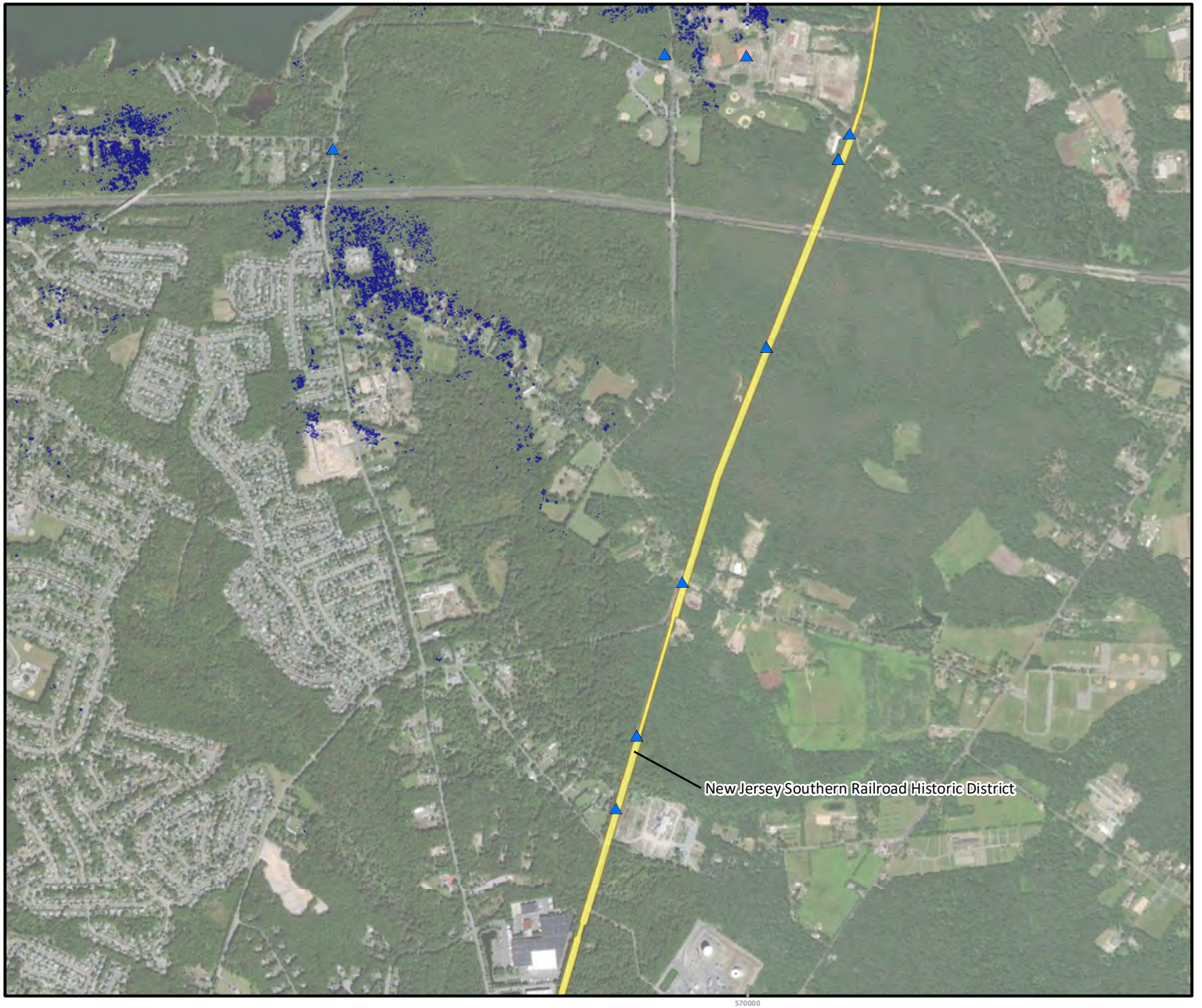
0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



Data Sources: BOEM, ESRI, NOAA, NJ DEP
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

NOT FOR CONSTRUCTION



EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166m viewshed intensity
High : 174
Low : 0
Historic Property Exlcuded from Effects Assessment
No visibility based on viewshed modeling
Historic District

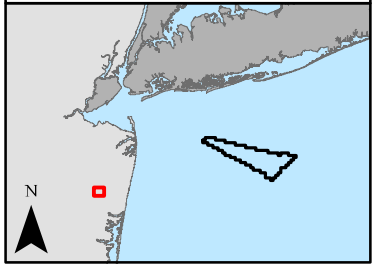
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



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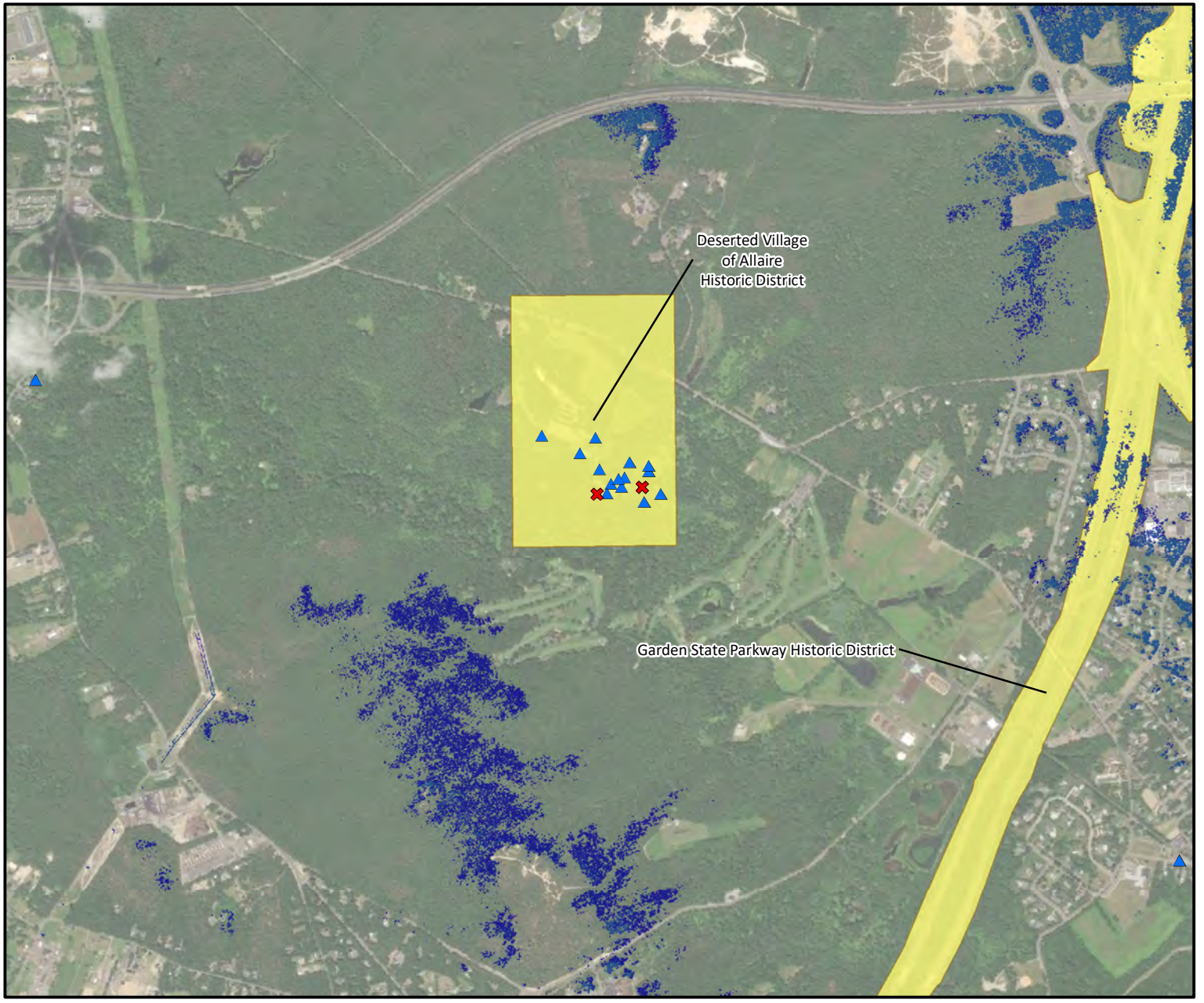
NOT FOR CONSTRUCTION



EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166m viewshed intensity
High : 174
Low : 0
Historic Property Exlcuded from Effects Assessment
Demolished
No visibility based on viewshed modeling
Historic District

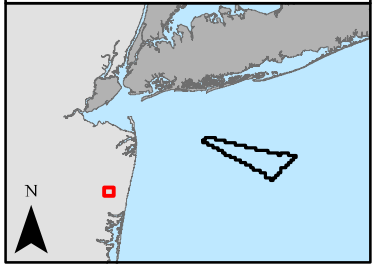
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



Data Sources: BOEM, ESRI, NOAA, NJ DEP
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

NOT FOR CONSTRUCTION

EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

equinor

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166m viewshed intensity
High : 174
Low : 0
Historic Property Exlcuded from Effects Assessment
Demolished
Potential visibility based on viewshed modeling
No visibility based on viewshed modeling
Historic District

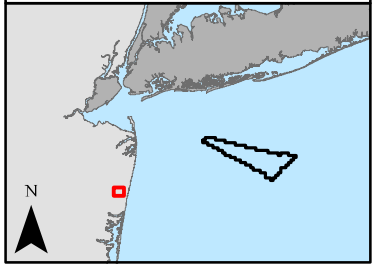
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

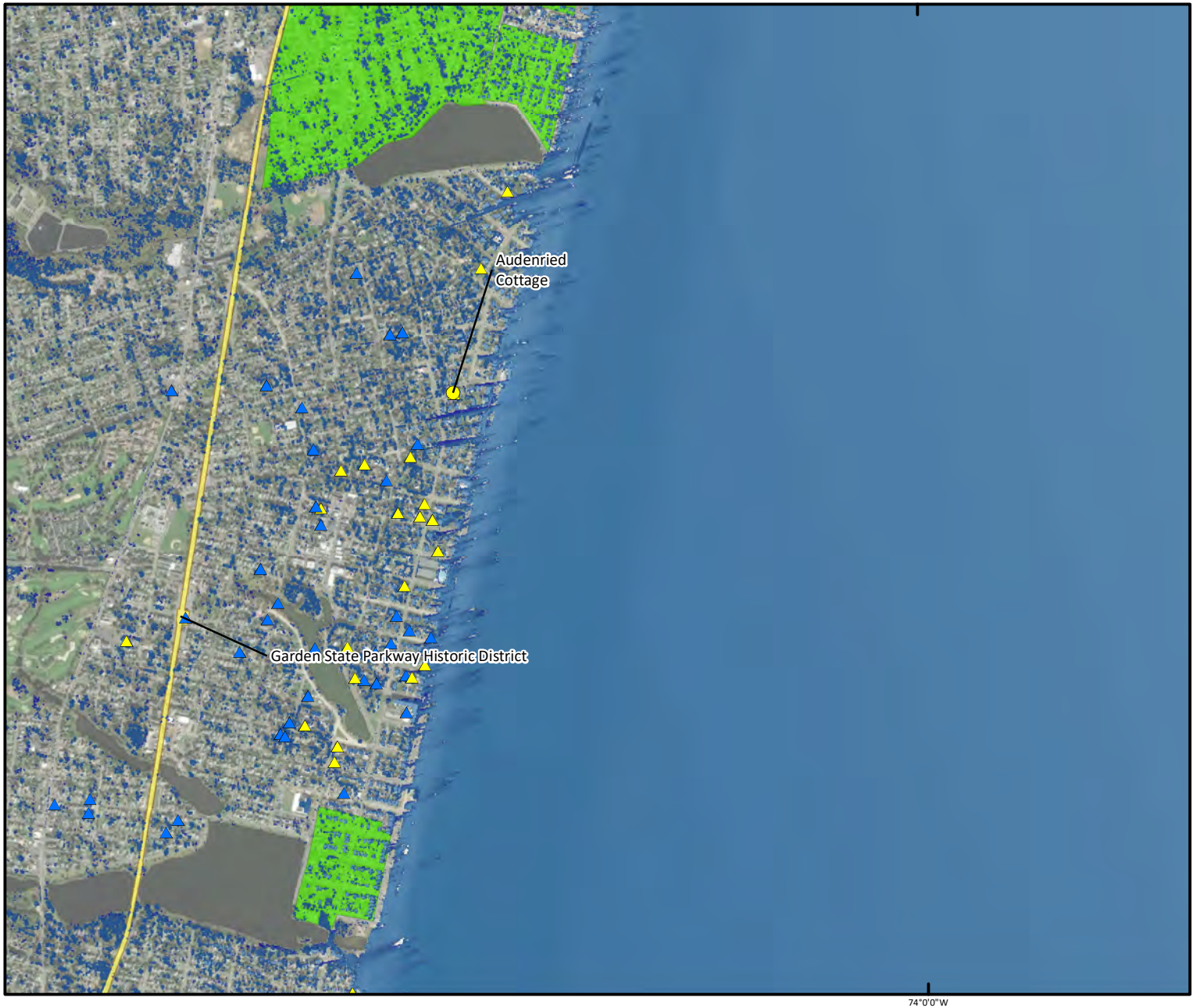
0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



Data Sources: BOEM, ESRI, NOAA, NJ DEP
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

NOT FOR CONSTRUCTION



EMPIRE OFFSHORE WIND LEASE: OCS-A 0512 EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166m viewshed intensity
High : 174
Low : 0
Historic Property Included in Effects Assessment
Recommended No Adverse Effect
Historic Property Exlcuded from Effects Assessment
Potential visibility based on viewshed modeling
No visibility based on viewshed modeling
Historic District
Superstorm Sandy Green Zone Area

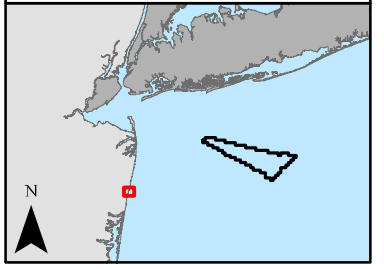
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



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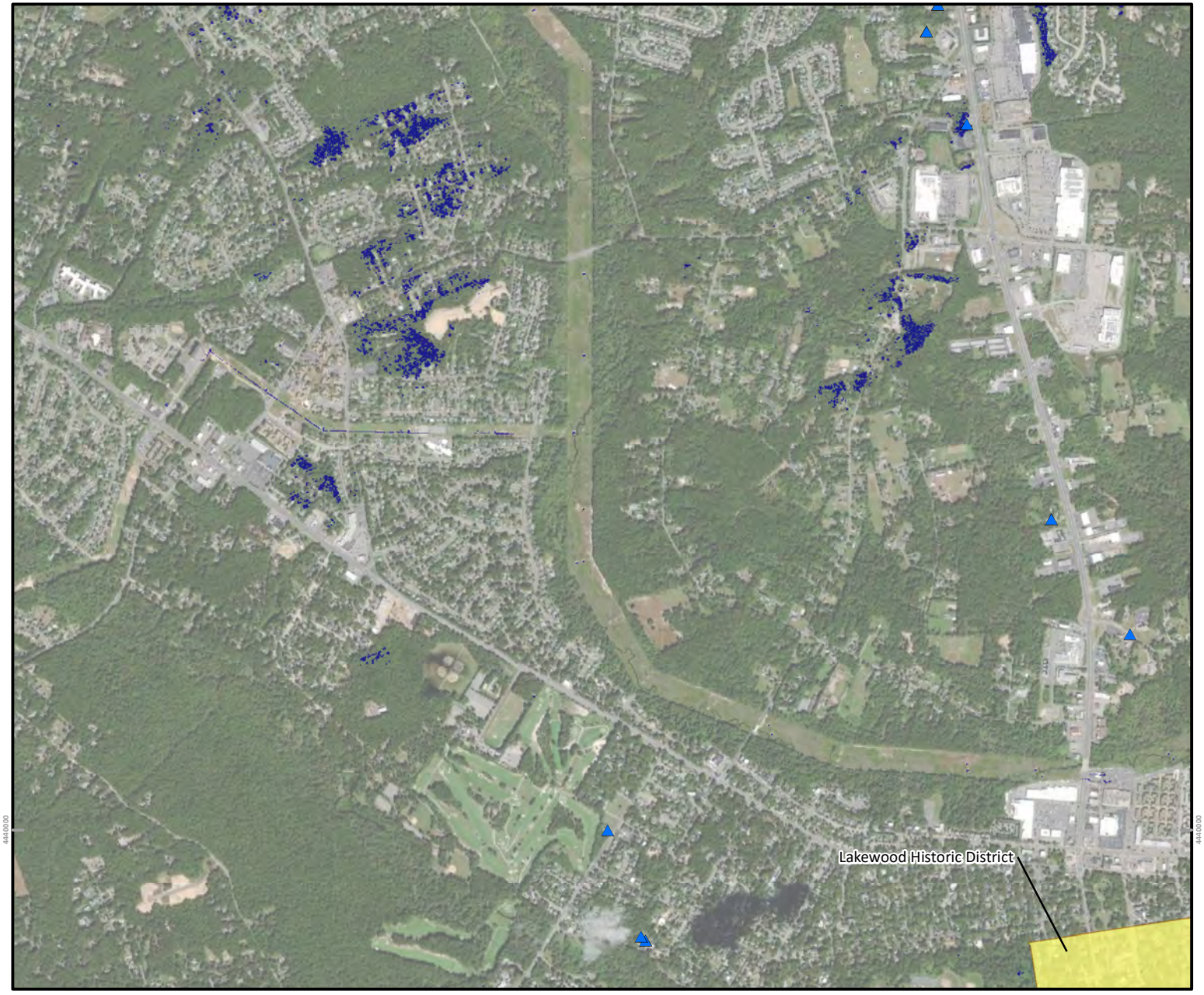
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

NOT FOR CONSTRUCTION



EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166m viewshed intensity
High : 174
Low : 0
Historic Property Exlcuded from Effects Assessment
No visibility based on viewshed modeling
Historic District

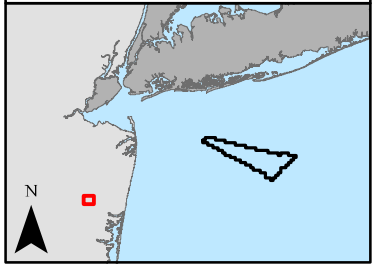
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



Data Sources: BOEM, ESRI, NOAA, NJ DEP
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

NOT FOR CONSTRUCTION

EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166m viewshed intensity
High : 174
Low : 0
Historic Property Exlcuded from Effects Assessment
Demolished
No visibility based on viewshed modeling
Historic District

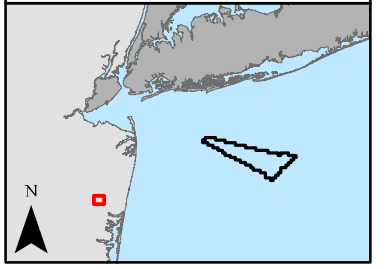
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



Data Sources: BOEM, ESRI, NOAA, NJ DEP
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

NOT FOR CONSTRUCTION

EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

equinor

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166m viewshed intensity
High : 174
Low : 0
Historic Property Exlcuded from Effects Assessment
Demolished
No visibility based on viewshed modeling
Historic District
Superstorm Sandy Green Zone Area

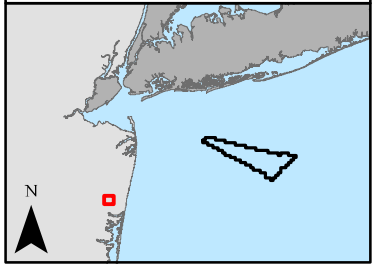
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

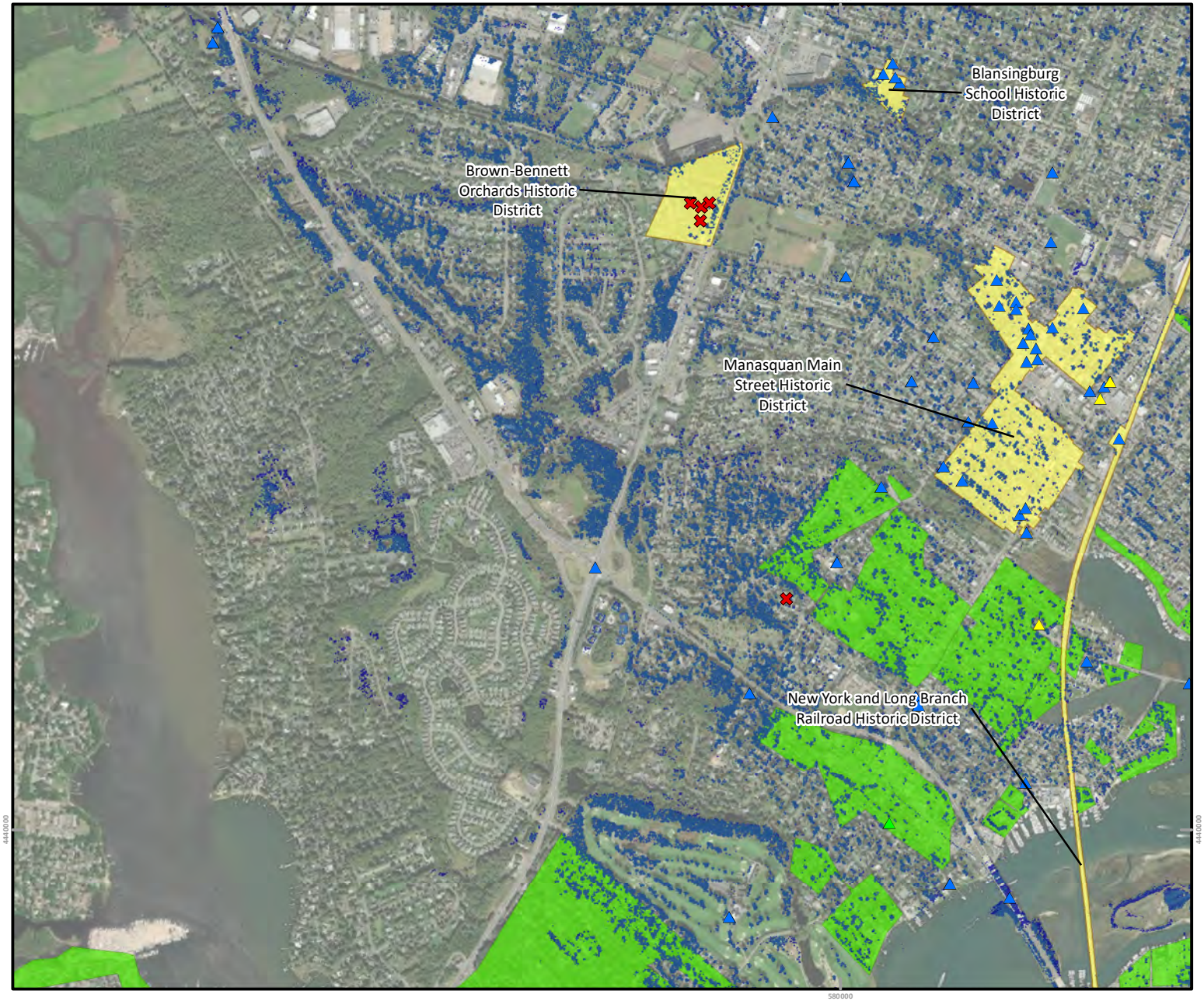
0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



Data Sources: BOEM, ESRI, NOAA, NJ DEP
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

NOT FOR CONSTRUCTION



EMPIRE OFFSHORE WIND LEASE: OCS-A 0512 EMPIRE WIND PROJECT

equinor

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166m viewshed intensity
High : 174
Low : 0
Historic Property Exlcuded from Effects Assessment
Demolished
Potential visibility based on viewshed modeling
No visibility based on viewshed modeling
Within Superstorm Sandy Green Zone
Historic District
Superstorm Sandy Green Zone Area

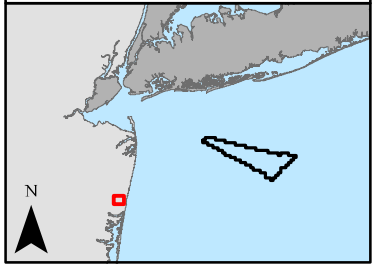
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



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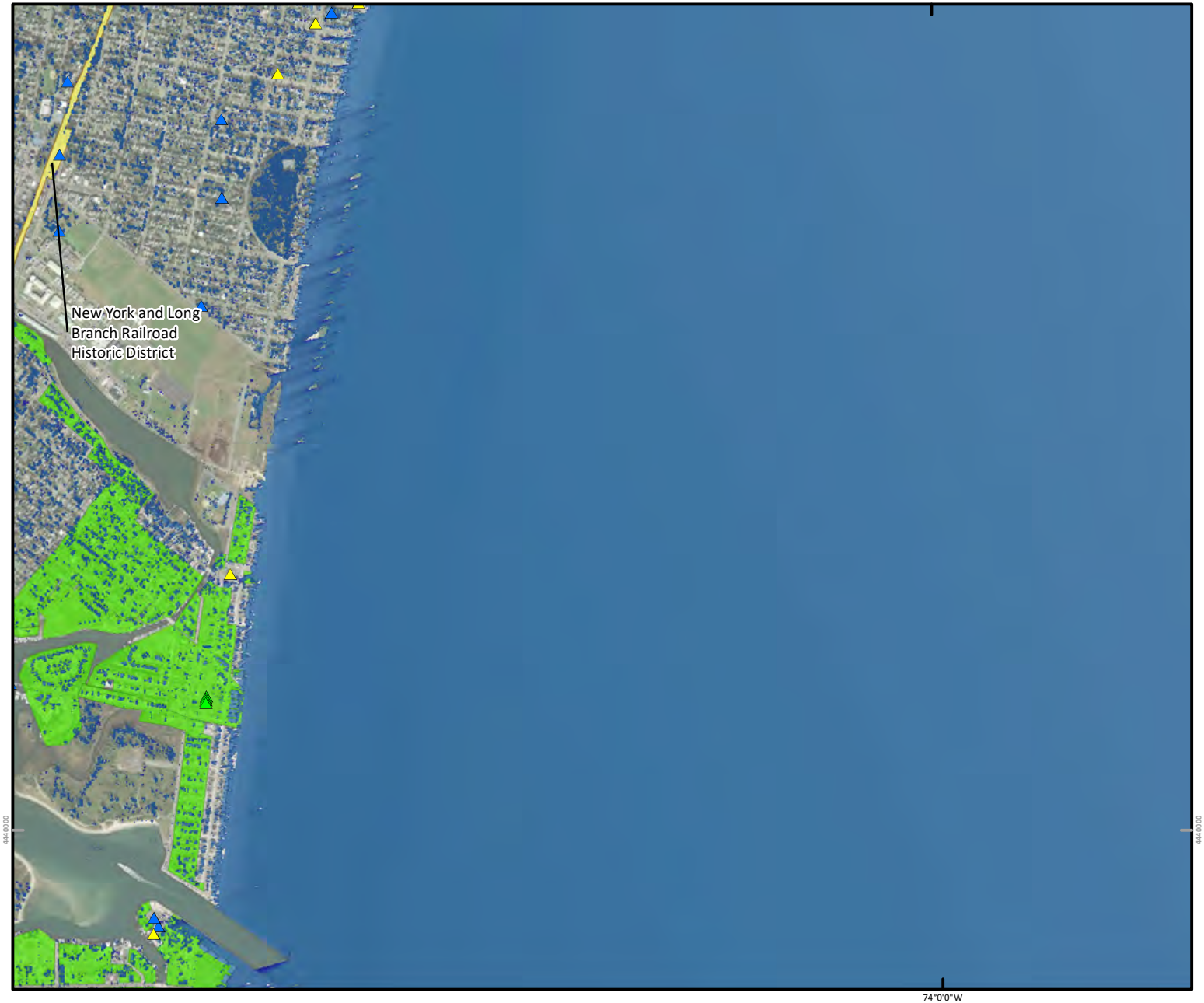

EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

equinor

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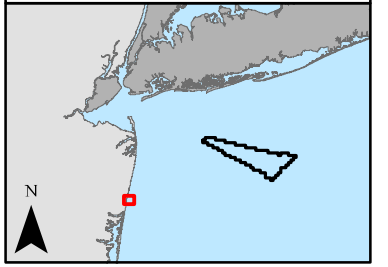

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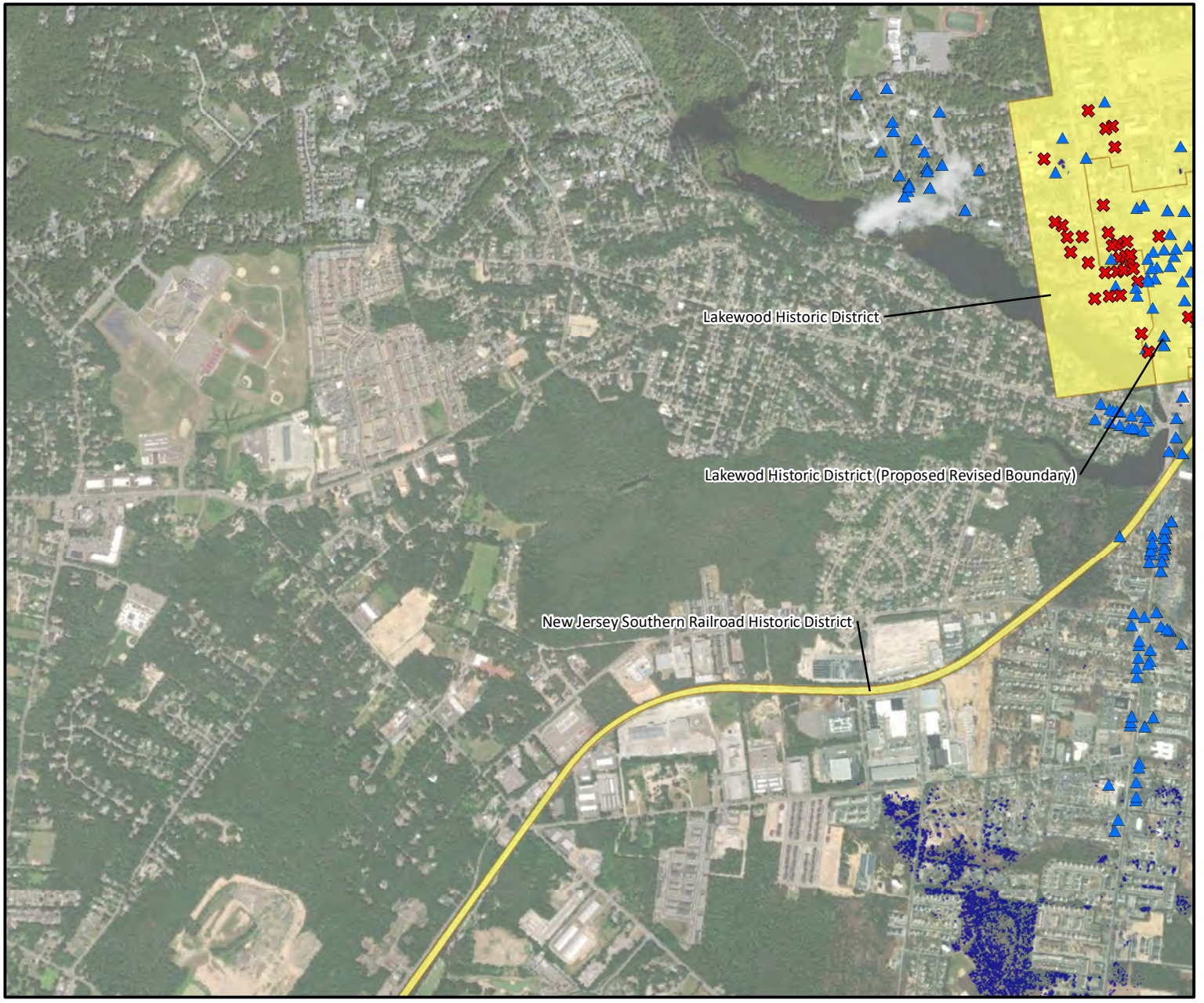

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equinor

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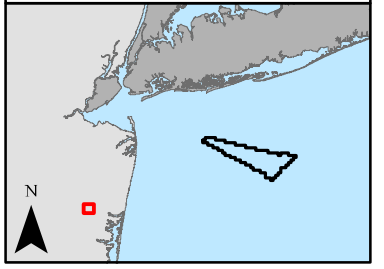

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EMPIRE OFFSHORE WIND LEASE: OCS-A 0512 EMPIRE WIND PROJECT

equinor

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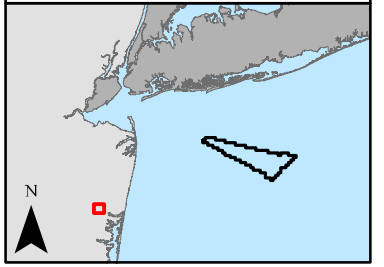

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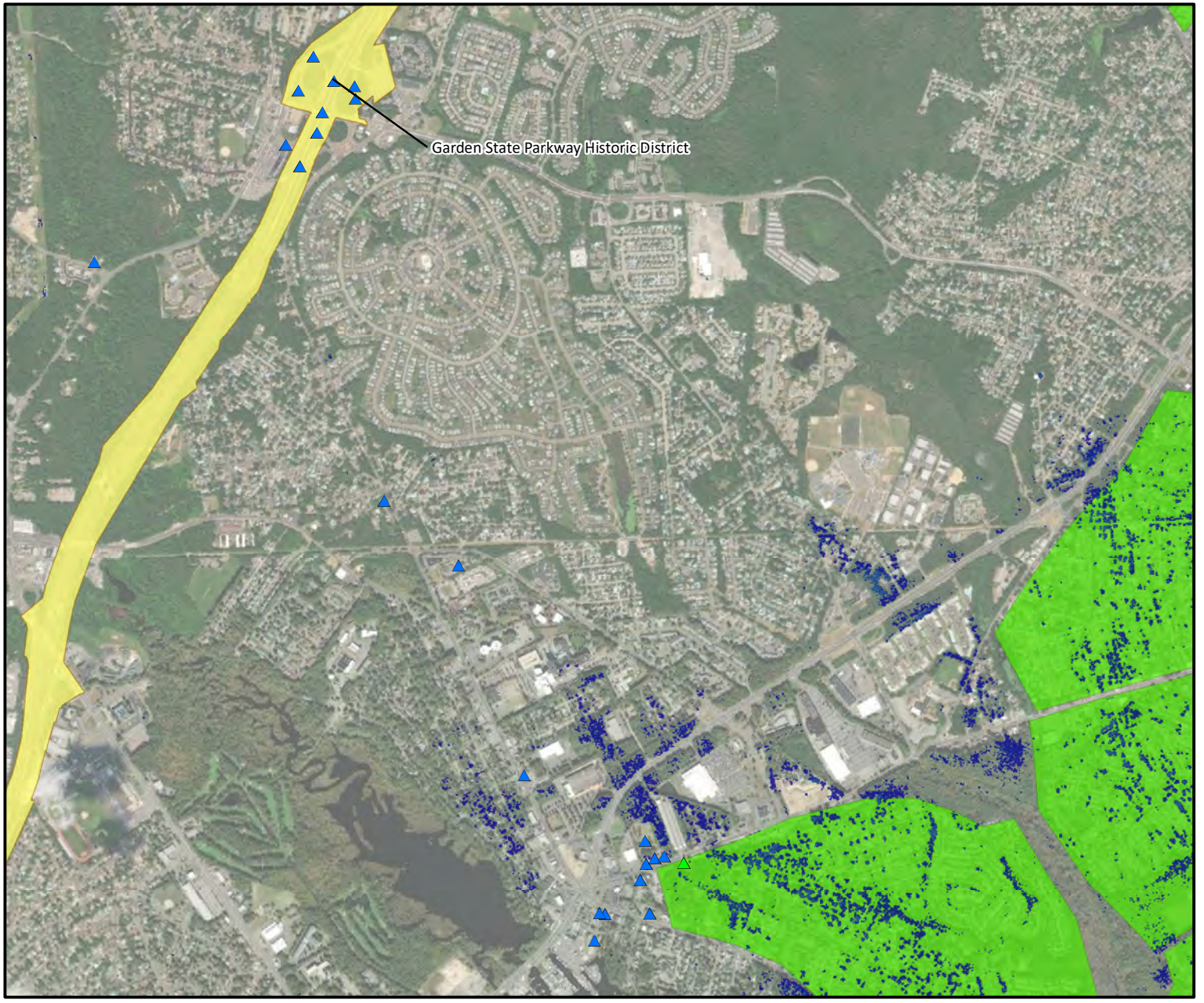

EMPIRE OFFSHORE WIND
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EMPIRE WIND PROJECT

equinor

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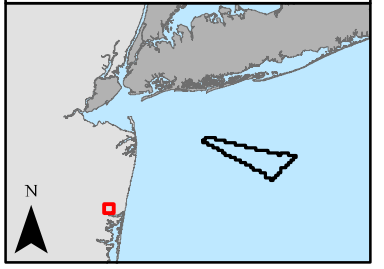

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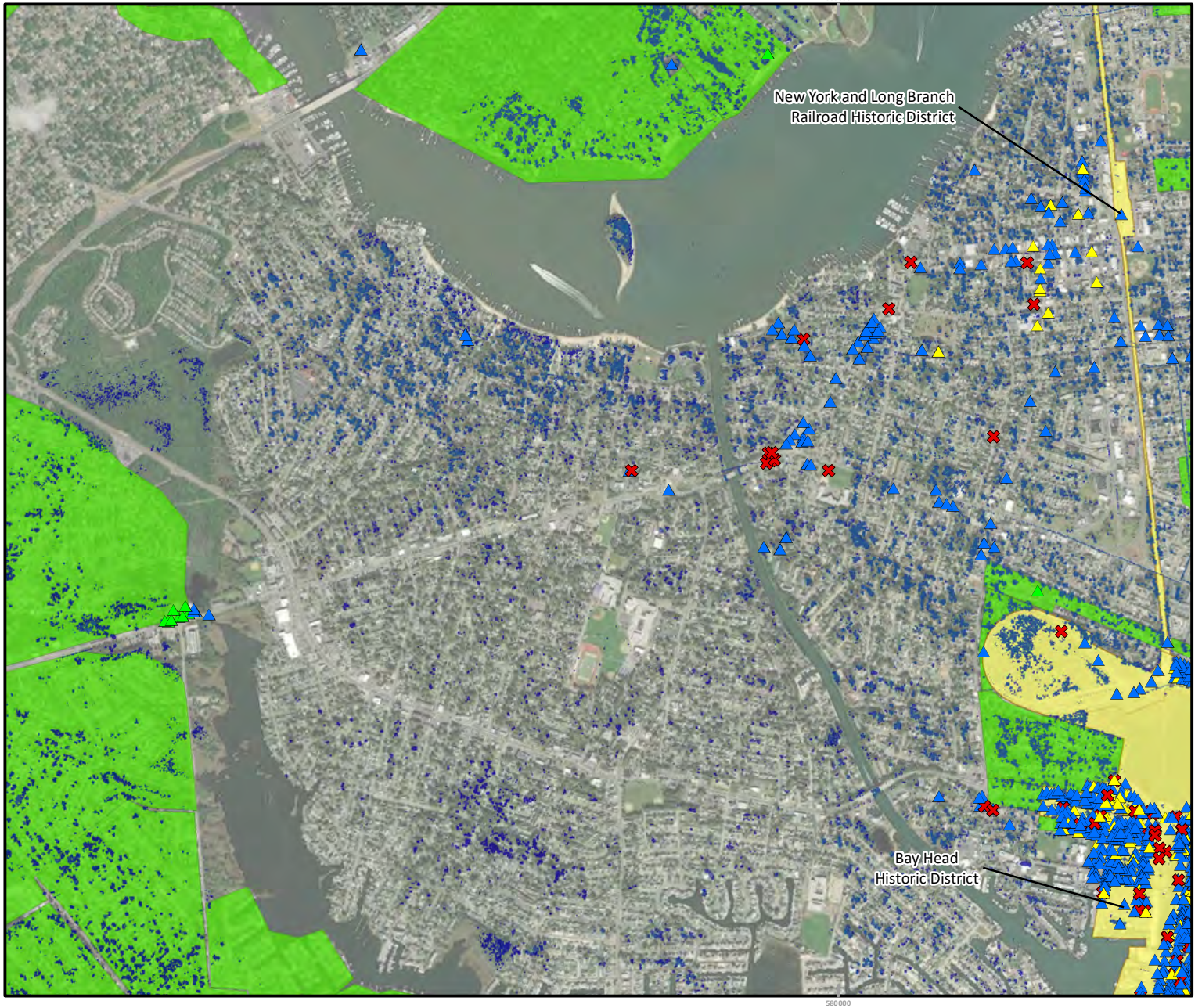

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EMPIRE WIND PROJECT

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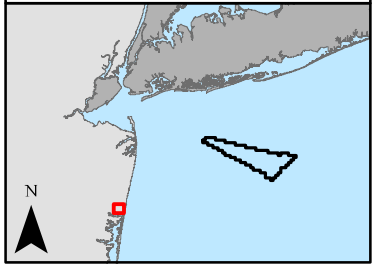

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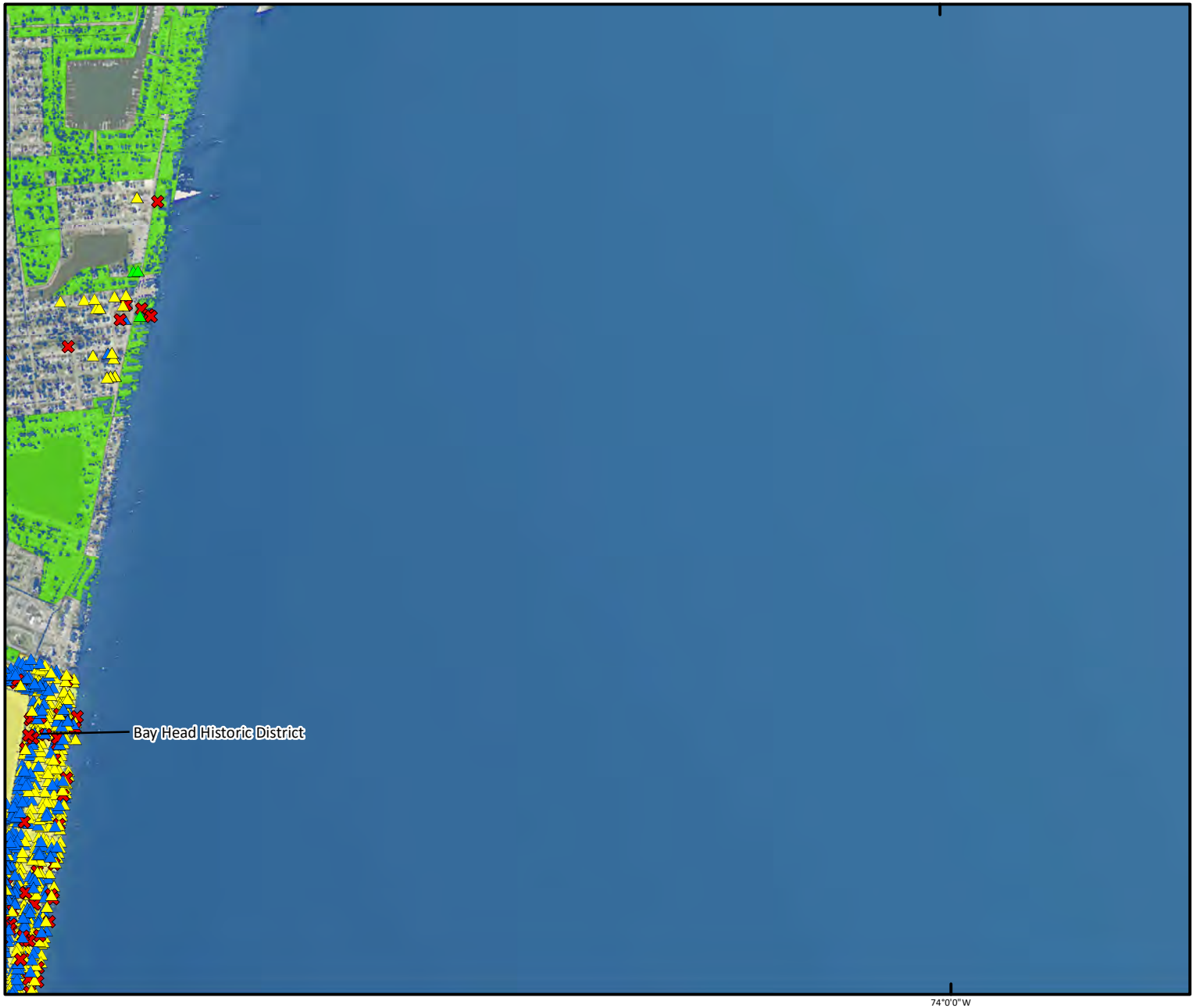

EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

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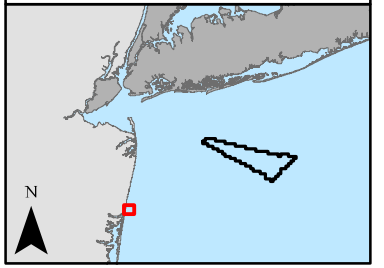

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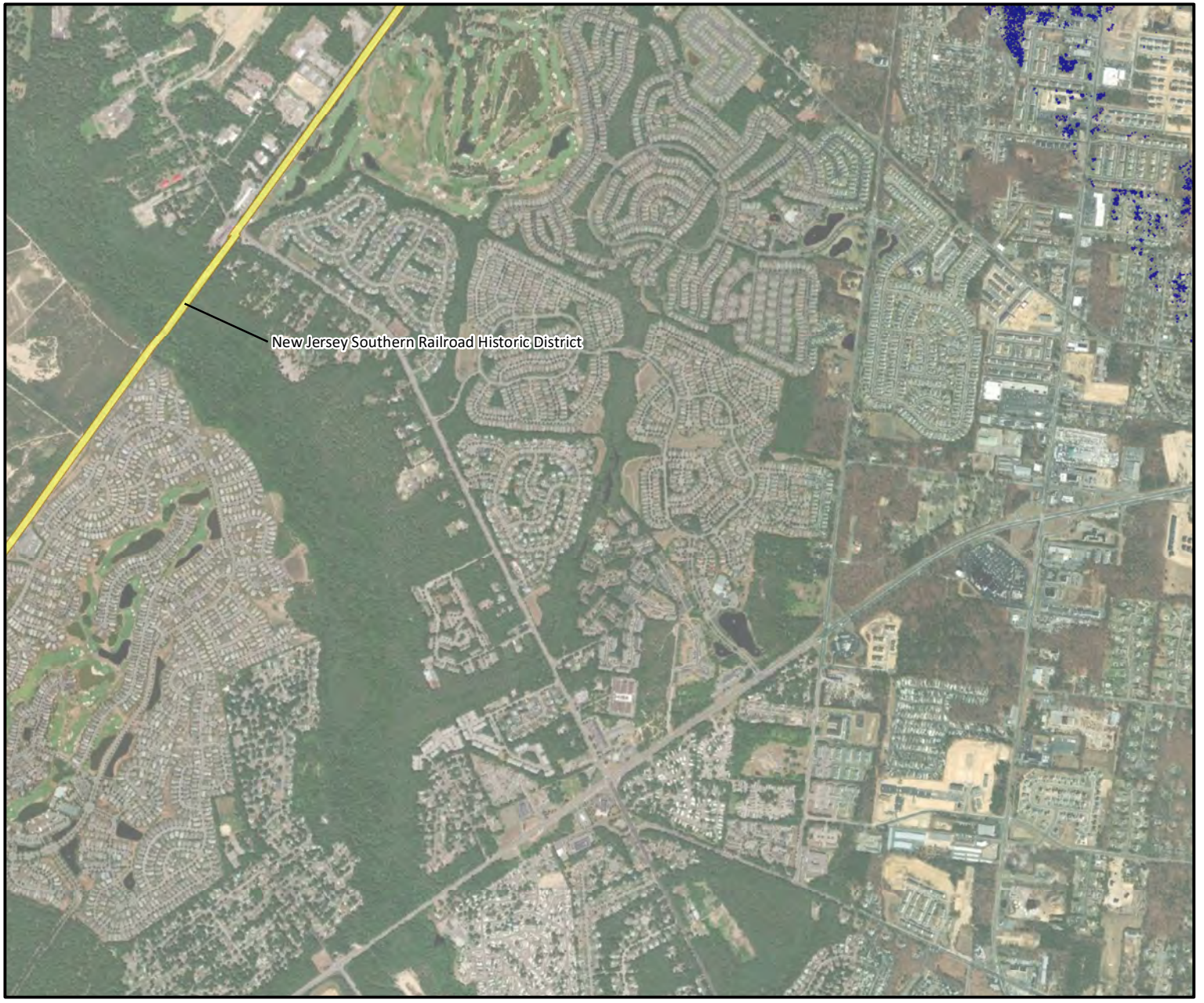

EMPIRE OFFSHORE WIND
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EMPIRE WIND PROJECT

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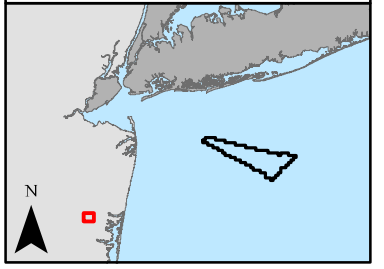

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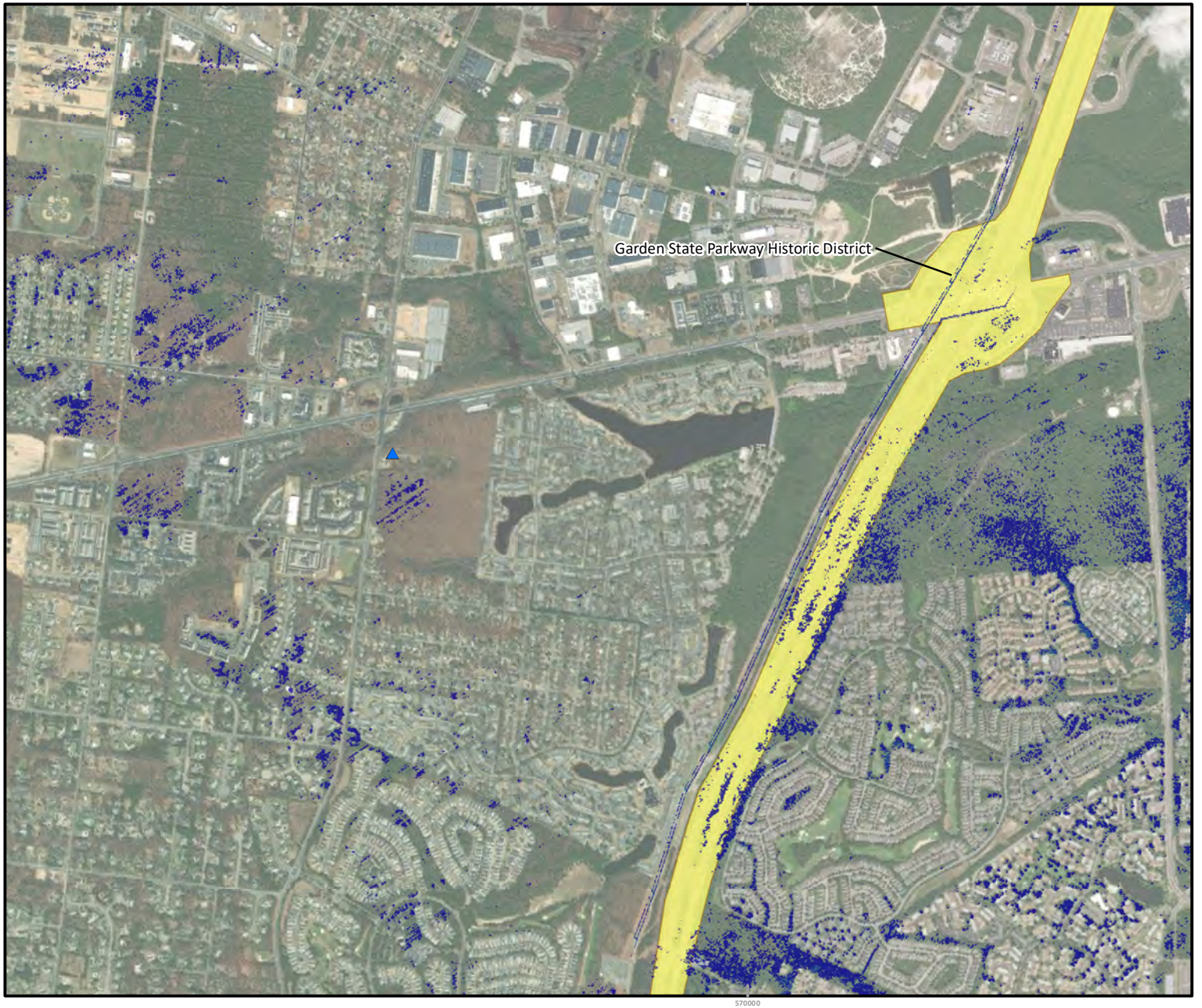

EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

equinor

Offshore AVEHAP PAPE [290-m viewshed intensity]
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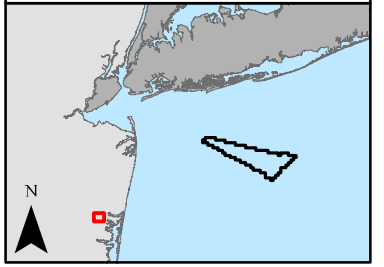

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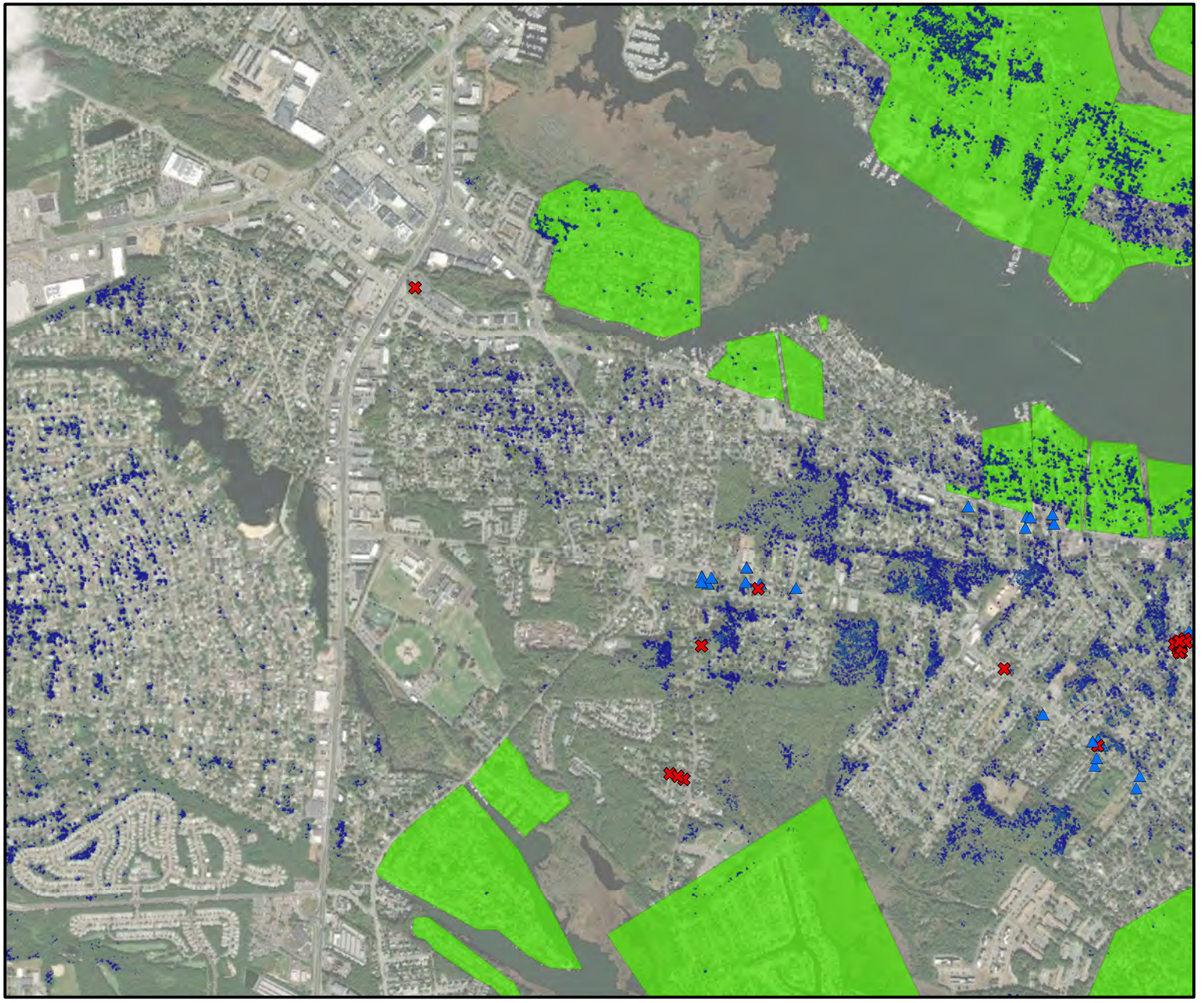

EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

equinor

Offshore AVEHAP PAPE [290-m viewshed intensity]
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Low : 0

166m viewshed intensity
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Historic Property Exlcuded from Effects Assessment
Demolished
No visibility based on viewshed modeling
Superstorm Sandy Green Zone Area

Date	November 2, 2022
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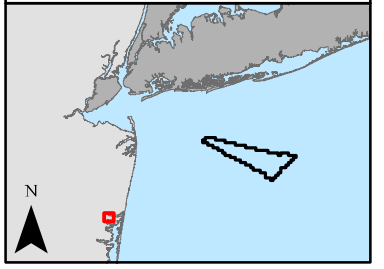

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equinor

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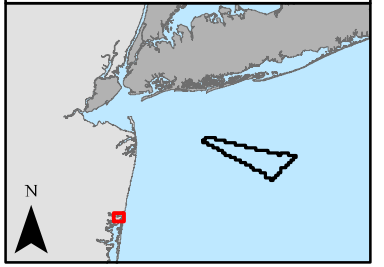

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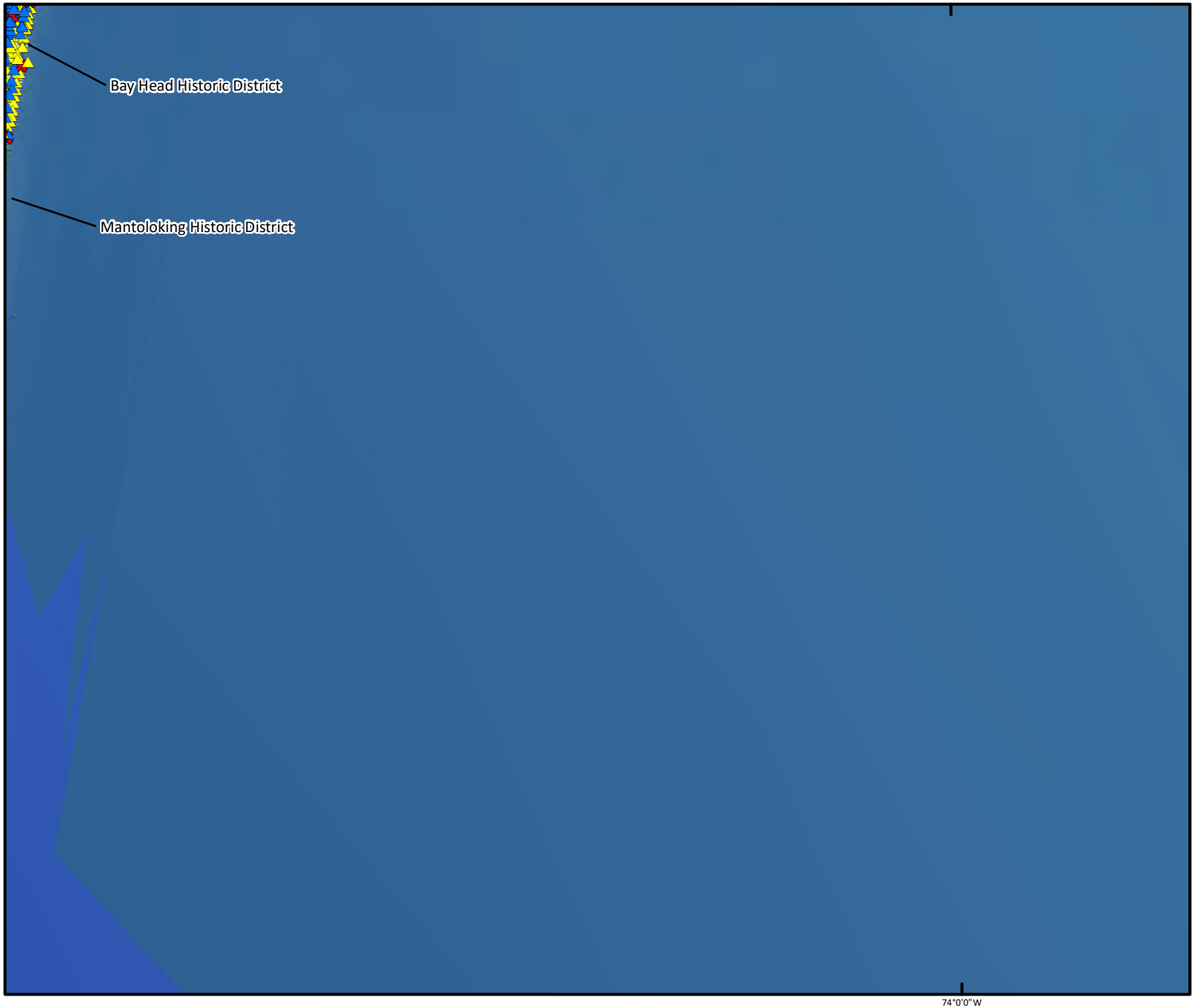

EMPIRE OFFSHORE WIND
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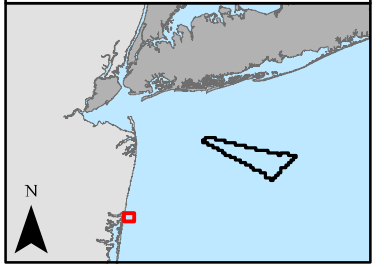

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EMPIRE OFFSHORE WIND LEASE: OCS-A 0512 EMPIRE WIND PROJECT

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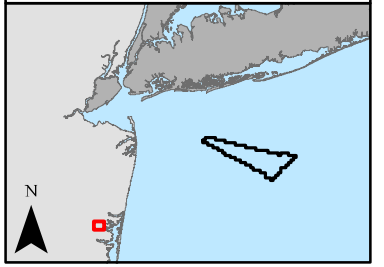

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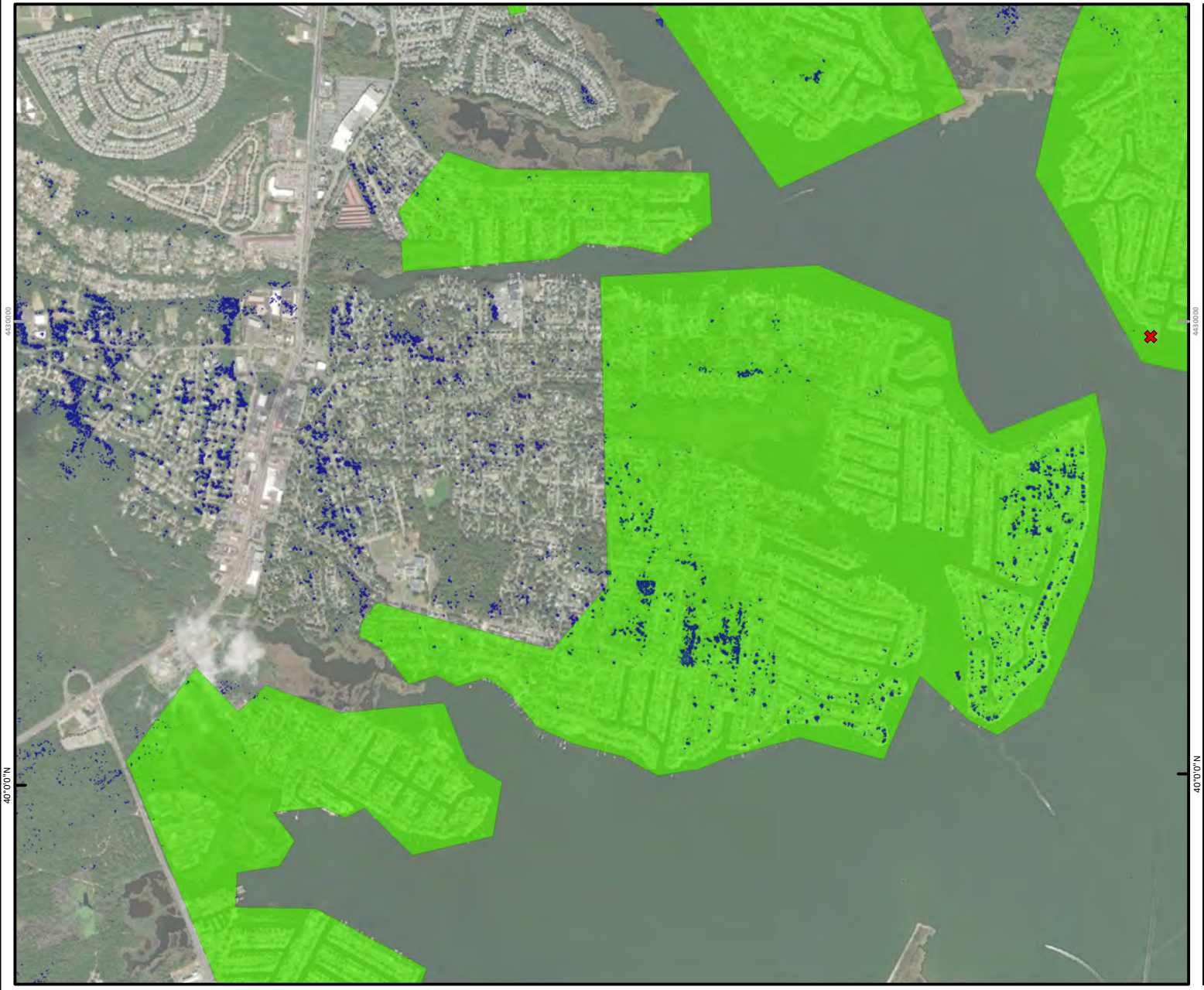

EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

equinor

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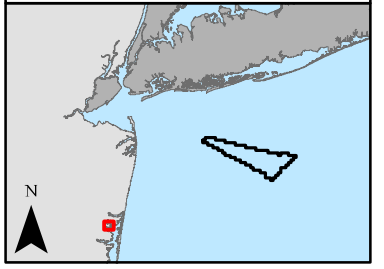

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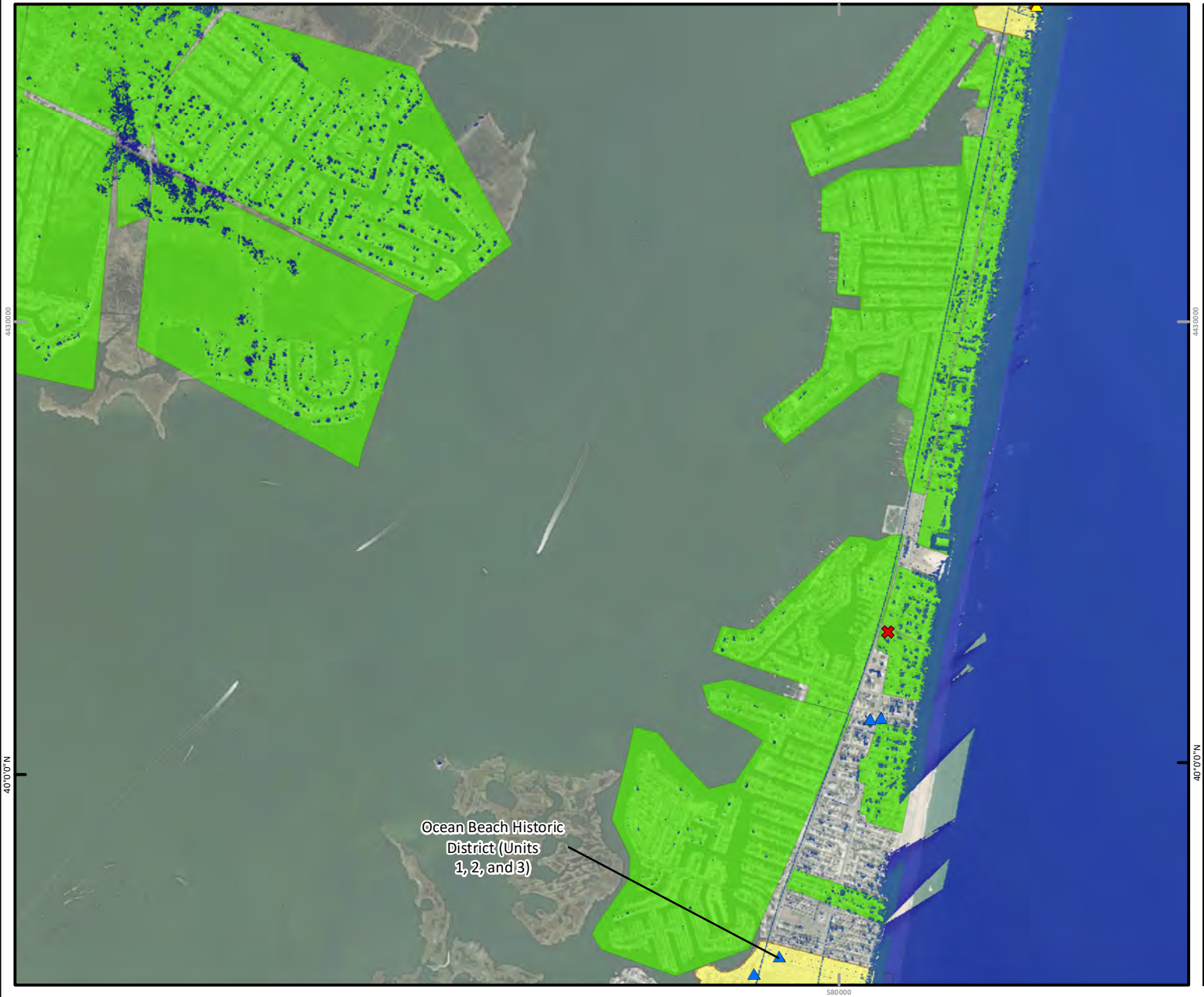

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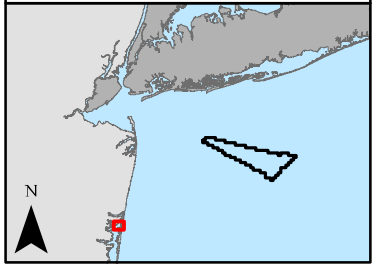

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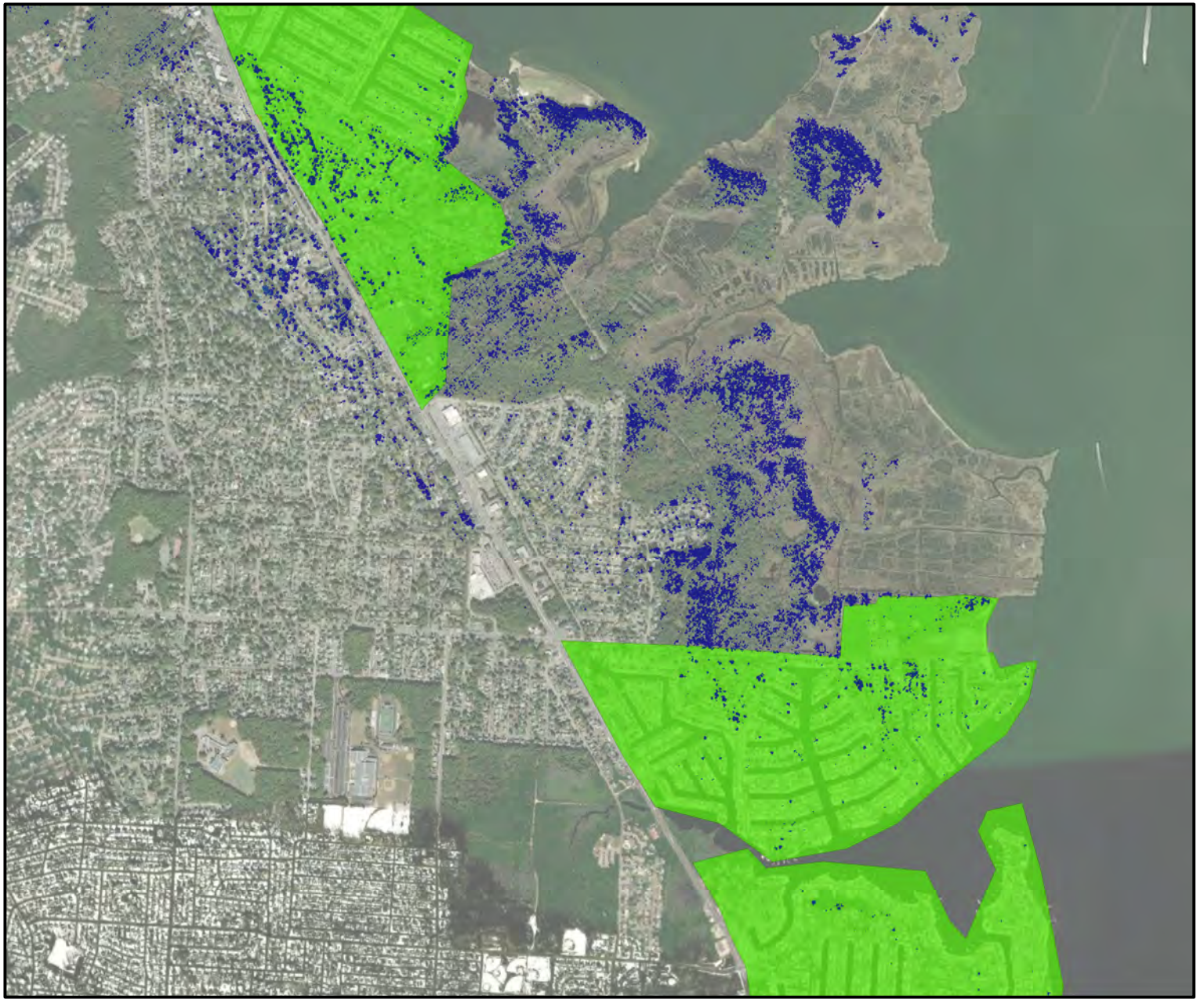

EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
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Superstorm Sandy Green Zone Area

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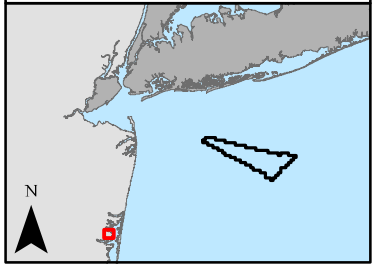
0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



Data Sources: BOEM, ESRI, NOAA, NJ DEP
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

NOT FOR CONSTRUCTION

EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

equinor

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166m viewshed intensity
High : 174
Low : 0
Historic Property Included in Effects Assessment
Recommended No Adverse Effect
Historic Property Exlcuded from Effects Assessment
Demolished
Potential visibility based on viewshed modeling
No visibility based on viewshed modeling
Within Superstorm Sandy Green Zone
Historic District
Superstorm Sandy Green Zone Area

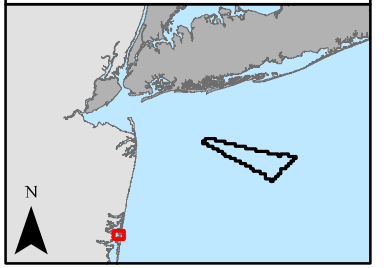
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

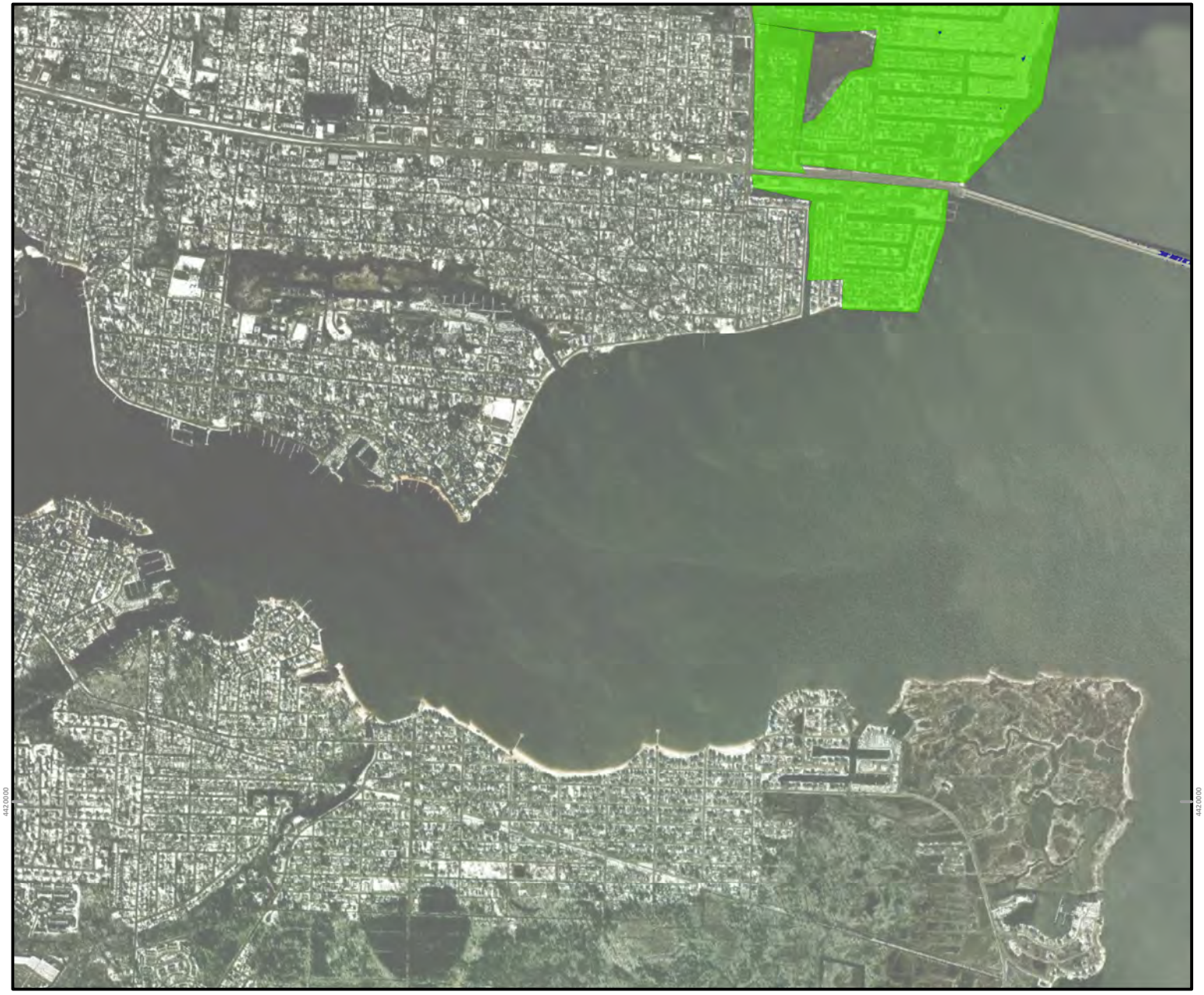
0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



Data Sources: BOEM, ESRI, NOAA, NJ DEP
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

NOT FOR CONSTRUCTION



EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166m viewshed intensity
High : 174
Low : 0
Superstorm Sandy Green Zone Area

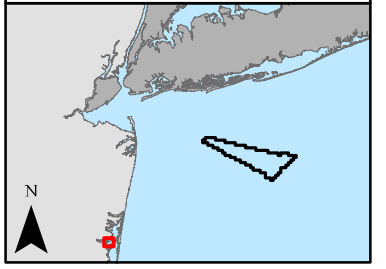
Date	November 2, 2022
File/Job Number	194-1247-0001
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

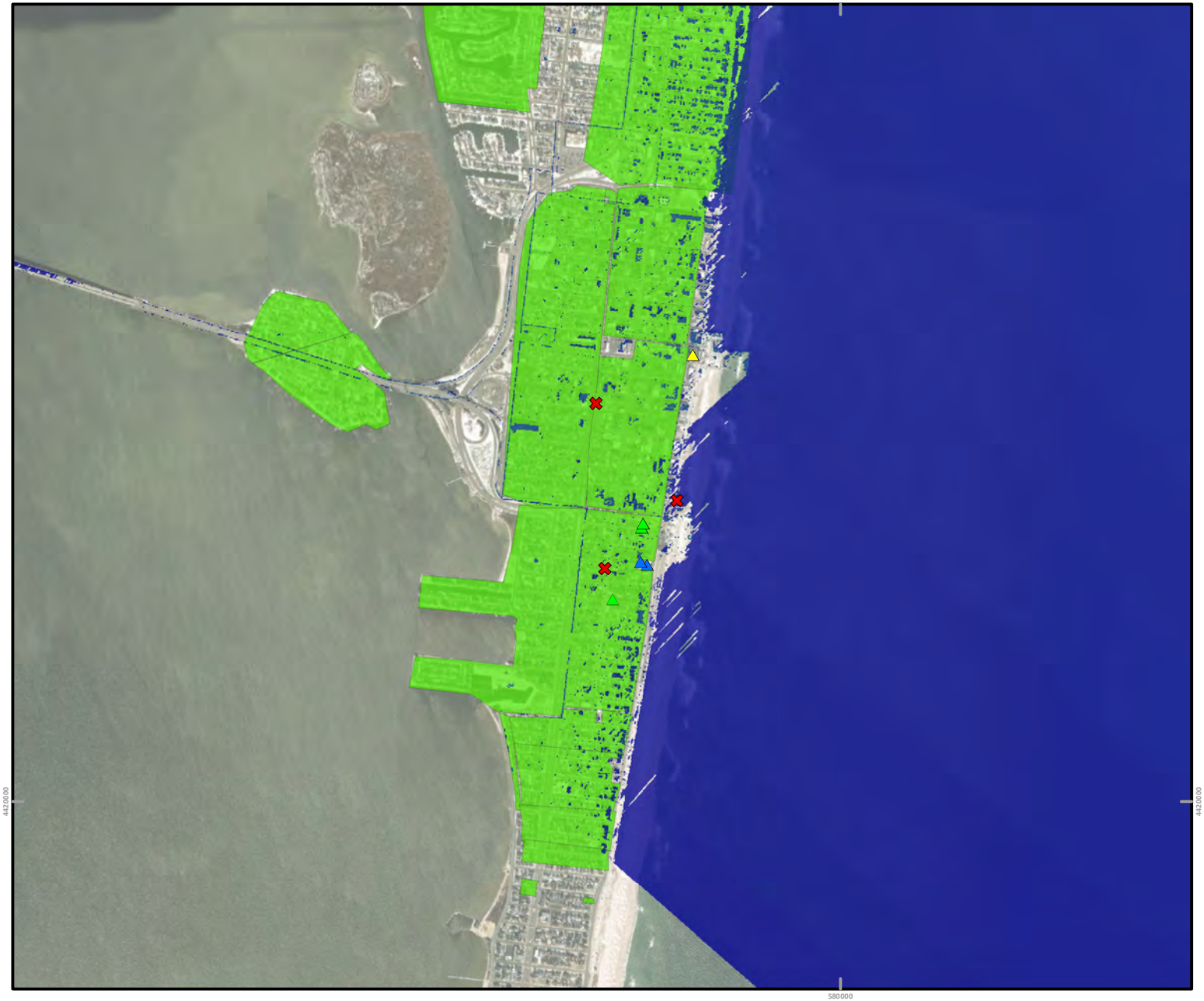
0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



Data Sources: BOEM, ESRI, NOAA, NJ DEP
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

NOT FOR CONSTRUCTION



EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT

equinor

Offshore AVEHAP PAPE [290-m viewshed intensity]
High : 174
Low : 0
166m viewshed intensity
High : 174
Low : 0
Historic Property Exlcuded from Effects Assessment
Demolished
Potential visibility based on viewshed modeling
No visibility based on viewshed modeling
Within Superstorm Sandy Green Zone
Superstorm Sandy Green Zone Area

Date	November 2, 2022
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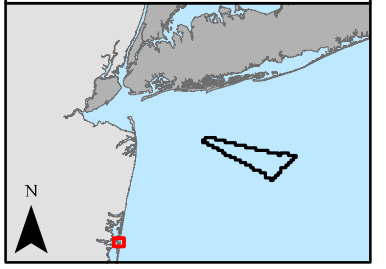
Scale	1:24,000
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 Nautical Miles

0 0.2 0.4 0.6 0.8 Kilometers

REFERENCE MAP



Data Sources: BOEM, ESRI, NOAA, NJ DEP
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

NOT FOR CONSTRUCTION

ATTACHMENT 4
COPY OF NEW JERSEY HPO CORRESPONDENCE

18-1164-3
JWK
HPO-A2019-097

TETRA TECH

December 13, 2018

Katherine J. Marcopul
Deputy State Historic Preservation Officer
Historic Preservation Office
501 East State Street, Building 5, 4th Floor
Trenton, New Jersey 08609-1101

HISTORIC PRESERVATION OFC

14 DEC '18

Subject: **Equinor Wind US – Boardwalk Wind Project**
Monmouth County, NJ
Initiate Project Review Under Section 106 of National Historic Preservation Act
NJ HPO Project # 18-1164

Dear Ms. Marcopul:

Tetra Tech is currently under contract to Equinor Wind US (Equinor) to assist with the siting and permitting of a proposed offshore wind energy project associated with the Bureau of Ocean Energy Management's (BOEM's) Lease Area OCS-A-0512 (the Project). The Project is planned for an area of approximately 80,000 acres in federal waters, located an average of 30 miles east of Monmouth County (Figure 1). The Project could have the capacity to produce up to approximately 2,100 megawatts (MW) of electricity, enough to power one million homes. Equinor is currently developing the federal and state permit applications that will support construction, operation, and decommissioning of the proposed offshore wind farm(s) on the lease site where development occurs.

The energy produced by the offshore facilities could be transmitted to as many as three substations: Oceanview Substation, Neptune, Monmouth County, New Jersey; Gowanus Generating Station, Brooklyn, Kings County, New York; and Ruland Road Substation, Village of Melville in the Town of Huntington, Suffolk County, New York. As such, the New Jersey portion of the Project has been named "Boardwalk Wind" and the New York portion of the Project has been named "Empire Wind." Multiple potential routes for underwater transmission lines, landfall locations, and upland transmission to the respective substations are currently under review (Figure 1). The lead federal agency for the Project is BOEM. Among many studies that are currently planned or in progress to satisfy federal and state permitting requirements are investigations related to cultural resources. Upland archaeological surveys, historic architecture surveys, and underwater surveys will be performed in compliance with Section 106 of the National Historic Preservation Act and implementing regulations at 36 CFR 800, and with state guidelines of New Jersey and New York. Equinor will also be submitting this Project Review to the New York State Historic Preservation Office in parallel with this request.

Tetra Tech, Inc.
6 Century Drive, Suite 300, Parsippany, NJ 07054
Tel 973.630.8000 Fax 973.630.8025 www.tetratech.com

I understand that your office participated in introductory meetings during which the Project was described, including on-going meetings coordinated by the New Jersey Department of Environmental Protection Office of Permit Coordination (e.g., July and December 2018).

A goal of this letter is to present an overview of the approach that Tetra Tech will take to perform cultural resources studies in New Jersey on behalf of Equinor as this work continues into 2019. We would appreciate hearing any comments or questions you may have about our proposed approach by January 4, 2019.

Upland Archaeology Survey

Tetra Tech will perform background research within a study area that extends approximately one mile around potential land cable routes. The Project's Area of Potential Effects (APE) for archaeology includes all areas where ground-disturbing activity will take place including export cable corridors and all associated appurtenances such as landfalls, horizontal direct drill (HDD) entry and exit locations, workspaces, equipment laydown areas, and access roads. Tetra Tech has been performing in-field reconnaissance of the alternative routes under consideration by Equinor's design team to identify areas that are both potentially sensitive for containing archaeological sites that may be eligible to the NRHP and testable. Equinor currently proposes to place its upland transmission lines within existing rights-of-way to the maximum extent practicable, primarily following public roadways. All transmission cables will be installed subsurface, as well as any supporting infrastructure (e.g., jointing vaults or manholes), to the extent practicable. In New Jersey, several alternatives under consideration would bring transmission through streets of Ocean Grove, a listed National Register Historic District. Other alternatives are proposed through densely developed areas of Asbury Park and Neptune Township. A small portion of the alternatives are adjacent to or within parks or park-like settings. Such locations will be recommended for limited archaeological subsurface testing while portions of the routes that follow extant roads will not be recommended for subsurface testing; additionally, areas that have been previously surveyed for other projects for which reports are available are identified. These areas are illustrated in Figure 2.

Historic Architecture Survey

Tetra Tech's architectural historian is working with the visual impact assessment team to identify areas from which the offshore project may be visible and to identify project effects to aboveground cultural resources listed in and/or eligible to the NRHP. As a starting point, the visual assessment study area is a 35-mile radius around the proposed offshore Lease Area, as described in the draft visual impact assessment study plan previously provided on November 8, 2018. The actual APE for historic architecture is anticipated to be within 0.5 km (0.3 mile) of shorelines within the Visual Study Area (Figure 3) where at least the hub of the turbines and above are visible. Properties most likely to be affected within the APE would likely comprise aboveground cultural resources listed in, eligible to, or potentially eligible to the NRHP that are associated with maritime settings. These cultural resources would be the focus of inventory and evaluation by the team's architectural historian.

18-1164-3
HPO-A2019-097

Underwater Survey

Underwater survey will be performed for this Project by Tetra Tech's subcontractor, SEARCH, Inc. The study area for underwater archaeology will comprise the Lease Area depicted in Figure 1, and the submarine cable routes under consideration (Figure 1). Systematic remote sensing survey involving use of a combination of high resolution subbottom profiler, magnetometer, and side scan sonar technologies implemented along transects that generally do not exceed 30 meter intervals that satisfy BOEM's *Guidelines for Providing Archaeological and Historic Property Information Pursuant to 30 CFR Part 585* (March 2017) for archaeological survey will be used to collect geophysical data within the entire Lease Area and within 500-foot-wide submarine cable corridors. These data will be assessed by a qualified marine archaeologist to identify potentially archaeologically sensitive locations of submerged landforms that have potential to contain NRHP-eligible sites possibly related to Archaic and Paleo-Indian prehistoric time periods, and to identify potential targets suggestive of submerged marine-related cultural resources that may also be eligible to the NRHP.

We look forward to hearing from you about any concerns you and your staff may have related to our approaches to upland archaeology, historic architecture, and marine archaeology. Thank you for your attention and consideration of this Project.

Very truly yours,

Sydne B. Marshall

Sydne B. Marshall, Ph.D., RPA
Cultural Resources Lead

Attachments:

Figure 1 Project Overview
Figure 2 Cultural Resources Oceanview Alternative
Figure 3 Visual Study Area and Historic Architecture APE

cc: Martin Goff (Equinor)
Laura Morales (Equinor)
S. Lundin (TT PM)
N. Schils (TT DPM)
R. Jacoby (TT)
C. Borstel (TT)
J. Sexton (TT)
J. West-Rosenthal (NJ HPO)

CONCUR

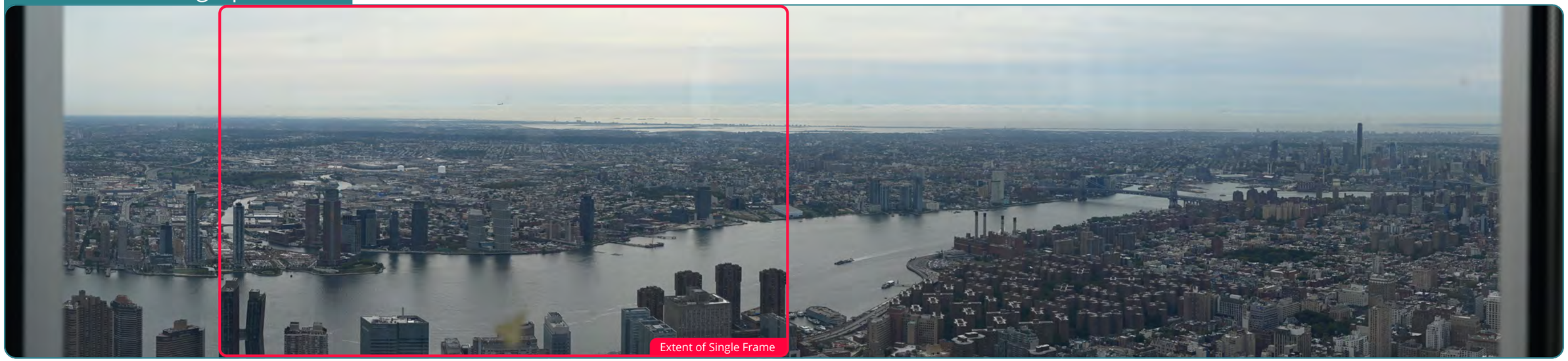
Katherine J. Marcopul 1/8/2019

Katherine J. Marcopul
Deputy State Historic Preservation Officer

Date

ATTACHMENT 5
VISUAL SIMULATIONS FROM THE EMPIRE STATE BUILDING AND STATUE OF LIBERTY PEDESTAL

Panoramic Photograph

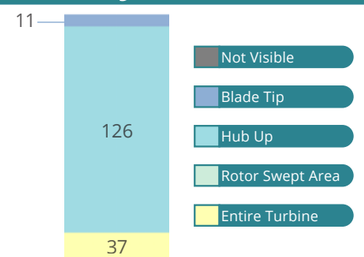


Vicinity Map

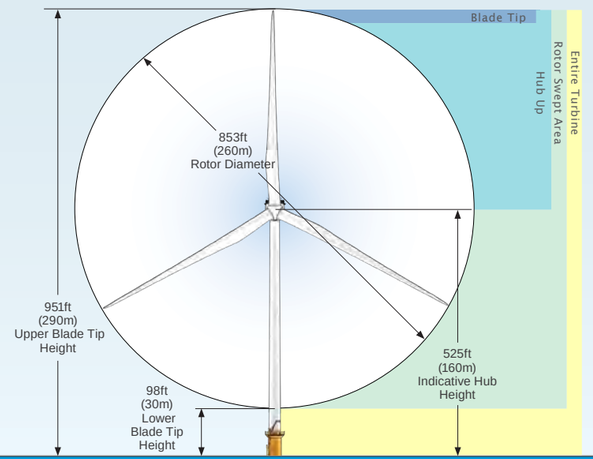
Photograph Information

Viewpoint Location:	Empire State Building 102nd Floor
Date of Photograph:	September 30, 2022
Time of Photograph:	9:30 AM (EDT)
Weather Condition:	Hazy Overcast
Latitude:	40.748476° N
Longitude:	-73.985883° W
Viewing Direction:	Southeast
Ground Elevation + Tripod Height:	1,250 feet

Turbine Visibility



Turbine Data

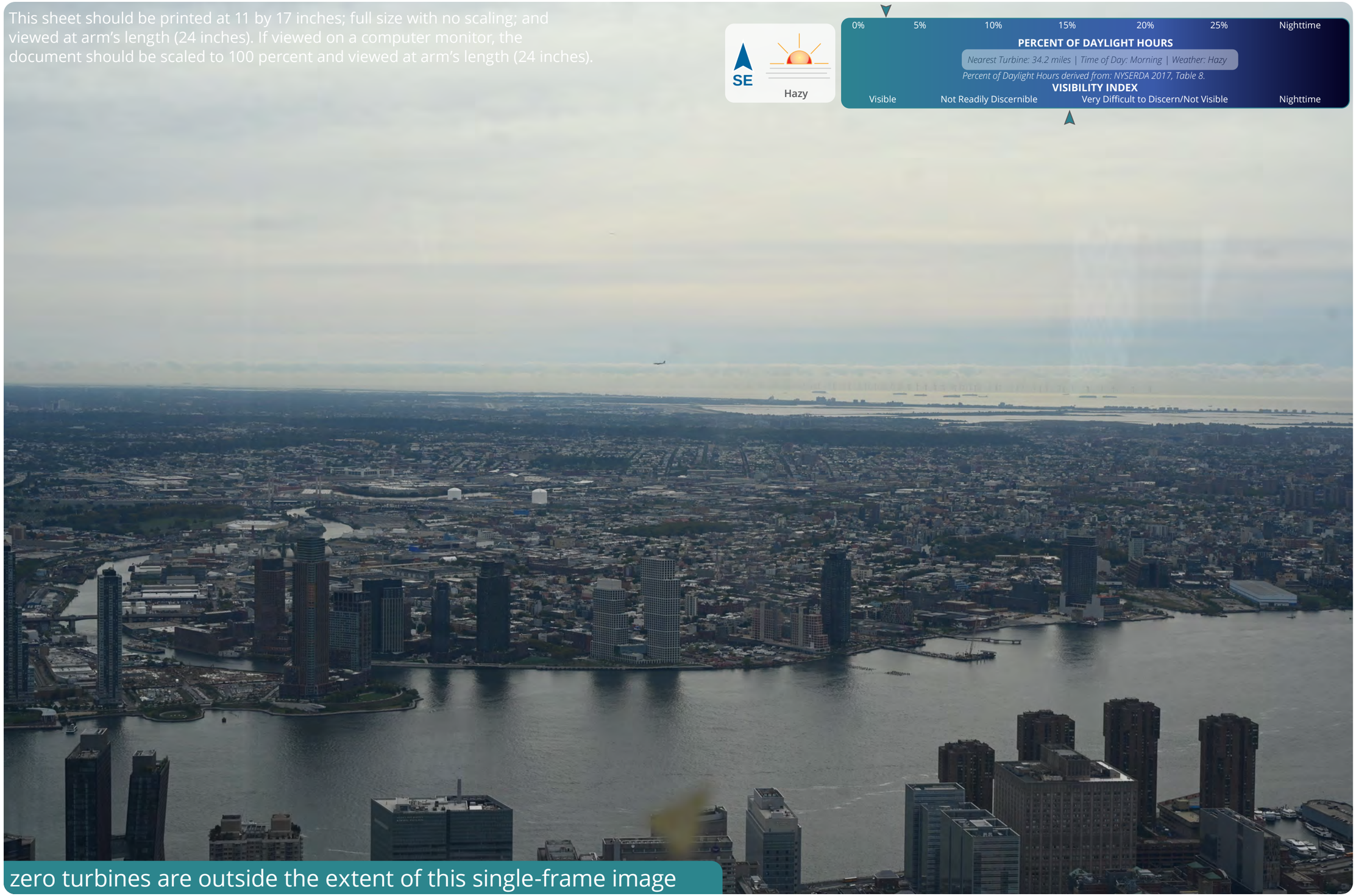


Representative Wind Turbine

Viewpoint Visibility	
Closest Visible Turbine	34.2 miles
Farthest Visible Turbine	56.7 miles
Structures Potentially Visible	174 of 174 total

*Fewer turbines may be visible in the simulation due to screening from topography or vegetation

This sheet should be printed at 11 by 17 inches; full size with no scaling; and viewed at arm's length (24 inches). If viewed on a computer monitor, the document should be scaled to 100 percent and viewed at arm's length (24 inches).



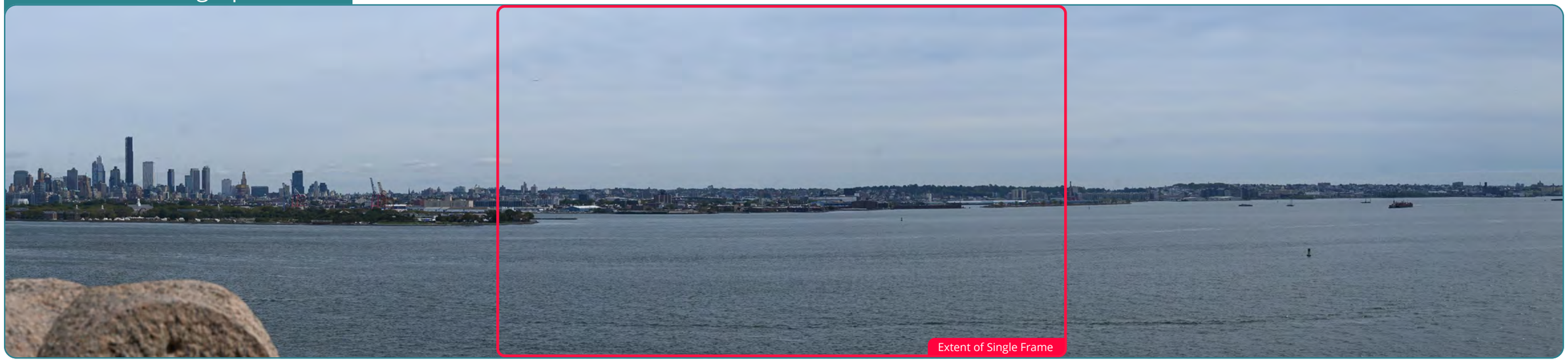
zero turbines are outside the extent of this single-frame image

Empire Offshore Wind: Empire Wind Project (EW 1 and EW 2)

Empire State Building: 102nd Floor

equinor

Panoramic Photograph

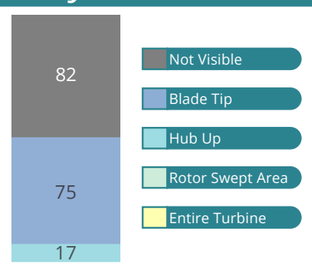


Vicinity Map

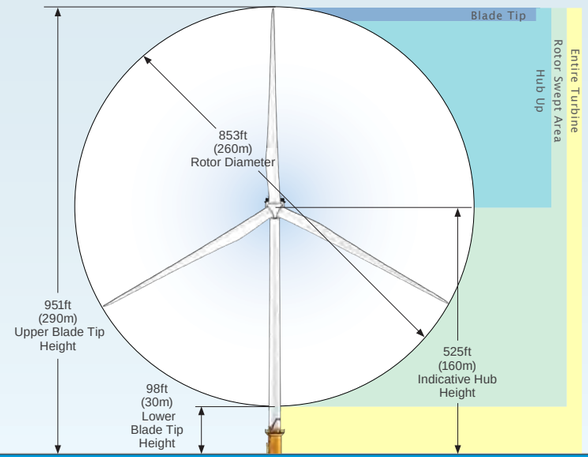
Photograph Information

Viewpoint Location:	The Statue Of Liberty
Date of Photograph:	September 30, 2022
Time of Photograph:	12:00 PM (EDT)
Weather Condition:	Overcast
Latitude:	40.689298° N
Longitude:	-74.044553° W
Viewing Direction:	Southeast
Ground Elevation + Tripod Height:	95 feet

Turbine Visibility



Turbine Data



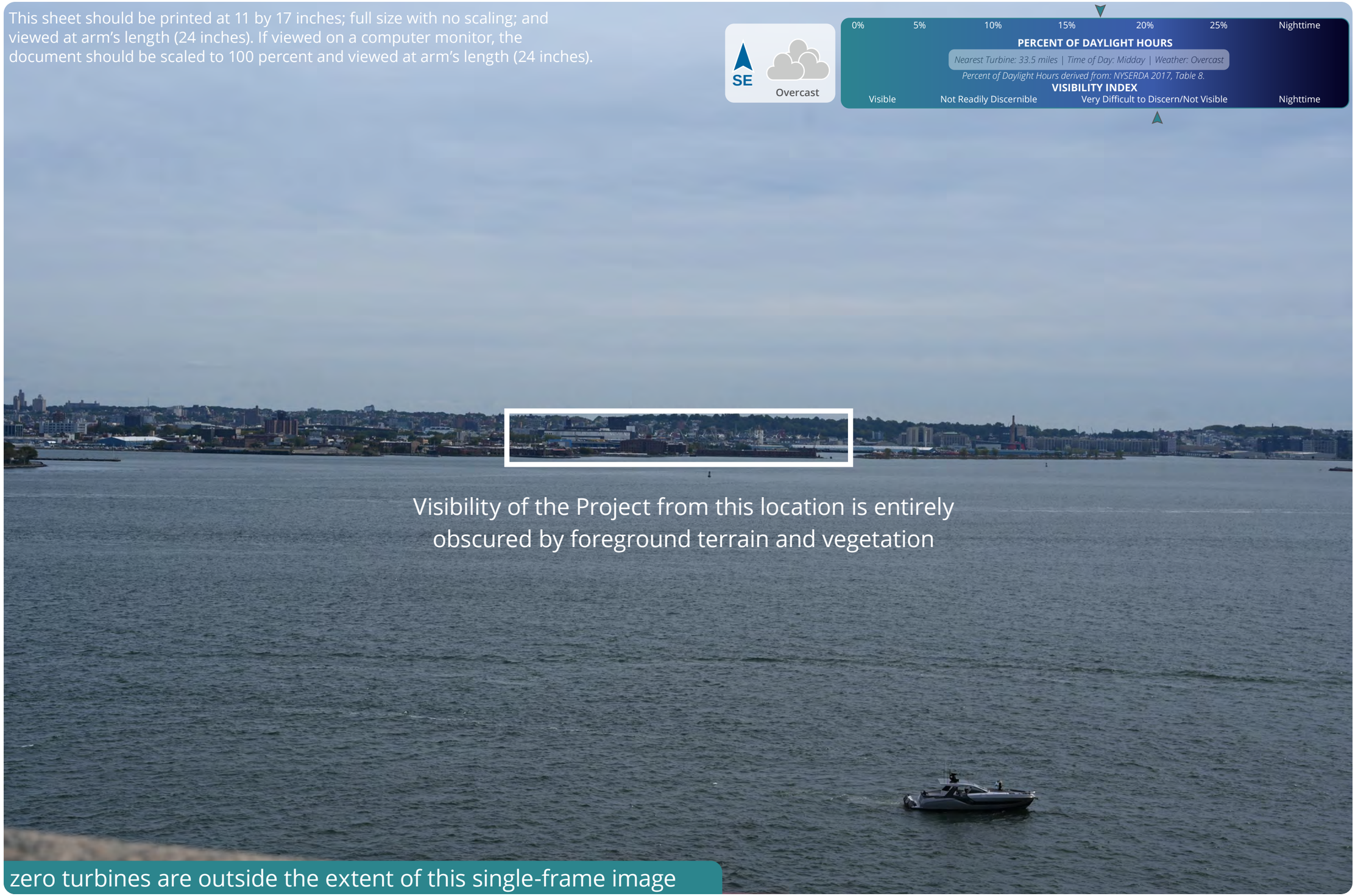
Representative Wind Turbine

Viewpoint Visibility	
Closest Visible Turbine	33.5 miles
Farthest Visible Turbine	49.6 miles
Structures Potentially Visible	92 of 174 total

*Fewer turbines may be visible in the simulation due to screening from topography or vegetation

equinor

This sheet should be printed at 11 by 17 inches; full size with no scaling; and viewed at arm's length (24 inches). If viewed on a computer monitor, the document should be scaled to 100 percent and viewed at arm's length (24 inches).



Visibility of the Project from this location is entirely obscured by foreground terrain and vegetation

zero turbines are outside the extent of this single-frame image

Empire Offshore Wind: Empire Wind Project (EW 1 and EW 2)

The Statue Of Liberty

equinor

ATTACHMENT 6 – POST-REVIEW DISCOVERIES PLAN FOR SUBMERGED ARCHAEOLOGICALSITES, HISTORIC PROPERTIES, AND CULTURAL RESOURCES INCLUDING HUMAN REMAINS

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UNANTICIPATED DISCOVERIES PLAN FOR SUBMERGED ARCHAEOLOGICAL SITES, HISTORIC PROPERTIES, AND CULTURAL RESOURCES INCLUDING HUMAN REMAINS, EMPIRE OFFSHORE WIND: EMPIRE WIND PROJECT (EW 1 AND EW 2) FOR LEASE AREA OCS-A 0512 CONSTRUCTION AND OPERATIONS PLAN

REPORT

PRIME CONTRACT: 4600016849
SUBCONTRACT 1142996

PREPARED FOR

EMPIRE OFFSHORE WIND LLC
120 LONG RIDGE ROAD, SUITE 3E01
STAMFORD, CONNECTICUT 06902

AND

TETRA TECH, INC.
10 POST OFFICE SQUARE, SUITE 1100
BOSTON, MASSACHUSETTS 02109

AUTHORED BY

JOSEPH GRINNAN, MA, RPA, BENJAMIN C. WELLS, MA, RPA, AND JEFFREY M. ENRIGHT, MA, RPA

SEARCH

WWW.SEARCHINC.COM

NOVEMBER 2022
REVISED OCTOBER 2023

INTRODUCTION

Empire Offshore Wind LLC (Empire) proposes to construct and operate the Empire Offshore Wind Project: Empire Wind 1 (EW 1) and Empire Wind 2 (EW 2) (Project), within the Bureau of Ocean Energy Management (BOEM) Renewable Energy Lease Area OCS-A 0512 (Lease Area) and two submarine export cable routes (ECRs) to shore. Empire's Construction and Operations Plan (COP) for the Project supports the development, operation, and eventual decommissioning of Project infrastructure, including offshore wind turbines, offshore substations, interarray cables, and submarine export cables. The Project will comprise the following components: up to 174 wind turbines connected by a network of interarray cables, up to two offshore substations, and up to five submarine export cables to bring power to shore. SEARCH provided technical expertise to Empire's environmental consultant, Tetra Tech, Inc (Tetra Tech), by providing a Qualified Marine Archaeologist (QMA), pursuant to 30 CFR 585, which established BOEM procedures for the issuance and administration of offshore renewable energy leases.

SEARCH developed this Unanticipated Discoveries Plan (UDP) to assist Empire and its contractors to preserve and protect potential cultural resources from adverse impacts caused by Project construction, operation and maintenance, and decommissioning activities. The UDP sets forth guidelines and procedures to be used in the event potential submerged cultural resource are encountered during bottom disturbing activities and assists Empire in its compliance with Section 106 of the National Historic Preservation Act (NHPA) (Title 54 U.S.C. § 306108), Native American Graves Protection and Repatriation Act (Title 25 U.S.C. § 3001 et seg.), Lease OCS A-0512 Lease Stipulations, and other relevant state and local laws as applicable. This UDP is subject to revisions based on consultations with interested parties pursuant to Section 106 of the National Historic Preservation Act or the Act's implementing regulations at 36 CFR Part 800.

ROLES AND RESPONSIBILITIES

Implementation of the provisions and procedures in the UDP will require the coordinated efforts of Empire and their contractors during all construction, operations and maintenance, and decommissioning activities with the potential to impact the seafloor. The following sections identify key participants in the UDP and outlines their roles and responsibilities.

EMPIRE

Implementation of the provisions and procedures outlined in this plan is ultimately the responsibility of Empire or its designee, who will be responsible for the following:

- Ensuring procedures and policies outlined in the UDP and UDP training materials are implemented;
- Identifying a responsible party within Empire tasked with overseeing implementation of the UDP during all project and contractor activities;
- Developing cultural resource and UDP awareness training programs for all project staff and contractors;
- Requiring all project and contractor staff complete cultural resource and UDP awareness training;
- Coordinating and facilitating communication between the QMA, project staff, and contractors if a potential cultural resource is encountered during project activities; and
- Participating in and/or facilitating consultations with state and federal agencies (BOEM, New Jersey Historic Preservation Office [NJ HPO], New York State Parks – Division for Historic Preservation [NY SHPO], etc…), federally recognized Tribes'/Tribal Nations' Tribal Historic Preservation Offices (THPOs), and other consulting parties, as appropriate.
- For the avoidance of all archaeological sites and historic properties, Empire will provide as-placed and as-laid maps with both the horizontal and vertical extent of all seafloor impacts. These seafloor impacts include anchoring activities (location of all anchors, anchor chains, cables, and wire ropes on the seafloor, including sweep but excluding the vertical extent of anchor penetration of the seafloor), cable installation (including trenching depths and seafloor footprint of the installation vessel), and wind turbine generator installation (anchoring and spudding/jack-up vessel placement). The as-built or as-laid position plats should be submitted at a scale of 1-in. = 1,000-ft., with differential global positioning system accuracy demonstrating that these seafloor disturbing activities did not impact the avoidance criteria applied to the archaeological sites or historic properties established in the Memorandum of Agreement for the Project. These documents and maps should be submitted to BOEM no later than 90 days

after completion of the seafloor disturbing/construction activities for consulting parties to review.

QUALIFIED MARINE ARCHAEOLOGIST

Empire will retain the services of a QMA to provide cultural resource advisory services during implementation of the UDP. The QMA will be responsible for the following:

- Assist Empire with the development and implementation of the procedures outlined in the UDP;
- Assist Empire in developing a cultural resource and UDP awareness training program and informational graphic;
- Review and document potential submerged cultural resources identified by the project and/or contractor staff;
- Assist Empire with the Section 106 consultation process that may arise as a result of an unanticipated submerged cultural resource; and
- Conduct archaeological investigation of unanticipated submerged cultural resources following coordination with appropriate consulting parties.

TRIBES/TRIBAL NATIONS

If the UDP is implemented, Tribes/Tribal Nations may participate as:

- Qualified Tribe/Tribal Nation Monitors; and
- Tribal Representatives.

TRAINING AND ORIENTATION

As described in the previous section, Empire will be responsible for ensuring Project and contractor staff complete a cultural resources and UDP awareness training program prior to the start of bottom disturbing activities. The training will be sufficient to allow Project and contractor staff to identify common types of marine cultural resources and implement the UDP procedures. The training will be delivered as a standalone training and/or combined with the Project's or contractors' general health and safety (H&S) or environment, health, and safety (EHS) induction training.

The training program will include, but not be limited to, the following elements:

- A review of applicable state and federal cultural resource laws and regulations;
- Characteristics of common types of submerged cultural resources found on the Atlantic Outer Continental Shelf (e.g. wooden shipwrecks, metal shipwrecks, downed aircraft, post-Contact artifacts, pre-Contact artifacts, bone and faunal remains, etc.);
- How to identify potential submerged cultural resources during bottom disturbing activities; and
- Procedures to follow and parties to notify if potential submerged cultural resources/materials are encountered during project activities.

The SEARCH QMA will develop draft cultural resources and UDP awareness training in coordination with Empire. The training program will be provided to BOEM and the SHPOs for review and comment before the training program is finalized.

In additional to the training program, the SEARCH QMA will generate an informational graphic summarizing the UDP and the materials discussed in the cultural resources and UDP awareness training program. The informational graphic will include:

- Images of common types of submerged cultural resources and materials;
- A flow chart depicting the UDP reporting process;
- A notice to all employees of their stop work authority if potential cultural resources are encountered; and
- Contact information for the Empire staff responsible for overseeing implementation of the UDP and the QMA.

The informational graphic will be placed in a conspicuous location on each project and contractor vessel where workers can see it and copies will be made available to project and/or contractor staff upon request.

PROCEDURES WHEN CULTURAL MATERIAL ARE OBSERVED

As part of its COP submission, Empire conducted an extensive marine archaeological resources assessment (MARA) of the Project's preliminary area of potential effects (PAPE). The MARA identified 30 potential submerged cultural resources (Targets 01-30) and 20 ancient submerged landform features (ASLFs) (Targets 31-52) within the PAPE. Empire anticipates avoidance of Targets 01-11, 14-16, 18-24, and 26-30 and their associated recommended avoidance buffers. Empire anticipates construction activities may extend into the avoidance buffers for Targets 12-13, 17, and 25, but would avoid the actual targets. As the final design is not known, the degree of adverse effects to Targets 31-52 is currently unknown. Additionally, Empire is conducting micro-siting efforts to minimize the adverse effects to Targets 31-52. Empire is developing a Mitigation Framework to aid in avoiding, minimizing, and/or mitigating adverse effects upon historic properties.

Even with the extensive preconstruction marine archaeological surveys, it is impossible to ensure that all cultural resources have been identified within the PAPE. Even at sites that have been previously identified and assessed, there is a potential for the discovery of previously unidentified archaeological components, features, or human remains that may require investigation and assessment. Furthermore, identified historic properties may sustain effects that were not originally anticipated. Therefore, a procedure has been developed for the treatment of unanticipated discoveries that may occur during site development.

The implementation of the final UDP will be overseen by Empire and a QMA who meets or exceeds the Secretary of the Interior's *Professional Qualifications Standards for Archaeology* [48 FR 44738-44739] and has experience in conducting HRG surveys and processing and interpreting data for archaeological potential (BOEM 2020). See **Figure 1** for a flow chart of the communications and notification plan for unanticipated discoveries.

If unanticipated submerged cultural resources are discovered, the following steps should be taken:

(1) Per Lease Stipulation 4.3.7.1, all bottom-disturbing activities in the immediate area of the discovery shall cease and every effort will be made to avoid or minimize impacts to the potential submerged cultural resource(s).
(2) The project or contractor staff will immediately notify Empire of the discovery.
(3) Empire will notify the QMA and provide them with sufficient information/documentation on the potential find to allow the QMA to evaluate the discovery and determine if the find is a cultural resource. If necessary, the QMA may request to visit the find site or the vessel that recovered the cultural material to inspect the find. If the find is a cultural resource, the QMA will provide a preliminary assessment as to its potential to be a historic property as defined in 36 CFR Part 800.
(4) Per Lease Stipulation 4.3.7.2, BOEM shall be notified of the potential submerged cultural resource within 24 hours of the discovery. Empire shall also notify the State Historic Preservation Officer (SHPO) of New Jersey and/or New York, appropriate State

Archaeologist(s), and the Tribal Historic Preservation Officers (THPOs) or other designated representatives of the consulting tribal governments.

(5) Within 72 hours of being notified of the discovery, Empire shall issue a report in writing to BOEM providing available information concerning the nature and condition of the potential submerged cultural resource and observed attributes relevant to the resource's potential eligibility for listing in the National Register of Historic Places (NRHP).

(6) Empire shall consult with BOEM, as feasible, to obtain technical advice and guidance for the evaluation of the discovered cultural resource.

(7) If the impacted resource is determined by BOEM to be NRHP eligible, a mitigation plan shall be prepared by Empire for the discovered cultural resource. This plan must be reviewed by BOEM prior to submission to the NJ HPO, NY SHPO, and representatives from consulting federally recognized Tribes/Tribal Nations for their review and comment. The NJ HPO, NY SHPO, and Tribes/Tribal Nations will review the plan and provide comments and recommendations within a one week, with final comments to follow as quickly as possible.

(8) Per Lease Stipulation 4.3.6, Empire may not impact a known archaeological resource in federal waters without prior approval from BOEM. No development activities in the vicinity of the cultural resource will resume until either a mitigation plan is executed or, if BOEM determines a mitigation plan is not warranted, BOEM provides written approval to Empire to resume bottom disturbing activities. For discoveries in state waters, Empire will not impact a known archaeological resource with prior approval from BOEM and appropriate SHPO.

If suspected human remains are encountered, the below procedures, which comply with the Advisory Council on Historic Preservation's (ACHP) *Policy Statement on Burial Sites, Human Remains, and Funerary Objects* (ACHP:2023), should be followed.

(1) All work in the near vicinity of the human remains shall cease and reasonable efforts should be made to avoid and protect the remains from additional impact. Encountered potential material shall be protected, which may include keeping the remains submerged in an onboard tank of sea water or other appropriate material.

(2) The Onboard Representative shall immediately notify the County Medical Examiner, State Archaeologist(s), the Forensic Anthropology Unit of the New Jersey and/or New York State Police, and Empire as to the findings.

(3) Empire will notify the QMA and provide them with sufficient information/documentation on the potential find to allow the QMA to evaluate the discovery and determine if the find is a cultural resource. If necessary, the QMA may request to visit the vessel to inspect the potential human remains. If the find is a cultural resource, the QMA will provide a preliminary assessment. The QMA will document and inventory the remains and any associated artifacts, and assist in coordinating with federal, state, and local officials.

(4) A plan for the avoidance of any further impact to the human remains and/or mitigative excavation, reinternment, or a combination of these treatments will be developed in consultation with the State Archaeologist(s), the NJ HPO, the NY SHPO, BOEM, and appropriate Indian tribes or closest lineal descendants. All parties will be expected to

respond with advice and guidance in an efficient time frame. Once the plan is agreed to by all parties, the plan will be implemented.

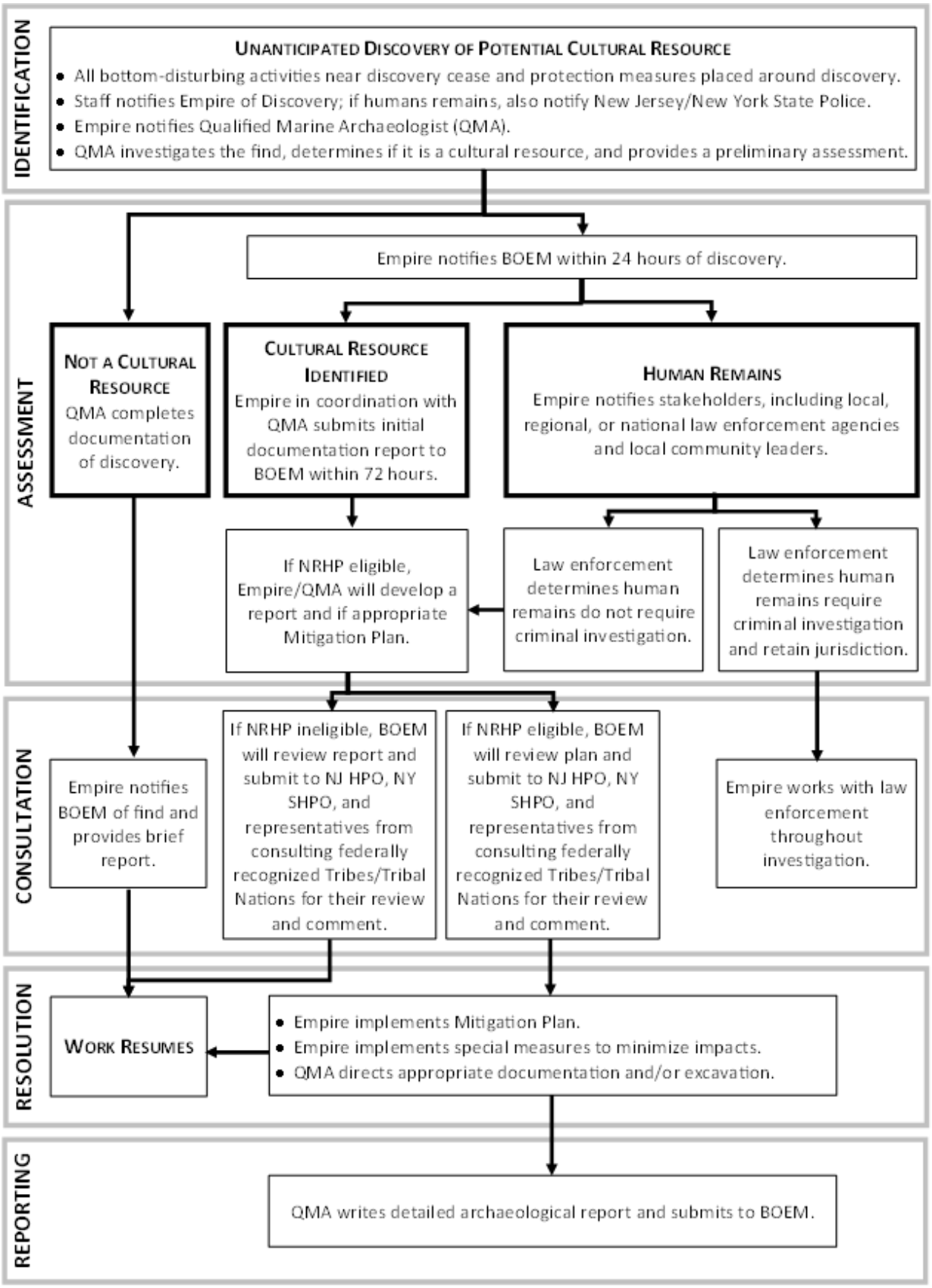

Figure 1. Communications and notification plan for unanticipated discoveries.

ARCHAEOLOGICAL INVESTIGATION OF A SUBMERGED UNANTICIPATED DISCOVERY

Archaeological investigation of a submerged unanticipated discovery may be necessary in order to evaluate the find, determine its eligibility for listing in the NRHP, and/or assess any construction impacts that may have occurred. The following is a recommended procedure for complying with the UDP and providing the BOEM and SHPO(s) with the necessary information to make informed decisions to approve continuation of bottom disturbing activities. After each step, consultation among the appropriate parties will occur.

(1) Initial assessment of unanticipated discovery via a refined HRG survey and/or ROV investigation (Phase Ia reconnaissance survey).
    a. May result in no further recommended action (i.e., target is not a historic property) or additional investigation.
(2) Develop an avoidance zone based upon Step 1.
    a. Minimally, construction activity will remain outside of the avoidance zone for a period of time necessary to allow archaeological investigation, if required.
    b. Determine whether construction activity can remain outside of the avoidance zone permanently.
(3) Identify the source, delineate the site boundary, and assess potential impacts that led to the unanticipated discovery (Phase Ib identification).
    a. Accomplished utilizing archaeological/scientific diving and/or ROV investigation.
    b. May result in no further recommended action (i.e., target is not a historic property) or additional investigation.
(4) Determine eligibility for listing in the NRHP (Phase II NRHP evaluation).
    a. Accomplished utilizing archaeological/scientific diving.
    b. May require extensive excavation.
    c. May require archival research.
(5) Develop a strategy to resolve adverse effects to the historic property that occurred as a result of the unanticipated discovery and to minimize or mitigate potential future adverse effects as construction proceeds.
(6) On-site monitoring of bottom disturbing activities at the location.

Not all of these steps may be necessary, and the appropriate course of action will be determined at the time of discovery and in consultation with BOEM and if applicable, SHPO(s).

FEDERAL/OUTER CONTINENTAL SHELF LANDS

In the event artifacts and material culture associated with the pre-contact periods within the coastal and marine environments are identified and recovered from federal property/ outer continental shelf lands during pre-construction, construction, operation, maintenance, and decommissioning of the proposed Project, including for mitigation or resulting from post-review discovery including but not limited to vibracore sampling, those materials, if they are not replaced on the seafloor, will be housed at a curatorial facility in consultation with the Tribes/Tribal Nations. This collection and curation does not apply to the post-construction seafloor inspection mitigation detailed in the Marine Archaeological Resources Treatment Plan.

STATE LANDS

In the event artifacts and material culture associated with the pre-contact periods within the coastal and marine environments are identified and recovered from state property during pre-construction, construction, operation, maintenance, and decommissioning of the proposed Project, including for mitigation or resulting from post-review discovery including but not limited to vibracore sampling, those materials, if they are not replaced on the seafloor, may be housed at a curatorial facility in consultation with the Tribes/Tribal Nations and SHPO and local government(s). This collection and curation does not apply to the post-construction seafloor inspection mitigation detailed in the Marine Archaeological Resources Treatment Plan.

NOTIFICATION LIST

General Contractor Project Manager (GCPM)

(To be filled out upon selection of general contractor)
Name:
Street address:
City, state ZIP:
Phone:
Email:

General Contractor Project Manager (GCPM) - Alternate

(To be filled out upon selection of general contractor)
Name:
Street address:
City, state ZIP:
Phone:
Email:

Bureau of Ocean Energy

Sarah Stokely
Section 106 Team Lead
Bureau of Ocean Energy Management
Office of Renewable Energy Programs
45600 Woodland Road
VAM-OREP
Sterling, Virginia 20166
Phone: (571) 460-9954 Email: sarah.stokely@boem.gov

Bureau of Safety and Environmental Enforcement Office of Environmental Compliance

1201 Elmwood Park Boulevard
New Orleans, LA 70123
Shawn Arnold, FPO, Senior Marine Archaeologist
Phone: (504) 736-2416
Email: William.arnold@bsee.gov

Barry Bleichner, Marine Archaeologist
Phone: (504) 736-2947
Email: barry.bleichner@bsee.gov

New Jersey Historic Preservation Office

Mr. Shawn LaTourette
State Historic Preservation Officer
Commissioner
Department of Environmental Protection
401 East State Street
P.O. Box 402
Trenton, NJ 08625-0402
Phone: (609) 292-2885

Katherine Marcopul

Administrator and Deputy State Historic Preservation Officer
New Jersey Historic Preservation Office
501 East State Street
Station Plaza Building 5, 4th Floor
P.O. Box 420
Trenton, NJ 08625-0420
Phone: (609) 984-5816

New Jersey State Archaeologist

Dr. Gregory Lattanzi
State Archaeologist
New Jersey State Museum
205 West State Street
P.O. Box 530, CN 530
Trenton, NJ 08625-0530
Phone: (609) 984-9327

New Jersey State Police

Office of Forensic Sciences
Forensic Anthropology Unit
NJ Forensic Technology Center
1200 Negron Drive - Horizon Center
Hamilton, NJ 08691

Phone: (609) 584-5054 x5656

Bergen County Medical Examiner Office

Dr. Zhongxue Hua.
County Medical Examiner
351 E Ridgewood Avenue
Paramus, NJ 07652
Phone: (201) 634-8940

New York State Parks, Recreation and Historic Preservation

Mr. Erik Kulleseid
State Historic Preservation Officer
Commissioner
OPRHP, PO Box 189,
Waterford, NY 12188
Phone: (518) 474-0443

Dr. Nancy Herter
Coordinator - Archaeology Unit
OPRHP, PO Box 189,
Waterford, NY 12188
Phone: (518) 268-2179

Dr. Tim Llyod
Archaeologist for Kinds, Nassau, and Queens counties
OPRHP, PO Box 189,
Waterford, NY 12188
Phone: (518) 268-2186

New York State Police

Forensic Investigation Center
Building #30
1220 Washington Avenue
Albany, VY 12226-3000
Phone: (518) 457-1208

Kings County Office of Chief Medical Examiner

Dr. Jason Graham
Appointed Acting Chief Medical Examiner
599 Winthrop Street
Brooklyn, NY 11203
Phone: (718) 221-0600

Queens County Medical Examiner Office

Dr. Jason Graham
Appointed Acting Chief Medical Examiner
160-15 82nd drive
Queens, NY 11432
Phone: (212) 447-2030

Nassau County Medical Examiner

Dr. Tamara Bloom
Chief Medical Examiner
2251 Hempstead Turnpike, Building R,
East Meadow, NY 11554
Phone: (516) 572-6400

Delaware Tribe of Indians

Ms. Susan Bachor
Tribal Historic Preservation Officer
PO Box 64
Pocono Lake, PA 18347
Phone: (570) 422-2023
sbachor@delawaretribe.org

The Delaware Nation

Ms. Deborah Dotson
President of Executive Committee
P.O. Box 825
Anadarko, OK 73005
ec@delawarenation-nsn.gov

Ms. Erin Thompson-Paden
Historic Preservation Director
P.O. Box 825
Anadarko, OK 73005
Phone: (405).247-2448 Ext. 1403
epaden@delawarenation-nsn.gov

The Mashantucket Western Pequot Tribal Nation

Mr. Michael Kicking Bear Johnson
Deputy Tribal Historic Preservation Officer
110 Pequot Trail
Mashantucket, CT 06338
860-501-7988
mejohnson@mptn-nsn.gov

The Mashpee Wampanoag Tribe

Councilman David Weeden
Tribal Historic Preservation Officer
483 Great Neck Road, South
Mashpee, MA 02649
Phone: (774) 327-0068
David.Weeden@mwtribe-nsn.gov

The Shinnecock Indian Nation

Ms. Shavonne Smith
Director, Shinnecock Environmental Department
PO Box 5006 Southampton
NY 11969
Phone: (631) 283-6143
ShavonneSmith@shinnecock.org

The Stockbridge-Munsee Community Band of Mohican Indians

Dr. Jeffery Bendremer
Tribal Historic Preservation Officer
86 Spring Street
Williamstown, MA 01267
Phone: (413) 884-6029
thpo@mohican-nsn.gov

The Wampanoag Tribe of Gay Head (Aquinnah)

Ms. Bettina Washington
Tribal Historic Preservation Officer
20 Black Brook Road
Aquinnah, MA 02535-1546
Phone: (508) 560-9014
thpo@wampanoagtribe-nsn.gov

REFERENCES CITED

Advisory Council on Historic Preservation's (ACHP)

2023 *Policy Statement on Burial Sites, Human Remains, and Funerary Objects* (March 1, 2023). https://www.achp.gov/sites/default/files/policies/2023-07/PolicyStatementonBurialSitesHumanRemainsandFuneraryObjects30June2023.pdf, Digital article accessed December 9, 2021.

Bureau of Ocean Energy Management (BOEM)

2020 *Guidelines for Providing Archaeological and Historical Property Information Pursuant to 30 CFR Part 585* (May 27, 2020). United States Department of the Interior, Office of Renewable Energy Programs.

ATTACHMENT 7 – MONITORING AND POST-REVIEW DISCOVERIES PLAN FOR TERRESTRIAL ARCHAEOLOGICAL RESOURCES

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Construction and Operations Plan
Empire Offshore Wind: Empire Wind Project
(EW 1 and EW 2)

Monitoring and Unanticipated Discoveries Plan for Terrestrial Archaeological Resources

Prepared for:

Empire Offshore Wind LLC
600 Washington Blvd, Suite 800
Stamford, Connecticut 06901

Prepared by:

6 Century Drive, Suite 300
Parsippany, NJ 07054

November 2023

TABLE OF CONTENTS

TABLES

ATTACHMENTS

ACRONYMS AND ABBREVIATIONS

APE	Area of Potential Effects. Locations within a project that will undergo ground-disturbing activity that may affect cultural resources.
BOEM	Bureau of Ocean Energy Management
BSEE	Bureau of Safety and Environmental Enforcement
CFR	Code of Federal Regulations
COP	Construction and Operations Plan
Empire	Empire Offshore Wind LLC
EW 1	Empire Wind 1
EW 2	Empire Wind 2
GCPM	General Contractor Project Manager
Lease Area	Renewable Energy Lease Area OCS-A 0512
LPC	Landmarks Preservation Commission
OCME	Office of the Chief Medical Examiner
Plan	Unanticipated Discoveries Plan
PPE	personal protective equipment
QPA	Qualified Professional Archaeologist. Archaeologist whose education and training meet the criteria specified in the Professional Qualifications Standards set for an archaeological professional by the Secretary of the Interior[1]
SHPO	State Historic Preservation Office
SOI	Secretary of the Interior
TARA	Terrestrial Archaeological Resources Assessment
Tetra Tech	Tetra Tech, Inc.
THPO	Tribal Historic Preservation Officer

[1] *Standards and Guidelines for Archeology and Historic Preservation* (https://www.nps.gov/subjects/historicpreservation/standards.htm; previously 36 CFR Part 61)

1. Introduction

Empire Offshore Wind LLC (Empire) proposes to construct and operate an offshore wind farm located in the designated Renewable Energy Lease Area OCS-A 0512 (Lease Area). Empire proposes to develop the Lease Area in two wind farms, known as Empire Wind 1 (EW 1) and Empire Wind 2 (EW 2) (collectively referred to hereafter as the Project). The Lease Area covers approximately 79,350 acres (32,112 hectares) and is located approximately 14 statute miles (12 nautical miles, 22 kilometers) south of Long Island, New York and 19.5 miles (16.9 nautical miles, 31.4 kilometers) east of Long Branch, New Jersey.

EW 1 and EW 2 will be electrically isolated and independent from each other. Each wind farm will connect via offshore substations to separate Points of Interconnection at onshore locations by way of export cable routes and onshore substations. In this respect, the Project includes two onshore locations in New York where the renewable electricity generated will be transmitted to the electric grid.

A Construction and Operations Plan (COP) was submitted to the Bureau of Ocean Energy Management (BOEM) in January 2020 and revised in September 2020, April 2021, July 2021, and May 2022, as required by 30 Code of Federal Regulations (CFR) Part 585. BOEM's approval of the COP, allowing for construction and operations of the Project, is contingent in part on the completion of archaeological investigations to identify potentially significant archaeological resources, which may be subject to disturbances due to Project activities within the area of potential effects (APE; 30 CFR § 585.626(a)(5)). The APE will be defined by BOEM through the Section 106 process, therefore, this report describes the preliminary APE, as identified by Tetra Tech, Inc. (Tetra Tech).

Project activities at EW 1 will include the installation of an export cable landfall, installation of onshore export and interconnection cable routes, and construction of an onshore substation. An operations and maintenance (O&M) base is also proposed to be constructed adjacent to the EW 1 onshore substation at South Brooklyn Marine Terminal. While the O&M base will serve both EW 1 and EW 2, it is included within the EW 1 Onshore Project Area for the purposes of the COP. The Onshore Project Area is defined as that area where ground-disturbing construction activities will occur. Project activities at EW 2 will include the installation of an export cable landfall, installation of onshore export and interconnection cable routes, and construction of an onshore substation.

1.1 Purpose

This document provides protocols to be followed if ground-disturbing activities during construction at EW 1 and EW 2 result in the unanticipated discovery of the following:

- Cultural materials (i.e., objects or deposits of possible archaeological or historical importance); or
- Human remains.

This Monitoring and Unanticipated Discoveries Plan (Plan) was prepared by Tetra Tech, contractor to Empire, the Project proponent.

The stipulations of the Plan as set forth below are in accordance with current federal, state, and city statutes, regulations, and guidelines as listed:

- Federal Guidelines and Regulations:
    - Sections 106 and 110 of the National Historic Preservation Act, as amended (54 United States Code 306108 and 306101 *et seq.*);

  - Secretary of the Interior's Standards for Archaeology and Historic Preservation (48 CFR 44716-42);
  - Advisory Council for Historic Preservation: Policy Statement on Burial Sites, Human Remains, and Funerary Objects (March 2023); and
  - Native American Graves Protection and Repatriation Act (25 United States Code 3001 *et seq.*).

- New York State Guidelines and Regulations:
  - The New York State Historic Preservation Act of 1980 (§ 14.09 of the New York State Parks, Recreation and Historic Preservation Law), and its implementing regulations at 9 NYCRR 426-428; and
  - New York State Historic Preservation Office (SHPO)/New York State Office of Recreation and Historic Preservation, *Human Remains Protocol*[2]

- New York City Guidelines and Regulations:
  - Landmarks Preservation Commission, Guidelines for Archaeological Work in New York City.[3]

1.2 Project Personnel Roles

This document includes a variety of Project personnel who would be involved in decision-making and field activities if an unanticipated discovery is encountered during the construction phase of the Project. Following are descriptions of the roles of each of these personnel.

- Archaeologist: A professional archaeologist meeting, at a minimum, the Secretary of the Interior's (SOI's) Professional Qualifications Standards for Archaeologists (48 Federal Register 44738-44739);

- Project Archaeologist: A professional archaeologist meeting, at a minimum, the SOI's Professional Qualifications Standards for Archaeologists (48 Federal Register 44738-44739) who would supervise Project archaeological monitoring activities.

- Construction Contractor: Construction team manager or supervisor. There may be more than one Construction Contractor, depending on the construction activity;

- Empire Wind Compliance Manager: Empire Wind's defined point-of-contact for construction activities;

- Qualified Archaeological Monitor: Field archaeologists and Tribal members herein referred to as Qualified Archaeological Monitors with education and training in archaeology who meet SOI standards for archaeological monitoring and who are supervised by an SOI qualified archaeologist;

- Qualified Tribal Archaeological Monitor: See Qualified Archaeological Monitor above; and,

- Tribal Representative: a Native American with affiliation with consulting Tribe who is onsite to observe construction activities.

[2] August 2018, https://parks.ny.gov/shpo/environmental-review/documents/HumanRemainsProtocol.pdf
[3] September 2018, https://www1.nyc.gov/assets/lpc/downloads/pdf/2018_Guidelines%20for%20Archaeology_Final_high%20res.pdf

1.3 Training

Empire will advise all construction personnel on the procedures to follow if cultural resources (i.e., archaeological sites, objects [artifacts], and features, related to the historic period or pre-Contact cultural periods associated with Native American cultural periods) or human remains (i.e., whole or fragmented, articulated, or disarticulated human bone, teeth, hair, or preserved soft tissue) are revealed during construction activities. Training will occur as part of the on-site training program for all construction personnel. Consulting party Tribal Nations will be invited to participate in the on-site training program.

Training of construction personnel should be conducted by a professional archaeologist who meets the Secretary of Interior's Professional Qualification Standards (36 CFR Part 61) for archaeology. Training should include the following:

- A brief overview of the history of the region and description of the nature and type of archaeological resources that may be encountered within the Project's APE, including historic and precontact artifacts, deposits, and features;
- A description of the procedures for unanticipated archaeological discoveries and human remains encountered during Project construction activities, and reporting requirements, as detailed within this Plan;
- Review and education on federal and state laws protecting cultural resources;
- A review of BOEM's responsibility to identify and protect cultural resources and resource integrity; and
- A review of the consequences of failing the cultural resources monitoring protocol.

Copies of this Plan will be incorporated into all relevant construction documents and will be available in hard copy format onsite during construction. The training will emphasize the procedures to follow if an unanticipated discovery is encountered during Project construction. Appropriate educational handouts will be developed for the training and posted in the field office(s) illustrating the unanticipated discovery procedures and types of artifacts that could be encountered.

All contractor personnel who will work onsite must be aware of this Plan and its procedures. They should be informed of the potential for discovery of archaeological resources that may be exposed during Project construction. Additional trainings will be conducted throughout construction activities as new contractor personnel are added to the Project. Refresher training(s) may also be conducted as deemed necessary by Empire or by the Archaeological Monitor described in Section 1.4.

1.4 Documentation

A copy of this Plan will be available in each field office at all times during construction activities. At least one hardcopy of the environmental compliance documents, including this Plan, or electronic copy on a tablet or phone, will also be available at the construction site at all times when construction crews are present, for immediate reference to the applicable procedures.

The General Contractor Project Manager (GCPM) will maintain a log with the names and signatures of contractor personnel who have read this Plan. The GCPM will be responsible for compliance with the provisions of this Plan including coordination with city and state representatives responsible for this Project and coordination with appropriate stakeholders as may be required. The Construction Contractor will provide a list of the necessary personal protective equipment (PPE) required for accessing construction areas.

1.5 Archaeological and Tribal Monitors

At least one Archaeological Monitor will be assigned for onshore construction activities in areas previously assessed as possessing archaeological sensitivity. Tribal Archaeological Monitors may also request to be onsite (at their discretion) per the ongoing consultation for this Project. When Tribal Archaeological Monitors request to be onsite, the Archaeological Monitor will coordinate logistics with ensuring proper access, safety, training, and timelines for participation of any Tribal Archaeological Monitors. All Archaeological Monitors and Tribal Archaeological Monitors will participate in safety training prior to entering construction areas, as part of a comprehensive safety training program. Safety training will be completed as part of a kick-off meeting or during morning tailgate meetings, as appropriate. All personnel entering a construction area will wear appropriate PPE, as designated by the Construction Contractor. The Tribal Representative or Tribal Historic Preservation Officers (THPO) of each Consulting Tribe will provide SOI certification to the Project Archaeologist for each Qualified Tribal Archaeological Monitor prior to their start date.

1.5.1 Process for Determining if Monitoring a Construction Activity is Necessary

Archaeological monitoring will be conducted during construction activities during onshore Project construction in identified areas of cultural resources sensitivity within the onshore Project area. Per the Terrestrial Archaeological Resources Assessment (TARA; Attachment Y-1 of the COP Appendix Y), no terrestrial archaeological monitoring will be conducted within the Empire Wind 1 Project Area since that area contained negligible archaeological sensitivity. As per the TARA, archaeological monitoring will be conducted in an area of the Empire Wind 2 Project in the northern portion of Barnum Island. Specifically, an archaeological monitor will be present where the Project's ground-disturbing activities intersect the "Archaeological Monitoring Area" depicted on Figure Y-2-12 in Attachment Y-2 of the COP Appendix Y.

If the construction contractor is unsure whether archaeological monitoring is necessary for a specific activity or location, the construction contractor will contact the Archaeological Monitor. The Archaeological Monitor will consult with BOEM cultural resources staff to determine if monitoring of the activity/location is necessary. If deemed necessary by BOEM, the Archaeological Monitor will be present onsite for onshore construction activities. Additionally, Tribes may request cultural monitoring by the Archaeological Monitor in areas they deem to be culturally sensitive. Tribes may also request that a Tribal Archaeological Monitor be present during onshore construction activities.

1.5.2 Coordination with Tribes

Tribal Representatives and/or THPOs will be notified of construction activities up to 30 days and minimally two weeks in advance to participate in monitoring activities, if desired. The Project Archaeologist will coordinate with the Tribal Representative and/or THPOs who expressed interest in participating in training for construction crews (Section 1.3) and to assist Consulting Tribes with the logistics for pre-construction reconnaissance when they request to assess a portion of the Project area prior to the start of construction activities in that area.

1.6 Reporting

The Archaeological Monitor will submit a weekly update via email. Weekly updates via email will be submitted at the end of day every Friday, providing a summary of the week's activities, indicating what archaeological monitoring was conducted and will provide a look-ahead of upcoming activities for the following week, if needed. The weekly summary will also include photographs of the construction work activities, as appropriate. The weekly email will be sent to BOEM, NY SHPO, Consulting Tribal Nations, and Empire.

The Archaeological Monitor will prepare a monitoring report, which will be submitted to the consulting parties following the completion of onshore construction activities. The monitoring report for onshore construction will be provided to the consulting parties no later than three (3) months following completion of the onshore construction activities.

2. Potential Discoveries and Effects of Project Activities

An Archaeological Monitor who satisfies the Secretary of the Interior's Standards for Qualified Professional Archaeologist (QPA) will be present onsite as needed to satisfy the recommendations included in the TARA. This Plan provides procedures to be followed if cultural materials, including archaeological artifacts, features, and human remains and funerary objects, are revealed during Project construction. The Plan ensures that finds of potential archaeological interest will be reported in a timely manner, evaluated professionally, and recorded as appropriate to prevent the inadvertent loss of historical information and destruction of objects and features of archaeological value in accordance with federal, state, and city laws and guidelines.

Anticipated cultural remains may include stone or bone materials that may represent artifacts related to former Native American presence in the area and historic period artifacts that may include glass, metal, pottery, and faunal remains.

The Plan has specifically been developed to guide engineering staff and contractors, under the supervision of the Project Archaeologist, in how to respond to the unplanned discovery of objects, features, or remains of potential historical and archaeological interest during ground-disturbing construction activities.

3. Notification and Assessment Procedures (Not Including Human Remains)

The following steps outline the protocols to be taken in the event an unanticipated discovery is made during Project construction:

1. If any member of the work force believes that he/she has found an archaeological resource, they shall stop work in the area of discovery and immediately contact the Archaeological Monitor.

2. An archaeological resource discovery could consist of, but is not limited to:

    - An area of charcoal or charcoal-stained soil below the topsoil level;
    - Arrowheads, stone tools, or chips of stone produced by stone tool manufacture and similar debris;
    - Burned rocks in association with stone tools or debitage; or
    - Cans, bottles, or other historic artifacts older than 100 years.

3. No work shall occur at the location of the find or within a buffer area 50 feet in radius around the find until the area has been evaluated by the Archaeological Monitor. The Archaeological Monitor will expand the 50-foot buffer if deemed necessary.

4. The person in charge of the work area will take appropriate steps to protect the area of discovery by installing a physical barrier such as exclusionary fencing. Prohibit vehicles, equipment, and unauthorized persons from traversing the area of discovery. The area of work stoppage will be adequate to provide for the security, protection, and integrity of the resource.

5. The Archaeological Monitor will promptly digitally photograph the find (use a scale in the photograph) and contact the GCPM. Within the next 24 hours, the Archaeological Monitor in consultation with the Project Archaeologist will evaluate the discovery and confirm or refute that the find may represent an archaeological discovery. If the Archaeological Monitor and Project Archaeologist confirm that the find(s)

represent an archaeological discovery, the Archaeological Monitor will inform Empire to inform BOEM and the Bureau of Safety and Environmental Enforcement (BSEE), and will coordinate in notifying the Landmarks Preservation Commission (LPC) and NY SHPO, as appropriate.

6. BOEM will advise the NY SHPO and LPC of the find, and as appropriate will notify the consulting party Tribal Nation Representatives if the resource relates to a pre-Contact time period.

7. The Project Archaeologist will recommend whether the discovery is potentially eligible for listing in the National Register of Historic Places. BOEM, NY SHPO, Empire, and the Project Archaeologist will make a good faith effort to accommodate requests from the appropriate Native American nation(s) if they request to be present during the implementation of assessments related to archaeological resources determined to be of Native American origin.

8. Within 24 hours following consultation with NY SHPO and LPC, the QPA will develop a draft treatment plan.

9. If the discovery appears to be related to Native American occupation, BOEM will consult with NY SHPO and the consulting party Tribal Nation Representatives, if the resource relates to a pre-Contact time period, to discuss recommended treatment(s).

10. The Archaeological Monitor will prepare a letter report to describe the situation, observations, treatment recommendations, and results of treatment implementation.

11. Empire will provide a copy of the final report describing the treatment actions and results to BOEM for approval. BOEM will be responsible for transmitting reports and coordinating comments to and from the NY SHPO, LPC, consulting party Tribal Nation Representatives, if the resource relates to a pre-Contact time period, and other stakeholders, if appropriate.

12. After acceptance of the report by BOEM, NY SHPO, the LPC (as appropriate), and other appropriate stakeholders and implementation of the agreed upon treatment, Empire will inform the GCPM that construction in the area of the discovery may resume.

13. If artifacts and cultural material associated with Native American heritage are identified and recovered from state property during pre-construction, construction, operation, maintenance, and decommissioning of the proposed Project, including for mitigation or resulting from post-review discovery including but not limited to all ground disturbing activities, if these items are not replaced, they may be housed at a curatorial facility in consultation with the Tribal Nations and SHPO and local government(s).

4. Notification and Assessment Procedures (Human Remains)

Human remains are physical remains of a human body or bodies including, but not limited to, bones, teeth, hair, and preserved soft tissues (mummified or otherwise preserved) of an individual. Remains may be articulated or disarticulated bones or teeth. Disturbance of human remains, burial places and or burial offerings and other grave furnishings without appropriate permits is a felony in New York State.

Any human remains discovered shall always be treated with the utmost dignity and respect, and information about the find shall be treated as confidential. No photographs shall be taken of human remains and no contact with press or via social media shall occur.

The following steps are based on "Burials and Human Remains: Detailed Discovery Procedures," Section D of the LPC's *Guidelines for Archaeological Work in New York City* (September 2018). In addition, the steps conform

to the SHPO's "Human Remains Discovery Protocol" (August 2018). Both are included as **Attachment A**. These protocols should be followed in the event an unanticipated discovery of human remains is made during Project construction. The Notifications and Contacts List is provided in **Section 5**.

1. If any member of the work force believes he/she has made an unanticipated discovery of human remains, the worker shall immediately stop work in the area of discovery and its immediate surroundings and immediately contact the Archaeological Monitor.

2. No work shall occur at the location of the find or within a buffer area 50 feet in radius around the find until the area has been evaluated by law enforcement, and, if deemed to be not of forensic interest, by a Qualified Professional Archaeologist. The Archaeological Monitor will expand the 50-foot buffer if deemed necessary.

3. As possible, human remains and associated artifacts will be left in place and not disturbed. No human remains or materials associated with the remains will be collected or removed until evaluation by law enforcement and after appropriate consultations have taken place, if deemed to be not of forensic interest.

4. Immediately upon discovery, the worker who made the discovery will notify the person in charge of the relevant work area.

5. The Archaeological Monitor will, after confirming that work has stopped in the vicinity of the find, immediately notify the GCPM and Empire of a find of possible human remains.

6. The person in charge of the work area will promptly, and before the end of the current work shift, protect the area of the discovery by installing a physical barrier such as exclusionary fencing, and prohibiting vehicles, equipment, and unauthorized persons from traversing the discovery location. The area must be adequate to provide for the security, protection, and integrity of the remains.

7. Once notified of the discovery of human remains, Empire will immediately contact BOEM, BSEE, and NY SHPO, and call the New York City Police Department at 911 and Office of Chief Medical Examiner (OCME)—Forensic Anthropology Unit, and the Archaeology Director of the LPC.

8. Empire will request the Archaeological Monitor to review the discovery, and develop recommendations for follow-up. The Archaeological Monitor will not interfere with the context of the discovery (if found in-situ) prior to review by law enforcement, BOEM, BSEE, NY SHPO, and LPC, as applicable. The Archaeological Monitor will visit the site within 48 hours of the discovery, in coordination with Empire.

9. If the discovery is of forensic interest, the OCME will direct all next steps.

10. If the discovery is deemed to be not of forensic interest by OCME, then BOEM, with assistance from LPC, Empire, and the Project Archaeologist, will obtain an agreement with interested parties regarding the disinterment and re-interment of the remains if necessary.

11. The Project Archaeologist will develop a draft treatment plan to address the discovery. The Project Archaeologist will present the draft treatment plan to Empire within 48 hours following the site visit. Empire will provide the treatment plan to BOEM, BSEE, NY SHPO, and LPC, as appropriate.

12. Empire and the Project Archaeologist will assist BOEM and LPC in obtaining a New York City Department of Health permit for disinterment of the remains.

13. BOEM will advise LPC and NY SHPO of the find, and as appropriate will notify the consulting party Tribal Nation Representatives if the remains are determined to be of Native American origin. Notifications to consulting party Tribal Nation Representatives will occur promptly.

14. If the remains are determined to be archaeological (not forensic), they will be left in place (if found in place) and protected from all disturbance. If the remains were discovered not in place, the Archaeological Monitor and other parties will seek to determine their onsite source and will assess the potential that additional remains might still be present at that source.

15. Empire, BOEM, and NY SHPO will make a good faith effort to accommodate requests from interested consulting party Tribal Nations (e.g., that Native American representatives will be present during the implementation of archaeological assessments related to human remains determined to be of Native American origin).

16. If disinterment of Native American human remains is necessary, BOEM and coordinating agencies (NY SHPO, LPC, and the appropriate consulting party Tribal Nations) will jointly determine the appropriate mitigation measures including custodianship of the human remains. All decisions shall be documented and signed by all participating parties.

17. If the human remains are determined to be non-Native American, BOEM will consult with the LPC, NY SHPO, and other appropriate stakeholders to determine a plan of action.

18. All actions taken will be described in a letter report written by the QPA. The letter report will be provided to Empire and BOEM. BOEM will be responsible for distributing reports and other documentation to the LPC, NY SHPO, and as appropriate, consulting party Tribal Nations.

19. After completion of the consultation and implementation of agreed upon treatment plan, Empire will inform the GCPM that construction work may resume in the area of the discovery.

5. Notifications Contacts List

The following table includes the names of individuals who should be contacted regarding potential archaeological findings (Table 1).

Table 1 Unanticipated Discoveries Plan Contacts

Contacts	
General Contractor Project Manager (GCPM)	
General Contractor Project Manager (GCPM) (To be filled out upon selection of general contractor) Name: Street address: City, state ZIP: Tel # office: Tel # cell: Email:	General Contractor Project Manager (GCPM) - Alternate (To be filled out upon selection of general contractor) Name: Street address: City, state ZIP: Tel # office: Tel # cell: Email:

Contacts	
Bureau of Ocean Energy Management (BOEM)	
Sarah Stokely, Section 106 Team Lead Bureau of Ocean Energy Management Office of Renewable Energy Programs 45600 Woodland Rd VAM-OREP Sterling, VA 20166 Tel: (571) 460-9954 Email: sarah.stokely@boem.gov	
Bureau of Safety and Environmental Enforcement (BSEE)	
Shawn Arnold, FPO, Senior Marine Archaeologist Bureau of Safety and Environmental Enforcement Office of Environmental Compliance 1201 Elmwood Park Blvd. New Orleans, LA 70123 Tel: (504) 736-2416 William.arnold@bsee.gov	
Barry Bleichner, Marine Archaeologist Tel: (504) 736-2947 barry.bleichner@bsee.gov	
Tetra Tech, Inc.	
Project Archaeologist Rob Jacoby, M.A., RPA Cultural Resources Specialist 6 Century Drive, Suite 300 Parsippany, NJ 07054 Tel: (973) 630-8371 Cell: (973) 271-6416 Email: rob.jacoby@tetratech.com	
New York City Landmarks Preservation Commission	
Amanda Sutphin, RPA Director of Archaeology NYC Landmarks Preservation Commission One Centre Street – 9th Floor North New York, NY 10007 Tel: (212) 669-7823 Cell: (347) 556-1296 Email: asutphin@lpcnyc.gov	Alternate Name: Timothy Frye Director of Special Projects and Strategic Planning NYC Landmarks Preservation Commission One Centre Street – 9th Floor North New York, NY 10007 Tel: (212) 669-7855 *(front desk)* Email: tfrye@lpc.nyc.gov

Contacts	
State Historic Preservation Office	
Nancy Herter Coordinator – Archaeology Review New York State Historic Preservation Office (SHPO) Peebles Island Resource Center P.O. Box 189 Waterford, NY 12188-0189 Tel: (518) 268-2185 Email: *Use Cultural Resources Information System (CRIS)*	
Interested Native American Nations	
Delaware Tribe Susan Bachor, M.A. Archaeologist Delaware Tribe Historic Preservation 126 University Circle, Rm. 437 East Stroudsburg, PA 18301 Tel.: (610) 761-7452 Email: sbachor@delawaretribe.org	Delaware Nation Dana Kelly Archive Asst./106 Asst. 31064 State Highway 281, PO Box 825 Anadarko, OK 73005 Tel: (405) 247-2448 ext.1407 Email:dkelly@delawarenation.com
Interested Native American Nations (continued)	
Delaware Nation Erin Thompson Paden Historic Preservation Director 31064 State Highway 281, PO Box 825 Anadarko, OK 73005 Tel.: (405) 247-2448 ext. 1403 Email: epaden@delawarenation-nsn.gov	Delaware Nation *(To be cc'd, with attachments)* Nekole Alligood NAGPRA Projects Officer Delaware Nation 103 W. Broadway Anadarko, OK 73005 Tel.: (405) 247-1177 Email: NAlligood@delawarenation.com
The Mashantucket Western Pequot Tribal Nation Michael Kicking Bear Johnson Deputy Tribal Historic Preservation Officer 110 Pequot Trail Mashantucket, CT 06338 Tel.: (860) 501-7988 mejohnson@mptn-nsn.gov	The Mashpee Wampanoag Tribe Councilman David Weeden 483 Great Neck Road, South Mashpee, MA 02649 Tel.: (774) 327-0068 David.Weeden@mwtribe-nsn.gov
Shinnecock Indian Nation Chairman Randy King PO Box 5006 Southampton, NY 11969 Tel: (631) 283-6143 Email: adminoffice@shinnecock.org	Shinnecock Indian Nation Josephine Smith Director of Cultural Resources PO Box 5006 Southampton, NY 11969 Tel: (631) 283-6143. Email: JosephineSmith@Shinnecock.org

Contacts	
Shinnecock Indian Nation Lori Gomez Executive Director of Tribal Operations PO Box 5006 Southampton, NY 11969 Tel.: (631) 283-6143 Email:LoriGomez@shinnecock.org	Shinnecock Indian Nation Kyle Cause Office & Records Manager PO Box 5006 Southampton, NY 11969 Tel.: (631) 283-6143 Extension #9 Email: KyleCause@shinnecock.org
Stockbridge Munsee Community Band of Mohican Indians Jeffrey C. Bendremer, Ph.D. Tribal Historic Preservation Officer Stockbridge-Munsee Community Tribal Historic Preservation Extension Office 86 Spring Street Williamstown, MA 01267 Tel.: (413) 884-6029 Email: thpo@mohican-nsn.gov	Unkechaug Indian Nation Harry Wallace (Chief) 151 Poospatauck Lane Mastic, NY 11950 Tel.: (631) 281-6464 Email: unkechaugnation@gmail.com
Law Enforcement Contacts	
New York Police Department Tel: 911 (**for emergencies only**, *including discovery of human remains*) Tel: 311 *(for non-emergencies*)	
Nassau County Police Department Tel: 911 (**for emergencies only**, *including discovery of human remains*) Tel: 311 (*for non-emergencies*)	
New York City Office of Chief Medical Examiner (OCME) Forensic Anthropology Unit	
New York City Office of Chief Medical Examiner 520 First Avenue New York, NY 10016 Attn: Department of Forensic Anthropology Tel.: 212-227-2030; *ask for the Forensic Anthropology Unit*	
Nassau County Office of Chief Medical Examiner (OCME)	
Nassau County Medical Examiner 2251 Hempstead Turnpike East Meadow, NY 11554 Tel: (516) 572-6400	

Attachment A
SHPO and LPC Guidance Related to Discovery of Human Remains

Human remains should be treated with great care and respect. When human remains are encountered during archaeological projects, it is often as primary burials or as fragmentary remains. Section D.1 discusses LPC protocols for the treatment of human remains found during archaeological investigations. Section D.2 addresses the treatment of human remains found unexpectedly.

Identified Potential for Human Remains in a Project Area

Whenever human remains are encountered in New York City, work must cease in the area and the New York Police Department (NYPD) immediately notified at 911. The Office of Chief Medical Examiner (OCME) must also be contacted at 212-447-2030 (ask for the Forensic Anthropology Unit). If OCME determines the discovery is of forensic interest, then they will direct all next steps. Further work cannot occur until OCME provides direction. LPC must be alerted to any discoveries on projects under its review at 212-669-7817 (see Section C.6.3). In addition, should human remains need to be disinterred, reinterred, or moved within New York City, the Department of Health (DOH) must issue a permit which may only be secured by a licensed funeral director.

Whenever proposed work is due to occur in an area that is identified as having the potential to contain human remains, LPC should be contacted as early as possible in the planning stages so that the appropriate project-specific archaeological methods and protocol governing the work can be developed. Projects requiring federal or state review must contact NY SHPO. In general, NY SHPO should also be contacted for questions about the Native American Graves Protection and Repatriation Act.

The documentary research should have indicated if a project has the potential to contain human remains **AND** identified the appropriate descendant

group(s), including Indian Nations, descendant churches, families, etc. Once identification has been made, the applicant needs to consult with the descendant group(s) about the proposed work, what to do with any remains that may be found at the time of discovery, and what should ultimately be done with the remains.

D.1.1
Personnel Qualifications

A qualified archaeologist must be present for all phases of excavation in an area that may contain human remains. Areas with potential for graves must be hand-excavated by the qualified archaeological staff. During subsequent site preparation, construction, and post-construction restoration any work within an area that may contain human remains should be monitored by a qualified archaeologist.

A qualified **physical anthropologist** must be available to come to the field as needed to identify and appropriately treat any human remains that may be encountered during archaeological investigation or construction work. This individual must have a graduate degree in a relevant field and significant research experience with human remains found in archaeological contexts. LPC maintains a list of physical anthropologists which will be provided upon request. LPC will review the qualifications of any individual who is not on the list to ensure that he/she has sufficient experience. Note that there are individuals who may be qualified both as an archaeologist and a physical anthropologist. In that case, only one such professional is needed for the project. In all others, at least two professionals, a PI and a physical anthropologist, will be needed.

D.1.2
Work Plan

For projects that are identified as having the potential to contain human remains, the work plan must include the following in addition to what is noted in Section C.1. It must describe the type and extent of physical anthropological study and if any special provisions have been agreed to in consultation with the descendant community. It must also define the reporting obligations of the archaeologist and the physical anthropologist. Once any human remains have actually been found, the physical anthropologist should submit a scope for analysis to LPC that delineates the actual analysis to be completed. This analysis should, when possible, identify the minimum number of individuals the bones may represent, sex, age, cause of death, pathology, etc. LPC recommends that remains be reinterred in consultation with descendant communities and interested parties.

The work plan must also note how the project will consult with the Office of Chief Medical Examiner, Forensic Anthropology Unit (which can be reached at anthropology@ocme.nyc.gov) when human remains are found—as they must be. In general, the principal archaeologist should provide the unit with digital photographs that clearly show the discovery and include a scale, a synthesis of the history of the site, a project map showing the discovery location, and information about any related artifacts that were uncovered such as coffin nails or personal items such as buttons and jewelry. The Unit will determine what, if any, further involvement they wish to have with the project.

D.1.3
Preservation of Primary Burials in Place

As a general policy, LPC recommends that primary burials be left in place and that projects be redesigned to avoid disturbing them. The project must be planned in a manner that attempts to avoid disturbing primary burials. In the work plan, the PI must document the location of known graves, whether marked or unmarked, using such references as the plans of the cemetery, historic descriptions, photos, and other sources. In cases where documentation does not exist, remote sensing technology may be used. Mechanical stripping is strongly discouraged, as is any type of probe such as borings.

D.1.4

Disposition of Human Remains

The project's work plan must include the protocol for temporary and permanent disposition of human remains found in the course of the project. The protocol should designate how and where remains will be temporarily stored, what the consultation process with descendant communities and interested parties will be, curation plans, and plans for the permanent disposition (e.g., reburial on or off the site or permanent curation). If permanent curation is proposed then the descendant community must agree to such an option. Applicants should note that LPC will need to review and approve any proposal to put an exterior marker or memorial in a designated historic district, scenic landmark, or individual landmark.

Unanticipated Discovery of Human Remains

In the event that primary burials or fragmentary remains are found in New York City, the following actions should be taken immediately:

1. **STOP WORK at the location of the find and for a distance of 50 feet around the find.**

2. **Immediately call the New York Police Department at 911 and Office of Chief Medical Examiner at 212-227-2030** and ask the operator to direct the call to the Forensic Anthropology Unit. If the project is under the review of LPC or was reviewed by LPC, call **212-669-7817** or the LPC general number at 212-669-7855.

OCME will make a determination of forensic significance.

If disarticulated bone or human bone fragments are found after they have been excavated, secure the area and call NYPD and OCME as noted above. If the discovery is made once the remains are in the laboratory, secure the remains and contact OCME to determine next steps.

If OCME determines that the site is of forensic interest, they will direct all next steps. If they determine that it is not, then an agreement between the landowner and other interested parties should be developed. If the project location is under LPC review, LPC will assist in the development of the agreement. If it is not, LPC will offer assistance. A New York City Department of Health permit is required for the disinterment and reinterment of all human remains. DOH may be contacted at: nycdohvr@health.nyc.gov.

State Historic Preservation Office/
New York State Office of Parks, Recreation and Historic Preservation
Human Remains Discovery Protocol
(August 2018)

If human remains are encountered during construction or archaeological investigations, the New York State Historic Preservation Office (SHPO) recommends that the following protocol is implemented:

- Human remains must be treated with dignity and respect at all times. Should human remains or suspected human remains be encountered, work in the general area of the discovery will stop immediately and the location will be secured and protected from damage and disturbance.

- If skeletal remains are identified and the archaeologist is not able to conclusively determine whether they are human, the remains and any associated materials must be left in place. A qualified forensic anthropologist, bioarchaeologist or physical anthropologist will assess the remains in situ to help determine if they are human.

- No skeletal remains or associated materials will be collected or removed until appropriate consultation has taken place and a plan of action has been developed.

- The SHPO, the appropriate Indian Nations, the involved state and federal agencies, the coroner, and local law enforcement will be notified immediately. Requirements of the corner and local law enforcement will be adhered to. A qualified forensic anthropologist, bioarchaeologist or physical anthropologist will assess the remains in situ to help determine if the remains are Native American or non-Native American.

- If human remains are determined to be Native American, they will be left in place and protected from further disturbance until a plan for their avoidance or removal can be generated. Please note that avoidance is the preferred option of the SHPO and the Indian Nations. The involved agency will consult SHPO and the appropriate Indian Nations to develop a plan of action that is consistent with the Native American Graves Protection and Repatriation Act (NAGPRA) guidance. Photographs of Native American human remains and associated funerary objects should not be taken without consulting with the involved Indian Nations.

- If human remains are determined to be non-Native American, the remains will be left in place and protected from further disturbance until a plan for their avoidance or removal can be generated. Please note that avoidance is the preferred option of the SHPO. Consultation with the SHPO and other appropriate parties will be required to determine a plan of action.

- To protect human remains from possible damage, the SHPO recommends that burial information not be released to the public.

ATTACHMENT 8 – MITIGATION FUNDING AMOUNTS

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ATTACHMENT 8 – MITIGATION FUNDING AMOUNTS

The mitigation measures proposed in Stipulation III have been developed by individuals who meet the qualifications specified in the SOI's Qualifications Standards for Archeology, History, Architectural History, and/or Architecture (36 CFR 61) and are based on input from consulting parties. The proposed mitigation measures consider the nature, scope, and magnitude of adverse effects caused by the Project, and the qualifying characteristics of each historic property that would be affected. These funding amounts are good faith estimates, based on the experience of qualified consultants with similar activities and comparable historic properties. The proposed level of funding is appropriate to accomplish the identified preservation goals and result in meaningful benefits to the affected properties, resolving adverse effects. Therefore, the funding amounts indicated here for activities required by the MOA represent the maximum amounts the Lessee would be required to spend to fund these activities.

- Marine APE
    - Up to $4,388,797.00 for mitigation to resolve adverse effects at the 13 ALSFs (Targets 31, 33, 35, 36, 39, 41, 42, 45, 47, 48, 49, 51, 52), including Pre-Construction Geoarchaeology ($1,438,258), Open Source GIS and Story Maps ($65,000), ASLF Post-Construction Sea-floor Inspection ($1,545,179), and
    - Ethnographic Study for the Delaware Tribe ($191,480)
    - Tribal Capacity associated with monitoring of ASLFs for Delaware Nation ($191,480)
    - Tribal Capacity associated with monitoring of ASLFs for the Wampanoag Tribe of Gay Head (Aquinnah) ($191,480)
    - Ethnographic Study for the Stockbridge Munsee Community ($191,480)
    - Ethnographic Study for Shinnecock Nation ($191,480)
    - Regional Analysis of Watersheds in the Project Area for Mashpee Wampanoag Tribe ($191,480)
    - Tribal Capacity associated with monitoring of ASLFs for Mashantucket (Western) Pequot Tribal Nation ($191,480)

- Visual APE
    - NY State Park Properties

The proposed mitigation measures for four New York State Park Properties include funding for Climate Resiliency, Education, Interpretation, Maintenance, Public Access, Restoration, Rehabilitation, or Visitor Experience. The New York State Parks will: determine priority projects in collaboration with the representatives for each NY State Park unit; use already available plans or develop plans appropriate to the identified project, and ensure the plans submitted for review are prepared by professionals meeting Secretary of the Interior (SOI) Professional Qualifications for Architecture or Architectural History with experience applying the SOI Standards for the Treatment of Historic Properties; ensure the project is carried out by qualified contractors who will execute plans; and take necessary steps to ensure planned work is completed. Funding amounts are as follows:

- $125,000 for mitigation of adverse effects at Jones Beach State Park, Parkway and Causeway System
- $125,000 for mitigation of adverse effects at Gilgo State Park through
- $125,000 for mitigation of adverse effects at Robert Moses State Park through

- National Park Service Properties

The mitigation measures for the ten National Park Service properties were developed by individuals who meet the qualifications specified in the SOI's Qualifications Standards for Archeology, History, Architectural History, and/or Architecture (36 CFR 61), proposed by Lessee, and circulated by BOEM in HPTPs to consulting parties. The proposed mitigation measures include funding for climate resiliency, education, interpretation, maintenance, public access, restoration, rehabilitation, or visitor experience.

- $75,000 for mitigation of adverse effects at Breezy Point Beach Club Historic District
- $50,000 for mitigation of adverse effects at Carrington House
- $50,000 for mitigation of adverse effects at Fire Island Lighthouse
- $75,000 for mitigation of adverse effects at Fire Island Light Historic District
- $75,000 for mitigation of adverse effects at Fort Tilden Historic District
- $100,000 for mitigation of adverse effects at Fort Hancock & Sandy Hook Proving Ground Historic District
- $100,000 for mitigation of adverse effects at Fort Hancock Life Saving Station
- $75,000 for mitigation of adverse effects at Jacob Riis Park Historic District
- $100,000 for mitigation of adverse effects at Sandy Hook Lighthouse
- $75,000 for mitigation of adverse effects at Silver Gull Beach Club Historic District

The mitigation measures for the following six properties were developed through direct dialogue and discussion between Empire and the property owner(s)/representative(s). All mitigation measures that result from the funding must be developed by individuals who meet the qualifications specified in the SOI's Qualifications Standards for Archeology, History, Architectural History, and/or Architecture.

- $100,000 for mitigation of adverse effects at Point O'Woods Historic District through
  - Funding the restoration of historic landscape features including paths, benches, plantings, rock walls and roads or for projects related to Climate Resiliency, Education, Interpretation, Preservation, Maintenance, Restoration, or Rehabilitation
- $100,000 for mitigation of adverse effects at West Bank Light Station through
  - Funding of a historic structures report and funding towards a selected project based on results of the report.

- $100,000 for mitigation of adverse effects at Allenhurst Residential Historic District through
  - Funding towards restoration of specific elements of historic buildings identified by Allenhurst Officials
- $100,000 for mitigation of adverse effects at Navesink Light Station through
  - Funding towards one or more repair/restoration projects of the light, as suggested by the NJ Office of State Parks, Forests & Historic Sites
- $100,000 for mitigation of adverse effects at Ocean Grove Camp Meeting Association Historic District through
  - Funding towards a recreation path need identified by the Association
- $100,000 for mitigation of adverse effects at Romer Shoal Light Station through
  - Funding towards access improvements identified by the owner
- $100,000 for mitigation of adverse effects at Water Witch Historic District through
  - Funding towards the replacement of historic stormwater features and/or landscaping as identified by the Board of Directors of Monmouth Hills, Inc.

Based on comments from consulting parties requesting a mitigation fund, BOEM decided to consult on a mitigation fund rather than the previously considered mitigation measures (see November 18, 2022 Draft Environmental Impact Statement Appendix N Finding of Effect). Using the previously proposed mitigation measures as a financial basis for the mitigation fund described in Stipulation III.C, and to achieve parity across the adversely affected historic properties, the following values are set by property type: $75,000 for hotels, and $145,000 for seaside attractions. The number and type of adversely affected historic properties are a basis for determining the value of the fund. The total contribution to the mitigation fund will be $365,000.

- Seaside Attractions
  - Asbury Park Casino and Carousel
  - Asbury Park Convention Hall

- Hotels
  - Berkely-Carteret Hotel