COPIAGUE AMERICAN VENICE BRIDGES

ENVIRONMENTAL ASSESSMENT

New York State Governor's Office of Storm Recovery
December 14, 2016

COPIAGUE AMERICAN VENICE BRIDGES

Environmental Assessment

December 14, 2016

Project Name:	Copiague American Venice Bridges
Project Location:	Two bridges located at East Riviera Drive and West Riviera Drive over the Santa Barbara Canal, Copiague hamlet, Town of Babylon, Suffolk County, New York
Federal Agency:	U.S. Department of Housing and Urban Development (HUD)
Responsible Entity:	New York State Homes and Community Renewal (NYS HCR)
Responsible Agency's Certifying Officer:	Thomas J. King, Assistant General Counsel and Certifying Officer
Project Sponsor:	Governor's Office of Storm Recovery (GOSR) 99 Washington Avenue, Suite 1224 Albany, New York 12260
Primary Contact:	Thomas King, Esq., Assistant General Counsel and Certifying Officer NYS Governor's Office of Storm Recovery *Email:* Thomas.King@StormRecovery.ny.gov *Telephone:* (518) 473-0015
Project NEPA Classification:	24 CFR 58.36 (Environmental Assessment)

Environmental Finding:	☒ Finding of No Significant Impact - The project will not result in a significant impact on the quality of the human environment.
	☐ Finding of Significant Impact - The project may significantly affect the quality of the human environment.
Certification	The undersigned hereby certifies that New York State Homes and Community Renewal has conducted an environmental review of the project identified above and prepared the attached environmental review record in compliance with all applicable provisions of the National Environmental Policy Act of 1969, as amended (42 USC Sec. 4321 et seq.) and its implementing regulations at 24 CFR Part 58.
Signature	Thomas J. King

Environmental Assessment Prepared By:	Tectonic Engineering & Surveying Consultants, P.C. 70 Pleasant Hill Road Mountainville, NY 10953

CERTIFICATION OF NEPA CLASSIFICATION

It is the finding of the New York State Housing Trust Fund Corporation that the activity(ies) proposed in its 2013 NYS CDBG-DR project, Copiague American Venice Bridges, are:

Check the applicable classification.

- ☐ Exempt as defined in 24 CFR 58.34 (a).
- ☐ Categorically Excluded as defined in 24 CFR 58.35(b).
- ☐ Categorically Excluded as defined in 24 CFR 58.35(a) and no activities are affected by federal environmental statues and executive orders [i.e., exempt under 58.34(a)(12)].
- ☐ Categorically Excluded as defined in 24 CFR 58.35(a) and some activities are affected by federal environmental statues and executive orders.
- ☒ "Other" neither exempt (24 CFR 58.34(a)) nor categorically excluded (24 CFR 58.35).
- ☒ Part or all of the project is located in an area identified as a floodplain or wetland. For projects located in a floodplain or wetland, evidence of compliance with Executive Orders 11988 and/or 11990 is required.

For activities excluding those classified as "Other", attached is the appropriate Classification Checklist (Exhibit 2-4) that identifies each activity and the corresponding citation.

Signature of Certifying Officer	12/14/2016 Date
Thomas J. King Print Name	Certifying Environmental Officer Title

CERTIFICATION OF SEQRA CLASSIFICATION

It is the finding of the New York State Housing Trust Fund Corporation that the activity(ies) proposed in its 2013 NYS CDBG-DR project, Copiague American Venice Bridges, constitute a:

Check the applicable classification:

- ☐ Type I Action (6NYCRR Section 617.4)
- ☒ Type II Action (6NYCRR Section 617.5)
- ☐ Unlisted Action (not Type I or Type II Action)

Check if applicable:

- ☐ Environmental Impact Statement (EIS) Prepared
  - ☐ Draft EIS
  - ☐ Final EIS

Signature of Certifying Officer

12/14/2016
Date

Thomas J. King
Print Name

Certifying Environmental Officer
Title

Description of the Proposed Project [24 CFR 50.12 & 58.32; 40 CFR 1508.25]:

Project Name: Copiague American Venice Bridges

Project Location: Two bridges located at East Riviera Drive and West Riviera Drive over the Santa Barbara Canal, Copiague hamlet, Town of Babylon, Suffolk County, New York

Project Description: The Copiague American Venice Bridges Project (Project) involves the replacement of two bridges located at East Riviera Drive and West Riviera Drive over the Santa Barbara Canal in the hamlet of Copiague, Town of Babylon, Suffolk County, New York. The two bridges are the only means of vehicular access to their respective neighborhoods, and the bridges currently have a load rating of 12 tons which does not permit use by certain heavy rescue and emergency vehicles. As a result, first responders could not access the neighborhood during Superstorm Sandy. The lack of access also delayed post-storm assistance to the neighborhood. In order to decrease vulnerability of these neighborhoods from the limited emergency access, the deteriorating bridges will be replaced with higher capacity bridges so that emergency and rescue vehicles, and construction equipment will have unrestricted access to the neighborhoods in the event of an emergency. The location of the proposed project activities is identified on the enclosed aerial map, street map, and United States Geological Survey (USGS) topographic map (**Attachment 1**).

Project Activities: The current bridges' roadways are 19-feet and 1-inch (19' 1") wide, with an additional 5' 9" wide sidewalk. The existing bridges have a total width of 28' 7" from parapet to parapet. The new bridges will be approximately 35' 2" wide from parapet to parapet, which will include two (2) 12' wide lanes, two (2) 10" wide shoulders, a new 6" concrete curb on the canal side of the bridge, and 10" shoulder on the landward side adjacent to the 5' 6" wide sidewalk. Guide rails, concrete curbs, and sidewalks will be installed where the existing roadway meets the bridge. The 8" water main in a 12" sleeve and 2" gas main in a 6" sleeve currently located under the existing bridge walkway will be temporarily supported on utility support beams during construction above the canal during construction, and reinstalled under the sidewalks of the new bridges (**Attachment 2**).

On the West Riviera Drive Bridge, a 6' high vinyl fence on a 1' block wall and a 4' high wood fence will be reinstalled on land located northwest of the bridge. A 4' high chain link fence will be relocated on land located northeast of the bridge. A chain link fence will also be installed on land located northwest of the bridge. A guide rail extension is proposed to be added to the western side of the bridge approach drive. Three (3) utility poles will be relocated and a sidewalk extension will be constructed, connecting Lido Promenade West and West Santa Barbara Road.

On the East Riviera Drive Bridge, four (4) utility poles will be relocated within the work area and hedges on land located south of the bridge will be removed and replaced. A guide rail extension is proposed to be added to the northwest side of the bridge approach drive. A sidewalk extension will be constructed, connecting Lido Promenade East and East Santa Barbara Road.

The current lower arch sections and bridge abutment sections supporting the existing bridge are located on the canal banks. The new bridge arch sections are to be built located landward of the existing arch sections, expanding the existing 26' wide canal to a 30' wide canal opening. The replacement bridge structure footings will be in the approximate same location as the existing footings, so the removal of the existing abutment footings is necessary. The exact size of the existing footings is unknown as available historical records and plans do not reveal the size.

Silt fences and turbidity curtains will be installed around the entire proposed construction site per the soil erosion control plan prior to work beginning (**Attachment 2**). After the existing concrete arch and roadway

embankment are removed, a cofferdam will be installed at each abutment. The cofferdams will be constructed of steel sheeting with wales, tie backs, and braces. A turbidity curtain will be installed in the water adjacent to the work area, from cofferdam to cofferdam, to minimize sediment transportation in water from the area of disturbance. Dewatering will be accomplished by using surface pumps to transport water from behind the cofferdams to an outlet pipe with a filter sock, to be discharged behind the turbidity curtains between the two cofferdams.

Dredging behind the cofferdams will be necessary to remove the existing footings and piles, with the dredged soil to be stockpiled for later use as backfill. The dredged material will be stockpiled behind straw bales or silt fences in an area that will be dry and stable. The stockpile will be stabilized using vegetation or cover, with a maximum slope of 2:1.

Eighteen (18) 30' piles and battered caisson piles and sixteen (16) 20' piles and battered caisson piles will be driven for each abutment, and a reinforced concrete foundation cast in place. The sheeting pilings and cofferdam will be installed using a vibratory hammer and/or a dynamic pile driver. Most of the sheeting will be left in place, with the exception of the backside of the cofferdam, the roadway side. The sheeting left in place will be cut off below the proposed grade and buried. A precast concrete arch support will be backfilled with sediment, with the spandrel walls on the bridge acting as retaining walls. The new bridge arch support will be at the same height as the current bridges in the center of the arch, with only very minor deviations from the current arch angles over the canal. New bulkheads will be installed to protect the structure from erosion, using the stockpiled soil to backfill.

The demolition and construction of each bridge will be phased so that one travel lane is open for traffic at all times, with a temporary traffic signal and realigned pavement markings for one-way, two lane traffic control. The existing bridge will be restricted to one travel lane during construction of the temporary bridge located between the canal and the work area. The existing pedestrian bridge will remain open for travel during the construction of the temporary bridge. After installation of the temporary bridge, the single-lane travel lane will be switched to the temporary bridge and the existing bridge removed. The existing sidewalk will remain in place while a temporary pedestrian bridge is constructed between the temporary bridge and the work area. After the temporary pedestrian bridge is in place, pedestrian traffic will be diverted to the new sidewalk and the existing walkway will be demolished. These temporary bridges will remain in place until the new bridges and walkways are constructed. This will allow for vehicular access to and from the neighborhoods while the demolition and construction are occurring.

The East Riviera Drive temporary bridge will be approximately 120' long and the West Riviera Drive temporary bridge will be approximately 60' long. They will be supported on two (2) temporary piers at the edge of Santa Barbara Canal and concrete pad abutments at the ends, at the same approximate height as the existing bridges. The temporary piers will be supported on the temporary sheet piling bridge cofferdam on one end and a temporary pile on the other end. The piers will be located at the edge of the canal. The abutments will be a concrete block supported on a shallow foundation in the ground. The West Riviera Drive temporary bridge will also have 20' of temporary sheeting on each end to support the temporary embankment which will be placed to grade from the temporary bridge to the existing roadway.

Statement of Purpose and Need for the Proposal [40 CFR 1508.9(b)]:
On April 18, 2014, a visual and non-destructive inspection was performed on the current bridges' conditions and its results were reported in the Town of Babylon Department of Public Works Scoping Report for the Rehabilitation or Reconstruction to Eliminate Load Posting for Riviera Drive Bridges (East and West) over Santa Barbara Canal BINs 2261360 and 2261370 dated July 2014 (**Attachment 2**). It was found that they are functioning, but there are signs of deterioration. Although there are two lanes on each bridge, it was shown through local traffic observation that one car crosses the bridge at a time.

East Riviera Drive: Several horizontal and vertical cracks up to ¼" wide were found on the support stems and/ or pedestals under the sidewalk. A sink hole approximately 4' x 5' and up to 5' deep was found due to erosion at the Northwest embankment behind the timber sheeting. Also, many broken or missing timber planks posing a safety hazard to pedestrians were found, including the Northeast embankment. Between a site visit on March 28, 2014 and April 18, 2014, impact damage was noted on the North Baluster of the East Riviera Drive bridge. The top is pulling away from the remaining portion of the bridge rail exposing rebar due to a full depth crack above the roadway, posing a safety hazard to pedestrians and vehicular traffic. Hairline cracks show minor efflorescence in Rib #3. (**Attachment 2**.)

West Riviera Drive: On the Northeast embankment, damage of the concrete apron measuring up to 4' laterally has allowed for settlement up to about 3" vertically. There are also many broken, deteriorated or missing timber planks. Several delaminated areas are found on the underside of the concrete arch. There is about an 8' long by up to 1/8" wide crack on the West Face of Rib #3. (**Attachment 2**.)

These bridges provide the only vehicular access for the residents and for emergency or other services needed on the two island neighborhoods. After Superstorm Sandy, it has become increasingly apparent that the ton capacity of the bridges must be improved in order to provide for long term access to the community by both residents and emergency services.

Existing Conditions and Trends [24 CFR 58.40(a)]:
The two bridge spans service approximately 600 households in the neighborhoods they connect to the mainland of Long Island, New York. They were originally built in 1910 by Suffolk County, constructed of reinforced concrete, earth-filled, and ribbed arch rigid frames which were designed for 15-ton live loading. By 1957, the County indicated extensive deterioration of the concrete arches, lowering the live load to 8 tons. Extensive concrete repairs were made that year and the live load limit was then raised to 12 tons. A separate pedestrian walkway structure was added along each side of the bridge in 1969, constructed of steel stringers and a concrete slab with an independent substructure. In 1990, rehabilitation work was completed to reroute and replace the utilities carried by the bridge along with replacement of sidewalk slabs and aluminum railings. The two bridges are identically configured structures, each with two vehicular traffic lanes oriented in the North-South direction crossing over the Santa Barbara Canal that is oriented East-West. The waterways are tidally influenced, connecting to the Great South Bay. The two bridges are the only vehicular access to residential neighborhoods south of the Santa Barbara Canal. (**Attachment 2**.)

<u>Funding Information</u>

Estimated Total HUD Funded Amount:

CDBG-DR	$7,890,409.00	Public Facilities and Improvements
CDBG-DR	$ 326,151.00	Project Delivery Costs

Estimated Total Project Cost (HUD and non-HUD funds) [24 CFR 58.32(d)]**:**

CDBG-DR	$7,890,409.00	Public Facilities and Improvements
CDBG-DR	$ 326,151.00	Project Delivery Costs
Total	**$8,216,560.00**	

Compliance with 24 CFR 58.5, and 58.6 Laws and Authorities

Record below the compliance or conformance determinations for each statute, executive order, or regulation. Provide credible, traceable, and supportive source documentation for each authority. Where applicable, complete the necessary reviews or consultations and obtain or note applicable permits of approvals. Clearly note citations, dates/names/titles of contacts, and page references. Attach additional documentation as appropriate.

Compliance Factors: Statutes, Executive Orders, and Regulations listed at 24 CFR §58.5 and §58.6	Are formal compliance steps or mitigation required?	Compliance determinations
STATUTES, EXECUTIVE ORDERS, AND REGULATIONS LISTED AT 24 CFR 50.4 and 58.6		
Airport Hazards 24 CFR Part 51 Subpart D	Yes No ☐ ☒	Based on guidance provided by the HUD Fact Sheet #D1, the National Plan of Integrated Airport Systems (NPIAS) was reviewed for civilian, commercial service and military airports located near the Site. There are no civilian, commercial service airports located within 2,500 feet of the Site. There are no military airports located within 15,000 feet of the Site (**Attachment 1**). No additional review is required.
Coastal Barrier Resources Coastal Barrier Resources Act, as amended by the Coastal Barrier Improvement Act of 1990 [16 USC 3501]	Yes No ☐ ☒	Based on the FEMA Firmette 36103C0842H, the Site is not located in or immediately adjacent (within 150 feet) to a Coastal Barrier Resource Area System Unit or Otherwise Protected Area (**Attachment 1**).
Flood Insurance Flood Disaster Protection Act of 1973 and National Flood Insurance Reform Act of 1994 [42 USC 4001-4128 and 42 USC 5154a]	Yes No ☐ ☒	Based on the FEMA Firmette 36103C0842H, the Site is located within a FEMA designated flood zone (100-year floodplain, Special Flood Hazard Area [SFHA] - AE Zone) (**Attachment 1**) and the Floodplain Management Determination (Executive Order [EO] 11988) for this project (**Attachment 4**). However, proof of National Flood Insurance Program (NFIP) insurance is not required as the project structures are uninsurable. National Flood Insurance Program, *Eligible or Ineligible for NFIP Coverage*. http://www.nfipiservice.com/watermark/eligible_for_coverage.html
STATUTES, EXECUTIVE ORDERS, AND REGULATIONS LISTED AT 24 CFR 50.4 & 58.5		
Clean Air	Yes No ☐ ☒	The Site is located within a moderate nonattainment area for the eight-hour ozone standard. Thus, a conformity analysis and

Clean Air Act, as amended, particularly section 176(c) & (d); 40 CFR Parts 6, 51, 93		screening analysis were performed according to the requirements of 40 CFR 93, Subpart B (federal general conformity regulations). The screening analysis was performed assuming that the emissions intensity per expenditure (tons per dollar) for the project would be similar to the average intensity of the construction sector in the county. Projects with a projected construction expenditure substantially lower than the average construction de minimis expenditure would not exceed de minimis emissions levels for general conformity purposes. Based on the screening analysis, the construction expenditure threshold for Nassau County is $410 million before a project may be expected to exceed the de minimis expenditure thresholds requiring further analysis or conformity determination (**Attachment 2**). The estimated construction cost of the Project is approximately $8.2 million, which is less than the $410 million threshold; thus, the proposed project would not require further analysis for a conformity determination. The Site is situated within the existing right-of-way for the bridges and roads. Construction of the project would not generate significant levels of vehicular traffic; therefore, no exceedances of the National Ambient Air Quality Standard (NAAQS) associated with carbon monoxide (CO) or particulate matter (PM) is anticipated occur. This bridge replacement project would not result in siting any new source of air pollutants at the Site. The project would not adversely affect the State Implementation Plan (SIP). Any air quality impacts would be short-term and localized during construction and, therefore, no significant adverse impacts to air quality are anticipated. Additionally, the following measures will be incorporated into the contract documents and a more detailed conformity analysis will be required to be completed for the bid package using the "General Conformity Worksheet." *Idling Restriction*. In addition to adhering to the local law restricting unnecessary idling on

		roadways, on-site vehicle idle time will also be restricted to five minutes for all equipment and vehicles that are not using their engines to operate a loading, unloading, or processing device (e.g., concrete mixing trucks) or otherwise required for the proper operation of the engine. *Utilization of Newer Equipment*. EPA's Tier 1 through 4 standards for non-road engines regulates the emission of criteria pollutants from new engines, including PM, CO, NOx, and hydrocarbons (HC). All non-road construction equipment with a power rating of 50 horsepower (hp) or greater would meet at least the Tier 2 emissions standard to the extent practicable. *Best Available Tailpipe Reduction Technologies*. Non-road diesel engines with a power rating of 50 hp or greater and controlled truck fleets (i.e., truck fleets under long-term contract with the project) including but not limited to concrete mixing and pumping trucks would utilize the best available tailpipe (BAT) technology for reducing DPM emissions. Diesel particulate filters (DPFs) have been identified as being the tailpipe technology currently proven to have the highest reduction capability. Construction contracts would specify that all diesel non-road engines rated at 50 hp or greater would utilize DPFs, either installed by the original equipment manufacturer (OEM) or retrofitted. Retrofitted DPFs must be verified by EPA or the California Air Resources Board (CARB). Active DPFs or other technologies proven to achieve an equivalent reduction may also be used. EPA, *Nonattainment Areas for Criteria Pollutants* https://www.epa.gov/green-book Ozone specific: https://www3.epa.gov/airquality/greenbook/hbca.html#Ozone_8-hr.2008.New_York EPA, *Recent Updates: Federal Register Notices Published or Effective After September 22, 2016*

		http://www.epa.gov/airquality/greenbook/adden.html
Coastal Zone Management Coastal Zone Management Act, sections 307(c) & (d)	Yes No ☐ ☒	The Site is located within the New York State Coastal Boundary (**Attachment 3**). However, the proposed project will not affect the NYS Coastal Zone. The NYS Department of State (DOS) has determined that this project meets the Department's coastal consistency concurrence criteria. The DOS stated it has no objection to the use of HUD CDBG-DR funds for this financial assistance activity, and this documentation is provided in **Attachment 13**. The Site is not located within a Local Waterfront Revitalization Program Area or a Local Waterfront Revitalization Program Community (**Attachment 3**). https://appext20.dos.ny.gov/coastal_map_public/map.aspx
Contamination and Toxic Substances 24 CFR Part 50.3(i) & 58.5(i)(2)	Yes No ☐ ☒	The Site is not listed on a U.S. Environmental Protection Agency (EPA) Superfund National Priorities or Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) list or equivalent State list, and is not located within 3,000 feet of a toxic or solid waste landfill site. A review of the EPA Resource Conservation and Recovery (RCRA) and NYSDEC Environmental Remediation databases provide no indication of past uses of the Site that could contaminate the Site or potentially adversely affect the occupants of the surrounding properties. Four EPA-listed and permitted RCRA hazardous waste facilities and three water discharger facilities are located within 3,000 feet of the Site. The four RCRA hazardous waste facilities and one of the three water discharger facilities have no reported permit violations and are not considered a hazard. These five facilities are in compliance with permit conditions that are enforced and meet standards to protect public health and the environment by preventing releases to the environment. The remaining two water discharger facilities with violations reported are not expected to have contaminated the Site due to the nature of the violations and distance from the Site (**Attachment 5**). Several spills have

		been reported in the area of the proposed construction of the bridges, but these minor spills have been closed by the NYSDEC. A spill being closed means that the records and data submitted indicate that the necessary cleanup and removal actions have been completed and no further remedial activities are necessary under this spill report number. *Conclusion*: Based on a review of available environmental records for the Site and surrounding area, the Site is unlikely to contain hazardous materials, contamination, toxic chemicals and gases, and radioactive substances, where a hazard could affect the health and safety of occupants or conflict with the intended utilization of the Site. The funded activities do not involve actions that would involve potential recognized environmental conditions/ contamination. Therefore, a Phase I Environmental Site Assessment or Phase II Environmental Site Assessment is not warranted. Maps and NYSDEC and EPA reports are provided in the HUD Environmental Standards Review Report, annexed hereto as **Attachment 5**.
Endangered Species Endangered Species Act of 1973, particularly section 7; 50 CFR Part 402	Yes No ☐ ☒	The proposed project is for the replacement of existing structures and includes ground disturbance during construction of temporary crossings for the two bridges, the demolition of the existing bridges, and installation of the new bridges. According to information reviewed from the NYSDEC Environmental Resource Mapper (**Attachment 3**), the Site is not located within the NYSDEC's designated rare, threatened, or endangered species generalized review area. A formal request was submitted to the NYSDEC Natural Heritage Program (NHP) for records of threatened or endangered species in the project area. A response was received from the NHP on September 2, 2016, which did not identify any records of rare or state-listed animals or plants, or significant natural communities at the Site or in its immediate vicinity (**Attachment 6**). The United States Fish and Wildlife Service (USFWS) lists the piping plover (*Charadius*

		melodus), red knot (*Calidris canutus rufa*), roseate tern (*Sterna dougallii dougallii*), sandplain gerardia (*Agalinis acuta*), seabeach amaranth (*Amaranth pumilus*), and northern long-eared bat (*Myotis septentrionalis*) as species that could occur in the area of the proposed project (**Attachment 6**). The piping plover prefers open coastal waterways with sparse grass or other vegetation. The piping plover breeds in sandy upper beaches and sparsely vegetated shores, islands, shallow lakes, ponds, rivers, and impoundments. The canals have bulkheads and concrete abutments, and upland of the canal are busy residential roadways, actively managed sidewalks, landscaped areas with scattered trees, and residential houses. There is no suitable habitat for the piping plover in the vicinity of the project area and the project will have no effect on this species. The red knot breeds in the tundra region. During migration, the red knot prefers coastal beaches that are usually at or near the mouth of bays, estuaries, or tidal inlets. Wintering areas are generally intertidal habitats such as beaches with significant wave action or currents. A review of aerial imagery and site photos reveals that there are no coastal beaches or intertidal areas that receive significant wave action or currents in the project area. There is no suitable habitat for the red knot in the vicinity of the project area and the project will have no effect on this species. The roseate tern prefers coastal beach and island habitats along salt bays, estuaries, and oceans. Roseate terns nest on sandy or rocky islands, especially in protected bays and estuaries, with some low plant cover that is close to shallow waters for feeding. It forages in coastal waters and sometimes well offshore. The canals have bulkheads and concrete abutments, and upland of the canal are busy residential roadways, actively managed sidewalks, landscaped areas with scattered trees, and residential houses. There is no suitable habitat for the roseate tern in the

		vicinity of the project area and the project will have no effect on this species. The sandplain gerardia is a flowering plant that can be found on Long Island in dry, sandy soils and in sandy plains. It was traditionally a maritime grassland species maintained by fire and grazing. In New York, it currently occurs in remnant grasslands, shrublands, and along roadsides and railroads. As such, there is no habitat suitable for the sandplain gerardia in the project area and the project will have no effect on this species. The seabeach amaranth is a flowering plant that usually grows on a nearly pure sand substrate. It is primarily found on overwash flats at accreting ends of islands, lower fore-dunes, and upper strands of non-eroding beaches. There is no habitat suitable for the seabeach amaranth in the project area and the project will have no effect on this species. After a review of the project scope in relation to the aforementioned species breeding, foraging, and habitat requirements, it was concluded that the project would have no effect on the above species. The northern long-eared bat roosts underneath tree bark, in cavities, and in the crevices of dead and live trees. The project is located in a residential area with no contiguous forest habitat. Additionally, two trees are projected to be removed. These trees have a diameter of eight inches or less, with smooth bark. As such, this project will not result in the removal of any potentially suitable northern long-eared bat roost trees. Accordingly, a No Effect Determination was submitted to the USFWS on October 3, 2016 to provide notice of the proposed project and to document compliance with Section 7 of the Endangered Species Act (ESA), as well as the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) (**Attachment 6**). USFWS acknowledged receipt of the No Effect Determination on October 3, 2016 (**Attachment 6**).

		The National Oceanic and Atmospheric Administration (NOAA) National Marine Fisheries Service (NMFS) lists the following species for the Greater Atlantic Region: **Fish Species**: Atlantic salmon (*Salmon salar*) Shortnose sturgeon (*Acipenser brevirostrum*) Atlantic sturgeon (*Acipenser oxyrinchus oxyrinchus*) **Sea Turtles**: Green sea turtle (*Chelonia mydas*) Hawksbill turtle (*Eretmochelys imbricate*) Kemp's Ridley turtle (*Lepidochelys kempii*) Leatherback turtle (*Dermochelys coriacea*) Loggerhead turtle (*Caretta caretta*) **Marine Mammals**: Blue whale (*Balaenoptera musculus musculus*) Fin whale (*Balaenoptera physalus*) Humpback whale (*Megaptera novaeangliae*) North Atlantic right whale (*Eubalaena glacialis*) Sei whale (*Balaenoptera borealis*) Sperm whale (*Physeter microcephalus*) The project activities to replace the existing bridge structures include in-water work for bridge abutment and footing replacements and the demolition of the bridge; however, mitigative measures and best management practices (BMPs) will be implemented to limit noise and sediment disturbance. Based on the analysis of the listed species above and the project activities, it was determined that the project activities would not directly or indirectly affect any ESA species under NMFS jurisdiction. The project would not introduce stressors on listed species, such as: sound disturbance; changes in water depth or substrate characteristics; dredging; exposure to pollutants or changes in water quality; changes in the abundance, availability, accessibility or quality of prey; loss of submerged aquatic vegetation (SAV) or shellfish beds; or changes to in-water structures. Pursuant to the NMFS Greater Atlantic Region Endangered Species Act Section 7 Program, a No Effect Determination

		has been made for the proposed project on October 24, 2016 and is included in **Attachment 6**.
Explosive and Flammable Hazards 24 CFR Part 51 Subpart C	Yes No ☐ ☒	Acceptable separation distance requirements do not apply to this project because the definition for "HUD-assisted projects" in 24 CFR Part 51.201 is predicated on whether the project increases the number of people exposed to hazardous operations. The environmental review for this project involves the replacement of two bridges and their associated infrastructure, including natural gas mains which service the neighborhoods. Pursuant to the 24 CFR Part 51.201 "HUD-assisted project" definition, this project does not involve "the development, construction, rehabilitation, modernization or conversion with HUD subsidy, grant assistance, loan, loan guarantee, or mortgage insurance, of any project which is intended for residential, institutional, recreational, commercial or industrial use." Additionally, 24 CFR 51, Subpart C excludes pipelines, such as high pressure natural gas transmission pipelines. Therefore, there is no review required under 24 CFR Part 51 Subpart C.
Farmlands Protection Farmland Protection Policy Act of 1981, particularly sections 1504(b) and 1541; 7 CFR Part 658	Yes No ☐ ☒	Not applicable. This project occurs in a developed area and does not involve the conversion of farmland to other type use. Additionally, the project will occur in an area that contains sandy fill land and graded Riverhead and Haven soils at 0 to 8% slopes that is not prime farmland, according to the U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Farmland Classification Map for the project area (**Attachment 7**).
Floodplain Management Executive Order 11988, particularly section 2(a); 24 CFR Part 55	Yes No ☒ ☐	The project Site is located within a FEMA designated flood zone (100-year floodplain, SFHA - AE Zone) (**Attachment 1**). An 8-step review of the project pursuant to 24 CFR Part 55 was undertaken. The Floodplain Management Determination (EO 11988) documents the reasoning for locating the proposed project in flood zone (**Attachment 4**).
Historic Preservation National Historic Preservation Act of 1966, particularly sections 106 and 110; 36 CFR Part 800;	Yes No ☒ ☐	The New York State Historic Preservation Office (SHPO) has determined that the American Venice Bridges are eligible for listing on the State and National Registers of Historic

Tribal notification for new ground disturbance.		Places and funding this project would have an adverse effect on the bridges and be subject to the National Historic Preservation Act (NHPA) and its implementing regulations (**Attachment 8**). Thus, a Memorandum of Agreement (MOA) regarding the Bridge Replacement Project in Babylon, New York has been filed with the Advisory Council on Historic Preservation (ACHP). The MOA, being filed with ACHP, enables GOSR to implement this project in compliance with Section 106 of the NHPA (Section 110(1) and 36 CFR 800.6(c)). GOSR shall ensure that the project is completed in accordance with the terms and stipulations of the MOA until it is expired or terminated (**Attachment 8**). GOSR and the Town of Babylon have concluded, and SHPO has concurred on February 4, 2015, that there are no archaeological concerns at the Site (**Attachment 8**). On October 31, 2016, SHPO stated it is their opinion "that the recordations are acceptable at this point and all stipulations have been met. No further submissions are required unless something changes" (**Attachment 8**). The project will involve ground disturbing work associated with replacement of the two bridges. On March 9, 2015, GOSR sent the project information to the Tribal Historic Preservation Office of the Shinnecock Indian Nation and requested that the Nation inform GOSR if the Area of Potential Effect (APE) encompasses any historic properties of religious or cultural significance (**Attachment 8**). No response has been received from the Shinnecock Indian Nation. If there is any unanticipated discovery of human remains, associated artifacts or cultural resources, then work shall be halted immediately and actions taken following the protocol established within the MOA included in **Attachment 8**.
Noise Abatement and Control Noise Control Act of 1972, as amended by the Quiet Communities Act of 1978; 24 CFR Part 51 Subpart B	Yes No ☐ ☒	The proposed use is not a noise-sensitive use. The proposed work is not expected to generate excessive noise during the short-term construction work and will adhere to local noise control standards.

		Project activities will be completed in accordance with all applicable federal, state and local permit requirements and conditions. Permits required for this project will be obtained by the Town before commencing work and appended to the environmental review record when received from the permitting agencies (**Attachment 14**). Mitigative measures and BMPs will be employed during construction and the installation of the abutment piles using vibratory hammers and/ or a dynamic pile driver. Any in-water noise disturbance during construction would be negligible relative to existing frequent disturbance from boating and vehicular activity within the project area, and permit specified BMP's would minimize the potential for such impacts.
Sole Source Aquifers Safe Drinking Water Act of 1974, as amended, particularly section 1424(e); 40 CFR Part 149	Yes No ☐ ☒	The Site is located within the surficial boundaries of the Nassau – Suffolk Sole Source Aquifer. GOSR sent a request for an Initial Screen/Preliminary Review to the EPA on October 3, 2016 (**Attachment 9**). On October 28, 2016, EPA responded and concluded that the project satisfies the requirements of Section 1424(e) of the Safe Drinking Water Act. (**Attachment 9**)
Wetlands Protection Executive Order 11990, particularly sections 2 and 5	Yes No ☒ ☐	The project is located adjacent to and partially within a federally and state designated wetland (**Attachment 3**). An 8-step review of the project pursuant to 24 CFR Part 55 was undertaken. The Wetlands Protection (EO 11990) Determination documents the reasoning for locating the proposed project in wetland (**Attachment 4**).
Wild and Scenic Rivers Wild and Scenic Rivers Act of 1968, particularly section 7(b) and (c)	Yes No ☐ ☒	The U.S. Department of the Interior and the NYSDEC designate the Carmans, Peconic, and Nissequoque Rivers as scenic rivers within Suffolk County. The Site is not located adjacent to such watercourses. Further, based on the project work occurring in a developed area, no impacts are expected and further assessment is not required.

ENVIRONMENTAL JUSTICE		
Environmental Justice Executive Order 12898	Yes No ☐ ☒	This project does not occur in a State-identified EJ area (**Attachment 10**). The project is intended to provide replacement bridges and promote community resiliency during future flood events. The project does not contribute to or promote environmental injustice. http://www.dec.ny.gov/docs/permits_ej_operations_pdf/suffolkejwest.pdf

Environmental Assessment Factors [24 CFR 58.40; Ref. 40 CFR 1508.8 &1508.27]**:**
Recorded below is the qualitative and quantitative significance of the effects of the proposal on the character, features and resources of the project area. Each factor has been evaluated and documented, as appropriate and in proportion to its relevance to the proposed action. Verifiable source documentation has been provided and described in support of each determination, as appropriate. Credible, traceable and supportive source documentation for each authority has been provided. Where applicable, the necessary reviews or consultations have been completed and applicable permits of approvals have been obtained or noted. Citations, dates/names/titles of contacts, and page references are clear. Additional documentation is attached, as appropriate. All conditions, attenuation or mitigation measures have been clearly identified.

Impact Codes:
Use an impact code from the following list to make the determination of impact for each factor.
(1) Minor beneficial impact
(2) No impact anticipated
(3) Minor Adverse Impact – May require mitigation
(4) Significant or potentially significant impact requiring avoidance or modification which may require an Environmental Impact Statement

Environmental Assessment Factor	Impact Code	Impact Evaluation
LAND DEVELOPMENT		
Conformance with Plans / Compatible Land Use and Zoning / Scale and Urban Design	1	The project is a Town action to replace two existing bridges that provide access to neighborhoods in the southern section of Copiague, New York. Thus, this project to replace existing bridges will continue the existing land use and is in accordance with local zoning. The New York Rising Community Reconstruction (NYRCR) Plan outlining this project assists local communities "[b]y identifying more resilient areas for future development, [and] the process outlined in this report pays the dividend of guiding our local officials when preparing municipal comprehensive plans as well as making other local regulatory decisions." According to the Village of Amityville/ Copiague NYRCR Plan, the low load rating for these bridges is identified as a "deficiency, which in an emergency situation such as Superstorm Sandy, has severe negative impacts on safety, property, and quality of life". The project is aimed to improve the community's resilience to future flood events. The project will replace two existing bridges with two new bridges of similar design to be compatible with the visual quality and characteristics of the surrounding American Venice area. The bridges will continue to connect two historic, separate neighborhoods to the mainland of Long Island, New York. The existing land use in the area surrounding the bridges is primarily residential. The project will not cause changes to the current use or neighborhood characteristics, and it will not alter residential or commercial density. Residential and commercial infrastructure in these neighborhoods will not be adversely affected and the access to these properties will be more reliable and resilient with the implementation of this project.

		Furthermore, the new bridges will each provide a two-lane roadway and a pedestrian walkway over the canal. Thus, this project is compatible with the Copiague Vision Plan (March 2009) by providing improved transportation and pedestrian access while maintaining the American Venice area's unique historic visual characteristics. This project will incorporate mitigative measures and BMPs to reduce construction-related pollutants and similar concerns noted in the Long Island South Shore Estuary Reserve Comprehensive Management Plan. Town of Babylon, *American Venice Bridge Project*, September, 2016. http://www.townofbabylon.com/index.aspx?NID=362 NY Rising Community Reconstruction Plan, *Village of Amityville/ Copiague*, March 2014. http://stormrecovery.ny.gov/regional-communities/village-amityville-and-copiague *Copiague Vision Plan*, March 2019. http://sustainableli.org/uploaded_files/pages/attach/f_279ccc107751f7be0c8a9c61530d0859Copiage%20Final%20Report.pdf Long Island South Shore Estuary Reserve, *Comprehensive Plan*, April 25, 2001. http://www.dos.ny.gov/opd/sser/pdf/Full%20CMP%20Document.pdf
Soil Suitability/ Slope/ Erosion/ Drainage/ Storm Water Runoff	2	Per the USGS Topographic Map, the Site is located in an area of little to no slope (**Attachment 1**). The project will replace the two existing bridges with bridges of similar character, design and height, with minor changes in size. The project will not significantly alter the slope of the project area (**Attachment 1**). USDA NRCS maps provide information on soils types and properties that influence development of building sites. The information is intended for land use planning, evaluating land use alternatives, and planning site investigations prior to design and construction. According to the USDA NRCS soils map data for "Shallow Soil Excavation," the project area contains sandy fill land and graded Riverhead and Haven soils at 0 to 8% slopes (**Attachment 7**). According to the NRCS soils map data for "Roads and Streets, Shallow Excavations, and Lawns and Landscaping" and land classification, the soils for the project area are sandy fill land (**Attachment 7**). These soils are not rated for limiting class features. Mitigative measures and BMPs will be utilized during construction, including, but not limited to, installing temporary

		silt fencing on land to prevent soil and/or debris from being washed off-site and installing turbidity curtains in the water to minimize sediment transportation from the area of disturbance to the larger body of water per the soil erosion control plan (**Attachment 2**). Project activities will be completed in accordance with all applicable federal, state and local permit requirements and conditions. Permits required for this project will be obtained by the Town before commencing work and appended to the environmental review record when received from the permitting agencies (**Attachment 14**). Thus, no potential impacts from the proposed project activities are anticipated. As the bridges will replace the two bridges that have been in service since circa 1910, it is expected that soils will not limit the construction of these new bridges. Additionally, geotextile sheeting will be used to stabilize the soil for the new bridges. No potential undesirable impacts are anticipated and the Site should be improved in terms of its landscape and stability upon completion of the project.
Hazards and Nuisances including Site Safety and Noise	2	The project will involve the demolition of the existing bridges and construction of two replacement bridges. A temporary bridge and road ramp will be constructed for the duration of the construction at each bridge. Normal construction and noise hazards will be present during the construction phase of the project. Construction practices would be addressed under existing New York State, Suffolk County, and local municipality regulations. The funded activities do not involve actions that would involve potential recognized environmental conditions/ contamination. There are no known or suspected environmental issues known to have contaminated the project area which would affect the health and safety of occupants or to conflict with the intended utilization of the Site. Additional details are provided in the Toxic/ Hazardous/ Radioactive Materials, Contamination, Chemicals, or Gases [24 CFR 58.5(i)(2)] section below, and its associated maps, and the EPA and NYSDEC reports are provided in the Copiague American Venice Bridges HUD Environmental Standards Review Report (**Attachment 5**).
Energy Consumption	2	The project involves replacement of two existing bridges with minor changes in size and location relative to conditions prior to Superstorm Sandy, and would not increase long-term energy consumption. The project does involve replacing existing utility connections that currently span across the bridge. The replacement of this energy infrastructure means that any older, inefficient utility

		infrastructure will be repaired or replaced during installation on the new bridge structures.

Environmental Assessment Factor	Impact Code	Impact Evaluation
SOCIOECONOMIC		
Employment and Income Patterns	2	This project has no potential to adversely affect employment opportunities or income patterns. The temporary bridges will ensure that traffic and potential customers have access to residences and businesses in the area during construction. The new replacement bridges will improve accessibility between the two neighborhoods and the mainland of Long Island, New York. Moreover, the Village of Amityville/ Copiague NYRCR Plan notes this project is proposed to decrease vulnerability by improving access for emergency equipment during a disaster, maintaining home values, and limiting potential future recovery costs. NY Rising Community Reconstruction Plan, *Village of Amityville/ Copiague*, March 2014. http://stormrecovery.ny.gov/regional-communities/village-amityville-and-copiague
Demographic Character Changes, Displacement	2	The project is not expected to cause any change in the demographic character of the area. This project does not involve residential development or activities. There is no known potential for the project to cause the displacement of individuals or families, destroy jobs, local businesses or public community facilities, or disproportionately affect particular populations.

Environmental Assessment Factor	Impact Code	Impact Evaluation
COMMUNITY FACILITIES AND SERVICES		
Educational and Cultural Facilities	2	The project will not introduce any new populations that would increase the student population of the area. As such, the project will not have an impact on educational or cultural facilities.
Commercial Facilities	2	The project will not introduce any new commercial development that would require additional retail services or other commercial facilities.
Health Care and Social Services	1	The project involves the replacement of two existing bridges and, thus, will not introduce any new development that would require the availability of additional routine or emergency health services. The increased load rating of the new bridges will allow access for heavier emergency health service vehicles to the two neighborhoods.
Solid Waste Disposal / Recycling	2	The project will not introduce new development that would generate solid wastes on an ongoing basis. If there are construction wastes generated, it will be appropriately disposed of according to the type of waste generated and construction

		waste management practices in an appropriate, legally compliant receiving facility.
Waste Water / Sanitary Sewers	2	The project involves the replacement of two existing bridges and will not introduce any new development that would generate waste water. The proposed dewatering will occur behind turbidity curtains to prevent sediment transportation from the area of disturbance to the larger body of water, and no additional waste water will be generated during construction.
Water Supply	2	The project will not increase demand for water. The new bridges will each carry a water main which will ensure the continued provision of water supplies to and from the neighborhoods.
Public Safety - Police, Fire and Emergency Medical	1	The project will not generate new demand for police, fire, or emergency services. Temporary bridge structures will keep the travel routes open during demolition and construction of the permanent bridges. Therefore, there will be no adverse effect on the access and travel time for emergency services. Additionally, the project will construct replacement bridges with higher load rating capacities relative to the current bridges. This will allow for heavier emergency equipment to access the neighborhoods serviced by the bridges in the event of an emergency.
Parks, Open Space and Recreation	2	The project will not introduce new development that would generate demand for open space resources or impede open space access. The project is not situated adjacent to and will not encroach onto parkland nor is it expected to have adverse effects on any park resources, including visual, ecological, and/ or recreational resources.
Transportation and Accessibility	1	The NYS Traffic Data Viewer shows that the annual average daily traffic (AADT) was 1,781 for the northbound section and 1,735 for the southbound section of East Riviera Drive in the year 2011. The AADT was 934 for the northbound section and 926 for the southbound section of West Riviera Drive in the year 2013 (**Attachment 11**). The project does not introduce any new development that would generate additional demand for transportation services. Temporary bridge structures will keep the travel routes open during demolition and construction of the permanent bridges. Therefore, there will be no adverse effect on access and transportation routes. The two bridges are the only means of vehicular access to their respective neighborhoods, and the bridges currently have a load rating of 12 tons which does not permit use by certain heavy rescue and emergency vehicles. In order to decrease vulnerability of these neighborhoods from the limited emergency access, the deteriorating bridges will be replaced with higher capacity bridges so that emergency and rescue vehicles, and construction equipment will have unrestricted access to the neighborhoods in the event of an emergency. Thus, the proposed project will have a beneficial effect on accessibility and transportation.

Environmental Assessment Factor	Impact Code	Impact Evaluation
NATURAL FEATURES		
Unique Natural Features, Water Resources	2	According to NYSDEC, there are no unique geological features located on or adjacent to the Site. According to NYSDEC's Environmental Resource Map, the Site is not located in or adjacent to a "Significant Natural Communities." This data layer identifies locations within ½ mile of an identified significant natural community (**Attachment 3**). NYSDEC *Unique Geologic Features*. http://www.dec.ny.gov/permits/53826.html The project is located adjacent to and partially within a federally and state designated wetland (**Attachment 3**). An 8-step review of the project pursuant to 24 CFR Part 55 was undertaken. The Wetlands Protection (EO 11990) Determination documents the reasoning for locating the proposed project in wetland (**Attachment 4**). The proposed project includes two replacement bridges over the Santa Barbara Canal in Copiague, New York. The Santa Barbara Canal is not classified by the NYSDEC. Each bridge is also located adjacent to the Grande Canal, which is classified SC, which is marine water best used for fishing. Project activities will be completed in accordance with all applicable federal, state and local permit requirements and conditions. Permits required for this project will be obtained by the Town before commencing work and appended to the environmental review record when received from the permitting agencies (**Attachment 14**). The proposed construction activities will be conducted in a manner that would limit their effect on the natural features of the South Shore Estuary Reserve located in Nassau and Suffolk County. Mitigative measures and BMPs will be utilized during construction, such as the use of silt fences, turbidity curtains, cofferdams, vibratory hammer, and a closed bucket or clam shell dredge. Cofferdams would exclude aquatic life from the project area to avoid direct impacts from construction activity. Any noise or sediment disturbance during construction would be negligible relative to existing water quality impairment and frequent disturbance from boating activity within the project area, and permit specified BMP's would minimize the potential for such impacts. Silt fences and turbidity fences will be erected around the entire proposed activity area per the soil erosion control plan prior to any work being performed onsite. After the existing concrete arch and roadway embankment are removed, a cofferdam will be installed at each abutment. A turbidity curtain will be installed in

		the water adjacent to the work area, from cofferdam to cofferdam, to minimize sediment transportation in water from the area of disturbance. Dewatering will be accomplished by using surface pumps to transport water from behind the cofferdams to an outlet pipe with a filter sock, to be discharged behind the turbidity curtains between the two cofferdams. Therefore, the proposed project is not expected to adversely affect water quality. The project will not introduce new demand for groundwater or surface water as water supply nor would the project introduce septic flows that may affect groundwater. Additionally, the proposed project will not significantly increase impervious surfaces and runoff control will be similar to current conditions. Therefore, unique natural features or water resources are not expected to be permanently affected by this project.
Vegetation, Wildlife	2	The project for replacement of two bridges includes the construction of temporary bridges, which will involve vegetation clearing and ground disturbance adjacent to the existing bridges. This project also includes the demolition of the existing bridges and construction of replacement bridges near the old bridges. Disturbed areas will be restored to pre-existing conditions after construction is completed. Additionally, the project will result in the net loss of approximately two trees. For detailed vegetation and wildlife analysis, see the Endangered Species (Endangered Species Act of 1973, particularly section 7; 50 CFR Part 402) section above.
Other Factors: United State Coast Guard Bridge Permit	2	According to the United State Coast Guard (USCG) letter dated April 8, 2015, the USCG determined that no formal Coast Guard bridge permit would be required for this project. Although this project will not require a bridge permit, other areas of USCG jurisdiction apply and the stipulations noted in the USCG response must be met (**Attachment 12**).

Additional Studies Performed:

- Attachment 1: Location Maps (Aerial Photograph, Street Map, Topographic Map, FEMA Firmette, and Airport Hazards Map)
- Attachment 2: Proposed Construction Plans, Turbidity & Sediment Documentation, Town of Babylon Department of Public Works Scoping Report, and Evaluation of de minimis levels for General Conformity of Construction Projects with New York State Implementation Plans
- Attachment 3: NYSDEC Environmental Resource Map, USFWS NWI Map, USFWS Coastal Barrier Map, NYSDEC Tidal Wetland Map, & NYS Coastal Boundary Map
- Attachment 4: Floodplain Management and Wetland Determination
- Attachment 5: HUD Environmental Standards Review Report
- Attachment 6: NHP Letters, USFWS No Effect Determination Letter and Acknowledgment, and NMFS No Effect Determination Memorandum
- Attachment 7: USDA NRCS Soil Resource Map, USDA Soil Properties Rating Report, & USDA NRCS Farmland Classification Map
- Attachment 8: State Historic Preservation, Advisory Council on Historic Preservation, and Tribal Historic Preservation Documentation
- Attachment 9: Sole Source Aquifer Review
- Attachment 10: Potential Environmental Justice Areas Map
- Attachment 11: Department of Transportation Traffic Data
- Attachment 12: U.S. Coast Guard Documentation
- Attachment 13: NYS DOS Coastal Consistency Documentation
- Attachment 14: Permit Documentation (To be added upon receipt)

Field Inspection (Date and completed by):

- Town of Babylon Department of Public Works: Bridge Inspection on April 18, 2014. (Report included in the Town of Babylon Department of Public Works Scoping Report for the Rehabilitation or Reconstruction to Eliminate Load Posting for Riviera Drive Bridges (East and West) over Santa Barbara Canal BINs 2261360 and 2261370 dated July 2014 – **Attachment 2**)

List of Sources, Agencies and Persons Consulted [40 CFR 1508.9(b)]**:**

- NFIP Eligibility List - http://www.nfipiservice.com/watermark/eligible_for_coverage.html
- NYSDOS Coastal Boundary Map - https://appext20.dos.ny.gov/coastal_map_public/map.aspx
- Potential EJ - http://www.dec.ny.gov/docs/permits_ej_operations_pdf/suffolkejwest.pdf
- Town of Babylon, American Venice Bridges website - http://www.townofbabylon.com/index.aspx?NID=362
- Village of Amityville/ Copiague NYRCR Plan, pg. 75. March 2014 - http://stormrecovery.ny.gov/sites/default/files/crp/community/documents/amityville-copiague_nyrcr_plan_0.pdf
- Copiague Vision Plan (March 2009) - http://sustainableli.org/uploaded_files/pages/attach/f_279ccc107751f7be0c8a9c61530d0859Copiage%20Final%20Report.pdf
- Long Island South Shore Estuary Reserve Comprehensive Management Plan - http://www.dos.ny.gov/opd/sser/pdf/Full%20CMP%20Document.pdf
- The NYS Traffic Data Viewer
- NYSDEC Unique Geologic Features - http://www.dec.ny.gov/permits/53826.html

List of Permits that Might Be Required (To be added upon receipt):

- NYSDEC Article 15 - Required
- NYSDEC 401 Water Quality Certification - Required

- USACE Section 404
- Floodplain development permit
- SPDES

Public Outreach [24 CFR 50.23 & 58.43]**:**

- March 26, 2015 – Publication of Notice of Early Public Review of a Proposed Activity in 100-year Floodplain and Wetland.
- August 31, 2016 @ 10:00 AM - Progress Meeting (ADP Submission), Babylon Town Hall, 200 E. Sunrise Highway, Lindenhurst NY 11757
- December 15, 2016, Publication of a combined Notice of Finding of No Significant Impact, Intent to Request Release of Funds, and Final Notice and Public Review of a Proposed Activity in a 100-year Floodplain and Wetland.

Cumulative Impact Analysis [24 CFR 58.32]**:**

This project was evaluated according to Advance Detail plans which encompassed all proposed actions (**Attachment 2**). There are no other known future projects in the area of the Copiague Bridge project which would create environmental or social impacts in the area. The project fits within the surrounding area as it will replace existing bridge structures.

Alternatives [24 CFR 58.40(e); 40 CFR 1508.9]**:**

One potential alternative is to rehabilitate the existing bridge with fiber reinforced polymer (FRP) for structural improvement of the arch. This would include repairing the deteriorated concrete areas and increase the structural capacity by installing FRP under the arches and ribs, along with improving the substructure. Specialists consider the maximum increase in shear or flexural capacity by this type of reinforcement is about 40% of the original design capacity, still requiring a posted load rating restriction. This application would improve the superstructure condition, but not the substructure condition, which is in poor condition due to failure of the supporting soil resulting from adjacent bulkhead failures. The rehabilitation of each bridge would cost about $3,800,000. This alternative would not increase the load rating for the bridges or address deficiencies in the substructures and is not considered an optimal alternative. (**Attachment 2** - Town of Babylon Department of Public Works Scoping Report for the Rehabilitation or Reconstruction to Eliminate Load Posting for Riviera Drive Bridges (East and West) over Santa Barbara Canal BINs 2261360 and 2261370 dated July 2014)

Another potential alternative is to fill the canals with fill and connect the two neighborhoods to the mainland thereby eliminating the need for the bridges. This option would require wetlands to be filled, and would limit the residents' capacity to access waterways and water recreation. This alternative might drive down the prices of area properties because of the reduced water access, and it would also adversely affect species, water quality, and wetlands. Moreover, it is likely this option would not be allowed because it would eliminate access through these channels. Therefore, this is not considered a feasible alternative.

No Action Alternative [24 CFR 58.40(e)]**:**

Another alternative would be for no action to occur, meaning the Town would not be receiving grant funds to restore/ replace the bridge structures, and the reduced load rating would remain on both bridges. Emergency access via heavy vehicles to the neighborhoods would still be hindered. In addition, this alternative would not support the resiliency of this community during flood or emergency events. The project would be impeded due to the lack of financial support; which means the bridges would continue to deteriorate in place. This could greatly impact emergency access to the area and access to the neighborhood by residents. Accordingly, the "no action" decision would not support Copiague's resilience to future storm events.

Summary of Findings and Conclusions:
The preceding Statutory Checklist and Environmental Assessment Checklist, and the discussion below, document that the proposed work will comply with regulations in 24 CFR part 58 and that there are no direct or cumulative adverse environmental impacts anticipated as a result of the proposed action.

Mitigation Measures and Conditions [40 CFR 1505.2(c)]**:**
Summarize below all mitigation measures adopted by the Responsible Entity to reduce, avoid, or eliminate adverse environmental impacts and to avoid non-compliance or non-conformance with the above-listed authorities and factors. These measures/conditions must be incorporated into project contracts, development agreements, and other relevant documents. The staff responsible for implementing and monitoring mitigation measures should be clearly identified in the mitigation plan.

Any change to the approved scope of work will require re-evaluation by the Certifying Officer for compliance with NEPA and other laws and Executive Orders.

This review does not address all federal, state and local requirements. Acceptance of federal funding requires recipient to comply with all federal, state and local laws. Failure to obtain all appropriate federal, state and local environmental permits and clearances may jeopardize federal funding.

If there is any unanticipated discovery of endangered or threatened species, cultural resources, soils contamination, or any other conditions affecting the factors, executive orders, stipulations, and/ or regulations discussed within this assessment, work shall be halted immediately and the appropriate agency will be consulted before work can be resumed.

Law, Authority, or Factor	Mitigation Measure
Wetlands & Floodplain	Project activities will be completed in accordance with all applicable federal, state and local permit requirements and conditions. Permits required for this project will be obtained by the Town before commencing work and appended to the environmental review record when received from the permitting agencies. Permits that might be required for this project include, but are not limited to: NYSDEC Article 15 – Protection of Waters program NYSDEC 401 Water Quality Certification U.S. Army Corp. of Engineers Section 404 of the Clean Water Act Floodplain Development Permit (**Attachment 14** – To be added upon receipt)
Historic Preservation	The MOA, filed with ACHP, enables GOSR to implement this project in compliance with Section 106 of the NHPA (Section 110(1) and 36 CFR 800.6(c)). GOSR shall ensure that the project is completed in accordance with the terms and stipulations of the MOA until it is expired or terminated (**Attachment 8**). On October 31, 2016, SHPO stated it is their opinion "that the recordations are acceptable at this point and all stipulations have been met. No further submissions are required unless something changes" (**Attachment 8**).

	If there is any unanticipated discovery of human remains, associated artifacts or cultural resources, then work shall be halted immediately and actions taken following the protocol established within the MOA included in **Attachment 8**. The Shinnecock Indian Nation must be immediately contacted in the event any inadvertent discoveries of human remains, funerary objects, sacred objects and objects of cultural patrimony are made during the scope of this project.
United States Coast Guard	According to the United State Coast Guard (USCG) letter dated April 8, 2015, the USCG determined that no formal Coast Guard bridge permit would be required for this project. Although this project will not require a bridge permit, other areas of USCG jurisdiction apply and the stipulations noted in the USCG response must be met (**Attachment 12**).
Construction Mitigative Measures and BMPs	Silt fences and turbidity curtains will be installed around the entire proposed construction site per the soil erosion control plan prior to work beginning. After the existing concrete arch and roadway embankment are removed, a cofferdam will be installed at each abutment. The cofferdams will be constructed of steel sheeting with wales, tie backs, and braces. A turbidity curtain will be installed in the water adjacent to the work area, from cofferdam to cofferdam, to minimize sediment transportation in water from the area of disturbance. Dewatering will be accomplished by using surface pumps to transport water from behind the cofferdams to an outlet pipe with a filter sock, to be discharged behind the turbidity curtains between the two cofferdams. Standard construction mitigative measures, BMPs and good business practices will be implemented to limit erosion and sediment deposition.
Endangered Species	A No Effect Determination was submitted to the USFWS on October 3, 2016 to provide notice of the proposed project and to document compliance with Section 7 of the Endangered Species Act (ESA), as well as the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) (**Attachment 6**). USFWS acknowledged receipt of the No Effect Determination on October 3, 2016 (**Attachment 6**). Based on the analysis of the NMFS listed species and the project activities, it was determined that the project activities would not directly or indirectly affect any ESA species under NMFS jurisdiction. The project would not introduce stressors on listed species, such as: sound disturbance; changes in water depth or substrate characteristics; dredging; exposure to pollutants or changes in water quality; changes in the abundance, availability, accessibility or quality of prey; loss of SAV or shellfish beds; or changes to in-water structures. Pursuant to the NMFS Greater Atlantic Region Endangered Species Act Section 7 Program, a No Effect Determination has been made for the proposed project on October 24, 2016 and is included in **Attachment 6**.

Determination:

☒ **Finding of No Significant Impact** [24 CFR 58.40(g)(1); 40 CFR 1508.27]
The project will not result in a significant impact on the quality of the human environment.

☐ **Finding of Significant Impact** [24 CFR 58.40(g)(2); 40 CFR 1508.27]
The project may significantly affect the quality of the human environment.

Certifying Officer Signature: _____ Date: 12/14/2016

Name/Title: Thomas J. King

This original, signed document and related supporting material must be retained on file by the Responsible Entity in an Environmental Review Record (ERR) for the activity/project (ref: 24 CFR Part 58.38) and in accordance with recordkeeping requirements for the HUD program(s).

Attachment 1

Aerial Map,
Street Map,
Topographic Map,
FEMA Firmette,
& Airport Hazards Map

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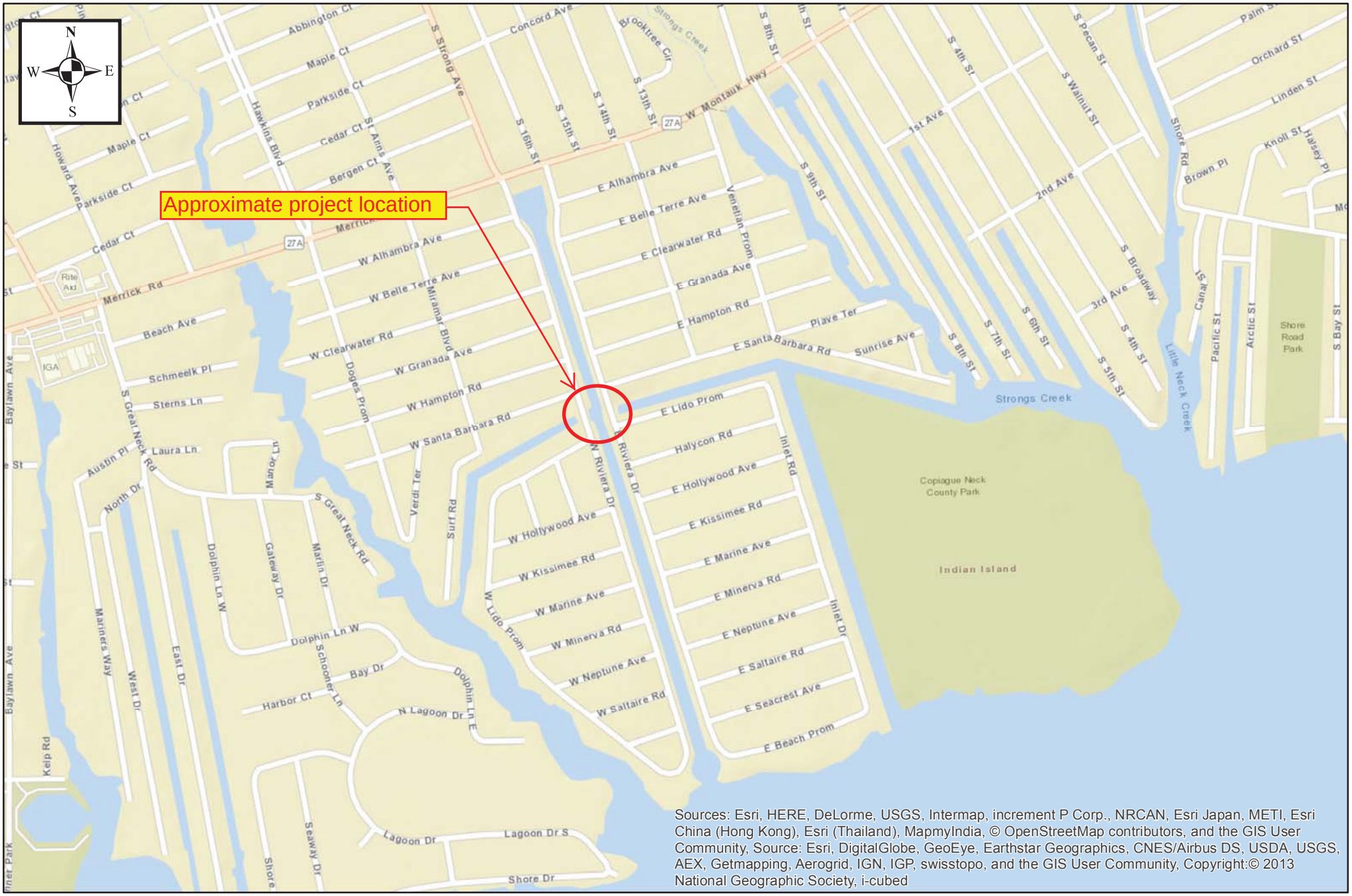
Aerial Map
Copiague American Venice Bridges Improvements
Copiague, NY
Suffolk County

0 250 500 1,000 Feet

1:10,000



Sources: Esri, HERE, DeLorme, USGS, Intermap, increment P Corp., NRCAN, Esri Japan, METI, Esri China (Hong Kong), Esri (Thailand), MapmyIndia, © OpenStreetMap contributors, and the GIS User Community, Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community, Copyright:© 2013 National Geographic Society, i-cubed

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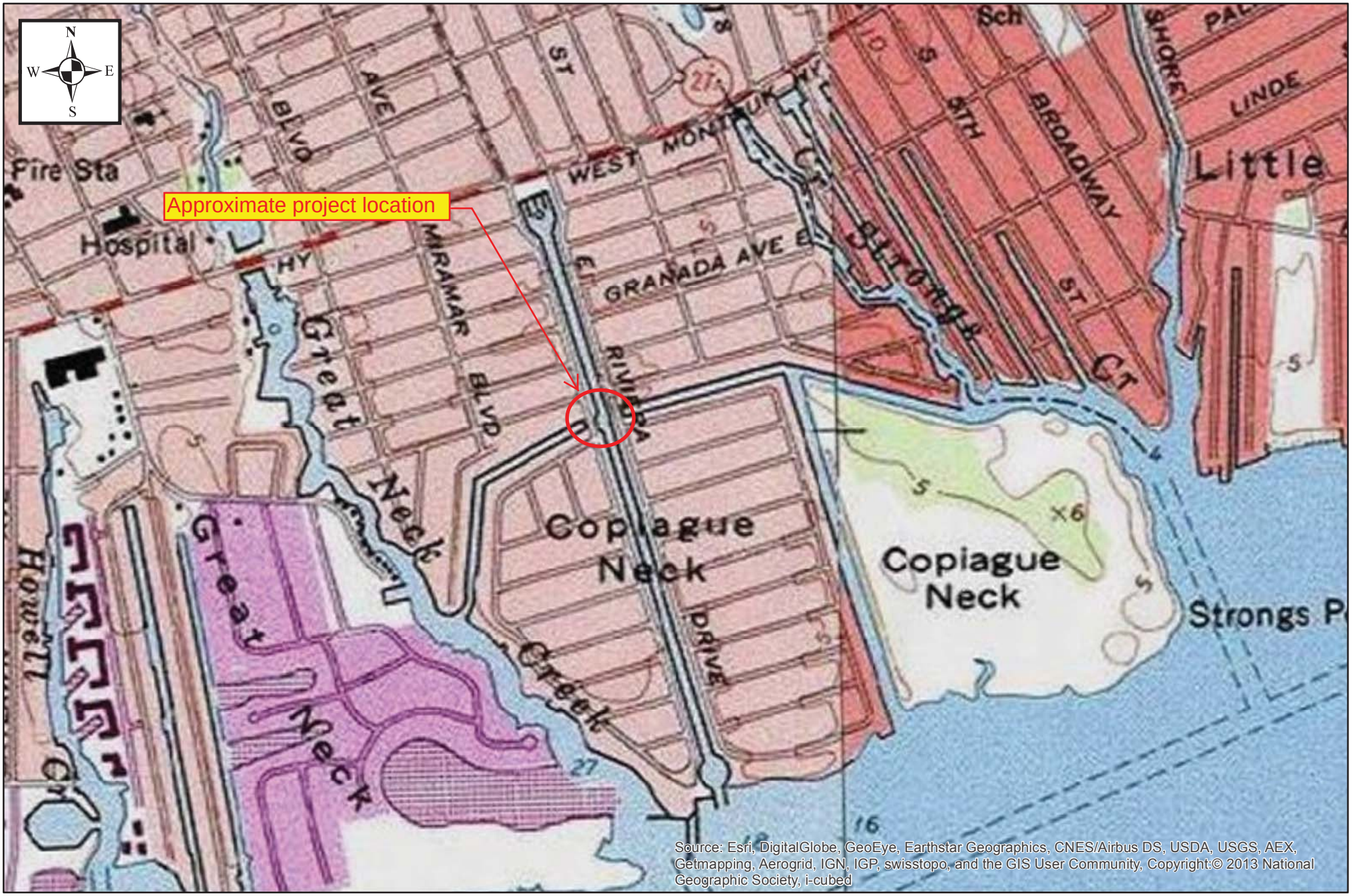
Street Map
Copiague American Venice Bridges Improvements
Copiague, NY
Suffolk County

0 250 500 1,000 Feet

1:10,000



TECTONIC
Practical Solutions, Exceptional Service

Tectonic
70 Pleasant Hill Road
Mountainville, N.Y. 10953
845.534.5959 voice
845.534.5999 fax
www.tectonicengineering.com

Topographic Map
Copiague American Venice Bridges Improvements
Copiague, NY
Suffolk County

0 250 500 1,000 Feet

1:10,000

Copiague American Venice Bridges

MAP SCALE 1" = 500'

250 0 500 1000 FEE

150 0 150 300

NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0842H

FIRM

FLOOD INSURANCE RATE MAP

for SUFFOLK COUNTY, NEW YORK
(ALL JURISDICTIONS)

CONTAINS:

COMMUNITY	NUMBER
AMITYVILLE, VILLAGE OF	360788
BABYLON, TOWN OF	360790
LINDENHURST, VILLAGE OF	360798

PANEL 842 OF 1026
MAP SUFFIX: H
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

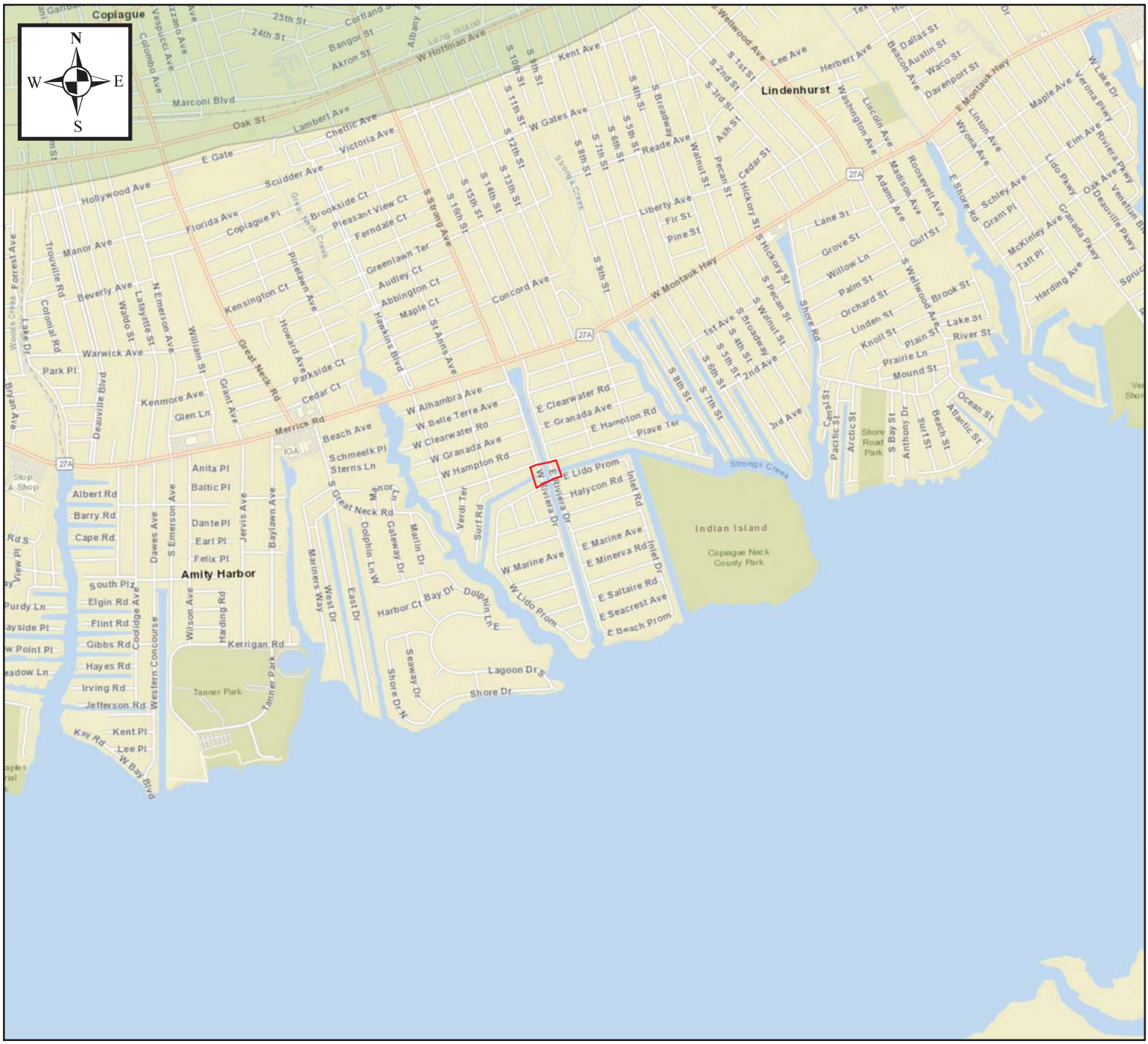
MAP NUMBER
36103C0842H

MAP REVISED
SEPTEMBER 25, 2009

Federal Emergency Management Agency

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov

Airport Hazards Map



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0 1,250 2,500 5,000 Feet

1:24,000

Copiague American Venice Bridges Improvements
East Riviera Drive & West Riviera Drive
Copiague, NY
Suffolk County

Created: 10/27/2016
Source data: FAA facility data and
Airport Master Records and Reports data.

Note: This map identifies all documented airport and heliport facilities located within the shown area.

Legend

- Copiague American Venice Bridges Improvements
- Military Accident Potential Zone (15000 ft)

Attachment 2

Proposed Construction Plans,
Proposed Turbidity & Sediment Control,
Town of Babylon Department of
Public Works Scoping Report,
CAA De Minimis Threshold Analysis,
& General Conformity Worksheet

TOWN OF BABYLON

COPIAGUE, NEW YORK

RECONSTRUCTION OF THE AMERICAN VENICE BRIDGES BINS 2261360 AND 2261370 ADVANCE DETAIL PLANS

LOCATION PLAN
NOT TO SCALE

LKB LOCKWOOD, KESSLER AND BARTLETT, INC.
CONSULTING ENGINEERS SINCE 1889 SYOSSET, NEW YORK

CONTRACT NO. 15G31

DATE: AUGUST 31, 2016

XXXXXXXXXX
CONSTRUCTION COMPLETED

CONSTRUCTION ENGINEER DATE:

PREPARED BY:

LOCKWOOD, KESSLER & BARTLETT, INC.
CONSULTING ENGINEERS
SYOSSET, N.Y.

ANDRE HADDAD, P.E.

RECOMMENDED BY :

XXXXXXXXXXXXXXXX DATE

XXXXXXXXXXXXXXXX DATE

APPROVED BY :

XXXXXXXXXXXXXXXXXX
XXXXXXXXXXXXXXX

WARNING – IT IS A VIOLATION OF THE EDUCATION LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER/ARCHITECT TO ALTER AN ITEM ON THESE PLANS IN ANY WAY.

LIST OF DRAWINGS		
SHEET NO.	DRAWING NO.	DESCRIPTION
1	T–1	TITLE SHEET
2	IN–1	INDEX OF DRAWINGS, LEGEND, & ABBREVIATIONS
3	IN–2	ESTIMATE OF QUANTITIES
4	GN–1	GENERAL NOTES 1
5	GN–2	GENERAL NOTES 2
6	SN–1	STRUCTURAL NOTES
7	GPP–1	GENERAL PROJECT PLAN
8	SCP–1	SURVEY CONTROL PLAN
9	TBP–1	TRAVERSE TIES AND BENCHMARKS PLAN
10	BPE–E1	BRIDGE PLAN AND ELEVATION EAST RIVIERA DRIVE
11	P–E1	PROFILE EAST RIVIERA DRIVE
12	TS–E1	TYPICAL SECTIONS EAST RIVIERA DRIVE
13	SEC–E1	SOIL EROSION CONTROL PLAN EAST RIVIERA DRIVE
14	SEC–1	SOIL EROSION CONTROL DETAILS 1
15	SEC–2	SOIL EROSION CONTROL DETAILS 2
16	DP–E1	DEMOLITION PLAN EAST RIVIERA DRIVE
17	SS–E1	SUGGESTED SEQUENCE OF CONSTRUCTION 1 EAST RIVIERA DRIVE
18	SS–E2	SUGGESTED SEQUENCE OF CONSTRUCTION 2 EAST RIVIERA DRIVE
19	MPT–1	WORK ZONE TRAFFIC CONTROL NOTES
20	MPT–E1	WORK ZONE TRAFFIC CONTROL PLANS 1 EAST RIVIERA DRIVE
21	MPT–E2	WORK ZONE TRAFFIC CONTROL PLANS 2 EAST RIVIERA DRIVE
22	MPT–E3	WORK ZONE TRAFFIC CONTROL PLANS 3 EAST RIVIERA DRIVE
23	TSP–E1	TEMPORARY SHEETING PLAN EAST RIVIERA DRIVE
24	TBP–E1	TEMPORARY BRIDGE PLAN EAST RIVIERA DRIVE
25	CPP–E1	CONCRETE PILE PLAN EAST RIVIERA DRIVE
26	CPD–1	C.I.P. CONCRETE PILE DETAILS 1
27	CPD–2	C.I.P. CONCRETE PILE DETAILS 2
28	FP–E1	FOUNDATION PLAN EAST RIVIERA DRIVE
29	PCA–E1	PRECAST CONCRETE ARCH DETAILS EAST RIVIERA DRIVE
30	WE–E1	WINGWALL ELEVATION EAST RIVIERA DRIVE
31	RD–E1	REINFORCEMENT DETAILS 1 EAST RIVIERA DRIVE
32	RD–E2	REINFORCEMENT DETAILS 2 EAST RIVIERA DRIVE
33	BRD–E1	BRIDGE RAILING DETAILS EAST RIVIERA DRIVE
34	PSP–E1	PERMANENT SHEETING PLAN EAST RIVIERA DRIVE
35	PSD–1	PERMANENT SHEETING DETAILS
36	TU–E1	TEMPORARY UTILITY SUPPORT DETAILS EAST RIVIERA DRIVE
37	UP–E1	UTILITY PLAN EAST RIVIERA DRIVE
38	BPE–W1	BRIDGE PLAN AND ELEVATION WEST RIVIERA DRIVE
39	P–W1	PROFILE WEST RIVIERA DRIVE
40	TS–W1	TYPICAL SECTIONS WEST RIVIERA DRIVE
41	SEC–W1	SOIL EROSION CONTROL PLAN WEST RIVIERA DRIVE
42	DP–W1	DEMOLITION PLAN WEST RIVIERA DRIVE
43	SS–W1	SUGGESTED SEQUENCE OF CONSTRUCTION 1 WEST RIVIERA DRIVE
44	SS–W2	SUGGESTED SEQUENCE OF CONSTRUCTION 2 WEST RIVIERA DRIVE

LIST OF DRAWINGS		
SHEET NO.	DRAWING NO.	DESCRIPTION
45	MPT–W1	WORK ZONE TRAFFIC CONTROL PLANS 1 WEST RIVIERA DRIVE
46	MPT–W2	WORK ZONE TRAFFIC CONTROL PLANS 2 WEST RIVIERA DRIVE
47	MPT–W3	WORK ZONE TRAFFIC CONTROL PLANS 3 WEST RIVIERA DRIVE
48	TSP–W1	TEMPORARY SHEETING PLAN WEST RIVIERA DRIVE
49	TBP–W1	TEMPORARY BRIDGE PLAN WEST RIVIERA DRIVE
50	CPP–W1	CONCRETE PILE PLAN WEST RIVIERA DRIVE
51	FP–W1	FOUNDATION PLAN WEST RIVIERA DRIVE
52	PCA–W1	PRECAST CONCRETE ARCH DETAILS WEST RIVIERA DRIVE
53	WE–W1	WINGWALL ELEVATION WEST RIVIERA DRIVE
54	RD–W1	REINFORCEMENT DETAILS 1 WEST RIVIERA DRIVE
55	RD–W2	REINFORCEMENT DETAILS 2 WEST RIVIERA DRIVE
56	BRD–W1	BRIDGE RAILING DETAILS WEST RIVIERA DRIVE
57	PSP–W1	PERMANENT SHEETING PLAN WEST RIVIERA DRIVE
58	TU–W1	TEMPORARY UTILITY SUPPORT DETAILS WEST RIVIERA DRIVE
59	UP–W1	UTILITY PLAN WEST RIVIERA DRIVE

LIST OF ABBREVIATIONS

ABBREVIATION	DESCRIPTION	ABBREVIATION	DESCRIPTION
A.N.S.I.	AMERICAN NATIONAL STANDARD INSTITUTE	LT	LEFT
A.O.B.E.	AS ORDERED BY ENGINEER	MAX.	MAXIMUM
A.S.T.M.	AMERICAN SOCIETY OF TESTING MATERIAL	M.H.	MANHOLE
C.C.	CENTER TO CENTER	MIN.	MINIMUM
C.I.P.	CAST–IN–PLACE	NO.	NUMBER
C.L.	CENTERLINE	N.T.S.	NOT TO SCALE
CONC.	CONCRETE	O/HE	OVERHEAD ELECTRICAL
DIA.	DIAMETER	P	PAY PHONE
DWG.	DRAWING	R.	RADIUS
E	EPOXY COATED REBAR	RT.	RIGHT
E.I.C.	ENGINEER IN CHARGE	STA.	STATION
EL.	ELEVATION	TEL.	TELEPHONE
EXIST.	EXISTING	T.G.L.	THEORETICAL GRADE LINE
G	GAS VALVE	TYP.	TYPICAL
L	LIGHT		
LOC.	LOCATION		

LEGEND

EXISTING	PROPOSED	DESCRIPTION
▭	■	CATCH BASIN/GRATE
⊗		UNKNOWN MANHOLE
Ⓢ		SANITARY SEWER MANHOLE
Ⓦ		WATER MANHOLE
Ⓔ		ELECTRIC MANHOLE
Ⓣ		TELEPHONE MANHOLE
Ⓓ		DRAINAGE MANHOLE
Ⓕ		FIRE MANHOLE
∘WV		WATER VALVE
∘GV		GAS VALVE
		FIRE HYDRANT
Ⓤ		UTILITY POLE
— — —	— — —	GUIDE RAIL
—×—		FENCE
⊳	⊳	SIGN
	⊳DL	DELINEATORS
═══		CURB
1+260		HEADWALL
—+—		STATION LINE
TR		TRAFFIC BOX
		TREE
		SHRUBS
	■	SPALLED/CRACKED/DETERIORATED
	—	CONCRETE PAVEMENT TO BE REPAIRED
	▨	FULL DEPTH RECONSTRUCTION
⇦		DIRECTION OF TRAFFIC
◉		SOIL BORING

REV.	DATE	REMARKS	BY
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CLIENT

TOWN OF BABYLON
LINDENHURST, NY

LKB CONSULTING ENGINEERS

LOCKWOOD, KESSLER & BARTLETT, INC.
CONSULTING ENGINEERS SINCE 1889 SYOSSET, NEW YORK

PROJECT NAME: AMERICAN VENICE BRIDGES

INDEX OF DRAWINGS, LEGEND, & ABBREVIATIONS

DESIGN BY: DMM
DRAWN BY: DMM
CHECKED BY: WTC
DATE: 8/2016
SCALE: N.T.S.

PROJECT NO. 5423–01
DRAWING NO. IN–1

File Name: I:\projects\5423 00 american venice bridges\cadd\sheets\structural\index of dwgs., abbr., items.dwg
Plot Date: 8/30/2016 4:52 PM
Plotted By: Margolin, Daniel

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY					
			EAST	ACTUAL	WEST	ACTUAL	TOTAL	ACTUAL
201.06	CLEARING AND GRUBBING	LS					1	
202.120001	REMOVING EXISTING SUPERSTRUCTURES - EAST RIVIERA DRIVE	LS	1				1	
202.120002	REMOVING EXISTING SUPERSTRUCTURES - WEST RIVIERA DRIVE	LS			1		1	
202.19	REMOVAL OF SUBSTRUCTURES	CY	50		50		100	
203.02	UNCLASSIFIED EXCAVATION AND DISPOSAL	CY	500		460		960	
203.03	EMBANKMENT IN PLACE	CY	420		275		695	
203.06	SELECT FILL	CY	85		70		155	
203.21	SELECT STRUCTURAL FILL	CY	155		155		310	
206.01	STRUCTURE EXCAVATION	CY	245		245		490	
206.05	TEST PIT EXCAVATION	EA	2		2		4	
209.13	SILT FENCE - TEMPORARY	LF	620		550		1170	
209.1501	TURBIDITY CURTAIN - TEMPORARY	LF	95		95		190	
209.30000010	LEACHING RING ENERGY DISSIPATOR FOR DEWATERING	EA	2		2		4	
211.10	GROUTED TIEBACKS (TEMPORARY)	EA	8		8		16	
304.15	SUBBASE COURSE, OPTIONAL TYPE	CY	190		195		385	
402.127102	12.5 F1 TOP COURSE HMA, 70 SERIES COMPACTION	TON	110		100		210	
402.257902	25 F9 BINDER COURSE HMA, 70 SERIES COMPACTION	TON	105		95		200	
407.0102	DILUTED TACK COAT	GAL	50		50		100	
520.05000010	SAWCUTTING PCC AND COMPOSITE PAVEMENT	LF	8		16		24	
520.09000010	SAWCUTTING ASPHALT CONCRETE	LF	125		120		245	
551.11	CAST-IN-PLACE CONCRETE PILES	LF	1720		1720		3440	
551.13	FURNISHING EQUIPMENT FOR DRIVING PILES	LS					1	
551.50220017	STATIC PILE LOAD TEST	EA	2		2		4	
B552.1801	PERMANENT FIBER REINFORCED POLYMER SHEETING (TIE BACK)	SF	1150		1310		2460	
552.15	INTERIM STEEL SHEETING	SF	6400		6400		12800	
553.020001	COFFERDAMS (TYPE 2) - EAST RIVIERA DRIVE	EA	2		0		2	
553.020002	COFFERDAMS (TYPE 2) - WEST RIVIERA DRIVE	EA	0		2		2	
555.0104	FOOTING CONCRETE, CLASS A	CY	168		170		338	
555.0105	CONCRETE FOR STRUCTURES, CLASS A	CY	78		78		156	
556.0202	EPOXY-COATED BAR REINFORCEMENT FOR STRUCTURES	LB	30000		30000		60000	
562.0101	REINFORCED CONCRETE SPAN UNITS - EAST RIVIERA DRIVE	SY	194		0		194	
562.0102	REINFORCED CONCRETE SPAN UNITS - WEST RIVIERA DRIVE	SY	0		194		194	
B569.0801	HYBRID TEXAS AESTHETIC AND VENETIAN STYLE CONCRETE BRIDGE BARRIER	LF	112		112		224	
604.07	ALTERING DRAINAGE STRUCTURES, LEACHING BASINS AND MANHOLES	EA	3		4		7	
606.2701	HPBO (MOD.) CORRUGATED BEAM GUIDE RAILING	LF	50		45		95	
606.2703	ANCHORAGE UNITS FOR HPBO (MOD.) CORRUGATED BEAM GUIDE RAILING	EA	4		4		8	
606.7101	REMOVING AND DISPOSING HPBO (MOD.) CORRUGATED BEAM GUIDE RAILING	LF	100		100		200	
606.76	REMOVING AND DISPOSING OF GUIDE POSTS, GUIDE RAIL POSTS, AND MEDIAN BARRIER POSTS	EA	22		16		38	
606.7941	REMOVING AND DISPOSING ANCHORAGE UNITS FOR HPBO (MOD.) CORRUGATED BEAM GUIDE RAILING	EA	4		4		8	
606.8903	TRANSITION: HPBO (MOD.) CORRUGATED BEAM GUIDE RAILING TO SINGLE SLOPE CONCRETE HALF SECTION BARRIER	EA	4		4		8	
607.0511	VINYL COATED STEEL CHAIN-LINK FENCE ON PLASTIC COATED FRAME WITH TOP RAIL 4 FEET HIGH	LF	25		90		115	
607.41010010	TEMPORARY PLASTIC BARRIER FENCE	LF	150		150		300	
607.99010003	REMOVE AND RELOCATE FENCING	LF	70		180		250	
608.0101	CONCRETE SIDEWALKS AND DRIVEWAYS	CY	20		20		40	

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY					
			EAST	ACTUAL	WEST	ACTUAL	TOTAL	ACTUAL
608.020102	HOT MIX ASPHALT (HMA) SIDEWALKS, DRIVEWAYS, BICYCLE PATHS, AND VEGETATION CONTROL STRIPS	TON	6		5		11	
608.21	EMBEDDED DETECTABLE WARNING UNITS	SY	2		3		5	
609.04	CAST-IN-PLACE CONCRETE CURB	LF	740		665		1405	
610.1402	TOPSOIL - ROADSIDE	CY	5		7		12	
610.1403	TOPSOIL - LAWNS	CY	10		16		26	
610.1601	TURF ESTABLISHMENT - ROADSIDE	SY	45		63		108	
610.1602	TURF ESTABLISHMENT - LAWN	SY	90		144		234	
614.060503	TREE REMOVAL OVER 24 INCHES TO 36 INCHES DIAMETER BREAST HEIGHT - STUMPS CUT TO BELOW GRADE	EA	1		0		1	
619.01	BASIC WORK ZONE TRAFFIC CONTROL	LS					1	
619.04	TYPE III CONSTRUCTION BARRICADES	EA	6		6		12	
619.0601	TEMPORARY STRUCTURES AND APPROACHES - EAST RIVIERA DRIVE (VEHICULAR)	EA	1		0		1	
619.0602	TEMPORARY STRUCTURES AND APPROACHES - WEST RIVIERA DRIVE (VEHICULAR)	EA	0		1		1	
619.0603	TEMPORARY STRUCTURES AND APPROACHES - EAST RIVIERA DRIVE (PEDESTRIAN)	EA	1		0		1	
619.0604	TEMPORARY STRUCTURES AND APPROACHES - WEST RIVIERA DRIVE (PEDESTRIAN)	EA	0		1		1	
619.080102	REMOVE PAVEMENT MARKING STRIPES, EPOXY PAINT	LF	180		180		360	
619.0901	TEMPORARY PAVEMENT MARKINGS STRIPES (TRAFFIC PAINT)	LF	1100		1200		2300	
619.1301	TEMPORARY TRAFFIC SIGNALS - EAST RIVIERA DRIVE	EA	1		0		1	
619.1302	TEMPORARY TRAFFIC SIGNALS - WEST RIVIERA DRIVE	EA	0		1		1	
619.1704	TEMPORARY CONCRETE BARRIER (PINNED) WITH WARNING LIGHTS	LF	600		600		1200	
620.03	STONE FILLING (LIGHT)	CY	45		45		90	
625.01	SURVEY OPERATIONS	LS					1	
634.99010017	BUILDING CONDITION SURVEY	LS					1	
637.03	CONCRETE CYLINDER CURING BOX	EA	1		1		2	
637.13	ENGINEER'S FIELD OFFICE - TYPE 3	MO	12		12		24	
637.34	OFFICE TECHNOLOGY AND SUPPLIES	DC					1	
647.31	RELOCATE SIGN PANEL, SIGN PANEL ASSEMBLY SIZE I (UNDER 30 SQUARE FEET)	EA	5		6		11	
647.41	REMOVE AND STORE SIGN PANEL, SIGN PANEL ASSEMBLY SIZE I (UNDER 30 SQUARE FEET)	EA	2		2		4	
B662.0001	RELOCATING GAS LINE	LS					1	
662.60030008	ALTERING ELEVATION OF GAS VALVE BOXES	EA	1		2		3	
663.30	RELOCATE EXISTING WATER VALVE & VALVE BOX	EA	10		8		18	
B663.36	RELOCATING WATER LINE	LS					1	
B680.9450	RELOCATE UTILITY POLES	EA	4		3		7	
685.11	WHITE EPOXY REFLECTORIZED PAVEMENT STRIPES - 20 MILS	LF	235		235		470	
685.12	YELLOW EPOXY REFLECTORIZED PAVEMENT STRIPES - 20 MILS	LF	430		490		920	
697.03	FIELD CHANGE PAYMENT	DC					1	
698.04	ASPHALT PRICE ADJUSTMENT	DC					1	
698.05	FUEL PRICE ADJUSTMENT	DC					1	
699.040001	MOBILIZATION	LS					1	

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CLIENT

TOWN OF BABYLON
LINDENHURST, NY

LKB CONSULTING ENGINEERS

LOCKWOOD, KESSLER & BARTLETT, INC.
CONSULTING ENGINEERS SINCE 1889 SYOSSET, NEW YORK

PROJECT NAME: AMERICAN VENICE BRIDGES

ESTIMATE OF QUANTITIES

DESIGN BY: DMM
DRAWN BY: DMM
CHECKED BY: WTC
DATE: 8/2016
SCALE: N.T.S.

PROJECT NO. 5423-01

DRAWING NO. IN-2

File Name: I:\projects\5423 00 american venice bridges\cadd\sheets\structural\index of dwgs., abbr., items.dwg
Plot Date: 8/30/2016 4:52 PM
Plotted By: Margolin, Daniel

GENERAL NOTES:

MISCELLANEOUS

1. THE CONTRACTOR SHALL EXAMINE AND VERIFY IN THE FIELD ALL EXISTING AND GIVEN CONDITIONS AND DIMENSIONS WITH THOSE SHOWN ON THE CONTRACT DOCUMENTS. IF THE FIELD CONDITIONS AND DIMENSIONS DIFFER FROM THOSE SHOWN ON THE CONTRACT DOCUMENTS, THE CONTRACTOR SHALL NOTIFY THE ENGINEER. ALL FIELD CONDITIONS AND DIMENSIONS SHALL BE SO NOTED ON THE DRAWINGS AND SUBMITTED FOR APPROVAL.

2. THE CONTRACTOR SHALL OBTAIN ALL PERMITS, APPROVALS AND LICENSES NECESSARY OR REQUIRED FOR THE PERFORMANCE OF THE WORK. THE COST OF OBTAINING THESE PERMITS, APPROVALS AND LICENSES SHALL BE PAID FOR BY THE CONTRACTOR.

3. ENGINEER AND CONTRACTOR WILL AGREE UPON AND DESIGNATE A SUITABLE AREA TO BE USED AS A FIELD OFFICE. ANY CHANGE IS TO BE APPROVED BY THE ENGINEER IN WRITING.

4. THE CONTRACTOR SHALL BE REQUIRED TO PROTECT HIS WORKERS AT ALL TIMES IN CONFORMANCE WITH APPLICABLE OSHA STANDARDS.

5. THE TOWN OF BABYLON SHALL APPROVE STAGING AREA LOCATIONS PRIOR TO COMMENCEMENT OF WORK.

   THE CONTRACTOR SHALL BE RESPONSIBLE FOR SECURING A STAGING AREA FOR THE CONTRACT. THIS AREA MUST BE RESTORED TO ITS ORIGINAL CONDITION AFTER COMPLETION OF THE PROJECT. NO SEPARATE PAYMENT WILL BE MADE FOR THIS WORK, COST IS TO BE INCLUDED IN THE CONTRACT ITEMS.

6. WHEN PROPOSED WORK SHOWN IN THE PLANS AND PROPOSAL DIFFERS FROM THE STANDARD SHEET AND STANDARD SPECIFICATIONS, THE INFORMATION AS DETAILED ON THE PLANS AND THEN THE PROPOSAL SHALL GOVERN.

7. ROADS USED FOR HAULING MATERIALS SHALL BE MAINTAINED AND KEPT FREE FROM DEBRIS BY THE CONTRACTOR, AND SHALL BE LEFT IN A CONDITION SATISFACTORY TO THE ENGINEER.

8. AREAS BEYOND THE WORK LIMITS DISTURBED FOR ANY REASON, BY THE CONTRACTOR AND HIS EMPLOYEES SHALL BE RESTORED TO THE SATISFACTION OF THE ENGINEER AT THE CONTRACTOR'S EXPENSE.

9. WHENEVER ITEMS IN THE CONTRACT REQUIRE MATERIALS TO BE REMOVED AND DISPOSED OF, THE COST OF SUPPLYING A DISPOSAL AREA AND TRANSPORTATION TO THAT AREA SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THOSE ITEMS.

10. ADEQUATE ACCESS TO WORK AREAS MUST BE PROVIDED FOR THE ENGINEER BY THE CONTRACTOR.

11. OTHER CONTRACTS MAY BE UNDER CONSTRUCTION DURING THE TIME OF THIS PROJECT. THE CONTRACTOR SHALL CONSULT WITH THE VARIOUS PARTIES AND SHALL COORDINATE HIS SCHEDULE WITH THEIRS.

12. THE CONTRACTOR'S ATTENTION IS DIRECTED TO THE FACT THAT DUE TO THE NATURE OF BRIDGE REHABILITATION PROJECTS, THE EXACT EXTENT OF RECONSTRUCTION WORK CANNOT ALWAYS BE ACCURATELY DETERMINED PRIOR TO THE COMMENCEMENT OF WORK. THESE CONTRACT DOCUMENTS HAVE BEEN PREPARED BASED ON FIELD INSPECTION AND OTHER AVAILABLE INFORMATION. ACTUAL FIELD CONDITIONS MAY REQUIRE MODIFICATIONS TO CONSTRUCTION DETAILS AND WORK QUANTITIES. THE CONTRACTOR SHALL PERFORM THE WORK IN ACCORDANCE WITH FIELD CONDITIONS AND AS DIRECTED BY THE ENGINEER.

13. THE CONTRACTOR SHALL PERFORM ALL WORK WITH CARE SO THAT ANY MATERIALS WHICH ARE TO REMAIN IN PLACE, OR WHICH ARE TO REMAIN THE PROPERTY OF THE TOWN, WILL NOT BE DAMAGED. IF THE CONTRACTOR DAMAGES ANY MATERIALS WHICH ARE TO REMAIN IN PLACE OR WHICH ARE TO REMAIN THE PROPERTY OF THE TOWN, THE DAMAGED MATERIALS SHALL BE REPAIRED OR REPLACED IN A MANNER SATISFACTORY TO THE ENGINEER AT THE EXPENSE OF THE CONTRACTOR.

14. NO WORK ON PRIVATE PROPERTY WILL BE PERMITTED UNTIL A SIGNED RELEASE FROM THE PROPERTY OWNER HAS BEEN SECURED. ANY CLAIMS RESULTING FROM THE SIGNED RELEASE BETWEEN THE CONTRACTOR AND THE PROPERTY OWNER ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR; THE TOWN OF BABYLON WILL BE HELD HARMLESS.

15. THE CONTRACTOR'S ATTENTION IS DIRECTED TO SUBSECTION 107–08, PRESERVATION OF PROPERTY. IN ADDITION TO THE REQUIREMENTS OF ITEM 634.99010017 BUILDING CONDITION SURVEY, THE FOLLOWING SHALL APPLY. ON THIS CONTRACT ONE OR MORE EXISTING BUILDINGS ARE LOCATED CLOSE TO THE SITE OF WORK. EXCAVATION, PILE DRIVING AND ANY OTHER CONSTRUCTION OPERATION IN THE VICINITY SHALL BE CONDUCTED IN A MANNER WHICH WILL NOT DAMAGE OR DISTRESS THE BUILDINGS. ANY DAMAGE CAUSED BY OR RELATED TO THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED AT NO COST TO THE TOWN. IT IS ALSO REQUIRED THAT THE CONTRACTOR ENGAGE THE SERVICES OF A LICENSED PROFESSIONAL ENGINEER TO CONDUCT A CONDITION SURVEY OF THE EXISTING BUILDINGS. THE CONDITION SURVEY REPORT SHALL CONTAIN DETAILED DESCRIPTIONS OF ANY EXISTING DEFECTS IN THE INTERIOR AND EXTERIOR OF THE BUILDINGS, SUCH AS CRACKS, SPALLING, DETERIORATIONS, SIGNS INDICATING SETTLEMENT, FLOODING OR LEAKING AND ALL NECESSARY COLOR PHOTOGRAPHS TO DOCUMENT THE BUILDING CONDITIONS. A RULER OR OTHER SCALE SHALL BE SHOWN IN THE PHOTOGRAPHS INDICATING THE SIZE AND DEPTH OF DEFECTS. A COPY OF THIS REPORT SHALL BE SUPPLIED TO THE ENGINEER PRIOR TO THE START OF ANY WORK THAT COULD IN ANY WAY AFFECT A BUILDING. IN THE EVENT THAT AN ACCESS TO THE BUILDING IS DENIED, THE CONTRACTOR SHALL DOCUMENT THIS FACT AND SHALL IMMEDIATELY NOTIFY THE ENGINEER OF THIS DENIAL.

   AFTER THE COMPLETION OF ALL WORK THAT COULD AFFECT THE BUILDINGS, THE CONTRACTOR SHALL PROVIDE ANOTHER CONDITION SURVEY, CONDUCTED AND REPORTED IN THE SAME MANNER, OF THE BUILDINGS. THIS CONDITION SURVEY WILL BE COMPARED WITH THE INITIAL SURVEY TO ASCERTAIN IF ANY DAMAGE WAS DONE TO THE BUILDINGS. IF IT IS DETERMINED THAT A BUILDING OR BUILDINGS SUFFERED DAMAGE CAUSED BY OR RELATED TO THE CONTRACTOR'S OPERATIONS, THE CONTRACTOR SHALL REPAIR THE DAMAGE AT HIS OWN EXPENSE. THE PAYMENT FOR THE ABOVE CONDITION SURVEY WILL BE MADE UNDER ITEM 634.99010017.

   THE CONDITION SURVEY SHALL BE PERFORMED ON THE FOLLOWING BUILDINGS:

   - 1 W SANTA BARBARA ROAD (GASTON–BUBILO, MARIE)
   - 3 W LIDO PROMENADE (FOX, BARBARA – LF EST)
   - 102 E LIDO PROMENADE (CORR, PATRICK II & DIANE)
   - 113 E RIVIERA DRIVE (RUBINSTEIN, STUART)

16. THE CONTRACTOR SHALL TAKE POSITIVE STEPS TO PREVENT THE SPLATTERING OF VEHICLES. THE CONTRACTOR SHALL PROVIDE FOR THE PROMPT CLEANING OF ANY VEHICLES SPLATTERED BY CONTRACTOR'S OPERATIONS AND SHALL PAY FOR THE CLEANING. THE COST FOR THIS WORK SHALL BE INCLUDED IN THE PRICE BID FOR THE VARIOUS ITEMS IN THE CONTRACT.

17. WHENEVER THE TERM "ENGINEER/REGIONAL DIRECTOR/DIRECTOR" IS REFERENCED IN THE STATE SPECIFICATIONS, IT SHALL MEAN THE "TOWN ENGINEER". WHERE THE TERM "DEPARTMENT" OR "STATE" IS REFERENCED IN THE STATE SPECIFICATIONS, IT SHALL MEAN "TOWN".

18. WHENEVER A SPECIFICATION REQUIRES TESTING TO BE PERFORMED BY THE "STATE", IT SHALL MEAN "A THIRD PARTY TO BE PROCURED BY THE CONTRACTOR", COST TO BE INCLUDED UNDER ITEM 697.03 FIELD CHANGE PAYMENT.

19. WATCHMAN SERVICE – THE CONTRACTOR SHALL NOT BE REQUIRED TO PROVIDE A WATCHMAN FOR THIS PROJECT. HOWEVER, THIS DOES NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY OF INSURING THAT THE PROJECT AREA IS IN A SAFE CONDITION AT ALL TIMES DURING THE COURSE OF THIS CONTRACT.

20. ANY TRENCH, PIT OR EXCAVATION THAT IS OPEN AND UNATTENDED SHALL BE PROTECTED A.O.B.E. WITH FENCE, BARRICADES OR OTHER APPROVED METHODS. NO DIRECT PAYMENT WILL BE MADE FOR THIS WORK.

SALVAGE

21. IN ADDITION TO THE "REMOVE AND STORE" ITEMS WHICH INCLUDE ....., THE FOLLOWING ITEMS ARE TO BE REMOVED AND STORED AND BECOME THE PROPERTY OF THE TOWN: ..... NO SEPARATE PAYMENT WILL BE MADE FOR THIS WORK BUT THE COST IS TO BE INCLUDED IN THE VARIOUS ITEMS OF THE CONTRACT. THE CONTRACTOR SHALL STOCKPILE THIS MATERIAL AT A SUITABLE LOCATION ON THE PROJECT SITE APPROVED BY THE ENGINEER: OR AT THE CONTRACTOR'S OPTION, THE MATERIAL (OTHER THAN TRAFFIC SIGNAL EQUIPMENT) MAY BE DELIVERED TO THE TOWN MAINTENANCE YARD AT ..... TRAFFIC SIGNAL EQUIPMENT MAY BE DELIVERED TO THE TOWN MAINTENANCE YARD AT ..... FORTY–EIGHT HOURS NOTICE SHALL BE GIVEN PRIOR TO ANY DELIVERY MADE TO THE MAINTENANCE YARD.

   ANY MATERIAL DEEMED BY THE ENGINEER AS UNUSABLE SHALL BE DISPOSED OF BY THE CONTRACTOR.

22. THE "REMOVE AND STORE" ITEMS ARE TO BE REMOVED AND STORED AND BECOME THE PROPERTY OF THE TOWN.

PAVING

23. THE SEALING OF TRANSVERSE PAVEMENT JOINTS AND CRACKS SHALL BE DONE AFTER THE COMPLETION OF ALL PAVEMENT REPAIRS WITHIN 1200 FT OF THE SEALING LOCATION.

24. RESURFACING OVER ASPHALT PAVEMENT REPAIRS SHALL NOT BE DONE UNTIL THE REPAIRED AREAS HAVE BEEN EXPOSED TO TRAFFIC FOR A MINIMUM OF TWO (2) WEEKS.

25. WITHIN THE LIMITS OF RESURFACING, ALL UNSEALED AND INADEQUATELY SEALED JOINTS AND CRACKS ¼ INCH IN WIDTH OR GREATER WHICH ARE VISIBLE IN THE SURFACE SHALL BE CLEANED AND SEALED PRIOR TO PLACEMENT OF THE ASPHALT. CRACKS FROM ¼ INCH TO 1 INCH WIDE SHALL BE SEALED UNDER ITEM 633.12 WITH A MIXTURE OF BITUMINOUS MATERIAL MEETING THE REQUIREMENTS OF 702–4501 AS LISTED IN TABLE 6 OF SECTION 702 AND/OR OF 702.3601 AS LISTED IN TABLE 5 OF SECTION 702. MORTAR SAND SHALL MEET THE REQUIREMENTS OF SUBSECTION 703–03. WHICHEVER EMULSION THE CONTRACTOR CHOOSES, HE SHALL PROVIDE CERTIFICATION TO THE EIC STATING THAT THE MATERIAL IS COMPATIBLE WITH THE MORTAR SAND SELECTED TO PRODUCE ALLOWABLE COATING AND RETENTION IN ANIONIC AND/OR CATIONIC PHASES. THE MATERIALS SHALL BE MIXED TO A MORTAR CONSISTENCY TO THE SATISFACTION OF THE ENGINEER. A MINERAL FILLER MEETING THE REQUIREMENTS OF 703–08 MAY BE ADDED FOR WORKABILITY A.O.B.E.. CRACKS WIDER THAN 1 INCH SHALL BE REPAIRED AS SPECIFIED UNDER SUBSECTION 633–3.02. THE CLEANING SHALL CONSIST OF THE REMOVAL OF ALL DIRT AND LOOSE MATERIAL AND SHALL BE ACCOMPLISHED BY HOLDING A CLEANING JET, MEASURING AT LEAST 80 PSI AT THE SOURCE, 1 INCH ABOVE THE PAVEMENT SURFACE. THIS WORK SHALL BE COMPLETED AT LEAST 24 HOURS BUT NO MORE THAN 2 WEEKS IN ADVANCE OF THE PAVING OPERATION. PAYMENT FOR THIS WORK WILL BE MADE UNDER ITEM 633.12.

26. THESE PLANS INDICATE AREAS WHERE COMPACTION OF ASPHALT COURSES BY THE USE OF VIBRATORY COMPACTION EQUIPMENT IS PROHIBITED. IN THESE AREAS, CONVENTIONAL COMPACTION PROCEDURES STIPULATED UNDER OPTION 1 OF SUBSECTION 402–3.07D OF THE SPECIFICATIONS SHALL BE ADHERED TO EXCEPT THE CONTRACTOR WILL BE PERMITTED TO SUBSTITUTE AN 8 TO 10 TON DUAL DRUM VIBRATORY ROLLER FOR THE PNEUMATIC TIRE ROLLER OPTION A REQUIRES FOR INTERMEDIATE ROLLING. THIS ROLLER SHALL BE OPERATED IN THE STATIC MODE. ALL OTHER PROVISIONS OF SUBSECTION 402–3.07 SHALL BE ADHERED TO AND A THREE ROLLER COMPACTION TRAIN IS REQUIRED.

27. TACK COAT – IN ADDITION TO THE DISTRIBUTOR EQUIPMENT DESCRIBED IN THE SPECIFICATIONS, SMALL POWER SPRAY UNITS OF HAND–HELD SPRAY EQUIPMENT, AS APPROVED BY THE ENGINEER, MAY BE USED IN THE AREAS WHERE USE OF THE DISTRIBUTOR IS IMPRACTICAL, SUCH AS; NARROW IRREGULAR AREAS, INTERSECTIONS, AND OTHER LOCATIONS WHERE TRAFFIC MUST BE ALLOWED TO CROSS THE PAVEMENT AND IN AREAS WHERE THE DISTANCE BETWEEN INTERSECTIONS IS SHORT AS DETERMINED BY THE ENGINEER.

28. THE TACK COAT SHALL BE APPLIED WHENEVER RESURFACING: (1) ANY PORTLAND CEMENT CONCRETE PAVEMENT; (2) ANY MILLED PAVEMENT; (3) ANY ASPHALT CONCRETE PAVEMENT EXCEPT WHEN THE EXISTING SURFACE IS EXCESSIVELY FLUSHED, AS DETERMINED BY THE ENGINEER.

   IN ADDITION, TACK COAT SHALL BE APPLIED TO CONTACT SURFACES BETWEEN ALL HOT MIX ASPHALT PAVEMENT LIFTS REGARDLESS OF TIME PERIOD BETWEEN LIFTS OR CONSTRUCTION VEHICLE USE (EXCLUDING THE SURFACE OF PERMEABLE BASE MATERIAL). CONTRACTOR'S ATTENTION IS DIRECTED TO SUBSECTION 402–3.06 OF THE STANDARD SPECIFICATIONS.

29. WHERE NOTCHES ARE CUT INTO THE EXISTING PAVEMENT IN PREPARATION FOR THE OVERLAY AT THE LIMITS OF RESURFACING, PRIOR TO REOPENING THE ROADWAY TO TRAFFIC, THE CONTRACTOR SHALL EITHER PLACE THE PROPOSED ASPHALT OVERLAY IMMEDIATELY OR PLACE A TEMPORARY WEDGE (1 ON 60) OF ASPHALT TO ELIMINATE THE BUMP CREATED BY THE NOTCH. THE COST OF WORK SHALL BE INCLUDED IN THE PRICE BID FOR THE PAVING ITEMS.

30. CONTRACTOR'S ATTENTION IS DIRECTED TO SUBSECTIONS 402–3.02 AND 402–3.06 OF THE STANDARD SPECIFICATIONS. WHEN HOT MIX ASPHALT IS TO BE PLACED BY BITUMINOUS PAVER THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO MAINTAIN A CONSISTENT GRADATION ACROSS THE MAT. THIS MAY INCLUDE, BUT NOT BE LIMITED TO, REMIXING OF MATERIAL TRANSFERRED FROM THE HAULING UNIT. THE CONTRACTOR SHALL USE EQUIPMENT SUCH AS MOBILE CONVEYER, MATERIAL TRANSFER VEHICLE DEVICE, SHUTTLE BUGGY, MATERIAL TRANSFER PAVER, OR PAVER WITH REMIXER CONVEYER SYSTEM. THE ENGINEER WILL CONSIDER OTHER TYPES OF EQUIPMENT OR MODIFICATIONS TO PAVERS, WHICH WILL MINIMIZE SEGREGATION. RAVELING THAT MAY OCCUR TO THE ASPHALT MAT THAT IS SUBJECT TO TRAFFIC DURING ANY PHASE OF CONSTRUCTION IS THE RESPONSIBILITY OF THE CONTRACTOR. ALL NECESSARY REPAIRS TO RAVELED AREAS SHALL BE REPAIRED AT NO COST TO THE TOWN. THIS WORK MAY INCLUDE, BUT IS NOT LIMITED TO, SAW CUTTING, REMOVAL OF RAVELED/UNSTABLE HOT MIX ASPHALT AND PLACEMENT OF NEW HOT MIX ASPHALT MATERIAL IN REPAIR AREA.

   THE PAVER SHALL HAVE A CONSTANT FLOW/HEAD OF MATERIAL. THE WINGS OF THE PAVER RECEIVING HOPPER SHALL NOT BE RAISED (DUMPED) AT ANY TIME DURING THE PAVING OPERATION. STOPPING OF PAVING MACHINE SHALL BE KEPT TO A MINIMUM. BROADCASTING OF LOOSE MATERIAL OVER THE PAVED MAT WILL NOT BE PERMITTED.

SAW CUTTING

31. WHEN SAW CUTTING IS REQUIRED THE DEPTH WILL BE AS FOLLOWS UNLESS OTHERWISE NOTED ON THE PLANS:

    CONCRETE OR COMPOSITE PAVEMENT–FULL DEPTH (ITEM 520.05000010)
    ASPHALT PAVEMENT–FULL DEPTH (ITEM 520.09000010)

32. WHEN REMOVING COMPOSITE PAVEMENT (ASPHALT CONCRETE ON CONCRETE PAVEMENT), PAYMENT WILL BE MADE ONLY UNDER ITEM 520.05000010 AND NO PAYMENT WILL BE MADE UNDER ITEM 520.09000010 UNLESS THE CONTRACT DOCUMENTS SPECIFICALLY INDICATE THE CUT THROUGH THE ASPHALT IS AT A DIFFERENT LOCATION THAN THE CUT THROUGH THE CONCRETE.

33. NO PAYMENT WILL BE MADE UNDER THE SAWCUT ITEMS IF THE PAYMENT FOR SAWCUT IS INCLUDED IN OTHER ITEMS.

CURBS AND SIDEWALKS

34. NEW CURBS NOT ABUTTING EXISTING CURB SHALL BE RAMPED DOWN TO ZERO HEIGHT REVEAL IN THE LAST 10 FT AT LOCATIONS FACING TRAFFIC. AT EXIT GORES, CURBS SHALL BE RAMPED DOWN TO 20 FT ON BOTH SIDES OF THE GORE.

35. THE PLANS SPECIFICALLY CALL FOR THE REMOVAL OF EXISTING CURBS AT VARIOUS LOCATIONS. OTHER EXISTING CURBS ARE TO BE REMOVED IN AREAS OF OBVIOUS CONFLICT WITH THE PROPOSED WORK OR WHERE ORDERED BY THE ENGINEER. IF EXCAVATION IS NOT PART OF THE PAYMENT FOR THE ITEMS BEING PLACED IN THESE AREAS, PAYMENT WILL BE MADE UNDER ITEM 203.02. IF THERE IS NO OTHER GENERAL EXCAVATION IN THE AREA, THE CURB REMOVAL WILL BE PAID BY THE FACTOR OF 0.4 CUBIC YARD PER YARD OF CURB REMOVAL.

36. EXCEPT WHERE THE PLANS INDICATE OTHERWISE, SIDEWALK RAMP DETAILS INDICATED ON THE STANDARD SHEET "SIDEWALK CURB RAMP DETAILS" SHALL BE MODIFIED AS FOLLOWS:

    A. THE SIDEWALK PORTION OF THE RAMP SHALL BE CONSTRUCTED OF REINFORCED CONCRETE 6 INCH THICK.
    B. CURB AT THE RAMP LOCATION SHALL BE PLACED MONOLITHIC WITH THE SIDEWALK PORTION OF THE RAMP. PAYMENT FOR CURB AT THE RAMP LOCATION WILL BE INCLUDED UNDER THE SIDEWALK CURB RAMP ITEM.
    C. THE ELEVATION OF THE BOTTOM OF THE CONCRETE AT THE CURBLINE SHALL MATCH THE BOTTOM OF PAVEMENT WHEN THE ADJACENT PAVEMENT IS CONCRETE AND THE BOTTOM OF SUBBASE WHEN THE ADJACENT PAVEMENT IS ASPHALT.

37. DETECTABLE WARNINGS SHALL BE IN A COLOR CONTRASTING WITH THE CURB RAMP OR WALKWAY SURFACE; (LIGHT–ON–DARK OR DARK–ON–LIGHT). CONCRETE RAMPS SHALL HAVE DARK GRAY DETECTABLE WARNINGS. CURB RAMPS THAT DIFFER IN MATERIAL AND COLOR SUCH AS ASPHALT OR RED BRICK THAT IS A DARK COLOR SHALL RECEIVE WHITE DETECTABLE WARNINGS.

SURVEY

38. THE CENTERLINE SHOWN ON THESE PLANS IS APPROXIMATE AND IS SHOWN FOR TABULATING AND FILING PURPOSES ONLY. THE CENTERLINE STATIONING MAY BE ESTABLISHED BY FLAT CHAINING ALONG THE EXISTING

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CLIENT: TOWN OF BABYLON
LINDENHURST, NY

LKB CONSULTING ENGINEERS
LOCKWOOD, KESSLER & BARTLETT, INC.
CONSULTING ENGINEERS SINCE 1889 SYOSSET, NEW YORK

PROJECT NAME: AMERICAN VENICE BRIDGES

GENERAL NOTES 1

DESIGN BY: GG	PROJECT NO. 5423–01
DRAWN BY: DMM	
CHECKED BY: WTC	DRAWING NO. GN–1
DATE: 8/2016	
SCALE: N.T.S.	

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Plot Date: 8/30/2016 4:52 PM
Plotted By: Margolin, Daniel

GENERAL NOTES CONTINUED:

SURFACE UTILIZING CONTROLS FURNISHED BY THE ENGINEER. THE LAYOUT OF THE BASINS, PIPES, CURBS, ETC. ARE TO BE DONE AS SHOWN ON THE PLANS OR A.O.B.E. THE TRANSVERSE OFFSETS SHOWN ON THE PLANS ARE TO BE FIELD MEASURED. PAYMENT SHALL BE INCLUDED IN THE SURVEY OPERATIONS ITEM.

39. ALL ELEVATIONS SHOWN REFER TO THE NORTH AMERICAN VERTICAL DATUM ESTABLISHED IN 1988 (NGVD 88).

40. ALL COORDINATES SHOWN ARE IN NEW YORK STATE LAMBERT NAD 83 NEW YORK, LONG ISLAND ZONE (ENGLISH).

FENCING

41. WHEN INSTALLING A FENCE IT MAY BE NECESSARY TO TRIM BRANCHES OR PERFORM MINOR CLEARING AND GRUBBING. THE COST OF THIS WORK AND REMOVAL OF ALL DEBRIS IS TO BE INCLUDED UNDER CLEARING AND GRUBBING – ITEM 201.06.

42. WHEN INSTALLING TENSION WIRE AND/OR FABRIC THE CONTRACTOR SHALL TAKE PRECAUTIONS, SUCH AS USING A TEMPORARY BRACE, TO INSURE THAT UNDAMAGED LINE POSTS ARE NOT OVERSTRESSED. ANY DAMAGE CAUSED BY THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED AT HIS EXPENSE.

43. WHERE NEW FENCE ABUTS EXISTING FENCE, THE TWO SHALL BE PROPERLY ATTACHED TO PROVIDE FULL CLOSURE AND A UNIFORM APPEARANCE.

LANDSCAPING

44. TREES AND SHRUBS ARE TO BE PRUNED IN ACCORDANCE WITH BOTH SECTION 201 AND THE FOLLOWING REQUIREMENTS. ALL COST TO BE INCLUDED IN THE PRICE BID FOR ITEM 201.06.

    A. THE CONTRACTOR SHALL CAREFULLY CUT OFF ALL BRANCHES OF PLANTS HANGING WITHIN 16FT ABOVE ANY PART OF THE ROADWAY OR WITHIN 2 FT OF THE EDGE OF THE SHOULDER. BRANCHES SHALL BE TRIMMED AT THE TRUNK TO MAKE A CALLOUS RIDGE.
    B. PRUNING MAY BE REQUIRED BEYOND THE LIMITS INDICATED IN ORDER TO MAINTAIN ADEQUATE SIGHT DISTANCE FOR ALL TRAFFIC SIGNS AND SIGNALS. ADDITIONAL BRANCH PRUNING MAY ALSO BE REQUIRED ON ANY TREE WHERE BRANCHES ARE REMOVED IN ORDER TO MAINTAIN AN AESTHETIC BALANCE. ALL SUCH ADDITIONAL PRUNING SHALL BE A.O.B.E.
    C. ALL WORK SHOULD BE DONE ACCORDING TO ACCEPTABLE HORTICULTURAL AND PRUNING PRACTICES.
    D. THE CONTRACTOR SHALL TAKE CARE NOT TO DAMAGE ANY EXISTING TREES THAT ARE TO REMAIN. ANY DAMAGE THROUGH CARELESSNESS OF THE CONTRACTOR SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE, A.O.B.E.

45. THE CONTRACTOR'S ATTENTION IS DIRECTED TO SECTION 107–08A OF THE STANDARD SPECIFICATIONS. SPECIFIC AREAS WITHIN THE WORK LIMITS SUBJECT TO THE SEEDING PROVISIONS SHALL INCLUDE, BUT ARE NOT LIMITED TO: .....

46. WHEN SMALL AMOUNTS OF SEEDING, LESS THAN 1 ACRE, ARE REQUIRED FOR RESTORATION THE AREAS SHALL BE SEEDED, FERTILIZED, AND MULCHED AS SPECIFIED FOR STANDARD SEEDING ITEM, "TURF ESTABLISHMENT" USING SEED MIX "C.LAWN SEED MIX" AT TURF QUALITY LEVEL "LAWN". MULCH TYPES I–V OR DEFAULT STRAW MAY BE USED WITH THE APPROVAL OF THE E.I.C.

    TOPSOIL SHALL MEET THE SPECIFICATIONS FOR ITEM 610.1403 TOPSOIL–LAWN UNLESS OTHERWISE INDICATED.

TREE REMOVAL

47. ONLY THOSE TREES DESIGNATED FOR REMOVAL ON AN EACH BASIS IN THE PLANS SHALL BE REMOVED AND PAID FOR UNDER THE CONTRACT ITEM(S) FOR TREE REMOVAL. ALL OTHER TREE REMOVALS SHALL BE PAID FOR UNDER THE CLEARING AND GRUBBING ITEM.

    THE CONTRACTOR SHALL NOTIFY THE E.I.C. TWO (2) WEEKS PRIOR TO REMOVAL OF ANY TREES AND SHALL NOT START HIS OPERATION UNTIL APPROVED BY THE E.I.C.

CLEARING AND GRUBBING

48. CLEARING AND GRUBBING WILL BE REQUIRED FOR THE FULL LENGTH OF THE CONTRACT. THE PLANS SHOW ONLY CERTAIN SPECIFIC WORK REQUIREMENTS.

49. CLEARING AND GRUBBING SHALL INCLUDE THE REMOVAL OF ALL TREES 6 INCH IN DIAMETER OR LESS. TREES LARGER THAN 6 INCH IN DIAMETER SHALL BE REMOVED UNDER ITEM 614.060Xnn, AS SHOWN AND TABULATED ON THE PLANS OR A.O.B.E.

50. UNDER ITEM 201.06, THE CONTRACTOR SHALL REMOVE ALL TREE BRANCHES, SHRUBS, ETC. WITHIN 2 FT OF THE BACK OF ALL GUIDE RAIL SYSTEMS TO A HEIGHT OF 16 FT.

51. THE CONTRACTOR IS TO TAKE CARE NOT TO DAMAGE ANY EXISTING VEGETATION THAT IS TO REMAIN. ANY DAMAGE THROUGH CARELESSNESS OF THE CONTRACTOR OR REMOVED FOR THE CONTRACTOR'S ACCESS SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.

SOIL AND SOIL EROSION CONTROL

52. TEMPORARY DITCHES SHALL BE CONSTRUCTED TO PREVENT RUNOFF FROM GOING BEYOND THE R.O.W., T.E. OR T.O. LINES DURING CONSTRUCTION. SEPARATE PAYMENT WILL BE MADE FOR THIS WORK UNDER ITEM 203.02.

SIGNS

53. ALL SIGNS WITHIN THE CONTRACT LIMITS SHALL BE REMOVED, STORED, AND REPLACED UNLESS NOTED OTHERWISE ON THE PLANS. ANY SIGNS DAMAGED BY THE CONTRACTOR THAT ARE TO BE REPLACED AFTER CONSTRUCTION SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.

54. RESTORATION OF THE AREA AROUND SIGNS TO BE REMOVED, WHERE NO OTHER WORK IS PROPOSED, SHALL BE INCLUDED IN THE PRICE BID FOR THE SIGN REMOVAL. THE AREA SHALL BE RESTORED SIMILAR TO THE SURROUNDING AREA, A.O.B.E.

55. CURRENT REQUIREMENTS FOR LATERAL CLEARANCE AND HEIGHT REQUIREMENTS FOR SIGNS ARE GIVEN ON THE STANDARD SHEET TITLED "STANDARD HEIGHT AND LATERAL LOCATION FOR TRAFFIC SIGNS, TYP. REG. & WARNING SIGNS ASSEMB."

56. THE CONTRACTOR'S ATTENTION IS DIRECTED TO SUBSECTION 645–2.02 "SIGN PANEL" OF THE STANDARD SPECIFICATIONS. THE REQUIRED IDENTIFICATION SHALL BE APPLIED TO ALL NEW SIGN PANELS.

57. IF THE STRUCTURE HAS A BRIDGE IDENTIFICATION NUMBER (B.I.N.) PLATE ATTACHED, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO REMOVE AND REMOUNT IT AFTER CONSTRUCTION. SHOULD IT BE DAMAGED IN THE PROCESS, A NEW PLATE WILL BE FURNISHED AT THE CONTRACTOR'S EXPENSE.

PAVEMENT MARKINGS

58. EXISTING PAVEMENT MARKINGS REMOVED UNDER ITEM 619.0801 AND LINES IN MILLING AREAS SHALL BE REPLACED USING THE 685 SERIES, EPOXY REFLECTORIZED PAVEMENT MARKINGS.

UTILITIES

59. THE CONTRACTOR SHALL CONTACT THE "ONE CALL CENTER" AY 1–800–962–7962 TO HAVE THE UTILITIES MARKED OUT BEFORE EXCAVATING AS REQUIRED BY NYS LAW, INDUSTRIAL CODE 53.

60. THE LOCATIONS AND SIZES OF EXISTING UNDERGROUND UTILITIES SHOWN ON THESE PLANS ARE APPROXIMATE AND ARE NOT GUARANTEED. THE CONTRACTOR IS FOREWARNED TO ASCERTAIN AND DETERMINE PRECISE LOCATIONS PREPARATORY TO EXCAVATING.

61. THE CONTRACTOR SHALL COORDINATE ALL WORK WITH LOCAL UTILITIES AND SHALL PROVIDE ACCESS TO UTILITY LOCATIONS REQUIRED BY THE UTILITY COMPANY IF NEEDED.

62. IT IS ANTICIPATED THAT THE EXISTING GAS UTILITY WILL BE RELOCATED BY NATIONAL GRID PRIOR TO THE START OF THIS CONTRACT. THE PROPOSED UTILITY WILL REMAIN ON THE SAME SIDE OF THE BRIDGE.

63. IT IS ANTICIPATED THAT THE EXISTING WATER UTILITY WILL BE RELOCATED BY SUFFOLK COUNTY WATER AUTHORITY (SCWA) PRIOR TO THE START OF THIS CONTRACT. THE PROPOSED UTILITY WILL REMAIN ON THE SAME SIDE OF THE BRIDGE.

64. TEST PITS SHALL BE DUG TO VERIFY THE NEED TO RELOCATE FACILITIES SHOWN IN THE TABLE. TEST PIT LOCATIONS SHALL BE SHOWN ON THE PLANS OR A.O.B.E., WHERE CONFLICTS BETWEEN THE PROPOSED AND EXISTING FACILITIES ARE ANTICIPATED. PAYMENT WILL BE MADE UNDER THE ITEM FOR TEST PIT EXCAVATION.

65. THE CONTRACTOR SHALL BECOME FAMILIAR WITH ALL VOLTAGES CARRIED IN OVERHEAD AND UNDERGROUND UTILITY SERVICES.

66. OVERHEAD UTILITY LINES AND POLES WILL NEED TO BE MOVED DURING CONSTRUCTION. THE CONTRACTOR SHALL CONTACT ALL AFFECTED UTILITY OWNERS AT LEAST ONE MONTH BEFORE CONSTRUCTION COMMENCES.

MAINTENANCE RESPONSIBILITY

67. AFTER COMPLETION OF THE CONTRACT, ALL FEATURES OF THE BRIDGE AND ASSOCIATED ROADWAY FEATURES WILL BE MAINTAINED BY THE AGENCIES PRESENTLY RESPONSIBLE FOR THEIR MAINTENANCE.

STREAM PROTECTION

68. DURING THE COURSE OF CONSTRUCTION, THE CONTRACTOR SHALL CONDUCT OPERATIONS IN SUCH A MANNER AS TO PREVENT OR REDUCE TO A MINIMUM ANY DAMAGE TO ANY CANAL FROM POLLUTION BY DEBRIS, SEDIMENT, OR OTHER FOREIGN MATERIAL, OR FROM MANIPULATION OF EQUIPMENT AND/OR MATERIALS IN OR NEAR SUCH A CANAL. THE CONTRACTOR SHALL NOT RETURN DIRECTLY TO A CANAL ANY WATER WHICH HAS BEEN USED FOR WASH PURPOSES OR OTHER SIMILAR OPERATIONS WHICH CAUSE THIS WATER TO BECOME POLLUTED WITH SAND, SILT, CEMENT, OIL, OR OTHER IMPURITIES. IF THE CONTRACTOR USES WATER FROM A CANAL, THE CONTRACTOR SHALL CONSTRUCT AN INTAKE OR TEMPORARY DAM REQUIRED TO PROTECT AND MAINTAIN WATER RIGHTS AND TO SUSTAIN FISH LIFE DOWNSTREAM.

SPECIAL

69. CONFORMANCE WITH THE NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION STIPULATIONS IS REQUIRED. ALL WORK SHALL BE IN ACCORDANCE WITH NYSDEC PERMIT NO. XXXXXX. COPIES OF THE PERMIT ARE INCLUDED IN THE PROPOSAL. THE COST OF THE WORK SHALL BE INCLUDED IN THEIR RESPECTIVE ITEMS.

70. CONFORMANCE WITH UNITED STATES COAST GUARD LETTER OF INTENT AND STIPULATIONS IS REQUIRED. ALL WORK SHALL BE IN ACCORDANCE WITH THE LETTER OF INTENT SUBMITTED BY THE CONTRACTOR PRIOR TO THE START OF CONSTRUCTION AND APPROVED BY THE USCG. THE COST OF THE WORK SHALL BE INCLUDED IN THEIR RESPECTIVE ITEMS.

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CLIENT

TOWN OF BABYLON
LINDENHURST, NY

LKB CONSULTING ENGINEERS

LOCKWOOD, KESSLER & BARTLETT, INC.
CONSULTING ENGINEERS SINCE 1889 SYOSSET, NEW YORK

PROJECT NAME: AMERICAN VENICE BRIDGES

GENERAL NOTES 2

DESIGN BY:	GG
DRAWN BY:	DMM
CHECKED BY:	WTC
DATE:	8/2016
SCALE:	N.T.S.
PROJECT NO.	5423–01
DRAWING NO.	GN–2

File Name: I:\projects\5423 00 american venice bridges\cadd\sheets\structural\notes.dwg
Plot Date: 8/30/2016 4:52 PM
Plotted By: Margolin, Daniel

STRUCTURAL NOTES:

GENERAL

1. DESIGN SPECIFICATIONS: NEW YORK STATE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES WITH ALL PROVISIONS IN EFFECT AS OF JANUARY 1, 2016. (FOR DESIGN PURPOSES, COMPRESSIVE STRENGTH OF CONCRETE FOR SUBSTRUCTURES AND DECK SLABS AT 28 DAYS: f'c = 4000 psi.)

2. DESIGN SPECIFICATIONS: NYSDOT LRFD BRIDGE DESIGN SPECIFICATIONS WITH ALL PROVISIONS IN EFFECT AS OF JUNE 2014. (FOR DESIGN PURPOSES, COMPRESSIVE STRENGTH OF CONCRETE FOR SUBSTRUCTURES AND DECK SLABS AT 28 DAYS: f'c = 4000 psi.) CLASS A CONCRETE SHALL BE USED FOR ALL CONCRETE ITEMS EXCEPT AS OTHERWISE STATED.

   THE CONCRETE STRENGTH FOR PRECAST BEBO ARCH SEGMENTS WILL BE AS NOTED IN THE DRAWINGS.

3. LIVE LOAD: AASHTO HL – 93 AND NYSDOT DESIGN PERMIT VEHICLE.

4. CONSTRUCTION AND MATERIALS SPECIFICATIONS: STANDARD SPECIFICATIONS CONSTRUCTION AND MATERIALS, NEW YORK STATE DEPARTMENT OF TRANSPORTATION, OFFICE OF ENGINEERING, DATED MAY 1, 2008, WITH CURRENT ADDITIONS AND MODIFICATIONS.

5. DETAILS ON THE DRAWINGS LABELED AS "NOT TO SCALE" ARE INTENTIONALLY DRAWN NOT TO SCALE FOR VISUAL CLARITY. ALL OTHER DETAILS FOR WHICH NO SCALE IS SHOWN ARE DRAWN PROPORTIONAL AND ARE FULLY DIMENSIONED.

6. ALL SHOP DRAWINGS SUBMITTED FOR THIS PROJECT SHALL BE IN US CUSTOMARY UNITS.

7. ALL BAR REINFORCEMENT SHALL BE ASTM A615, GRADE 60 WITH MINIMUM CONCRETE COVERS AS SHOWN ON THE PLANS.

8. THE LOAD RATINGS ARE IN ACCORDANCE WITH THE AASHTO MANUAL FOR BRIDGE EVALUATIONS.

   BRIDGE RATINGS (TO BE PROVIDED BY PRECAST BRIDGE MANUFACTURER)
   INVENTORY RATING:
   OPERATING RATING:

9. THIS BRIDGE SHALL BE MAINTAINED IN ACCORDANCE WITH THE GUIDELINES CONTAINED IN THE CURRENT EDITION OF THE AASHTO MAINTENANCE MANUAL: THE MAINTENANCE AND MANAGEMENT OF ROADWAYS AND BRIDGES.

10. THE CONTRACTOR SHALL MOVE ALL BARGES AND OTHER FLOATING EQUIPMENT EMPLOYED TO PERFORM THE WORK IN THIS CONTRACT TO SAFE ANCHORAGES AWAY FROM THE BRIDGES PRIOR TO THE ONSET OF INCLEMENT WEATHER CONDITIONS WHICH WOULD CAUSE SUCH BARGES AND FLOATING EQUIPMENT MOORED UNDER OR ALONGSIDE THE BRIDGES TO COLLIDE WITH AND POSSIBLY DAMAGE THE BRIDGES. THE CONTRACTOR SHALL NOT ATTACH ANY MOORING LINES FROM THE BARGES OR FLOATING EQUIPMENT TO THE BRIDGES DURING SUCH INCLEMENT WEATHER.

    NO SEPARATE PAYMENT WILL BE MADE FOR COMPLIANCE WITH THE ABOVE REQUIREMENTS. ALL COSTS ASSOCIATED WITH THESE REQUIREMENTS SHALL BE INCLUDED IN THE PRICES BID FOR THE VARIOUS ITEMS IN THE CONTRACT.

SUBSTRUCTURE

11. FOOTINGS AND WALLS SHOWN ARE C.I.P. THE CONTRACTOR MAY SUBMIT A PRECAST ALTERNATIVE FOR CONSIDERATION.

12. ALL PLACEMENTS OF SELECT STRUCTURAL FILL, ITEM 203.21, SHALL BE COMPACTED TO 95 PERCENT OF STANDARD PROCTOR MAXIMUM DENSITY.

13. THE COST OF WATER USED FOR COMPACTION OF SELECT FILL ITEMS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 203.21 – SELECT STRUCTURAL FILL.

14. HIGHWAY EMBANKMENT MATERIAL (FROM HIGHWAY ESTIMATE OR FROM STRUCTURE EXCAVATION BACKFILL) AND SELECT STRUCTURE FILL, ITEM 203.21, SHALL BE PLACED SIMULTANEOUSLY, IN CONTACT, ON BOTH SIDES OF THE VERTICAL PAYMENT LINE.

15. THE CONTRACTOR MAY ELECT TO INTRODUCE CONSTRUCTION JOINTS IN THE ABUTMENTS AT LOCATIONS NOT SHOWN ON THE PLANS. THESE CONSTRUCTION JOINTS SHALL BE PROVIDED WITH SHEAR KEYS AND WATERSTOPS.

COFFERDAM

16. SHOULD THE CONTRACTOR ELECT TO LAY BACK A PORTION OF THE EXISTING EARTH ADJACENT TO AN EXCAVATION REQUIRING A COFFERDAM, ANY REQUIRED EXTENSIONS OF THE COFFERDAM NECESSARY TO KEEP WATER FROM ENTERING THE EXCAVATION SHALL BE FURNISHED AND PLACED AT NO COST TO THE TOWN.

17. WHERE A COFFERDAM IS USED, THE COST OF DEWATERING THE ENTIRE EXCAVATION, REGARDLESS OF THE SOURCE OF WATER, SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE COFFERDAM.

18. SHOULD FIELD CONDITIONS REQUIRE A CHANGE FROM THE TYPE OF COFFERDAM CALLED FOR ON THE PLANS, THE E.I.C. SHALL COORDINATE WITH APPROPRIATE AGENCIES TO APPROVE THE CHANGE.

19. DEWATERING OF THE COFFERDAM SHALL BE ACCOMPLISHED BY PUMPING THE WATER TO AN APPROVED UPLAND VEGETATED AREA OUTSIDE OF THE STREAMBED AS SHOWN ON THE PLANS AND/OR APPROVED BY THE E.I.C. TEMPORARY SOIL EROSION AND WATER POLLUTION CONTROL, SUCH AS STRAW BALES OR APPROVED EQUAL, MAY BE REQUIRED AS DETERMINED BY THE E.I.C. NO SETTLEMENT BASIN SHALL BE CONSTRUCTED.

SUPERSTRUCTURE

20. ALL STRUCTURAL STEEL SHALL CONFORM TO ASTM A709 GRADE 50.

21. THE STRUCTURAL STEEL FOR THIS BRIDGE SHALL NOT BE PAINTED.

REMOVAL

22. EXISTING SUBSTRUCTURE SHALL BE REMOVED WITHIN THE LIMITS SHOWN ON THE PLANS UNDER ITEM 202.19 IN THE BRIDGE ESTIMATE.

23. EXISTING SUPERSTRUCTURE SHALL BE REMOVED UNDER ITEM 202.12nnnn IN THE BRIDGE ESTIMATE.

24. THE CONTRACTOR'S ATTENTION IS DIRECTED TO THE REQUIREMENTS OF SUBSECTION 202–3.01 GENERAL AND SAFETY REQUIREMENTS. A REMOVAL PLAN, SIGNED BY A PROFESSIONAL ENGINEER IN THE STATE OF NEW YORK, SHALL BE SUBMITTED TO THE ENGINEER THIRTY (30) DAYS PRIOR TO BEGINNING THE DEMOLITION.

25. RECORD PLANS FOR THIS STRUCTURE ARE AVAILABLE AT THE TOWN OF BABYLON OFFICE.

26. DURING REMOVAL OPERATIONS, THE CONTRACTOR SHALL NOT BE ALLOWED TO DROP WASTE CONCRETE, DEBRIS AND OTHER MATERIAL TO THE AREA BELOW THE BRIDGE EXCEPT WHERE THE PLANS SPECIFICALLY PERMIT THE DROPPING OF MATERIAL. PLATFORMS, NETS, SCREENS OR OTHER PROTECTIVE DEVICES SHALL BE USED TO CATCH THE MATERIAL. IF THE ENGINEER DETERMINES THAT ADEQUATE PROTECTIVE DEVICES ARE NOT BEING EMPLOYED, THE WORK SHALL BE SUSPENDED UNTIL ADEQUATE PROTECTION IS PROVIDED.

27. ALL MATERIAL FALLING ON THE AREA BELOW AND ADJACENT TO THE BRIDGE SHALL BE REMOVED AND DISPOSED OF BY THE CONTRACTOR AT NO COST TO THE TOWN.

28. THE COST OF FURNISHING, INSTALLING, MAINTAINING, REMOVING AND DISPOSING OF PLATFORMS, NETS, SCREENS OR OTHER PROTECTIVE DEVICES SHALL BE INCLUDED IN THE UNIT PRICES BID FOR THE APPROPRIATE ITEMS OF THE CONTRACT.

29. LIMITS AND METHODS FOR REMOVAL OF PAINT AT LOCATIONS OF FASTENER REMOVAL OR FLAME CUTTING SHALL BE AS DESCRIBED IN SUBSECTIONS 202–3.05 AND 574 OF THE STANDARD SPECIFICATIONS. THE COST OF PAINT REMOVAL SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR THE SUPERSTRUCTURE REMOVAL ITEM. PAINT WASTE NOT COLLECTED BY VACUUM METHODS SHALL BE COLLECTED USING THE ENVIRONMENTAL GROUND AND/OR WATERWAY PROTECTION ITEM(S). WASTE SHALL BE DISPOSED OF USING THE TREATMENT AND DISPOSAL OF PAINT REMOVAL WASTE ITEM.

    LOOSE AND/OR PEELING PAINT ON STEEL SURFACES MAY BECOME DISLODGED DURING REMOVAL OPERATIONS OR DURING TRANSPORTATION FROM THE SITE UNLESS APPROPRIATE MEASURES ARE TAKEN. THE CONTRACTOR SHALL FORMULATE AND SUBMIT A METHOD OF REMEDIATING THE CONDITION FOR APPROVAL BY THE ENGINEER. WORKER LEAD PROTECTION IN ACCORDANCE WITH OSHA 1926.62 MUST BE SATISFIED. ALTERNATIVES COULD INCLUDE TRANSPORTING AFFECTED MEMBERS IN CLOSED TRUCKS, WRAPPING AFFECTED MEMBERS PRIOR TO REMOVAL, ENCAPSULATING THE LOOSE PAINT OR REMOVAL OF LOOSE PAINT PRIOR TO DISMANTLING OPERATIONS. THE COST OF REMEDIATING THE CONDITION SHALL INCLUDE THE USE OF ENVIRONMENTAL, GROUND AND/OR WATERWAY PROTECTION ITEMS THAT WILL BE REQUIRED. DEPENDING ON THE ALTERNATIVE CHOSEN, THE TREATMENT AND DISPOSAL OF PAINT REMOVAL WASTE ITEM MAY BE REQUIRED. BECAUSE OF THE ABOVE–MENTIONED CONDITION, THE CONTRACTOR SHOULD EXAMINE THE CONDITION OF THE STRUCTURE'S PAINT PRIOR TO SUBMITTING A BID.

    REFER TO SUBSECTION 107–05 OF THE STANDARD SPECIFICATIONS FOR SAFETY AND HEALTH REQUIREMENTS.

LUMBER AND TIMBER

30. STRESS GRADED LUMBER AND TIMBER HAVE BEEN DESIGNED FOR THE FOLLOWING ALLOWABLE STRESSES, AND THE TYPE USED MUST MEET THESE MINIMUM REQUIREMENTS:

    EXTREME FIBER IN BENDING = 3.68 KSI
    EXTREME FIBER IN TENSION PARALLEL TO GRAIN = 2.70 KSI
    COMPRESSION PERPENDICULAR TO GRAIN = 1.30 KSI
    MODULUS OF ELASTICITY = 1900 KSI.

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CLIENT
TOWN OF BABYLON
LINDENHURST, NY

LKB CONSULTING ENGINEERS
LOCKWOOD, KESSLER & BARTLETT, INC.
CONSULTING ENGINEERS SINCE 1889 SYOSSET, NEW YORK

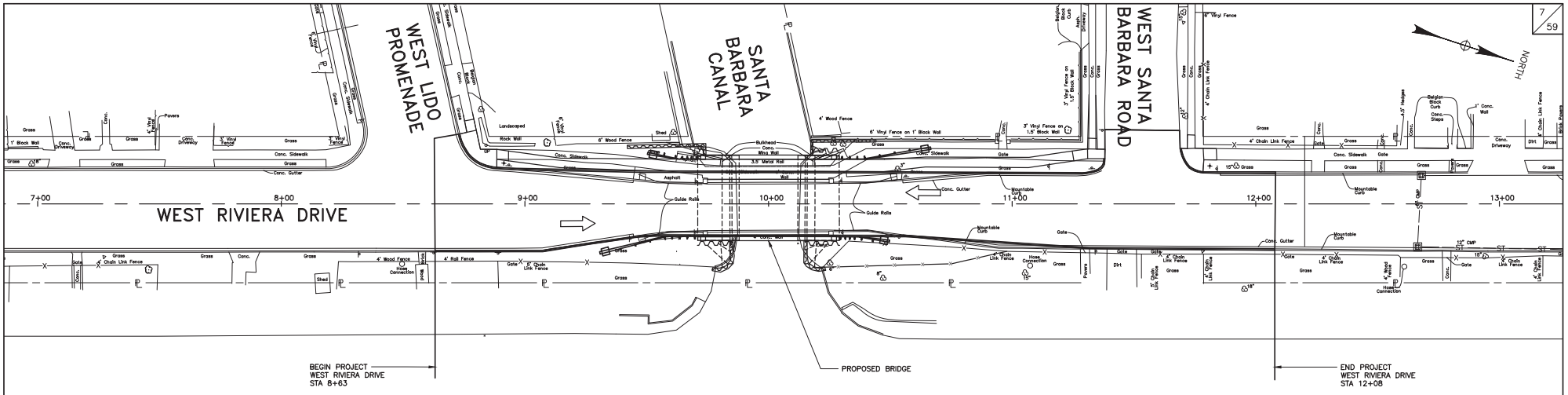
PROJECT NAME: AMERICAN VENICE BRIDGES

STRUCTURAL NOTES

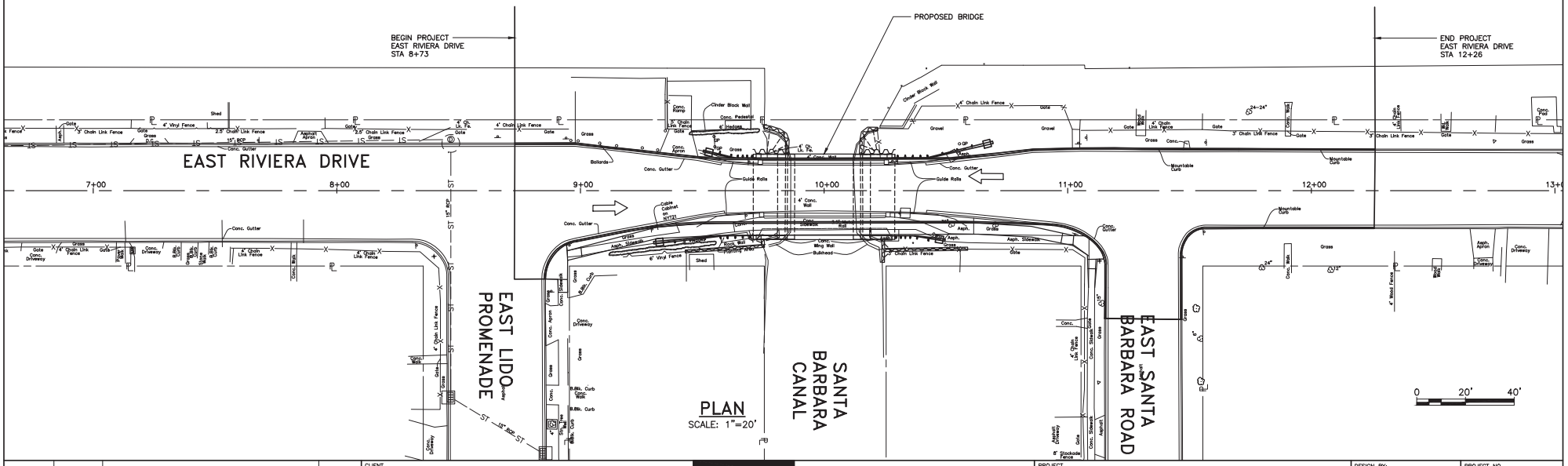
DESIGN BY: GG
DRAWN BY: DMM
CHECKED BY: WTC
DATE: 8/2016
SCALE: N.T.S.

PROJECT NO. 5423–01
DRAWING NO. SN–1

File Name: I:\projects\5423 00 american venice bridges\cadd\sheets\structural\notes.dwg
Plot Date: 8/30/2016 4:52 PM
Plotted By: Margolin, Daniel



GRANDE CANAL



PLAN
SCALE: 1"=20'

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TOWN OF BABYLON
LINDENHURST, NY

LKB CONSULTING ENGINEERS

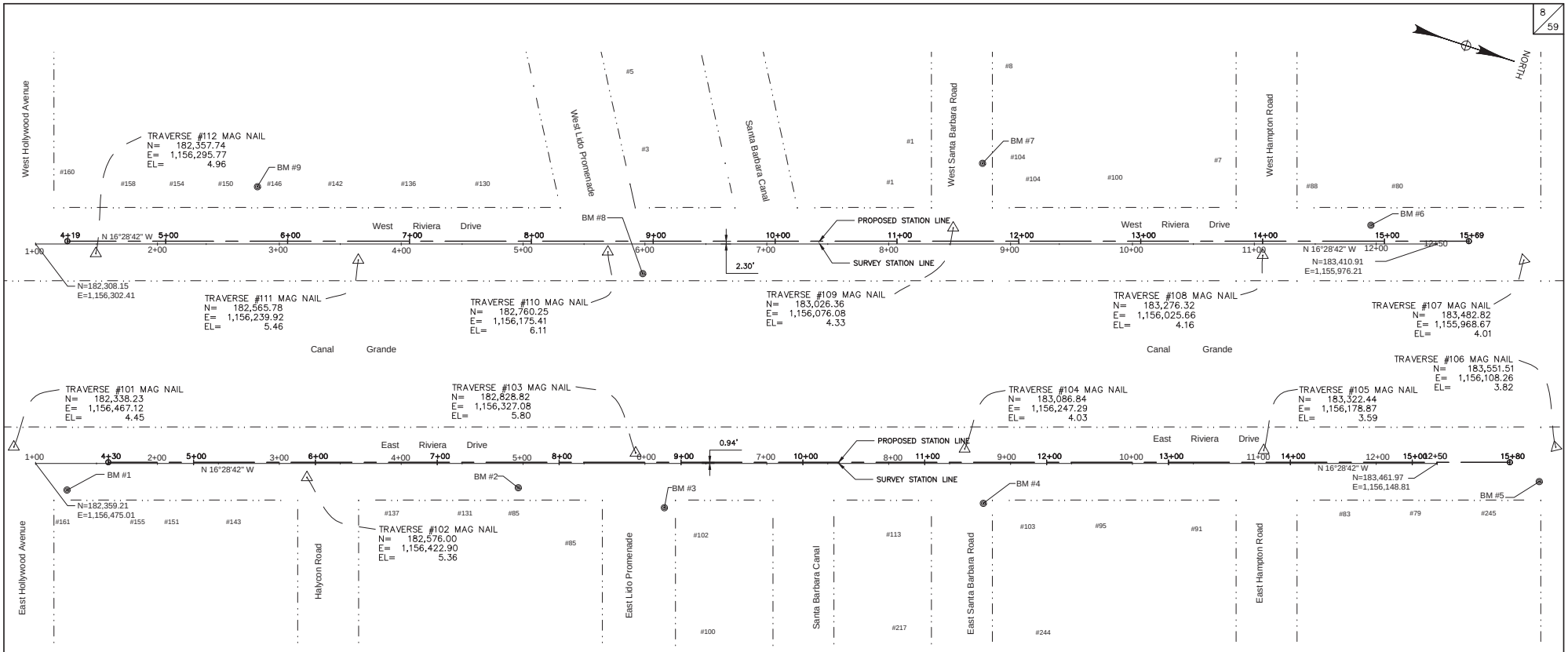
LOCKWOOD, KESSLER & BARTLETT, INC.
CONSULTING ENGINEERS SINCE 1889 SYOSSET, NEW YORK

PROJECT NAME: AMERICAN VENICE BRIDGES

GENERAL PROJECT PLAN

DESIGN BY:	DMM
DRAWN BY:	DMM
CHECKED BY:	WTC
DATE:	8/2016
SCALE:	1:20
PROJECT NO.	5423-01
DRAWING NO.	GPP-1

File Name: I:\projects\5423 00 american venice bridges\cadd\sheets\structural\general project plan.dwg
Plot Date: 8/30/2016 4:53 PM
Plotted By: Margolin, Daniel



SURVEY MAP

SCALE: 1"=40'

NOTES:

1. CONTRACTOR TO ESTABLISH NEW BASELINE TIES AND BENCH MARKS TO REPLACE THOSE THAT WILL BE LOST DURING CONSTRUCTION.
2. THE PROPOSED STATION LINE IS AN ARBITRARY LINE PARALLEL TO THE SURVEY STATION LINE AND OFFSET BY THE DISTANCE SHOWN ON THE PLANS. THE CONSTRUCTION STATION LINE GOES THROUGH THE PROPOSED CENTERLINE OF THE ROADWAY OVER THE BRIDGE WITH ℄ BRIDGE = 10+00.00. ALL OTHER STATIONS ARE APPROXIMATE AND BASED OFF OF THIS STARTING POINT USING EXISTING PLANS SUPPLEMENTED BY FIELD MEASUREMENTS. THE CONTRACTOR SHOULD FIELD VERIFY ALL DIMENSIONS AND STATIONS.
3. ALL SURVEY WORK REQUIRED TO STAKE OUT THE BRIDGES FOR HORIZONTAL AND VERTICAL CONTROL AND TO CONSTRUCT THE BRIDGES SHALL BE INCLUDED IN ITEM 625.01 SURVEY OPERATIONS.

0 40' 80'

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TOWN OF BABYLON
LINDENHURST, NY

LKB CONSULTING ENGINEERS

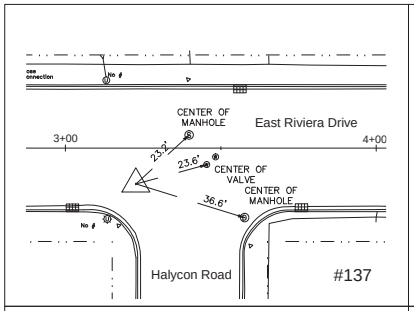
LOCKWOOD, KESSLER & BARTLETT, INC.
CONSULTING ENGINEERS SINCE 1889 SYOSSET, NEW YORK

PROJECT NAME: AMERICAN VENICE BRIDGES

SURVEY CONTROL PLAN

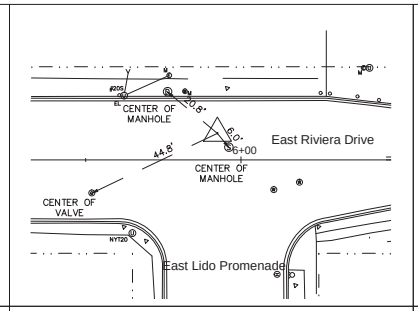
DESIGN BY:	DMM
DRAWN BY:	DMM
CHECKED BY:	WTC
DATE:	8/2016
SCALE:	1"=40'
PROJECT NO.	5423-01
DRAWING NO.	SCP-1

File Name: I:\projects\5423 00 american venice bridges\cadd\sheets\structural\survey control points plan.dwg
Plot Date: 8/30/2016 4:54 PM
Plotted By: Margolin, Daniel



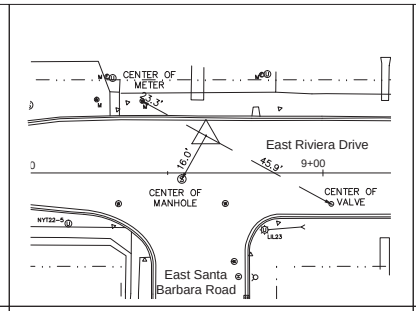
102 NORTH 182,576.00 EAST 1,156,422.90 ELEV. 5.36

MAG NAIL IN APHALT OF EAST RIVIERA DRIVE AT INTERSECTION OF EAST RIVIERA DRIVE AND HALYCON ROAD.



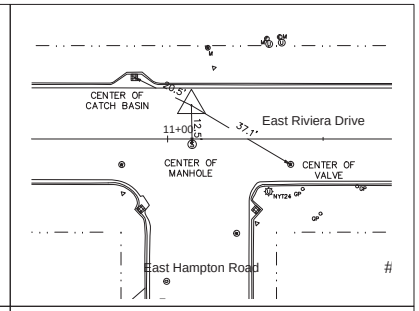
103 NORTH 182,828.82 EAST 1,156,327.08 ELEV. 5.80

MAG NAIL IN APHALT OF EAST RIVIERA DRIVE AT INTERSECTION OF EAST RIVIERA DRIVE AND EAST LIDO PROMENADE.



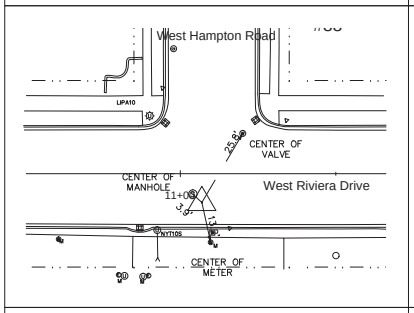
104 NORTH 183,086.84 EAST 1,156,247.29 ELEV. 4.03

MAG NAIL IN APHALT OF EAST RIVIERA DRIVE AT INTERSECTION OF EAST RIVIERA DRIVE AND EAST SANTA BARBARA ROAD.



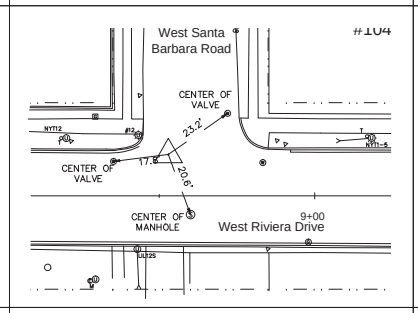
105 NORTH 183,322.44 EAST 1,156,178.87 ELEV. 3.59

MAG NAIL IN APHALT OF EAST RIVIERA DRIVE AT INTERSECTION OF EAST RIVIERA DRIVE AND EAST HAMPTON ROAD.



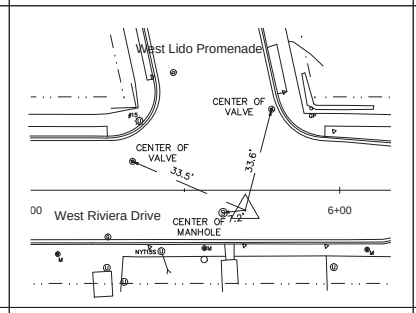
108 NORTH 183,276.32 EAST 1,156,025.66 ELEV. 4.16

MAG NAIL IN APHALT OF WEST RIVIERA DRIVE AT INTERSECTION OF WEST RIVIERA DRIVE AND WEST HAMPTON ROAD.



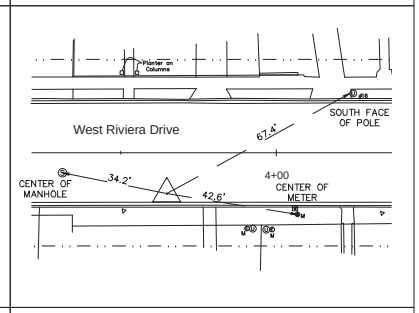
109 NORTH 183,026.36 EAST 1,156,076.08 ELEV. 4.33

MAG NAIL IN ROAD AT SOUTHWEST CORNER OF WEST RIVIERA DRIVE AND WEST SANTA BARBARA ROAD.



110 NORTH 182,760.25 EAST 1,156,175.41 ELEV. 6.11

MAG NAIL IN APHALT OF WEST RIVIERA DRIVE, AT INTERSECTION OF WEST RIVIERA DRIVE AND WEST LIDO PROMENADE.



111 NORTH 182,565.78 EAST 1,156,239.92 ELEV. 5.46

MAG NAIL IN APHALT OF WEST RIVIERA DRIVE, 200' SOUTH OF WEST LIDO PROMENADE.

BM #	Elev.	Description
1	6.82	"E" in "OPEN" on top of fire hydrant bonnet, 19' north of the curbline of East Hollywood Road, Northeast corner of East Hollywood Road and East Riviera Drive.
2	5.81	Box cut in curb on the east side of East Riviera Drive. 75 ' from south curbline of East Lido Promenade. In front of side yard of 85 East Lido Promenade.
3	8.61	X-Cut on fire hydrant bottom on the north side of East Lido Promenade. 17' from east curbline of East Riviera Drive. In front of 102 East Lido Promenade.
4	4.85	X-Cut on fire hydrant on the north side of East Santa Barbara Road. 19' from the east curbline of East Riviera Drive. In front of side yard of house 103 East Riviera Drive.
5	3.83	Box cut in curb on the east side of East Riviera Drive. 13' south of curbline of East Granada Avenue. In front of side yard of 245 East Granada Avenue.
6	3.97	Box cut in curb on the west side of West Riviera Drive. 73' north of the north curbline of West Hampton Road. In front of 88 West Riviera Drive.
7	7.08	"E" in "OPEN" on top of fire hydrant bonnet, north side of West Santa Barbara Road, 52' west of curbline of West Riviera Drive, in front of side yard 104 West Riviera Drive.
8	7.30	60D Spike in utility pole on the east side of West Riviera Drive. 18' north of the north curbline of West Lido Promenade.
9	7.29	Northeast corner of bottom step at house #150 West Riviera Drive. 135' north of the north curbline of West Hollywood Avenue.

0 20' 40'

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TOWN OF BABYLON
LINDENHURST, NY

LKB CONSULTING ENGINEERS

LOCKWOOD, KESSLER & BARTLETT, INC.
CONSULTING ENGINEERS SINCE 1889 SYOSSET, NEW YORK

PROJECT NAME: AMERICAN VENICE BRIDGES

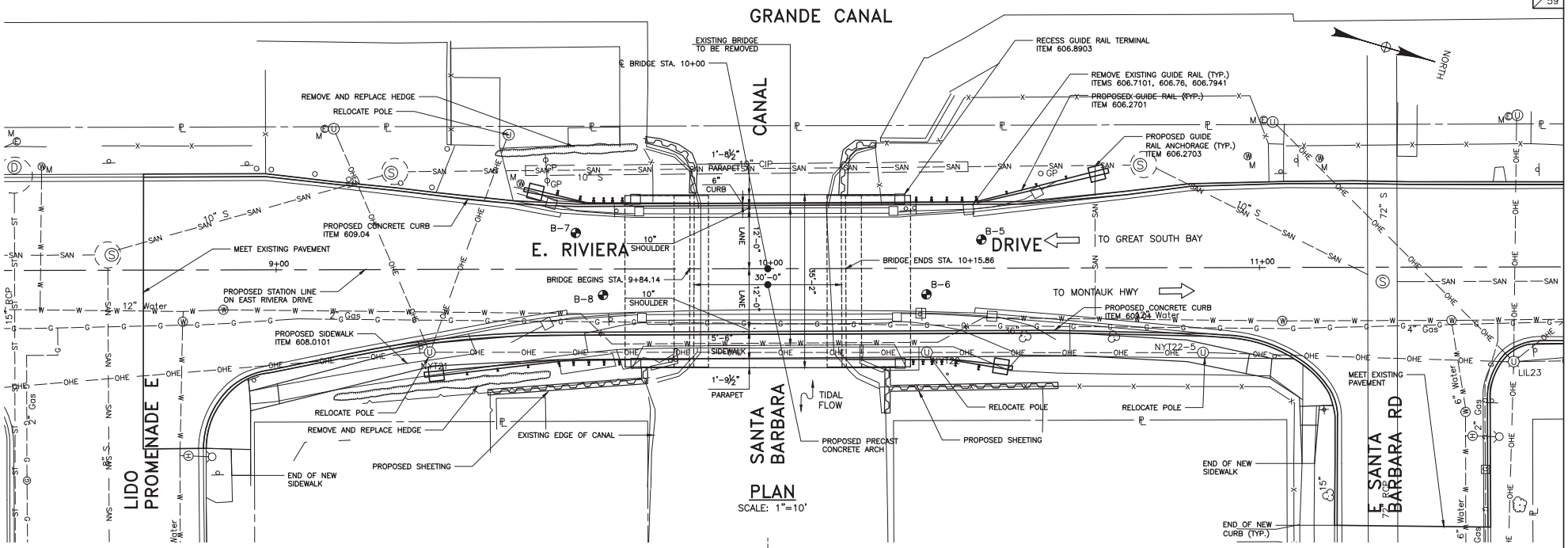
TRAVERSE TIES AND BENCHMARKS PLAN

DESIGN BY: DMM
DRAWN BY: DMM
CHECKED BY: WTC
DATE: 8/2016
SCALE: 1"=20'

PROJECT NO. 5423-01

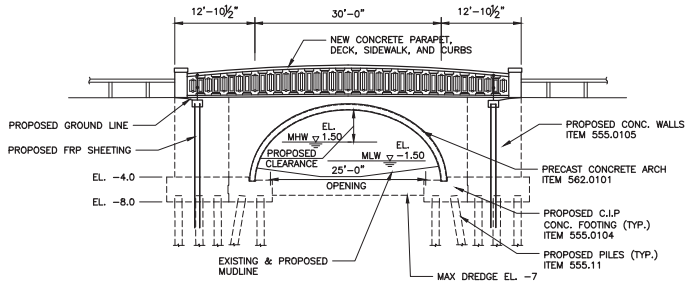
DRAWING NO. TBP-1

File Name: I:\projects\5423 00 american venice bridges\cadd\sheets\structural\survey control points plan.dwg
Plot Date: 8/30/2016 4:54 PM
Plotted By: Margolin, Daniel



PLAN

SCALE: 1"=10'



ELEVATION

SCALE: 1"=10'

NOTES:

1. FOR SOIL BORINGS, SEE PROJECT MANUAL.
2. SEE DRAWING NO. GPP-1 FOR NEW PAVEMENT LIMITS.
3. FULL DEPTH PAVEMENT REPLACEMENT SHALL BE DONE FOR THE FULL EXTENT OF THE PROJECT EXCEPT FOR THE FINAL FIVE FEET AT ENDS WHERE THE THE ASPHALT SHALL BE MILLED AND AN OVERLAY ADDED.

LEGEND:

DIRECTION OF TRAFFIC

SOIL BORING

0 10' 20'

REV.	DATE	REMARKS	BY
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CLIENT: TOWN OF BABYLON, LINDENHURST, NY

LKB CONSULTING ENGINEERS — LOCKWOOD, KESSLER & BARTLETT, INC. CONSULTING ENGINEERS SINCE 1889 SYOSSET, NEW YORK

PROJECT NAME: AMERICAN VENICE BRIDGES

BRIDGE PLAN AND ELEVATION EAST RIVIERA DRIVE

DESIGN BY: DMM
DRAWN BY: DMM
CHECKED BY: WTC
DATE: 8/2016
SCALE: 1:10

PROJECT NO. 5423-01
DRAWING NO. BPE-E1

File Name: I:\projects\5423 00 american venice bridges\cadd\sheets\structural\bridge plan, elevation and section.dwg
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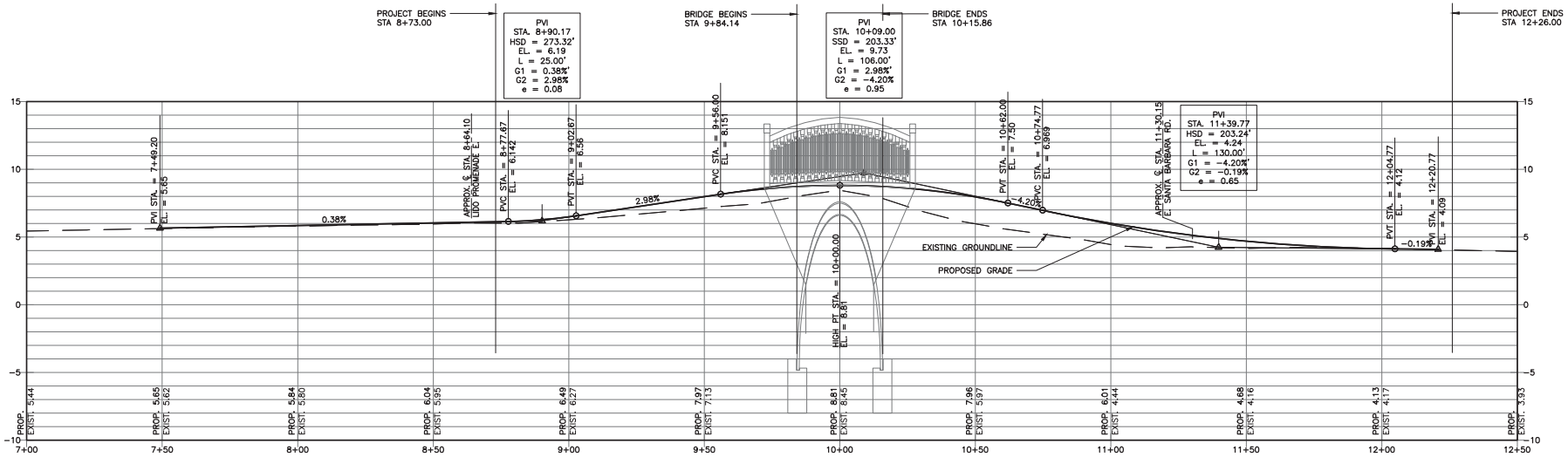
Plotted By: Margolin, Daniel



STATIONLINE PROFILE

HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE: 1"=4'

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TOWN OF BABYLON
LINDENHURST, NY

LKB CONSULTING ENGINEERS

LOCKWOOD, KESSLER & BARTLETT, INC.
CONSULTING ENGINEERS SINCE 1889 SYOSSET, NEW YORK

PROJECT NAME: AMERICAN VENICE BRIDGES

PROFILE EAST RIVIERA DRIVE

DESIGN BY: MR
DRAWN BY: EZ
CHECKED BY: WTC
DATE: 8/2016
SCALE: AS SHOWN

PROJECT NO. 5423-01

DRAWING NO. P-E1

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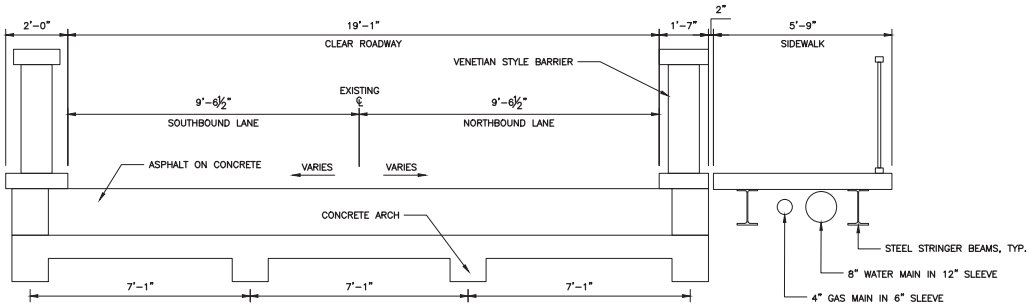
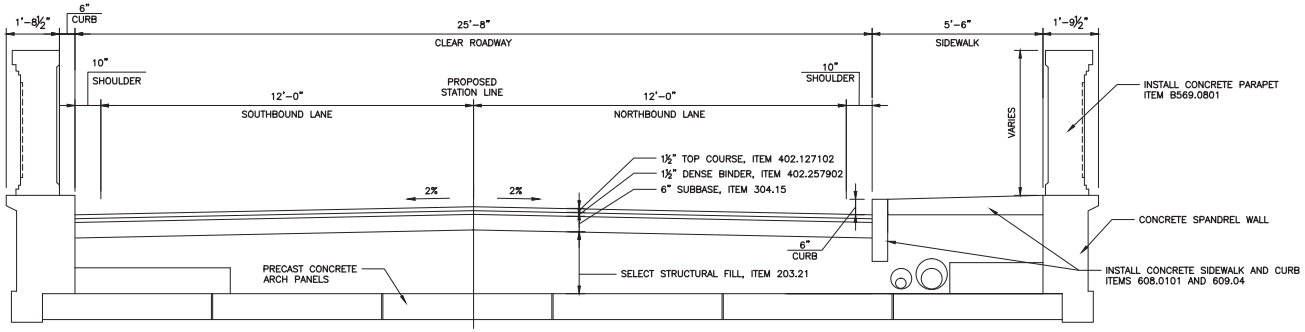
Plotted By: Margolin, Daniel



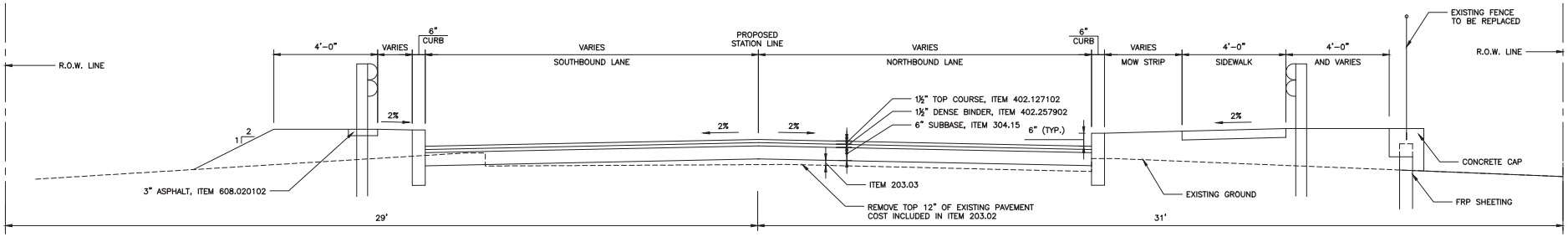
EXISTING BRIDGE SECTION

SCALE: ½"=1'-0"



PROPOSED BRIDGE SECTION

SCALE: ½"=1'-0"



TYPICAL APPROACH SECTION

SCALE: ½"=1'-0"

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TOWN OF BABYLON
LINDENHURST, NY

LKB CONSULTING ENGINEERS

LOCKWOOD, KESSLER & BARTLETT, INC.
CONSULTING ENGINEERS SINCE 1889 SYOSSET, NEW YORK

PROJECT NAME: AMERICAN VENICE BRIDGES

TYPICAL SECTIONS
EAST RIVIERA DRIVE

DESIGN BY: DMM
DRAWN BY: DMM
CHECKED BY: WTC
DATE: 8/2016
SCALE: AS SHOWN

PROJECT NO. 5423-01

DRAWING NO. TS-E1

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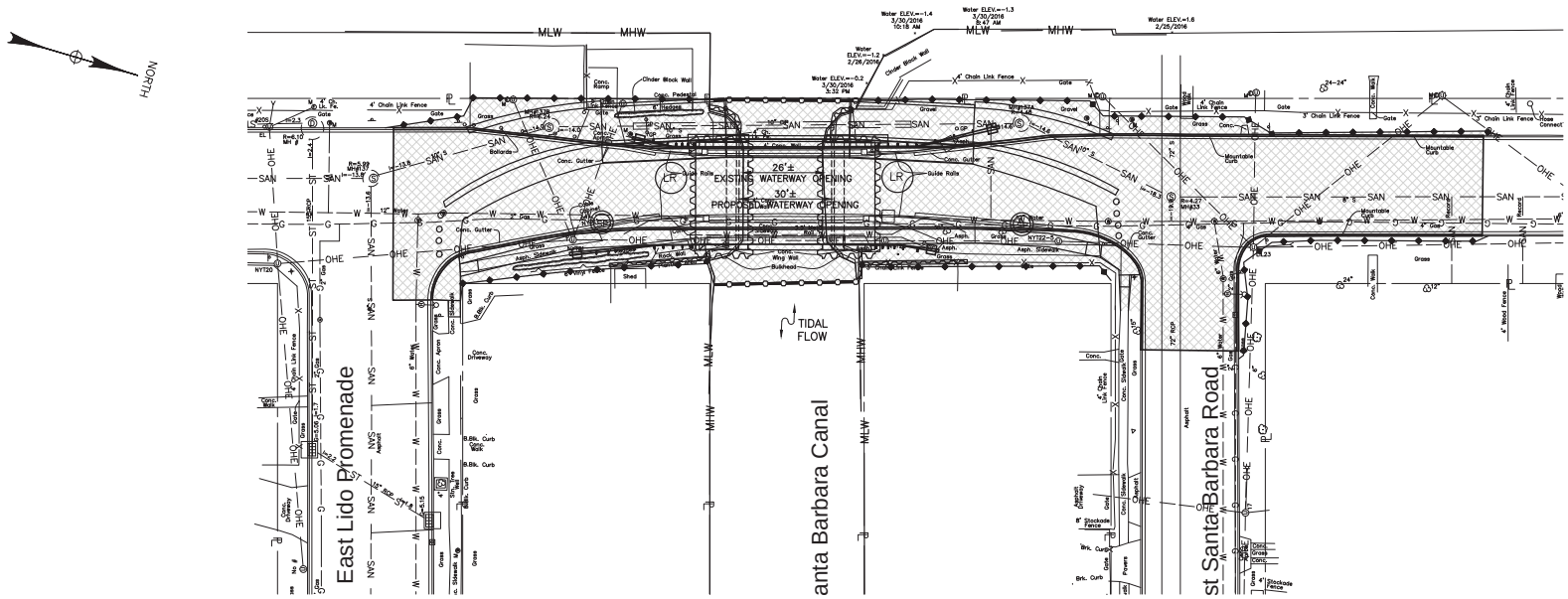
Plot Date: 8/30/2016 4:55 PM
Plotted By: Margolin, Daniel



PLAN

SCALE: 1"=20'

LEGEND:

—— MHW ——	MEAN HIGH WATER
—— MLW ——	MEAN LOW WATER
	LIMIT OF ROADWAY DISTURBANCE
	SILT FENCE, ITEM 209.13
	TURBIDITY CURTAIN, ITEM 209.1501
(SP)	STOCKPILE
(LR)	LEACHING RING, ITEM 209.30000010

0 20' 40'

REV.	DATE	REMARKS	BY
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TOWN OF BABYLON
LINDENHURST, NY

LKB CONSULTING ENGINEERS

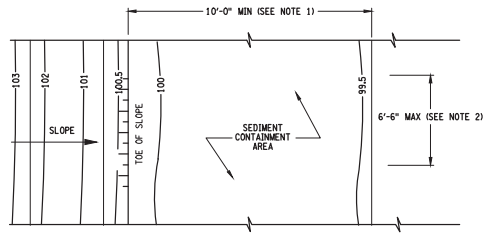
LOCKWOOD, KESSLER & BARTLETT, INC.
CONSULTING ENGINEERS SINCE 1889 SYOSSET, NEW YORK

PROJECT NAME: AMERICAN VENICE BRIDGES

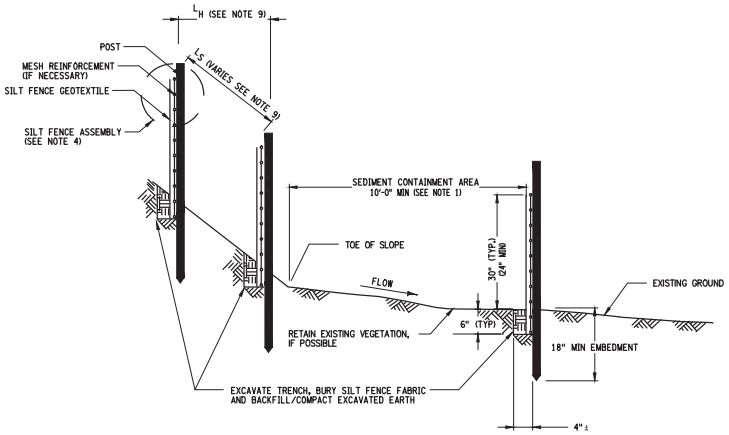
SOIL EROSION
CONTROL PLAN
EAST RIVIERA DRIVE

DESIGN BY:	DMM
DRAWN BY:	DMM
CHECKED BY:	WTC
DATE:	8/2016
SCALE:	1:20
PROJECT NO.	5423-01
DRAWING NO.	SEC-E1

File Name: I:\projects\5423 00 american venice bridges\cadd\sheets\structural\soil erosion control plan.dwg
Plot Date: 8/30/2016 4:56 PM
Plotted By: Margolin, Daniel



PLAN



SECTION

SILT FENCE – TEMPORARY

ITEM 209.13
N.T.S.

SILT FENCE NOTES:

APPLICATION NOTES:

A. THE PRIMARY PURPOSE OF A SILT FENCE OR HAYBALE/STRAWBALE DIKE IS TO REDUCE RUNOFF VELOCITY AND TRAP SEDIMENT. VELOCITY IS REDUCED, WATER IS IMPOUNDED BEHIND THE MEASURE, AND SEDIMENT FALLS OUT OF SUSPENSION.

B. STRAWBALE DIKES ARE USED IN SENSITIVE AREAS WHERE CONTROL OF WEEDS AND INVASIVE PLANT SPECIES IS DESIRED.

C. SILT FENCE OR HAYBALE/STRAWBALE DIKE SHALL BE INSTALLED ON A LINE OF EQUAL ELEVATION (CONTOUR). THEY MAY BE INSTALLED AT INTERMEDIATE POINTS UP SLOPES AS WELL AS AT THE BOTTOM, AS SHOWN IN THE DETAIL.

D. HAYBALE/STRAWBALE DIKE OR SILT FENCE SHALL NOT BE USED IN OR ACROSS A FLOWING NATURAL CHANNEL.

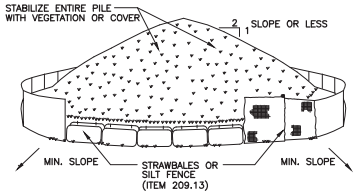
GENERAL NOTES:

1. SILT FENCE OR HAYBALE/STRAWBALE DIKE SHALL BE PLACED A MINIMUM OF 10'-0" FROM TOE OF SLOPE, TO PROVIDE ADEQUATE AREA FOR SEDIMENT STORAGE AND FACILITATE MAINTENANCE OF SEDIMENT CONTAINMENT AREA.
2. POSTS MAY BE 1¾"x1¾" (MINIMUM) HARDWOOD, 1½"x3½" (MINIMUM) SOFTWOOD, OR 1.3lb/ft (MIN) STEEL. SPACING FOR THE PROVIDED SILT FENCE SHALL BE AS DESIGNATED ON THE DEPARTMENT APPROVED LIST FOR SILT FENCE.
3. BALES FOR DIKE SHALL BE INSTALLED WITH CUT ENDS VERTICAL, AND BALES BURIED A MINIMUM OF 4 in.
4. APPROVED SILT FENCE ASSEMBLIES ARE LISTED ON THE DEPARTMENT APPROVED LIST. ASSEMBLIES MAY HAVE 4'-0" OR 6'-6" POST SPACING, AND MAY OR MAY NOT HAVE MESH REINFORCEMENT, AS PER APPROVED LIST.
5. THE BOTTOM EDGE OF SILT FENCE SHALL BE BURIED A MINIMUM OF 6 in BELOW GROUND. THE FENCE SHALL BE INSTALLED WITH THE POSTS ON THE DOWNSTREAM SIDE OF THE FABRIC.
6. MEASURES SHALL BE INSPECTED EVERY SEVEN (7) CALENDAR DAYS, AFTER EACH RAINFALL OF ½" OR MORE WITHIN A 12 HOUR PERIOD, OR DAILY DURING PROLONGED RAINFALL. MEASURES SHALL BE CLEANED AND REPAIRED AS REQUIRED.
7. SEDIMENT SHALL BE REMOVED WHEN ACCUMULATION REACHES ONE-HALF OF THE MEASURE HEIGHT. SEDIMENT SHALL BE DISPOSED OF AS UNSUITABLE MATERIAL.
8. DRAINAGE AREAS:
   MAXIMUM DRAINAGE AREA TRIBUTARY TO 100'-0" OF SILT FENCE SHALL BE ¼ ACRE.
   MAXIMUM DRAINAGE AREA TRIBUTARY TO 100'-0" OF HAYBALE DIKE SHALL BE ¼ ACRE.
9. THE FOLLOWING ARE MAXIMUM SLOPE LENGTHS TO THESE MEASURES:

SILT FENCE SLOPE	SLOPE LENGTH L_S (FT)	HORIZ LENGTH L_H (FT)
2:1	25	22
3:1	50	47
4:1	75	73
5:1	100	98
> 5:1	100	98

HAYBALE DIKE SLOPE	SLOPE LENGTH L_S (FT)	HORIZ LENGTH L_H (FT)
2:1	25	22
3:1	50	47
4:1	75	73
5:1	100	98
> 5:1	100	98

10. INSTALLATION, I.E. EXCAVATION, BACKFILL, COMPACTION, HAYBALE/STRAWBALE DIKES AND SILT FENCE SHALL BE INCLUDED IN UNIT PRICE BID FOR ITEM.



INSTALLATION NOTES

1. AREA CHOSEN FOR STOCKPILING OPERATIONS SHALL BE DRY AND STABLE.
2. MAXIMUM SLOPE OF STOCKPILE SHALL BE 1:2.
3. UPON COMPLETION OF SOIL STOCKPILING, EACH PILE SHALL BE SURROUNDED WITH EITHER SILT FENCING OR STRAWBALES, THEN STABILIZED WITH VEGETATION OR COVERED.
4. SEE DETAIL (THIS SHEET) FOR INSTALLATION OF SILT FENCE.

SOIL STOCKPILING

NTS

NOTES:

1. THE CONTRACTOR SHALL COMPLY WITH ALL PROVISIONS OF THE APPLICABLE DEPARTMENT OF ENVIRONMENTAL CONSERVATION WATER QUALITY CERTIFICATION AND/OR FRESHWATER WETLANDS PERMIT.
2. ALL STREAM CHANNEL WORK SHALL BE LIMITED TO WITHIN THE DESIGNATED RIGHT-OF-WAY.
3. ALL NECESSARY PRECAUTIONS SHALL BE TAKEN TO PREVENT CONTAMINATION OF THE STREAMS BY SILT, SEDIMENT, FUELS, SOLVENTS, LUBRICANTS, EPOXY COATINGS, CONCRETE LEACHATE, OR ANY OTHER POLLUTANT ASSOCIATED WITH CONSTRUCTION AND CONSTRUCTION PROCEDURES.
4. DURING CONSTRUCTION, NO WET OR FRESH CONCRETE OR LEACHATE SHALL BE ALLOWED TO ESCAPE INTO THE WATERS OF NEW YORK STATE, NOR SHALL WASHINGS FROM CONCRETE TRUCKS, MIXERS, OR OTHER DEVICES BE ALLOWED TO ENTER ANY WETLANDS OR WATERS.
5. ANY DEBRIS OR EXCESS MATERIALS FROM CONSTRUCTION OF THIS PROJECT SHALL BE IMMEDIATELY AND COMPLETELY REMOVED FROM THE BED AND BANKS OF ALL WATER AREAS TO AN APPROPRIATE UPLAND AREA FOR DISPOSAL.
6. ALL DREDGED AND EXCAVATED MATERIAL SHALL BE DISPOSED OF ON AN UPLAND SITE AND BE SUITABLY STABILIZED SO THAT IT CANNOT REASONABLY RE-ENTER ANY WATER BODY OR WETLAND AREA.
7. ALL AREAS OF SOIL DISTURBANCE RESULTING FROM THIS PROJECT SHALL BE SEEDED WITH A SPECIFIED PERENNIAL GRASS SEED AND MULCHED WITH HAY OR STRAW WITHIN 14 DAYS OF FINAL GRADING. IF CONSTRUCTION ACTIVITIES ARE DISCONTINUED IN AREAS OF SOIL DISTURBANCE BEFORE FINAL GRADING IS COMPLETE, TEMPORARY GRADING SHALL ALSO BE SEEDED AND MULCHED WITHIN 14 DAYS UNLESS THE CONTRACTOR PLANS TO RESUME WORK IN THAT AREA WITHIN 21 DAYS FROM WHEN ACTIVITIES TEMPORARILY CEASED. MULCH SHALL BE MAINTAINED UNTIL A SUITABLE VEGETATIVE COVER IS ESTABLISHED.
8. GEOTEXTILE SHALL SATISFY THE REQUIREMENTS OF SECTION 207-02 OF THE STANDARD SPECIFICATIONS. SILT FENCE, ITEM 209.13, WILL ONLY BE PAID FOR LOCATIONS SHOWN IN PLANS AND/OR TABLES.
9. PERIODIC CLEANING OF TEMPORARY SOIL EROSION AND WATER POLLUTION CONTROL DEVICES MAY BE NECESSARY, A.O.B.E. THE COST OF CLEANING AND REMOVING TEMPORARY SOIL EROSION AND WATER POLLUTION CONTROL DEVICES SHALL BE PAID FOR UNDER THE APPROPRIATE ITEM USED FOR THE INSTALLATION OF THE DEVICE.
10. SILT FENCE SHALL BE PLACED PRIOR TO STARTING EARTHWORK OPERATIONS AND SHALL REMAIN IN PLACE UNTIL THE NEW SLOPES ARE STABILIZED WITH SEEDING AND/OR SLOPE PROTECTION, A.O.B.E.
11. TEMPORARY INLET PROTECTION SHALL BE USED FOR OFF-ROADWAY DROP INLETS. THIS CONTROL SHALL REMAIN IN PLACE UNTIL THE LOPES DRAINING TO THE DROP INLET HAVE BEEN STABILIZED BY EITHER PAVING, SEEDING, OR SLOPE PROTECTION, A.O.B.E.
12. IN THE EVENT DEWATERING OPERATIONS BECOME NECESSARY, A SETTLING BASIN WILL BE REQUIRED UNLESS THE PUMP DISCHARGES AS CLEAR AND FREE OF SEDIMENT AS THE FLOWING STREAM. LOCATION AND DESIGN TO BE APPROVED, A.O.B.E.
13. RING ANY TEMPORARY STOCKPILES OF TOPSOIL (OR FILL) WITH SILT FENCE TO PREVENT EROSION OF THE PILE. PILES EXPOSED FOR LONGER THAN ONE MONTH SHALL BE STABILIZED WITH A TEMPORARY SEEDING OR GROUND COVER.
14. ALL SEDIMENT SHALL BE PREVENTED FROM ENTERING STORM DRAINS, DITCHES, OR WATERCOURSES.
15. OTHER EROSION CONTROL MEASURES MAY BE REQUIRED, A.O.B.E., IN ADDITION TO SCHEMES SHOWN ON THIS SHEET.

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LKB CONSULTING ENGINEERS
LOCKWOOD, KESSLER & BARTLETT, INC.
CONSULTING ENGINEERS SINCE 1889 SYOSSET, NEW YORK

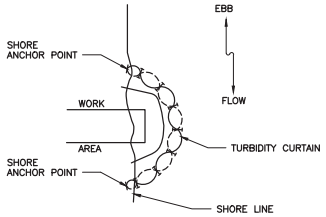
PROJECT NAME: AMERICAN VENICE BRIDGES

SOIL EROSION CONTROL DETAILS 1

DESIGN BY: DMM
DRAWN BY: DMM
CHECKED BY: WTC
DATE: 8/2016
SCALE: AS SHOWN

PROJECT NO. 5423-01
DRAWING NO. SEC-1

File Name: I:\projects\5423 00 american venice bridges\cadd\sheets\structural\soil erosion control details.dwg
Plot Date: 8/30/2016 4:56 PM
Plotted By: Margolin, Daniel

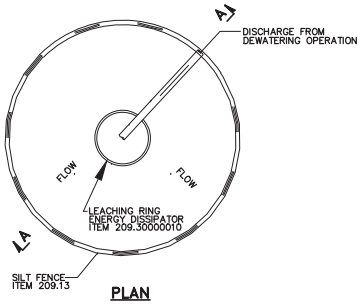


TURBIDITY CURTAIN

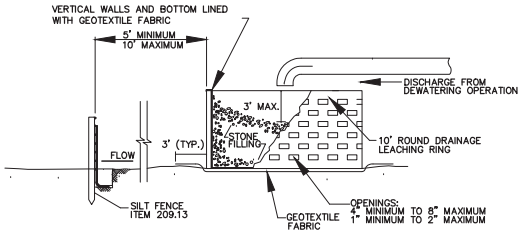
ITEM 209.1501
N.T.S.

TURBIDITY CURTAIN NOTES:

1. VERTICAL SUPPORTS SHALL BE PLACED A MAXIMUM OF 100 FEET ON CENTER TO MAINTAIN THE STRUCTURAL INTEGRITY OF THE CURTAIN, OR AS ORDERED BY THE ENGINEER.
2. TURBIDITY CURTAINS SHALL BE IN PLACE ONLY DURING ACTIVE CONSTRUCTION WORK IN THE WATER AS SHOWN ON PLANS, AND SHALL BE REMOVED IMMEDIATELY AFTER REQUIRED WORK.
3. THE TURBIDITY CURTAIN SHALL OVERLAP THE SILT FENCE A MINIMUM OF 5 FEET AS ORDERED BY THE ENGINEER AND THE COST OF SUCH WORK SHALL BE INCLUDED IN THE PRICE BID FOR ITEM 209.1501, TURBIDITY CURTAIN.
4. THE CONTRACTOR SHALL SUBMIT A PROPOSED PLAN AND/OR SCHEDULE OF OPERATION OUTLINING HOW THE WORK WILL BE ACCOMPLISHED TO THE ENGINEER PRIOR TO INSTALLATION.
5. FOR FLOW VELOCITIES > 5ft/s, INSTALL A REDIRECTION BARRIER PRIOR TO CURTAIN INSTALLATION SUCH THAT FLOW EXPANDING AT 20° FROM THE BARRIER WILL REACH THE CURTAIN AT A POINT WHERE THE CURTAIN IS ESSENTIALLY PARALLEL TO STREAM FLOW.
6. THE REDIRECTION BARRIER MAY CONSIST OF CONCRETE BARRIER, PLANKING OR OTHER MATERIAL SUCH THAT IT CAN BE QUICKLY REMOVED OR WASHED OUT IN THE EVENT OF HIGH FLOWS. IT SHOULD NOT BE SUCH THAT IT WILL REMAIN IN PLACE AND OVERTOPPED.
7. CONCENTRATED FLOW OUTLETS SUCH AS CULVERT OUTLETS, DITCHES, ETC. SHALL NOT BE LOCATED BEHIND TURBIDITY CURTAIN.
8. THE TURBIDITY CURTAIN SHALL BE PLACED AS CLOSE TO THE WORK AS POSSIBLE WITHOUT INTERFERING WITH CONSTRUCTION OPERATIONS.
9. THE CONTRACTOR SHALL CONTINUALLY MONITOR THE INSTALLATION, TAKING INTO ACCOUNT WEATHER PATTERNS AND PREVAILING WIND DIRECTIONS THAT MAY AFFECT WATER LEVELS, VELOCITY AND MOVEMENT OF THE TURBIDITY CURTAIN.
10. THE TURBIDITY CURTAIN SHALL BE REMOVED BY PULLING TOWARD THE SHORE TO MINIMIZE ESCAPE OF SEDIMENTS INTO THE WATERWAY.
11. THE WEIGHTED ANCHOR SYSTEM SHALL BE A TYPE THAT ALLOWS THE CURTAIN TO CONFORM TO THE CONTOUR OF THE BOTTOM ON THE WATERWAY.



PLAN



NOTE: THE LEACHING RING SHALL BE PLACED ON A STONE LEVELING PAD. THE COST FOR THIS STONE PAD SHALL BE INCLUDED IN THE PRICE BID FOR ITEM 209.30000010

SECTION A–A
LEACHING RING ENERGY DISSIPATOR FOR DEWATERING

PAID UNDER ITEM 209.30000010
N.T.S.

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LKB CONSULTING ENGINEERS
LOCKWOOD, KESSLER & BARTLETT, INC.
CONSULTING ENGINEERS SINCE 1889 SYOSSET, NEW YORK

PROJECT NAME: AMERICAN VENICE BRIDGES

SOIL EROSION CONTROL DETAILS 2

DESIGN BY: DMM
DRAWN BY: DMM
CHECKED BY: WTC
DATE: 8/2016
SCALE: AS SHOWN

PROJECT NO. 5423–01
DRAWING NO. SEC–2

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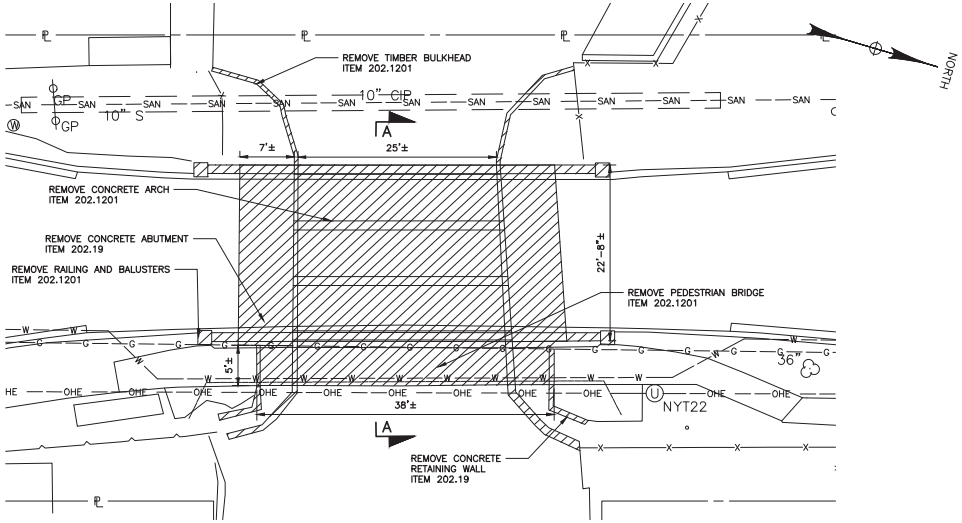
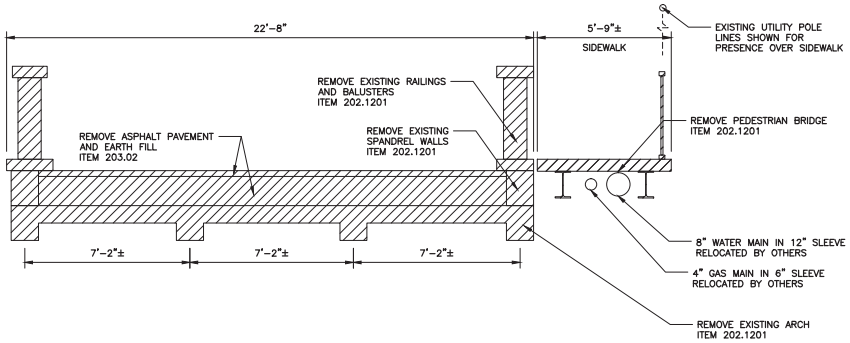
Plot Date: 8/30/2016 4:56 PM
Plotted By: Margolin, Daniel



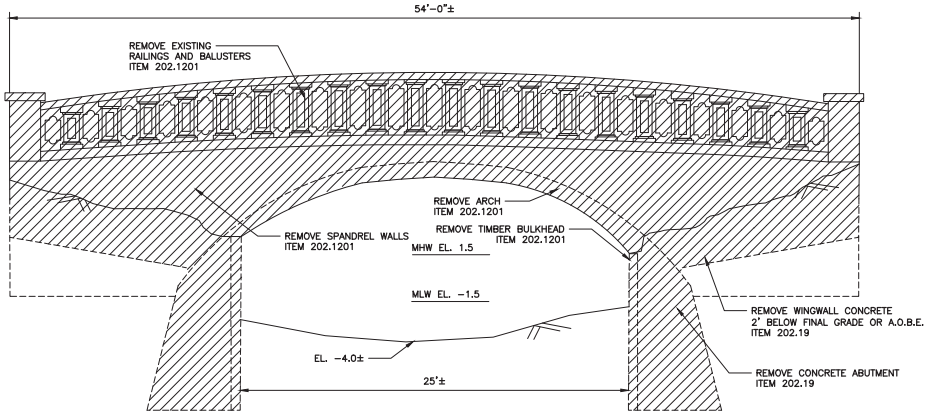
EXISTING BRIDGE PLAN

SCALE: ⅛"=1'-0"



SECTION A–A

SCALE: ⅜"=1'-0"



EXISTING ELEVATION

SCALE: ¼"=1'-0"

NOTES:

1. EXISTING SUBSTRUCTURE SHALL BE REMOVED WITHIN THE LIMITS SHOWN ON THE PLANS UNDER ITEM 202.19 IN THE BRIDGE ESTIMATE.
2. EXISTING SUPERSTRUCTURE SHALL BE REMOVED UNDER ITEM 202.1201 IN THE BRIDGE ESTIMATE.
3. ALL REMOVALS ARE TO BE COORDINATED WITH TEMPORARY SHEETING.

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PROJECT NAME: AMERICAN VENICE BRIDGES

DEMOLITION PLAN
EAST RIVIERA DRIVE

DESIGN BY:	DMM
DRAWN BY:	DMM
CHECKED BY:	WTC
DATE:	8/2016
SCALE:	AS SHOWN

PROJECT NO. 5423-01

DRAWING NO. DP-E1

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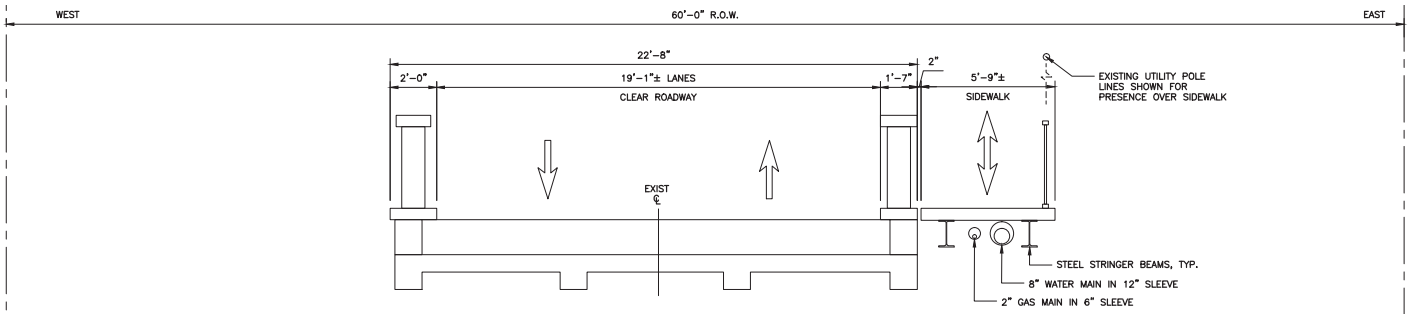
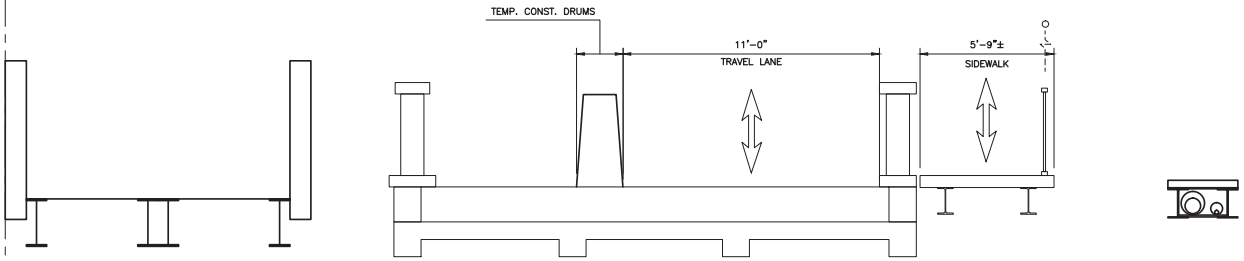
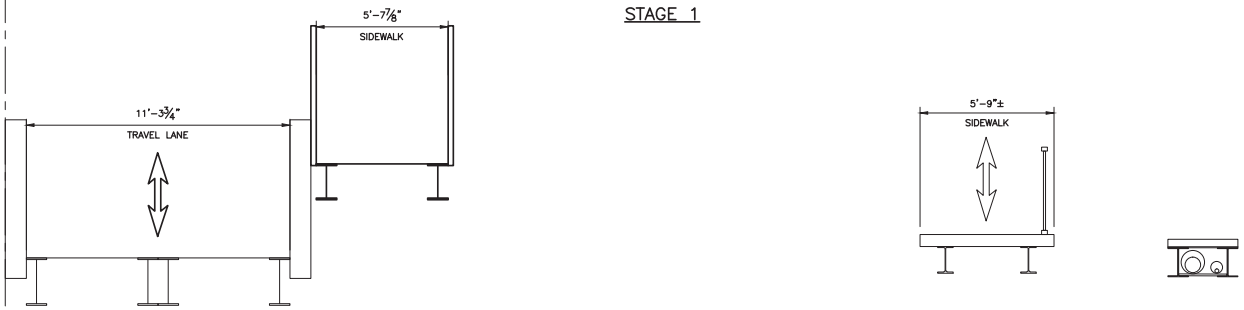
Plotted By: Margolin, Daniel



EXISTING BRIDGE SECTION



STAGE 1



STAGE 2A

SUGGESTED SEQUENCE OF CONSTRUCTION:

PRE-STAGE CONSTRUCTION:

1. ESTABLISH TEMPORARY EROSION CONTROL AS PER THE SOIL EROSION CONTROL PLAN.

NOTE: EXISTING UTILITIES ARE TO BE TEMPORARILY SUPPORTED.

STAGE 1 CONSTRUCTION:

1. INSTALL TEMPORARY TRAFFIC SIGNAL AND REALIGN PAVEMENT MARKINGS FOR ONE-LANE, TWO-WAY TRAFFIC CONTROL, AND REDIRECT TRAFFIC TO THE EAST SIDE OF BRIDGE.
2. INSTALL TEMPORARY SHEETING FOR COFFERDAM ON CANAL (WEST) SIDE AND INSTALL TEMPORARY BRIDGE SUPPORT PILES.
3. CONSTRUCT TEMPORARY VEHICULAR BRIDGE STRUCTURE.

STAGE 2A CONSTRUCTION:

1. PLACE NECESSARY ASPHALT ON THE APPROACHES. REALIGN PAVEMENT MARKINGS FOR TRAFFIC OVER THE TEMPORARY BRIDGE AND REDIRECT TRAFFIC ONTO THE TEMPORARY ROADWAY BRIDGE. PEDESTRIANS ARE TO REMAIN ON THE EXISTING SIDEWALK.
2. REMOVE EXISTING ROADWAY BRIDGE.
3. INSTALL TEMPORARY SHEETING AND PILES FOR FINAL BRIDGE THAT ARE BENEATH TEMPORARY PEDESTRIAN STRUCTURE.

   NOTE: AUGER OVERSIZED HOLES ABOVE PILES TO BOTTOM OF FOOTING ELEVATION PRIOR TO DRIVING PILES.
4. CONSTRUCT TEMPORARY PEDESTRIAN BRIDGE STRUCTURE.

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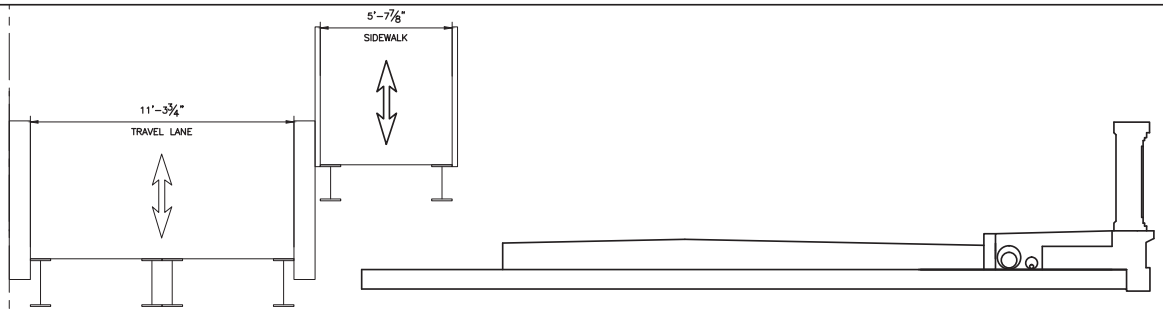
PROJECT NAME: AMERICAN VENICE BRIDGES

SUGGESTED SEQUENCE OF CONSTRUCTION 1 EAST RIVIERA DRIVE

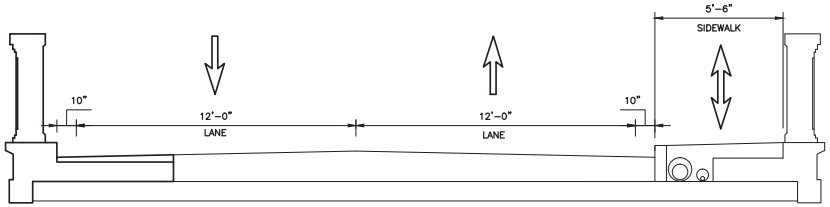
DESIGN BY: DMM
DRAWN BY: DMM
CHECKED BY: WTC
DATE: 8/2016
SCALE: 3/8"=1'-0"

PROJECT NO. 5423-01
DRAWING NO. SS-E1

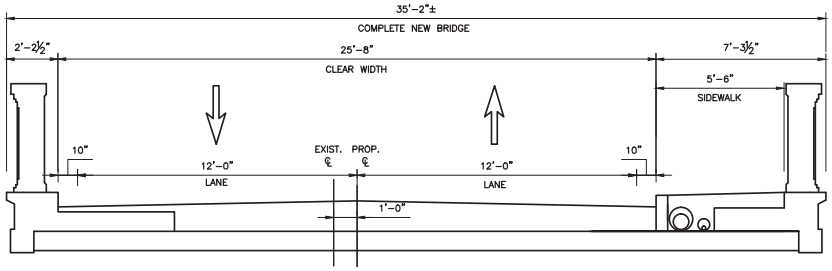
File Name: I:\projects\5423 00 american venice bridges\cadd\sheets\structural\construction sequence.dwg
Plot Date: 8/30/2016 4:57 PM
Plotted By: Margolin, Daniel



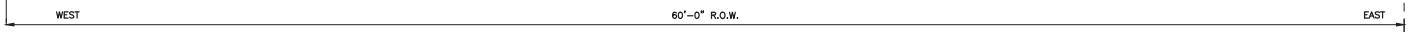
STAGE 2B



STAGE 3



PROPOSED BRIDGE SECTION



SUGGESTED SEQUENCE OF CONSTRUCTION:

STAGE 2B CONSTRUCTION:

1. REDIRECT PEDESTRIAN TRAFFIC OVER TEMPORARY PEDESTRIAN BRIDGE.
2. REMOVE EXISTING PEDESTRIAN BRIDGE STRUCTURE.
3. INSTALL REMAINING TEMPORARY SHEETING.
4. INSTALL REMAINING PILES AND FOOTINGS FOR WINGWALLS AND ABUTMENTS.
5. LEVEL AND SET PRECAST CONCRETE ARCH ON NEW FOUNDATION.
6. INSTALL CONCRETE WINGWALLS, PLACE BACKFILL MATERIAL.
7. CONSTRUCT ENTIRE ROADWAY SECTION, SIDEWALK, AND BARRIER ON RESIDENTIAL (EAST) SIDE ONLY.

STAGE 3 CONSTRUCTION:

1. REDIRECT PEDESTRIAN TRAFFIC OVER NEW SIDEWALK.
2. REMOVE TEMPORARY PEDESTRIAN BRIDGE.
3. CONSTRUCT REMAINING PARAPET AND SLAB.
4. ADD LANE STRIPING AS SHOWN ON PLANS.
5. REMOVE TEMPORARY TRAFFIC SIGNAL AND REDIRECT TWO WAY ROADWAY TRAFFIC OVER NEW BRIDGE.
6. REMOVE TEMPORARY ROADWAY BRIDGE AND RESTORE ANY DISTURBED AREAS.

REV.	DATE	REMARKS	BY
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CLIENT: TOWN OF BABYLON, LINDENHURST, NY

LKB CONSULTING ENGINEERS — LOCKWOOD, KESSLER & BARTLETT, INC. — CONSULTING ENGINEERS SINCE 1889 — SYOSSET, NEW YORK

PROJECT NAME: AMERICAN VENICE BRIDGES

SUGGESTED SEQUENCE OF CONSTRUCTION 2 EAST RIVIERA DRIVE

DESIGN BY:	DMM
DRAWN BY:	DMM
CHECKED BY:	WTC
DATE:	8/2016
SCALE:	3/8"=1'-0"
PROJECT NO.	5423-01
DRAWING NO.	SS-E2

File Name: I:\projects\5423 00 american venice bridges\cadd\sheets\structural\construction sequence.dwg
Plot Date: 8/30/2016 4:57 PM
Plotted By: Margolin, Daniel

MAINTENANCE AND PROTECTION OF TRAFFIC NOTES

A. GENERAL NOTES

1. UNLESS OTHERWISE STATED ON THE CONTRACT DOCUMENTS, PLANS OR ADVISED, NO LANE CLOSURE WILL BE ALLOWED ON WEEKENDS AND ON THE FOLLOWING DAYS
   - FROM NOON ON THE FRIDAY BEFORE MEMORIAL DAY THROUGH MEMORIAL DAY
   - FROM NOON ON THE FRIDAY BEFORE LABOR DAY THROUGH LABOR DAY
   - INDEPENDENCE DAY
   - FROM NOON THE DAY BEFORE THANKSGIVING DAY THROUGH THE SUNDAY FOLLOWING THANKSGIVING DAY
   - THE DAY BEFORE CHRISTMAS DAY AND CHRISTMAS DAY
   - THE DAY BEFORE NEW YEARS AND NEW YEARS DAY
2. WORK ZONE TRAFFIC CONTROL SCHEMES SHOWN ARE INTENDED FOR LONG DURATION WORK ZONES
3. THE MINIMUM NUMBER OF OPERABLE LANES TO BE MAINTAINED DURING WORK ARE AS FOLLOWS:
   – EAST RIVIERA DRIVE, A MINIMUM OF ONE (1) LANE IN EACH DIRECTION
   – WEST RIVIERA DRIVE, A MINIMUM OF ONE (1) LANE IN EACH DIRECTION

B. WORK ZONE TRAFFIC CONTROL GUIDELINES

4. WORK ZONE TRAFFIC CONTROL SCHEMES SHALL BE IN ACCORDANCE WITH THE PLANS, NYSDOT STANDARD SHEETS, THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS (MUTCD) AS ORDERED BY THE ENGINEER.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL WORK ZONE TRAFFIC CONTROL. WORK ZONE TRAFFIC CONTROL SHALL BE IN ACCORDANCE WITH THE PLANS, NYSDOT STANDARD SHEETS, THE MUTCD, AND AS APPROVED OR DIRECTED B Y THE ENGINEER. TRAFFIC SCHEMES AS SHOWN ON THE PLANS OR IN THE MUTCD ARE TO BE CONSIDERED MINIMUM REQUIREMENTS, THE ENGINEER MAY ORDER ADDITIONAL SIGNS, FLAGGERS, CONES, REFLECTORIZATION, ETC., IF NECESSARY, AT NO ADDITIONAL COST TO THE TOWN. PAYMENT FOR THESE ITEMS WILL BE INCLUDED IN THE ITEMS FOR WORK ZONE TRAFFIC CONTROL, AS APPROPRIATE.
6. THE CONTRACTOR MAY SUBMIT REVISIONS TO THIS PLAN FOR APPROVAL BY THE ENGINEER. THIS SHALL BE AT NO ADDITIONAL COST TO THE TOWN.
7. PRIOR TO PLACING TRAFFIC ON NEWLY CONSTRUCTED ROADS, CONSTRUCTION OF THESE ROADS ARE TO BE TOTALLY COMPLETED INCLUDING ALL ASPECTS OF THE ROADWAY AS FOLLOWS: TRAVEL LANES, PARKING LANES, SHOULDERS, CURB, SIGNS (AS INDICATED), SIGNALS, PAVEMENT MARKING, GUARDRAILS, ETC.
8. WHEN CONES ARE USED IN CONTROLLING THE MOVEMENT OF TRAFFIC THROUGH THE AREA, THE CONTRACTOR SHALL TAKE STEPS AS NECESSARY TO PREVENT THE CONES FROM BEING BLOWN OVER OR DISPLACED BY PASSING VEHICLES.
9. THE USE OF CONES WILL NOT BE PERMITTED DURING NIGHTTIME OPERATIONS.
10. THE CONTRACTOR MUST NOTIFY THE ENGINEER, THE APPROPRIATE SUFFOLK COUNTY DEPARTMENT OF PUBLIC WORKS, THE SUFFOLK COUNTY POLICE DEPARTMENT, AS WELL AS THE LOCAL FIRE DEPARTMENTS AND INFORM CENTER OF ALL DETOURS, PROPOSED STREET CLOSINGS OR ANY WORK THAT MIGHT AFFECT THE MOBILITY OR ACCESS OF THE FIRE OR POLICE DEPARTMENT 72 HOURS IN ADVANCE OF THEIR IMPLEMENTATION. IN ADDITION, THE CONTRACTOR SHALL INSURE THAT HYDRANT AND ALARM BOXES ARE KEPT CLEAR AND AVAILABLE.
11. ALONG THE DETOUR ROUTE, THE CONTRACTOR'S RESPONSIBILITY IS LIMITED TO THE PLACEMENT, MAINTENANCE AND REMOVAL OF DETOUR SIGNS AND DEVICES AND A DAILY PATROL TO MAKE SURE THAT THEY ARE IN GOOD CONDITION WHEN THE DETOUR IS NOT IN EFFECT. THE CONTRACTOR SHALL IMMEDIATELY MOVE, REMOVE OR TEMPORARILY COVER ALL DETOUR SIGNS, TO REFLECT ACTUAL CONDITIONS.
12. VARIOUS MAINTENANCE AND CONSTRUCTION SIGNS SPECIFIC IN PART 6 OF THE MUTCD ARE AVAILABLE IN THE STANDARD DIAMOND SHAPE AND AN ALTERNATE RECTANGULAR SHAPE. WHENEVER SUCH SIGNS ARE INCLUDED IN THE CONTRACT, THE DIAMOND SHAPE SIGN SHALL BE USED, DESPITE OTHER INDICATION IN CHAPTER 6F.
13. UNLESS OTHERWISE INDICATED, ALL WORK ZONE SIGNS ON THIS PROJECT SHALL BE 48" X 48". WHERE THERE IS INADEQUATE CLEARANCE FOR THAT SIGN, THE ENGINEER MAY APPROVE A SMALLER SIZE SIGN.
14. FOR WORK ZONE WARNING SIGNS MOUNTED ON CONCRETE BARRIER OR BRIDGE PARAPET, THE ENGINEER MAY ORDER A SMALLER SIZE.THE CONTRACTOR'S ATTENTION IS DIRECTED TO CHAPTER 6F.02 OF THE MUTCD WHICH REQUIRES THAT THE EXCEPTION OF RAILROAD ADVANCE WARNING SIGNS, WARNING SIGNS USED IN CONJUNCTION WITH WORK ZONE ACTIVITIES SHALL HAVE ORANGE BACKGROUNDS.
15. IN ADDITION TO THE SIGNING ON THE PLANS, THE CONTRACTOR SHALL ERECT W20–1 "ROAD WORK AHEAD" SIGNS AT INTERSECTING CROSS STREETS OR ENTERING RAMPS WITHIN THE CONTRACT LIMITS
16. WHEN THE WORK ZONE TRAFFIC CONTROLS SCHEME CALLS FOR THE ESTABLISHMENT OF A REGULATORY REDUCED SPEED ZONE, THE CONTRACTOR SHALL POST THE SPEED ZONE AHEAD SIGN IN ACCORDANCE WITH TABLE 6C–1, 6C–2, 6E–1 AND 6H–3 OF THE MUTCD AND SECTION 2B–13 OF THE SUPPLEMENT AND POST INTERMEDIATE SPEED LIMIT SIGNS IN ACCORDANCE WITH TABLE 6C–1, 6C–2, 6E–1 AND 6H–3OF THE MUTCD AND SECTION 2B.13 OF THE SUPPLEMENT. IN ADDITION, THE CONTRACTOR SHALL COMPLETELY COVER WITH OPAQUE MATERIAL ANY EXISTING SPEED RELATED SIGNS THAT WOULD CONFLICT WITH THE SPEED ZONE SIGNS BEING POSTED. ANY SUCH COVERING SHALL BE IMMEDIATELY REMOVED WHEN THE REDUCED SPEED ZONE IS NOT IN EFFECT. WORK ZONE SPEED ZONE/SPEED LIMIT SIGNS THAT ARE NOT WARRANTED, SHALL BE EITHER TEMPORARILY COVERED WITH OPAQUE MATERIAL OR REMOVED. THE COST OF THIS WORK SHALL BE INCLUDED IN THE PRICE BID FOR THE WORK ZONE TRAFFIC CONTROL ITEM.
17. EXISTING TRAFFIC SIGNS AND CONSTRUCTION SIGNS WITHIN THE WORK AREA WHICH ARE NO LONGER NEEDED, EVEN TEMPORARILY, OR ARE CONFLICTING , IN APPROPRIATE OR CONFUSING, SHALL BE REMOVED (SUBJECT TO THE APPROVAL OF THE ENGINEER) OR SHALL BE COVERED COMPLETELY WITH AN OPAQUE MATERIAL. THE COST OF THIS WORK SHALL BE INCLUDED IN THE PRICE BID OF THE WORK ZONE TRAFFIC CONTROL ITEM.
18. IN ADDITION, TO THE SIGNING REQUIRED IN THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), THE CONTRACTOR SHALL USE A FLASHING ARROW PANEL, POSITIONED AT THE BEGINNING OF TAPER FOR ALL TRAVEL LANE CLOSINGS. ONE FLASHING ARROW PANEL/BOARD WILL BE REQUIRED IN CONJUNCTION WITH THE LANE CLOSURE SHOWN IN THE MUTCD, FIGURE 6H–33 OR OTHER ARRANGEMENTS WHICH EVER IS APPLICABLE. THE FLASHING ARROW PANEL WILL NOT BE REQUIRED IN CONNECTION WITH SHOULDER CLOSINGS OR SIDE STREET LANE CLOSURES UNLESS THE ENGINEER ORDERS ITS USE.
19. ARROW PANELS USING LIGHT EMITTING DIODES (LEDS) AS THE SOLE ILLUMINATING SOURCE WILL NOT BE PERMITTED UNLESS APPROVED BY THE ENGINEER.
20. ARROW PANELS SHALL DISPLAY A FLASHING ARROW FOR LANE CLOSURES. OTHER OPERATIONAL MODES SUCH AS SEQUENTIAL CHEVRONS, SEQUENTIAL ARROWS OR STEM ARROWS, ARE EXPLICITLY PROHIBITED FOR THESE APPLICATIONS, AND SHALL NOT BE USED.
21. ARROW PANELS SHALL NOT BE USED FOR LANE SHIFTS. A LANE SHIFT IS DEFINED AS A LATERAL SHIFT IN THE TRAVEL PATH WITHOUT A REDUCTION IN NUMBER OF LANES.
22. THE LAMPS OF FLASHING ARROW PANELS SHALL BE EQUIPPED WITH AN AUTOMATIC SOLAR CELL CONTROLLED DIMMING SWITCH AND THAT THE DIMMING VOLTAGE BE MANUALLY CONTROLLABLE. AT NIGHT, FLASHING ARROW PANELS MUST NOT BE PERMITTED TO OPERATE AT SUCH BRIGHTNESS THAT SIGNS, DRUMS, IMPACT ATTENUATION DEVICES OR OTHER TRAFFIC CONTROL DEVICES NEAR THE FLASHING ARROW PANEL CANNOT EASILY BE SEEN BY APPROACHING MOTORISTS, TO ENSURE THAT FLASHING ARROW PANELS ARE NOT TOO BRIGHT FOR NIGHTTIME OPERATION. THE CONTRACTOR SHALL TAKE IMMEDIATE ACTION TO REDUCE LAMP INTENSITIES. IN ADDITION, THE CONTRACTOR SHALL PROMPTLY REDUCE THE LAMP INTENSITY OF ANY ARROW PANEL UPON BEING INFORMED BY THE ENGINEER THAT IT IS TOO BRIGHT. IN THIS CONTEXT, PROMPTLY SHALL MEAN NO LATER THAN THE BEGINNING OF THE NEXT NIGHT OF THE ARROW PANEL'S OPERATION.
23. THE ENGINEER MAY ORDER TEMPORARY ASPHALT PATCHES AS NEEDED ON THE CONTRACT. THE HOT MIX ASPHALT USED FOR THIS WORK SHOULD BE DESIGNATED BY THE ENGINEER. PAYMENT FOR TEMPORARY ASPHALT PATCHING SHALL BE PAID UNDER AN EXISTING ASPHALT ITEM IN THE CONTRACT.
24. THE CONTRACTOR SHALL SCHEDULE HIS/HER OPERATIONS TO MINIMIZE THE INTERRUPTION OF PEDESTRIAN TRAFFIC. THE SIDEWALK ON ONE SIDE OF THE ROADWAY SHALL REMAIN OPEN AND PASSABLE AT ALL TIMES. DURING THE RECONSTRUCTION OF SIDEWALKS, PEDESTRIAN SAFETY AND PROPERTY ACCESS MUST BE MAINTAINED AT ALL TIMES TO THE SATISFACTION OF THE ENGINEER. THE CONTRACTOR SHALL PLACE ALL UNDERGROUND APPURTENANCES UNDER THE SIDEWALK FIRST.

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CLIENT

TOWN OF BABYLON
LINDENHURST, NY

B. THAYER ASSOCIATES

100 Crossways Park Drive West
Suite 104
Woodbury, New York 11797
(516) 364-0660

PROJECT NAME: AMERICAN VENICE BRIDGES

WORK ZONE TRAFFIC CONTROL NOTES

DESIGN BY:	---
DRAWN BY:	---
CHECKED BY:	---
DATE:	8/2016
SCALE:	N.T.S.

PROJECT NO. 5423–01

DRAWING NO. MPT–1

File Name: I:\projects\5423 00 american venice bridges\cadd\sheets\structural\c–mpt.dwg
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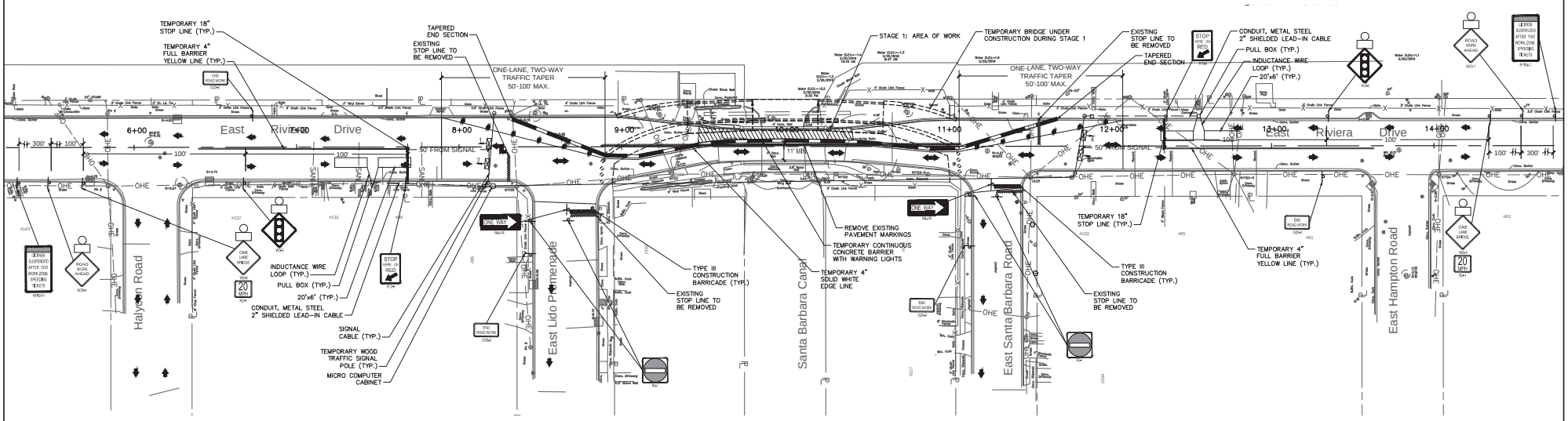
Plotted By: Mangolin, Daniel



EAST RIVIERA DRIVE
MAINTENANCE AND PROTECTION OF TRAFFIC PLAN
STAGE 1
SCALE: 1"=30'

LEGEND:

- TEMPORARY CONCRETE BARRIER
- TEMPORARY SIGN
- FLOW OF TRAFFIC
- WARNING LIGHT
- WORK ZONE
- EXISTING PAVEMENT MARKING REMOVAL
- TEMPORARY TRAFFIC SIGNAL FACE (BY OTHERS)
- CONSTRUCTION DRUM
- TYPE III BARRICADE

0 30' 60'

REV.	DATE	REMARKS	BY

CLIENT: TOWN OF BABYLON, LINDENHURST, NY

B. THAYER ASSOCIATES
100 Crossways Park Drive West
Suite 104
Woodbury, New York 11797
(516) 364-0660

PROJECT NAME: AMERICAN VENICE BRIDGES

WORK ZONE TRAFFIC CONTROL PLANS 1
EAST RIVIERA DRIVE

DESIGN BY: ---
DRAWN BY: ---
CHECKED BY: ---
DATE: 8/2016
SCALE: 1:30

PROJECT NO. 5423-01
DRAWING NO. MPT-E1

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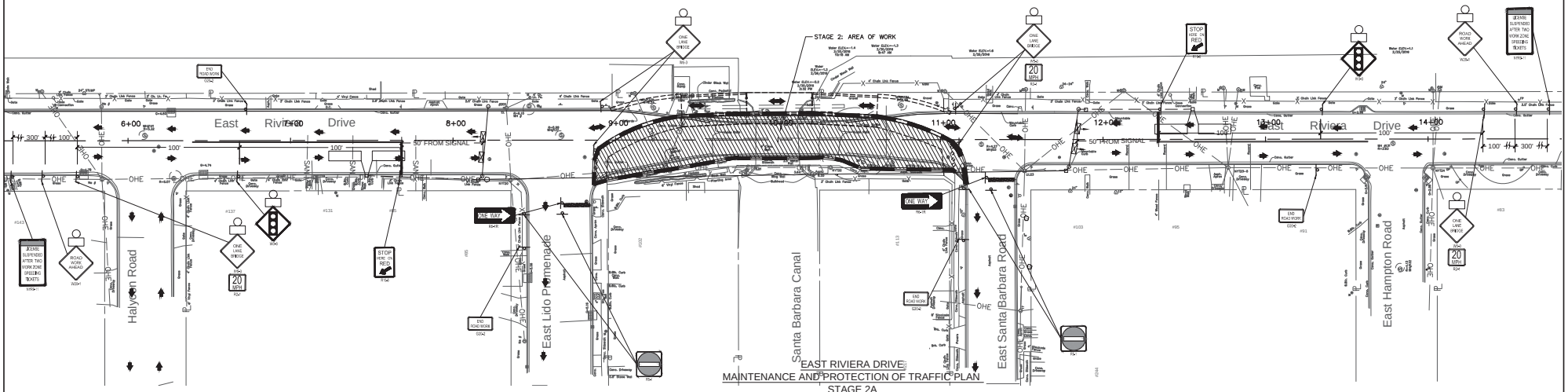
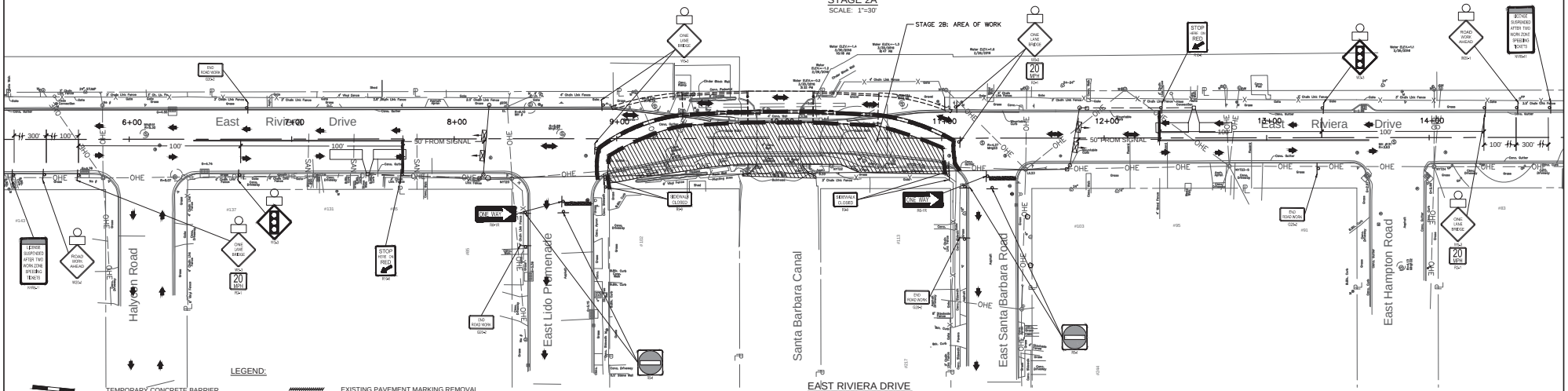
Plotted By: Margolin, Daniel



EAST RIVIERA DRIVE
MAINTENANCE AND PROTECTION OF TRAFFIC PLAN
STAGE 2A
SCALE: 1"=30'



EAST RIVIERA DRIVE
MAINTENANCE AND PROTECTION OF TRAFFIC PLAN
STAGE 2B
SCALE: 1"=30'

LEGEND:

- TEMPORARY CONCRETE BARRIER
- TEMPORARY SIGN
- FLOW OF TRAFFIC
- WARNING LIGHT
- WORK ZONE
- EXISTING PAVEMENT MARKING REMOVAL
- TEMPORARY TRAFFIC SIGNAL FACE (BY OTHERS)
- CONSTRUCTION DRUM
- TYPE III BARRICADE

0 30' 60'

REV.	DATE	REMARKS	BY

CLIENT
TOWN OF BABYLON
LINDENHURST, NY

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PROJECT NAME: AMERICAN VENICE BRIDGES

WORK ZONE TRAFFIC CONTROL PLANS 2
EAST RIVIERA DRIVE

DESIGN BY: ---
DRAWN BY: ---
CHECKED BY: ---
DATE: 8/2016
SCALE: 1:30

PROJECT NO. 5423-01
DRAWING NO. MPT-E2

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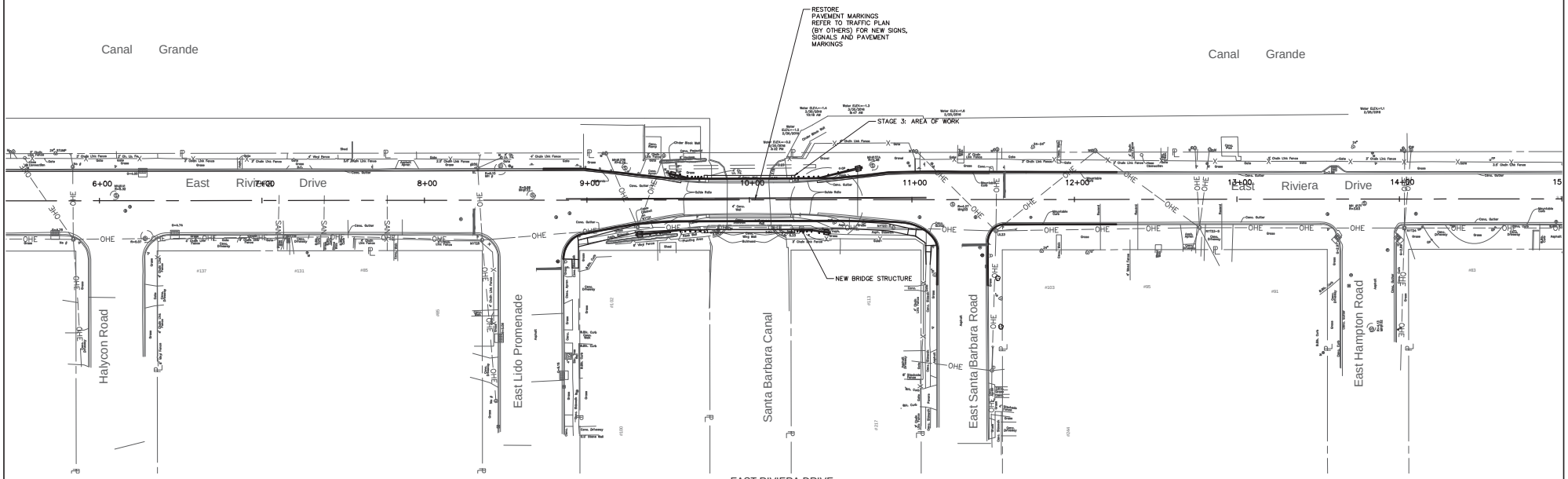
Plotted By: Margolin, Daniel



EAST RIVIERA DRIVE
MAINTENANCE AND PROTECTION OF TRAFFIC PLAN
STAGE 3
SCALE: 1"=30'

0 30' 60'

REV.	DATE	REMARKS	BY

CLIENT
TOWN OF BABYLON
LINDENHURST, NY

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Suite 104
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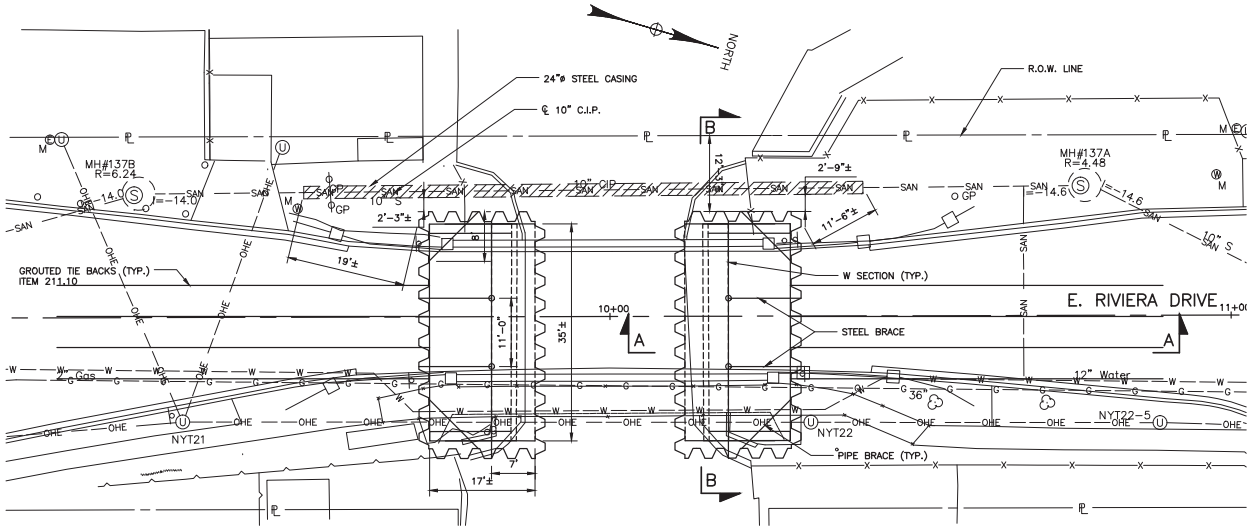
PROJECT NAME: AMERICAN VENICE BRIDGES

WORK ZONE TRAFFIC CONTROL PLANS 3
EAST RIVIERA DRIVE

DESIGN BY: ---
DRAWN BY: ---
CHECKED BY: ---
DATE: 8/2016
SCALE: 1:30

PROJECT NO. 5423-01
DRAWING NO. MPT-E3

File Name: I:\projects\5423 00 american venice bridges\cadd\sheets\structural\c-mpt.dwg
Plot Date: 8/30/2016 4:58 PM
Plotted By: Margolin, Daniel



PLAN

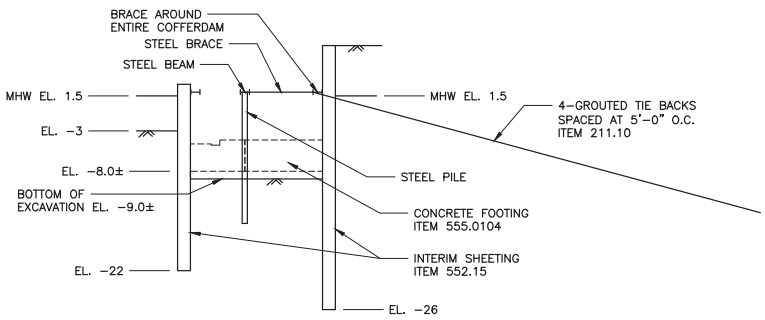
SCALE: 1"=10'

NOTES:

1. ADDITIONAL EROSION CONTROL MEASURES MAY BE REQUIRED A.O.B.E. COST TO BE INCLUDED UNDER THE APPROPRIATE ITEMS.
2. THE CONTRACTOR SHALL SUBMIT A DEWATERING PLAN TO THE ENGINEER. THE PLAN WILL FOLLOW GUIDELINES FOR DISCHARGE OF WATER.
3. CONTRACTOR MAY POUR CONCRETE FOR FOOTINGS DIRECTLY AGAINST TEMPORARY SHEETING.

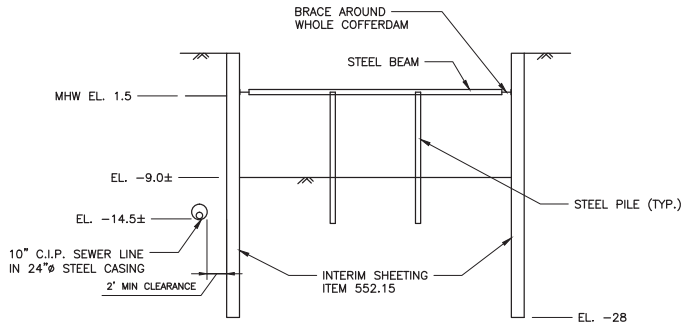
TEMPORARY SHEETING NOTES:

1. ALL COMPONENTS OF THE COFFERDAM ON THIS DRAWING SHALL BE PAID FOR UNDER ITEM 553.020001 UNLESS NOTED OTHERWISE. INTERIM SHEETING SHALL BE PAID UNDER ITEM 552.15.
2. INTERIM STEEL SHEETING SHALL HAVE A MINIMUM SECTION MODULUS OF 45 in^3.
3. A SURCHARGE OF 300 PSF IS ASSUMED.
4. THE FOLLOWING INFORMATION WAS USED IN THIS DESIGN OF INTERIM SHEETING:
   ϕ = 33° Ka = 0.29 Kp' = 2.71 γ = 120PSF
5. ALL STEEL SHEETING SHALL HAVE A MINIMUM Fy=36KSI.
6. THE CONTRACTOR SHALL SUBMIT DESIGN CALCULATIONS AND PLANS, SEALED BY A N.Y.S. LICENSED PROFESSIONAL ENGINEER FOR APPROVAL BY THE E.I.C.
7. BRACED SHEETING WITH GROUTED TIEBACKS AND INTERIOR PILES WITH TENSION MEMBERS ARE SHOWN. CONTRACTOR MAY PROPOSE ALTERNATIVE METHOD.



SECTION A-A

SCALE: ⅛"=1'-0"



SECTION B-B

SCALE: ⅛"=1'-0"

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TOWN OF BABYLON
LINDENHURST, NY

LKB CONSULTING ENGINEERS

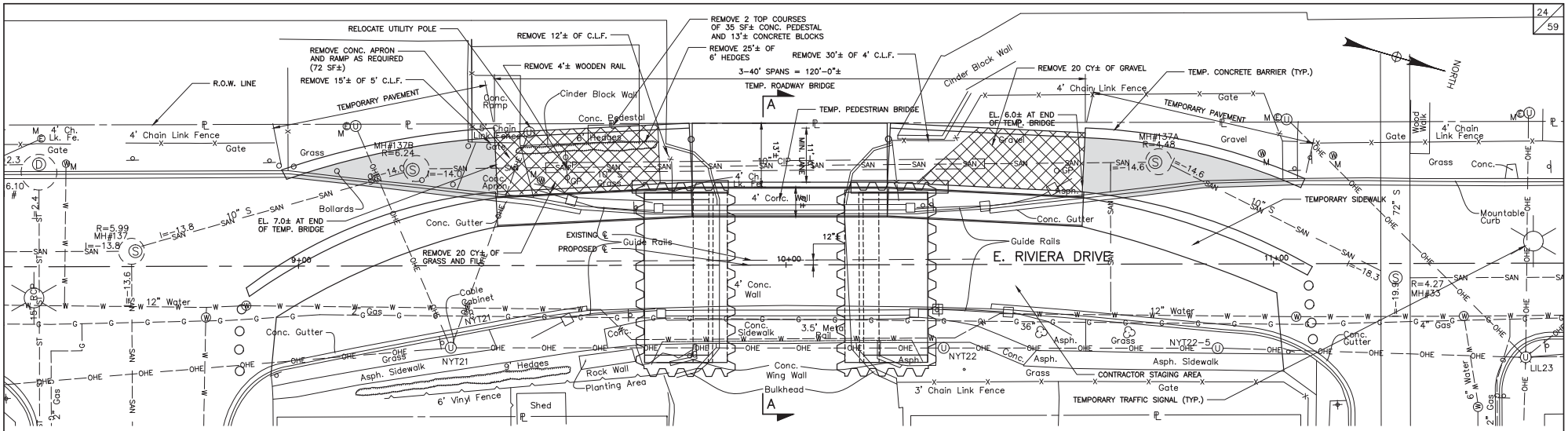
LOCKWOOD, KESSLER & BARTLETT, INC.
CONSULTING ENGINEERS SINCE 1889 SYOSSET, NEW YORK

PROJECT NAME: AMERICAN VENICE BRIDGES

TEMPORARY SHEETING PLAN
EAST RIVIERA DRIVE

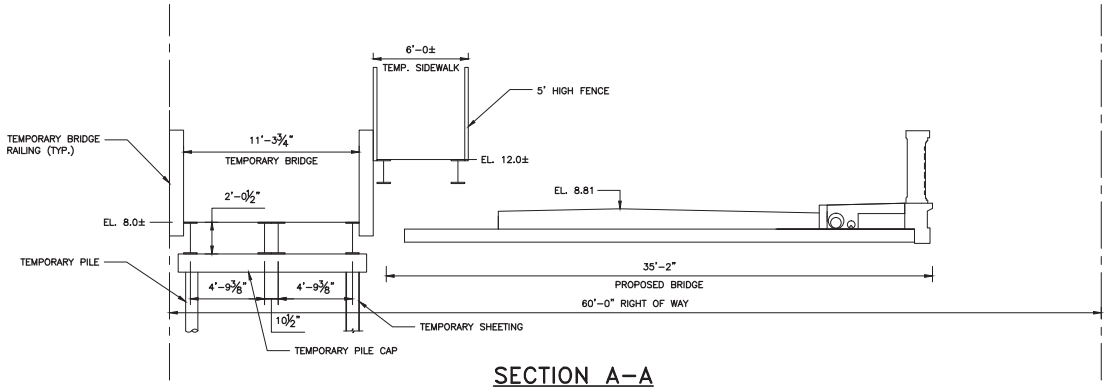
DESIGN BY:	DMM
DRAWN BY:	DMM
CHECKED BY:	WTC
DATE:	8/2016
SCALE:	AS SHOWN
PROJECT NO.	5423-01
DRAWING NO.	TSP-E1

File Name: I:\projects\5423 00 american venice bridges\cadd\sheets\structural\temporary sheeting and cofferdam plan.dwg
Plot Date: 8/30/2016 4:59 PM
Plotted By: Margolin, Daniel



PLAN

SCALE: 1"=10'



SECTION A–A

SCALE: 1/4"=1'-0"

NOTES:

1. TEMPORARY BRIDGE SHALL BE 40' QUICKBRIDGE – 2 UNIT, BY MABEY INC. OR APPROVED EQUAL.
2. TEMPORARY VEHICULAR BRIDGE SHALL HAVE A LIVE LOAD CAPACITY GREATER THAN OR EQUAL TO AN HS-25 LOAD, AND THE TEMPORARY PEDESTRIAN BRIDGE SHALL HAVE A LIVE LOAD CAPACITY GREATER THAN OR EQUAL TO 90 PSF.
3. EACH SUPPORT SHOWN (CAP BEAM ON TEMPORARY SHEETING AND PILE CAP) SHALL BE DESIGNED FOR UNFACTORED APPLIED LOAD OF 75 KIPS.
4. CONTRACTOR MAY PROPOSE ALTERNATE TEMPORARY BRIDGE CONSTRUCTION AND SUPPORT AS WELL AS AN ALTERNATE METHOD OF MAINTENANCE OF TRAFFIC.
5. ALL LANDSCAPING, FENCING, AND SOIL REMOVALS/ ADDITIONS DELINEATED ON THIS DRAWING ARE NECESSARY ONLY IF TEMPORARY BRIDGE IS CONSTRUCTED, AND ARE THUS PAID FOR UNDER ITEMS 619.0601 AND 619.0603.

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CLIENT: TOWN OF BABYLON, LINDENHURST, NY

LKB CONSULTING ENGINEERS — LOCKWOOD, KESSLER & BARTLETT, INC. CONSULTING ENGINEERS SINCE 1889 SYOSSET, NEW YORK

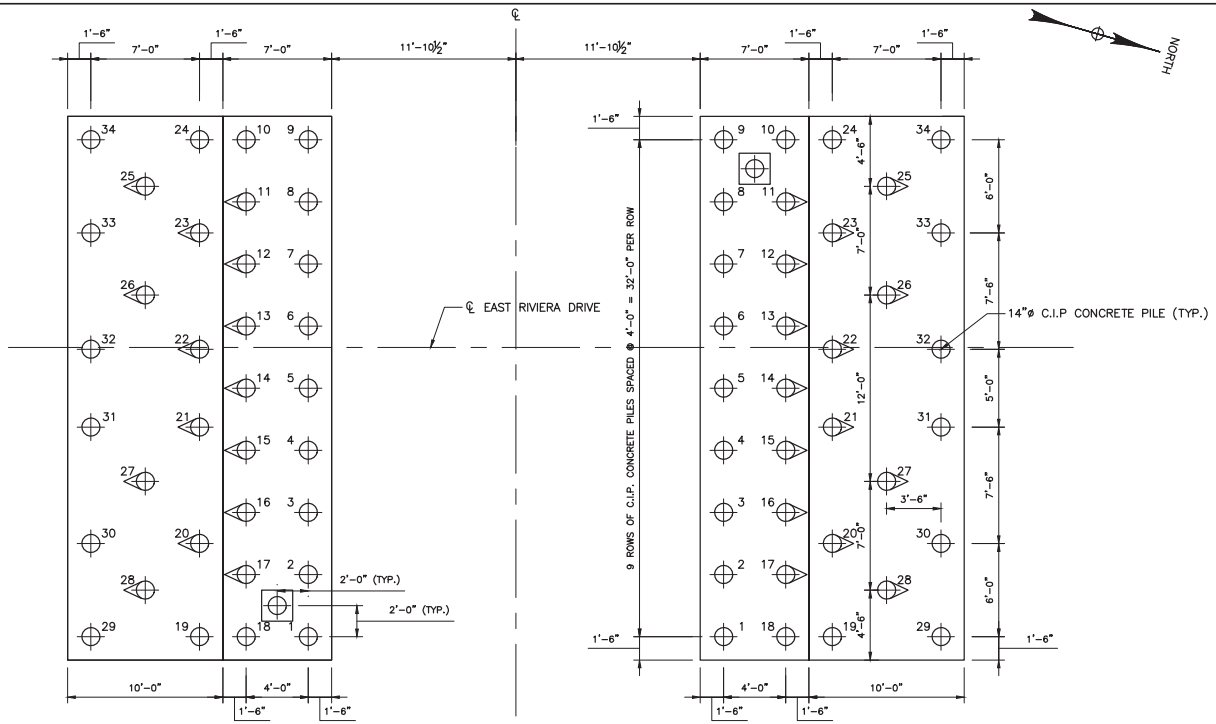
PROJECT NAME: AMERICAN VENICE BRIDGES

TEMPORARY BRIDGE PLAN EAST RIVIERA DRIVE

DESIGN BY: GG
DRAWN BY: DMM
CHECKED BY: WTC
DATE: 8/2016
SCALE: AS SHOWN

PROJECT NO. 5423-01
DRAWING NO. TBP-E1

File Name: I:\projects\5423 00 american venice bridges\cadd\sheets\structural\temporary bridge plan.dwg
Plot Date: 8/30/2016 4:59 PM
Plotted By: Margolin, Daniel



SOUTH ABUTMENT

CONCRETE PILE PLAN

SCALE: ¼"=1'-0"

NORTH ABUTMENT

NOTES:

1. ESTIMATED TOTAL LENGTHS FOR ALL PILES ARE MEASURED FROM CUTOFF POINT TO THE TIP OF PILE. THIS INFORMATION SHALL BE USED AS A BASIS FOR ESTIMATION ONLY.
2. FOR DESIGN PURPOSES, THE PILE LOAD DOES NOT EXCEED 80 KIPS/PILE FOR ABUTMENT PILES (1–18) AND 65 KIPS/PILE FOR WINGWALL PILES (19–34). MINIMUM PILE CAPACITY BLOW COUNT IS ESTIMATED AT 8 BLOWS PER INCH. THIS QUANTITY IS TO BE VERIFIED BY THE FOUNDATION CONTRACTOR GEOTECH.
3. THE PILES SHALL BE INSTALLED TO THE DEPTH REQUIRED TO PROVIDE A FACTOR OF SAFETY OF 2.
4. PILE CUTOFF ELEVATIONS:
   NORTH ABUTMENT: –7.5
   SOUTH ABUTMENT: –7.5
   NORTH WINGWALLS: –7.5
   SOUTH WINGWALLS: –7.5
5. APPROXIMATE PILE MINIMUM TIP ELEVATIONS:
   NORTH ABUTMENT: –37.5
   SOUTH ABUTMENT: –37.5
   NORTH WINGWALLS: –27.5
   SOUTH WINGWALLS: –27.5
6. FOR STRUCTURAL NOTES, SEE DWG. NO. SN–1.
7. A STATIC LOAD TEST SHALL BE PERFORMED AT THE LOCATIONS SHOWN ON THE PLAN. TESTING SHALL BE AS PER ASTM D–1143 (QUICK LOAD). THE TEST PILES SHALL BE LOADED TO TWICE THE DESIGN CAPACITY, ITEM 551.50220017. TEST PILES ARE TO BE ABANDONED AFTER LOAD TEST.

LEGEND:

- C.I.P. CONCRETE PILE, ITEM 551.11
- BATTERED CAISSON PILE, ITEM 551.11 (PILES BATTERED 6:1)
- TEST PILE, ITEM 551.50220017

PILE GROUP NO.	LOCATION SOUTH ABUTMENT ESTIMATED LENGTH	LOCATION SOUTH ABUTMENT ACTUAL LENGTH	PILE GROUP NO.	LOCATION SOUTH ABUTMENT ESTIMATED LENGTH	LOCATION SOUTH ABUTMENT ACTUAL LENGTH	PILE GROUP NO.	LOCATION SOUTH ABUTMENT ESTIMATED LENGTH	LOCATION SOUTH ABUTMENT ACTUAL LENGTH
1	30'		13	30'		25	20'	
2	30'		14	30'		26	20'	
3	30'		15	30'		27	20'	
4	30'		16	30'		28	20'	
5	30'		17	30'		29	20'	
6	30'		18	30'		30	20'	
7	30'		19	20'		31	20'	
8	30'		20	20'		32	20'	
9	30'		21	20'		33	20'	
10	30'		22	20'		34	20'	
11	30'		23	20'				
12	30'		24	20'				

PILE GROUP NO.	LOCATION NORTH ABUTMENT ESTIMATED LENGTH	LOCATION NORTH ABUTMENT ACTUAL LENGTH	PILE GROUP NO.	LOCATION NORTH ABUTMENT ESTIMATED LENGTH	LOCATION NORTH ABUTMENT ACTUAL LENGTH	PILE GROUP NO.	LOCATION NORTH ABUTMENT ESTIMATED LENGTH	LOCATION NORTH ABUTMENT ACTUAL LENGTH
1	30'		13	30'		25	20'	
2	30'		14	30'		26	20'	
3	30'		15	30'		27	20'	
4	30'		16	30'		28	20'	
5	30'		17	30'		29	20'	
6	30'		18	30'		30	20'	
7	30'		19	20'		31	20'	
8	30'		20	20'		32	20'	
9	30'		21	20'		33	20'	
10	30'		22	20'		34	20'	
11	30'		23	20'				
12	30'		24	20'				

REV.	DATE	REMARKS	BY
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CLIENT

TOWN OF BABYLON
LINDENHURST, NY

LKB CONSULTING ENGINEERS

LOCKWOOD, KESSLER & BARTLETT, INC.
CONSULTING ENGINEERS SINCE 1889 SYOSSET, NEW YORK

PROJECT NAME: AMERICAN VENICE BRIDGES

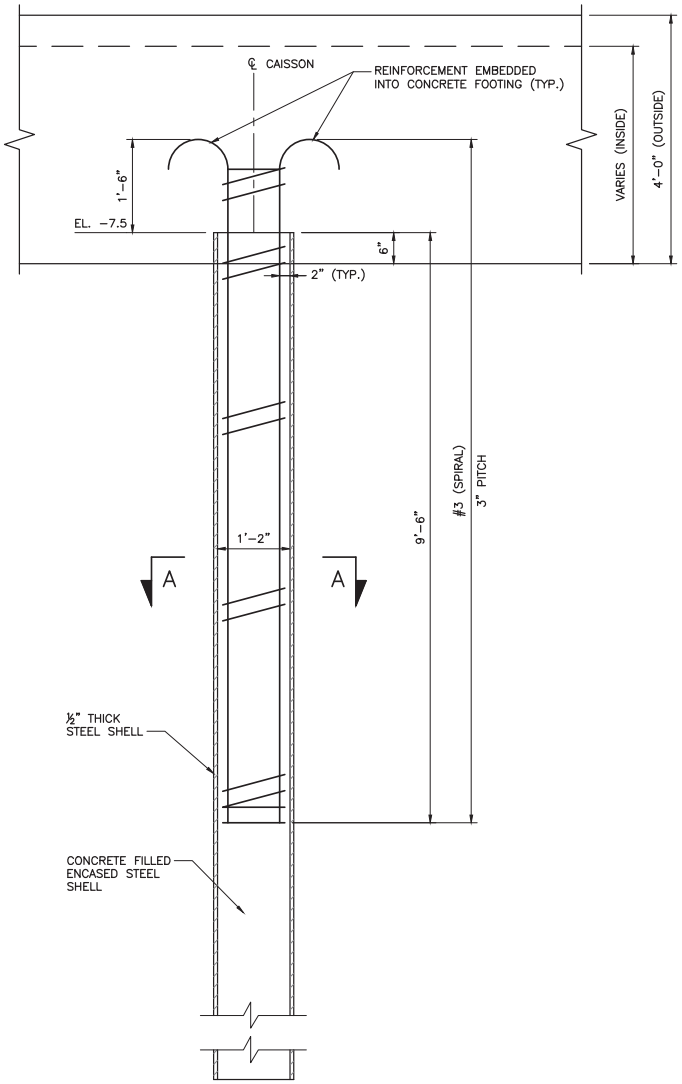
CONCRETE PILE PLAN
EAST RIVIERA DRIVE

DESIGN BY: DMM
DRAWN BY: DMM
CHECKED BY: WTC
DATE: 8/2016
SCALE: 1/4"=1'-0"

PROJECT NO. 5423–01

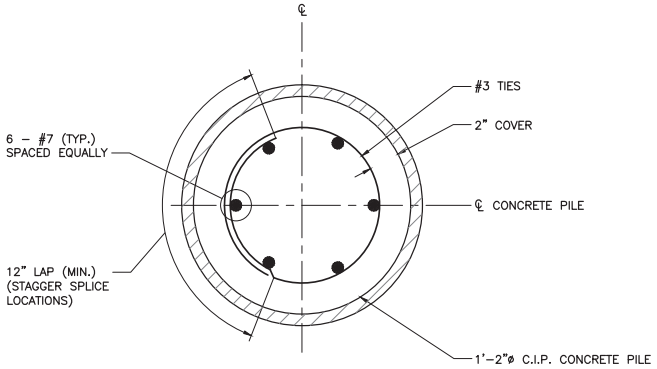
DRAWING NO. CPP–E1

File Name: I:\projects\5423 00 american venice bridges\cadd\sheets\structural\c.i.p. concrete pile plan.dwg
Plot Date: 8/30/2016 5:00 PM
Plotted By: Margolin, Daniel



C.I.P. CONCRETE PILE DETAIL

SCALE: 1"=1'-0"



SECTION A–A

SCALE: 3"=1'-0"

NOTES:

1. ALL BAR REINFORCEMENT SHOWN ON THIS DRAWING SHALL BE EPOXY COATED AND BE PAID UNDER ITEM 551.11 CAST–IN–PLACE CONCRETE PILES UNLESS NOTED OTHERWISE.

REV.	DATE	REMARKS	BY
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CLIENT: TOWN OF BABYLON LINDENHURST, NY

LKB CONSULTING ENGINEERS — LOCKWOOD, KESSLER & BARTLETT, INC. CONSULTING ENGINEERS SINCE 1889 SYOSSET, NEW YORK

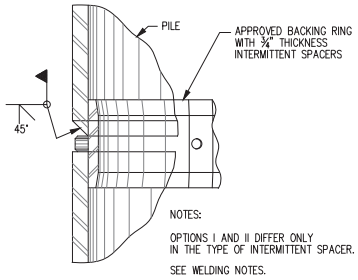
PROJECT NAME: AMERICAN VENICE BRIDGES

C.I.P. CONCRETE PILE DETAILS 1

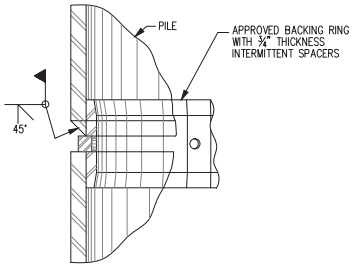
DESIGN BY: GG
DRAWN BY: DMM
CHECKED BY: WTC
DATE: 8/2016
SCALE: AS SHOWN

PROJECT NO. 5423–01
DRAWING NO. CPD–1

File Name: I:\projects\5423 00 american venice bridges\cadd\sheets\structural\cip concrete pile details.dwg
Plot Date: 8/30/2016 5:00 PM
Plotted By: Margolin, Daniel



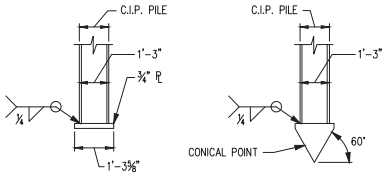
SECTION THRU PILE AT SPLICE (OPTION I)



SECTION THRU PILE AT SPLICE (OPTION II)

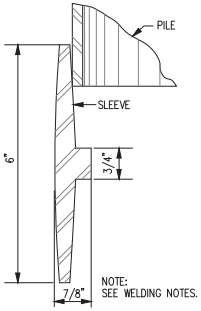
WELDED SPLICE DETAILS

N.T.S.

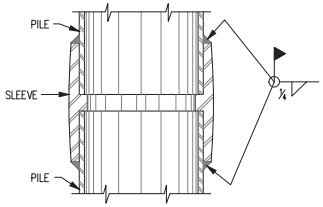


CAST-IN-PLACE PILE SHOES

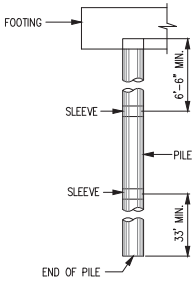
N.T.S.



SECTION THRU SLEEVE



SECTION THRU PILE AT SPLICE



PILE ELEVATION (MECHANICAL SPLICE ONLY)

MECHANICAL SPLICE DETAILS

N.T.S.

CAST-IN-PLACE PILE SPLICE DETAILS

N.T.S.

NOTES:

1. THE CONTRACTOR SHALL CONTROL ALL PROCEDURES AND OPERATIONS SO AS TO NOT CAUSE DISTURBANCE OR SETTLEMENT TO ADJACENT STRUCTURES OR UTILITIES. IF ANY DISTURBANCE OCCURS, HALT ALL OPERATIONS AND MODIFY THE EQUIPMENT AND/OR THE PROCEDURES SO THAT NO FURTHER DISTURBANCE OCCURS. REPAIR ANY DAMAGE AT NO EXPENSE TO THE TOWN.
2. ALL C.I.P. CONCRETE PILE SHELL SPLICES SHALL BE MADE WITH COMPLETE JOINT PENETRATION GROOVE WELDS. THE PROCEDURE OF MANUAL SHIELDED METAL-ARC WELDING SHALL BE IN ACCORDANCE WITH NEW YORK STATE STEEL CONSTRUCTION MANUAL. THE COST FOR SPLICES USED ON CAISSONS INSTALLED MORE THAN 5'-0" GREATER THAN THE ORDERED LENGTH SHALL BE PAID BY ORDER ON CONTRACT.
3. CONTRACTOR MAY MODIFY THE CONFIGURATION OF THE BACK-UP PLATE TO ACCOMMODATE THE TOLERANCE IN THE INTERNAL DIAMETER OF UPPER AND LOWER CAISSON SHELLS.
4. WHEN LONGITUDINAL REINFORCING BAR SPLICES ARE REQUIRED, SPLICES SHALL BE MADE UTILIZING MECHANICAL CONNECTORS AND CONFORM TO THE REQUIREMENTS OF SUBSECTION 556-3.03C OF THE NYS SPECIFICATIONS. EXCEPT THAT ARC WELDED SPLICES AND LAP SPLICES ARE NOT PERMITTED. SPLICES WHERE PERMITTED, SHALL BE STAGGERED SO THAT NO MORE THAN 50 PERCENT OF THE BARS ARE SPLICED WITHIN AN 8'-4" HEIGHT.
5. PAYMENT FOR ALL REINFORCING BARS, FOR THE PILES, IS INCLUDED IN THE PRICE BID FOR THE C.I.P. CONCRETE PILE ITEM 551.11.

REV.	DATE	REMARKS	BY
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CLIENT: TOWN OF BABYLON, LINDENHURST, NY

LKB CONSULTING ENGINEERS — LOCKWOOD, KESSLER & BARTLETT, INC. CONSULTING ENGINEERS SINCE 1889 SYOSSET, NEW YORK

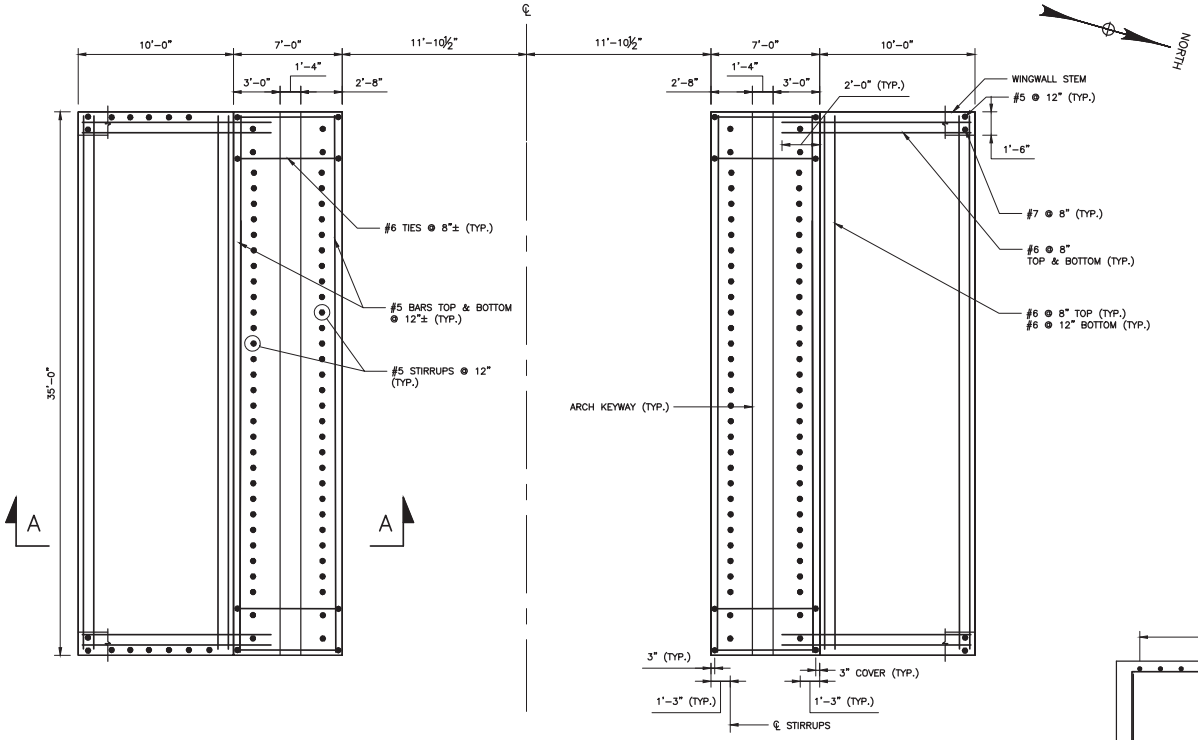
PROJECT NAME: AMERICAN VENICE BRIDGES

C.I.P. CONCRETE PILE DETAILS 2

DESIGN BY: GG
DRAWN BY: DMM
CHECKED BY: WTC
DATE: 8/2016
SCALE: AS SHOWN

PROJECT NO. 5423-01
DRAWING NO. CPD-2

File Name: I:\projects\5423 00 american venice bridges\cadd\sheets\structural\cip concrete pile details.dwg
Plot Date: 8/30/2016 5:00 PM
Plotted By: Margolin, Daniel

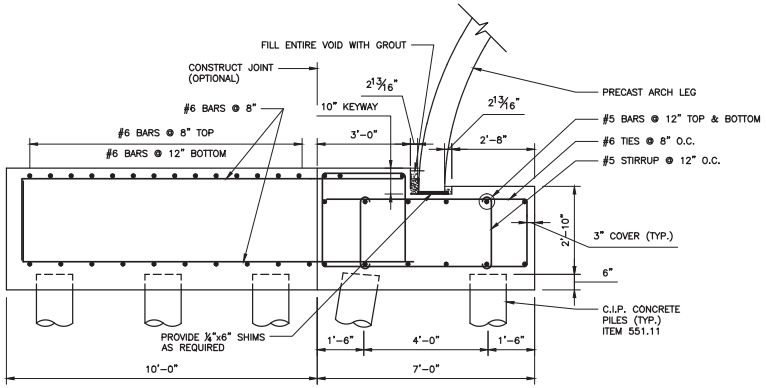


FOUNDATION PLAN

ONLY FOOTING REINFORCEMENT SHOWN
SCALE: ¼"=1'-0"

NOTES:

1. ALL REINFORCEMENT SHOWN SHALL BE EPOXY COATED AND BE PAID UNDER ITEM 556.0202 UNLESS OTHERWISE NOTED.



SECTION A-A

SCALE: ½"=1'-0"

REV.	DATE	REMARKS	BY
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LINDENHURST, NY

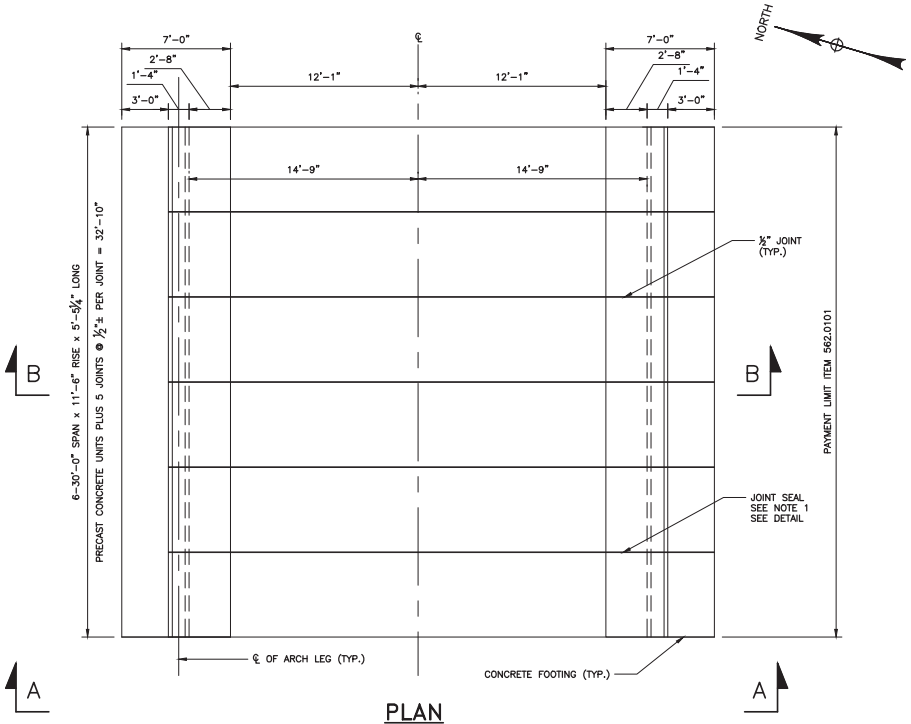
LKB CONSULTING ENGINEERS
LOCKWOOD, KESSLER & BARTLETT, INC.
CONSULTING ENGINEERS SINCE 1889 SYOSSET, NEW YORK

PROJECT NAME: AMERICAN VENICE BRIDGES

FOUNDATION PLAN
EAST RIVIERA DRIVE

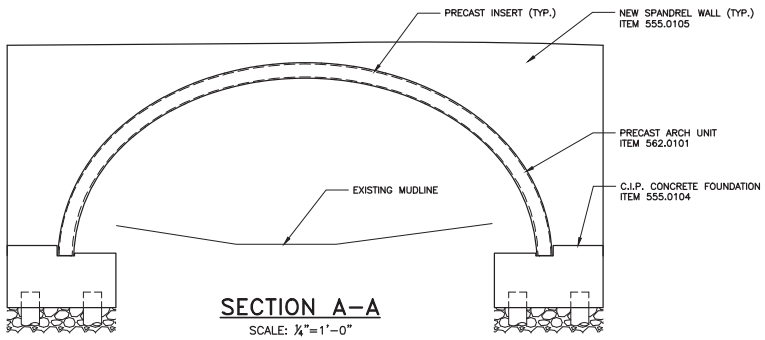
DESIGN BY:	DMM
DRAWN BY:	DMM
CHECKED BY:	WTC
DATE:	8/2016
SCALE:	AS SHOWN
PROJECT NO.	5423-01
DRAWING NO.	FP-E1

File Name: I:\projects\5423 00 american venice bridges\cadd\sheets\structural\foundation plan.dwg
Plot Date: 8/30/2016 5:00 PM
Plotted By: Margolin, Daniel



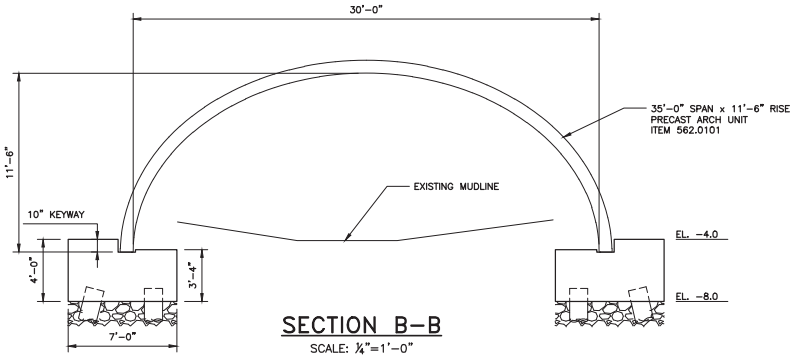
PLAN

SCALE: ¼"=1'-0"



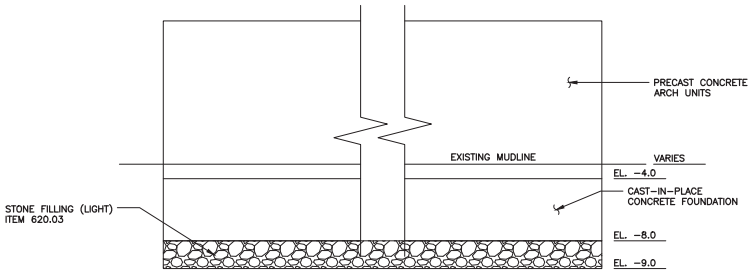
SECTION A–A

SCALE: ¼"=1'-0"



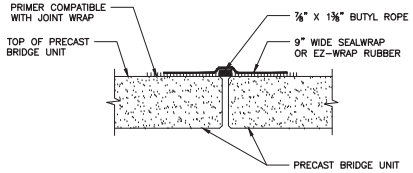
SECTION B–B

SCALE: ¼"=1'-0"



NORTH AND SOUTH ABUTMENT PROPOSED OUTSIDE FACE ELEVATIONS

N.T.S.



JOINT SEAL DETAIL

N.T.S.

NOTE:

1. JOINT SEAL SHALL BE PAID FOR UNDER ITEM 562.0101, REINFORCED CONCRETE SPAN UNITS.

REV.	DATE	REMARKS	BY
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TOWN OF BABYLON
LINDENHURST, NY

LKB CONSULTING ENGINEERS

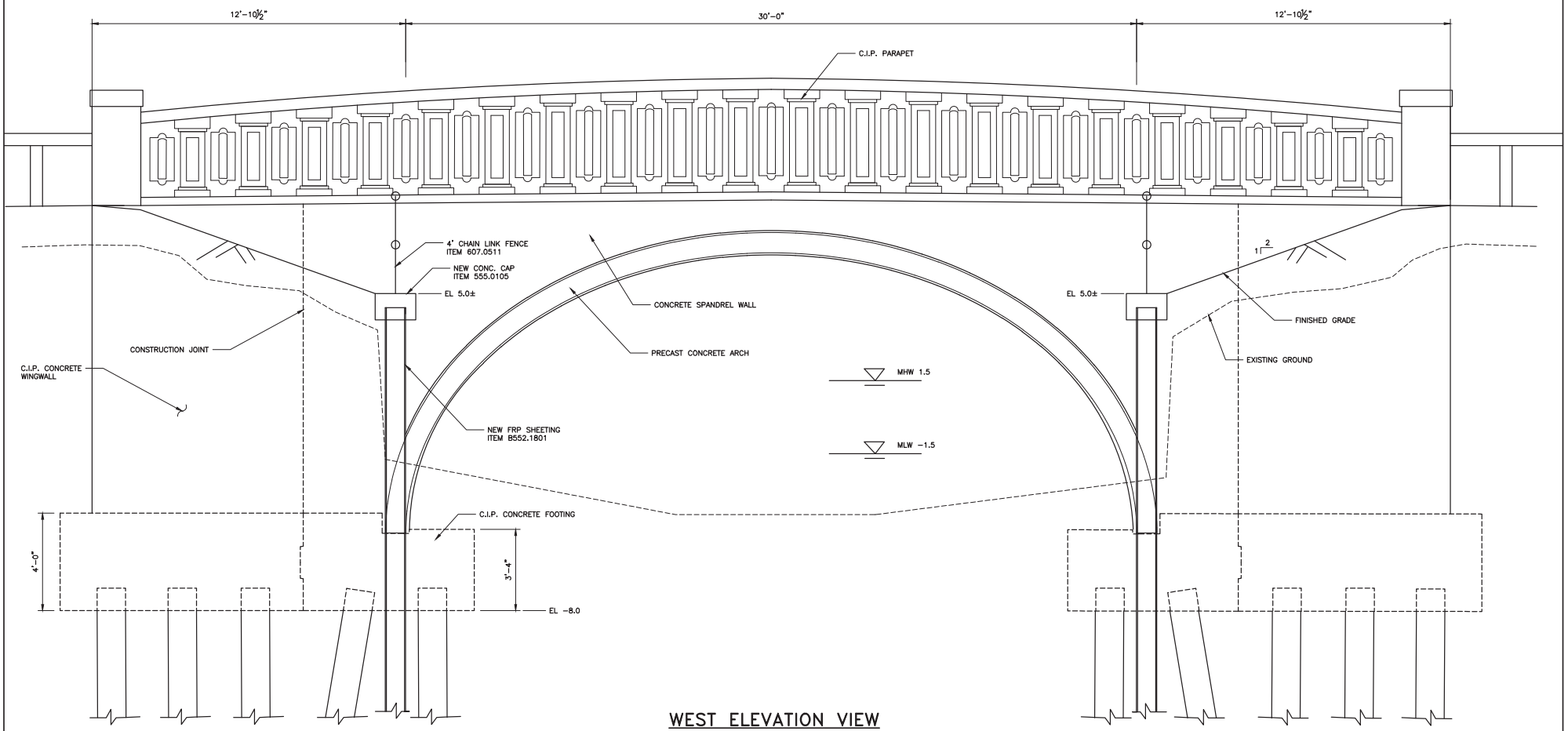
LOCKWOOD, KESSLER & BARTLETT, INC.
CONSULTING ENGINEERS SINCE 1889 SYOSSET, NEW YORK

PROJECT NAME: AMERICAN VENICE BRIDGES

PRECAST CONCRETE ARCH DETAILS EAST RIVIERA DRIVE

DESIGN BY:	DMM
DRAWN BY:	DMM
CHECKED BY:	WTC
DATE:	8/2016
SCALE:	AS SHOWN
PROJECT NO.	5423-01
DRAWING NO.	PCA-E1

File Name: I:\projects\5423 00 american venice bridges\cadd\sheets\structural\precast concrete arch details.dwg
Plot Date: 8/30/2016 5:00 PM
Plotted By: Margolin, Daniel



WEST ELEVATION VIEW

SCALE: 1/2"=1'-0"

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TOWN OF BABYLON
LINDENHURST, NY

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LOCKWOOD, KESSLER & BARTLETT, INC.
CONSULTING ENGINEERS SINCE 1889 SYOSSET, NEW YORK

PROJECT NAME: AMERICAN VENICE BRIDGES

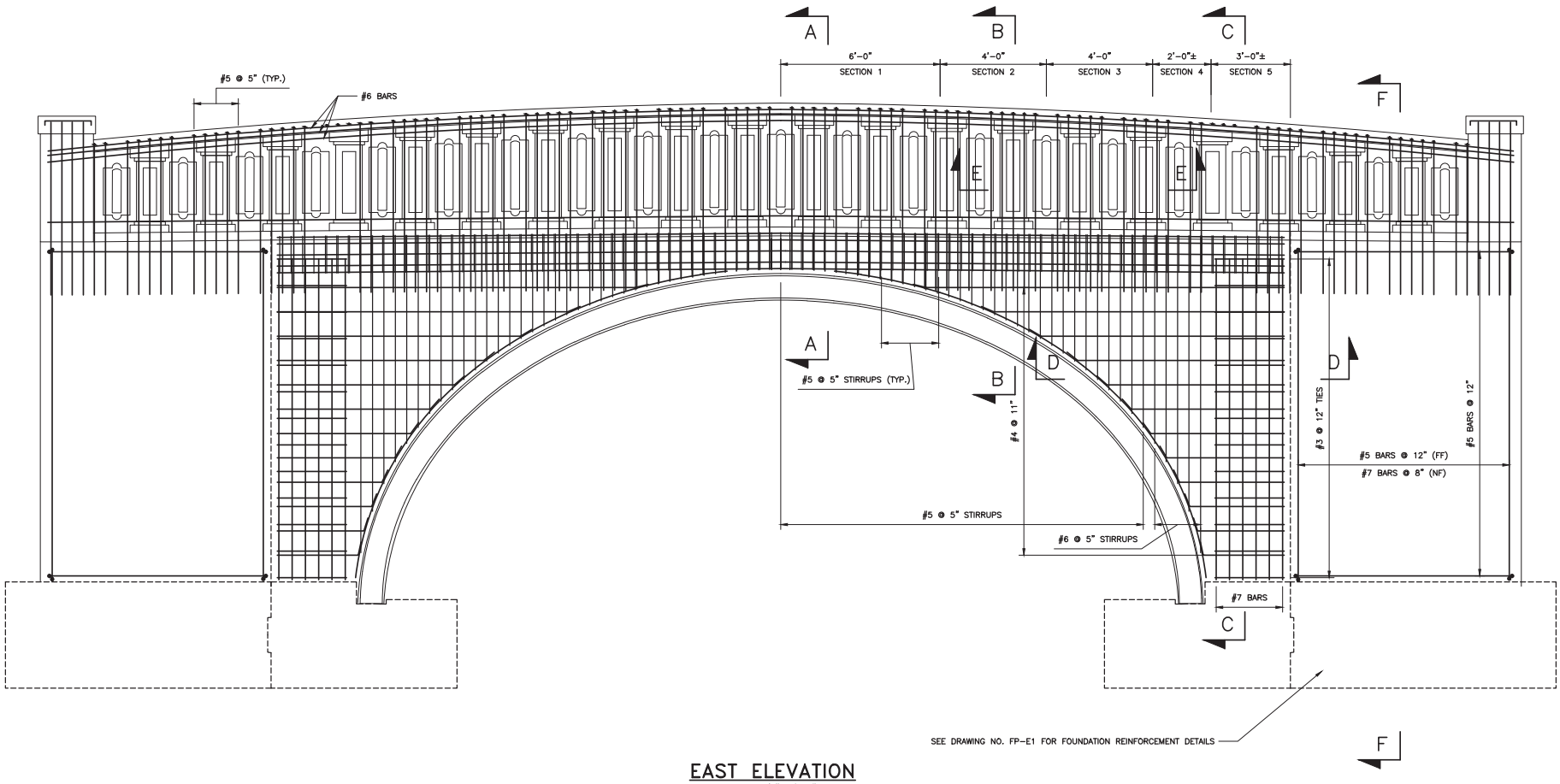
WINGWALL ELEVATION
EAST RIVIERA DRIVE

DESIGN BY: DMM
DRAWN BY: DMM
CHECKED BY: WTC
DATE: 8/2016
SCALE: AS SHOWN

PROJECT NO. 5423-01

DRAWING NO. WE-E1

File Name: I:\projects\5423 00 american venice bridges\cadd\sheets\structural\wingwall details.dwg
Plot Date: 8/30/2016 5:00 PM
Plotted By: Margolin, Daniel



EAST ELEVATION

SCALE: ½"=1'-0"

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LINDENHURST, NY

LKB CONSULTING ENGINEERS

LOCKWOOD, KESSLER & BARTLETT, INC.
CONSULTING ENGINEERS SINCE 1889 SYOSSET, NEW YORK

PROJECT NAME: AMERICAN VENICE BRIDGES

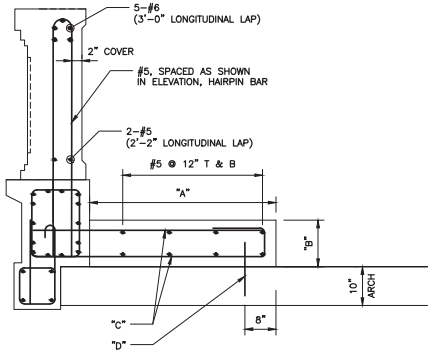
REINFORCEMENT DETAILS 1
EAST RIVIERA DRIVE

DESIGN BY:	GG
DRAWN BY:	DMM
CHECKED BY:	WTC
DATE:	8/2016
SCALE:	AS SHOWN

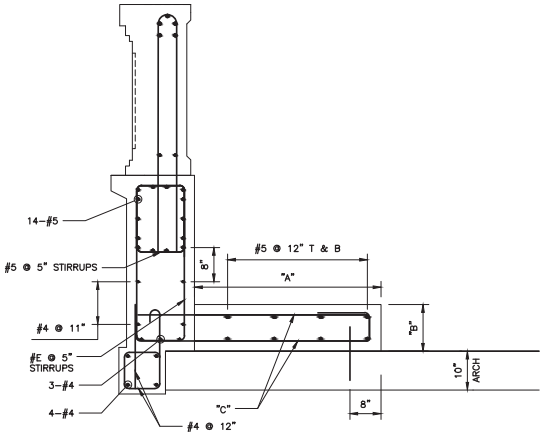
PROJECT NO. 5423-01

DRAWING NO. RD-E1

File Name: I:\projects\5423 00 american venice bridges\cadd\sheets\structural\reinforcement layouts.dwg
Plot Date: 8/30/2016 5:01 PM
Plotted By: Margolin, Daniel

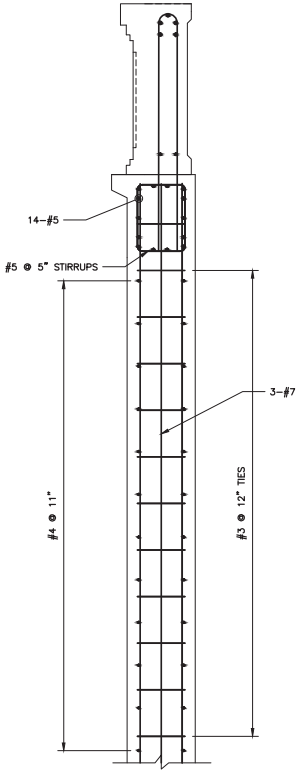


SECTION A-A
SCALE: ¾"=1'-0"

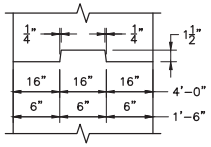


SECTION B-B
SCALE: ¾"=1'-0"

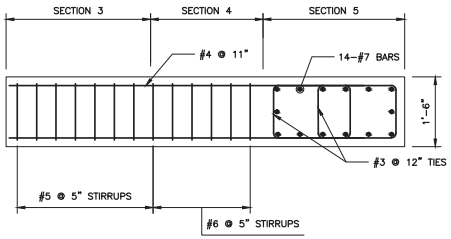
			"A"	"B"	"C"	"D"	"E"
SECTION	1	UNDER SIDEWALK	3'	12"	#5@4"	#5@12"	5
		UNDER ASPHALT	5'	10"	#6@5"	#5@12"	5
	2	UNDER SIDEWALK	3'	12"	#5@4"	#5@12"	5
		UNDER ASPHALT	5'	10"	#6@5"	#5@12"	5
	3	-	5'	12"	#5@4"	#5@18"	5
	4	-	5'	15"	#6@4"	#5@18"	6
	5	-	5'	20"	#6@4"	#5@18"	-



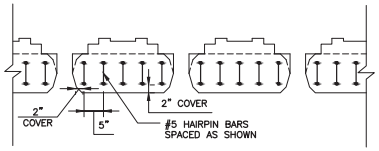
SECTION C-C
SCALE: ¾"=1'-0"



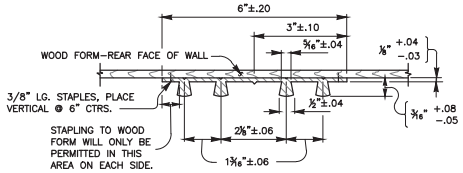
CONSTRUCTION JOINT KEYWAY
N.T.S.



SECTION D-D
SCALE: ¾"=1'-0"



SECTION E-E
SCALE: ¾"=1'-0"



TYPE D WATERSTOP
N.T.S.

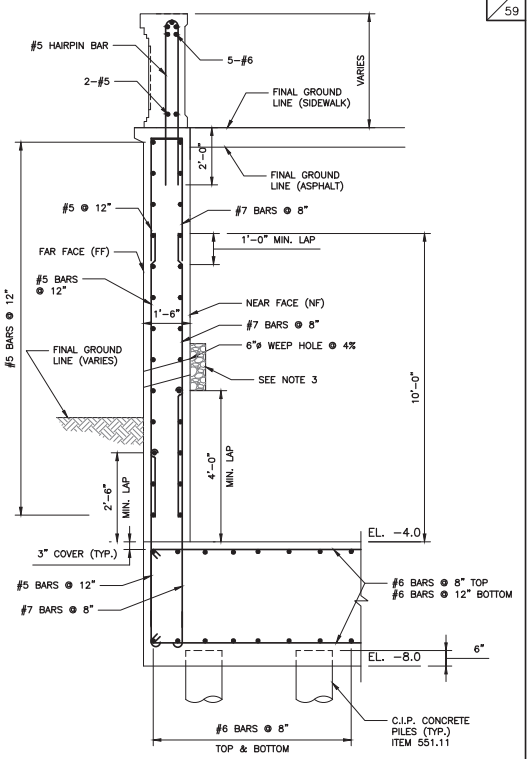
WATERSTOPS SHALL CONFORM TO THE REQUIREMENTS OF SECTION 705-11 OF THE NYSDOT SPECIFICATIONS.

HOLES MUST NOT BE MADE IN WATERSTOPS FOR ANY PURPOSE EXCEPT AS REQUIRED FOR STAPLING TO FORMS.

TYPE "D" WATERSTOP SHALL BE LIGHT GRAY IN COLOR.

THE COST OF FURNISHING AND PLACING WATERSTOPS SHALL BE INCLUDED IN THE PRICE BID FOR THE CONCRETE ITEMS.

NOTE:
WATERSTOPS SHALL BE USED AT ALL CONSTRUCTION & CONTRACTION JOINTS EXCEPT WHERE OTHERWISE NOTED.



SECTION F-F
SCALE: ½"=1'-0"

NOTES:

1. ALL CONCRETE SHALL BE PAID UNDER ITEM 555.0105 UNLESS NOTED OTHERWISE. FOOTING CONCRETE SHALL BE PAID UNDER ITEM 555.0104. PARAPET CONCRETE AND REINFORCEMENT SHALL BE PAID UNDER ITEM B569.0801.
2. ALL BAR REINFORCEMENT SHOWN ON THIS DRAWING SHALL BE EPOXY COATED AND BE PAID UNDER ITEM 556.0202 UNLESS NOTED OTHERWISE.
3. PROVIDE FILTER FABRIC AND 1CF BAGGED STONE BEHIND WEEPHOLE. COST INCLUDED UNDER ITEM 555.0105.

REV.	DATE	REMARKS	BY
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CLIENT
TOWN OF BABYLON
LINDENHURST, NY

LKB CONSULTING ENGINEERS
LOCKWOOD, KESSLER & BARTLETT, INC.
CONSULTING ENGINEERS SINCE 1889 SYOSSET, NEW YORK

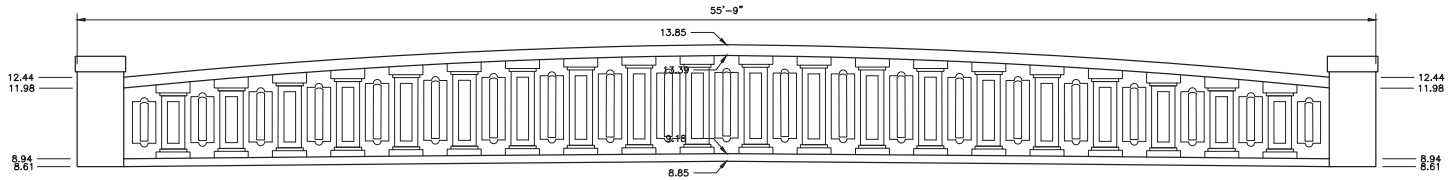
PROJECT NAME: AMERICAN VENICE BRIDGES

REINFORCEMENT DETAILS 2
EAST RIVIERA DRIVE

DESIGN BY: GG
DRAWN BY: DMM
CHECKED BY: WTC
DATE: 8/2016
SCALE: AS SHOWN

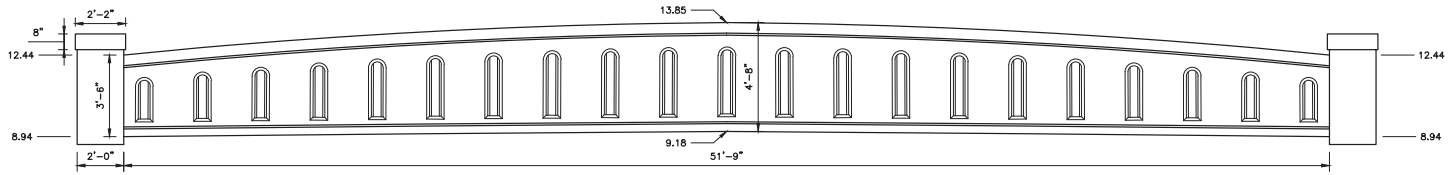
PROJECT NO. 5423-01
DRAWING NO. RD-E2

File Name: I:\projects\5423 00 american venice bridges\cadd\sheets\structural\reinforcement layouts.dwg
Plot Date: 8/30/2016 5:01 PM
Plotted By: Margolin, Daniel



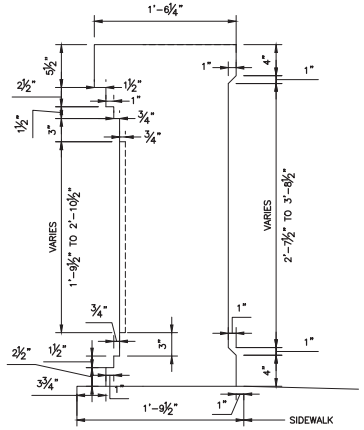
EXTERIOR ELEVATION VIEW

SCALE: ⅜"=1'-0"



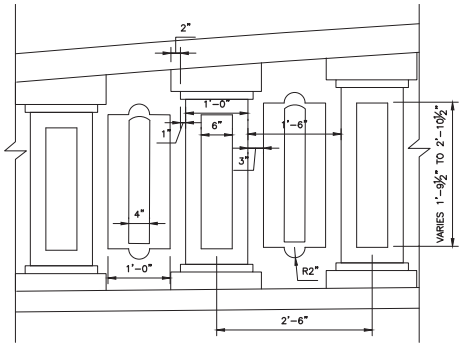
INTERIOR ELEVATION VIEW

SCALE: ⅜"=1'-0"



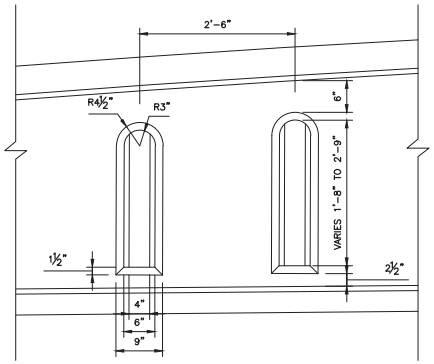
BARRIER SECTION

SCALE: 1½"=1'-0"



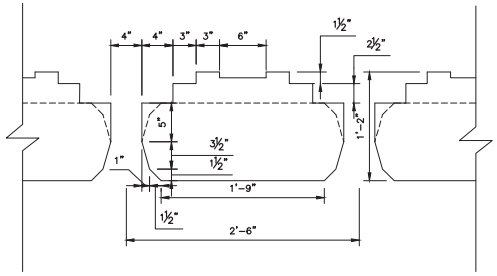
PARTIAL EXTERNAL ELEVATION VIEW

SCALE: 1"=1'-0"



PARTIAL INTERNAL ELEVATION VIEW

SCALE: 1"=1'-0"



BARRIER PLAN

SCALE: 1½"=1'-0"

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CLIENT

TOWN OF BABYLON
LINDENHURST, NY

LKB CONSULTING ENGINEERS

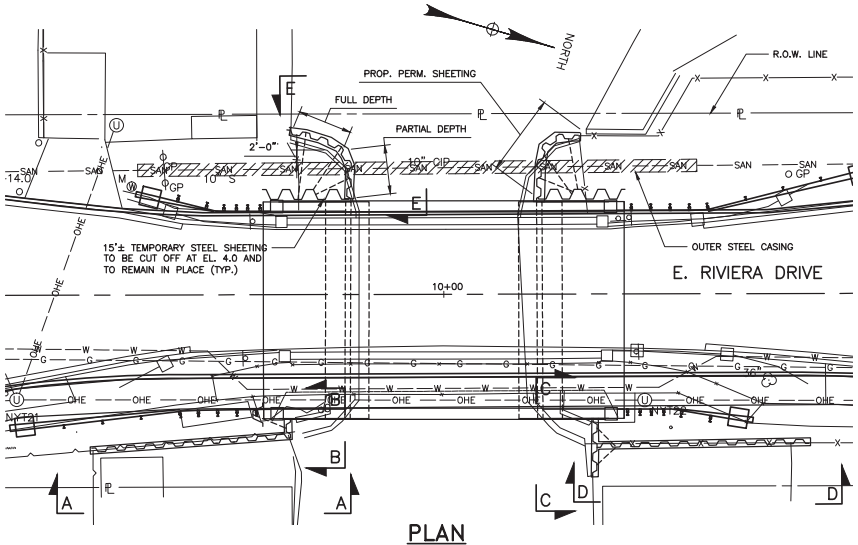
LOCKWOOD, KESSLER & BARTLETT, INC.
CONSULTING ENGINEERS SINCE 1889 SYOSSET, NEW YORK

PROJECT NAME: AMERICAN VENICE BRIDGES

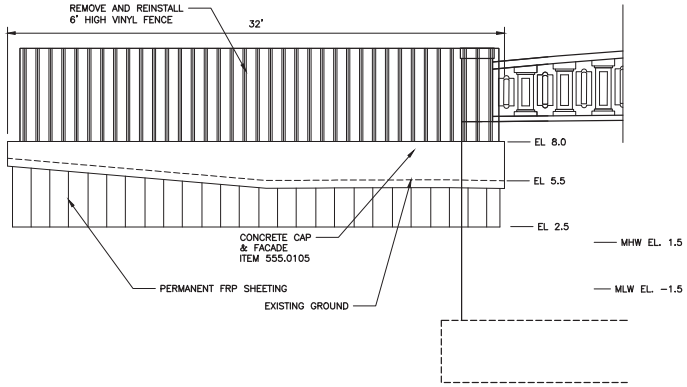
BRIDGE RAILING DETAILS
EAST RIVIERA DRIVE

DESIGN BY:	DMM
DRAWN BY:	DMM
CHECKED BY:	WTC
DATE:	8/2016
SCALE:	AS SHOWN
PROJECT NO.	5423-01
DRAWING NO.	BRD-E1

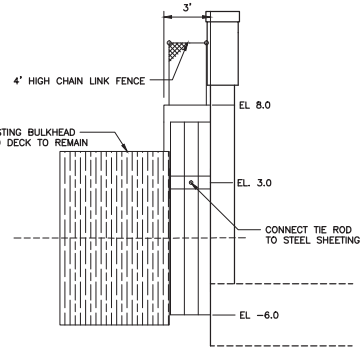
File Name: I:\projects\5423 00 american venice bridges\cadd\sheets\structural\bridge railing details.dwg
Plot Date: 8/30/2016 5:01 PM
Plotted By: Margolin, Daniel



PLAN
SCALE: 1"=10'

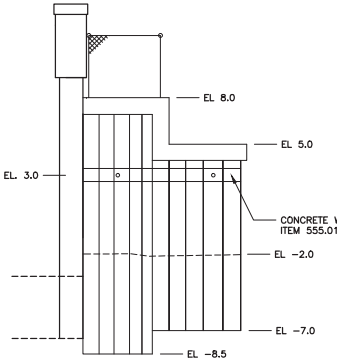


SECTION A–A
SCALE: 1/4"=1'-0"

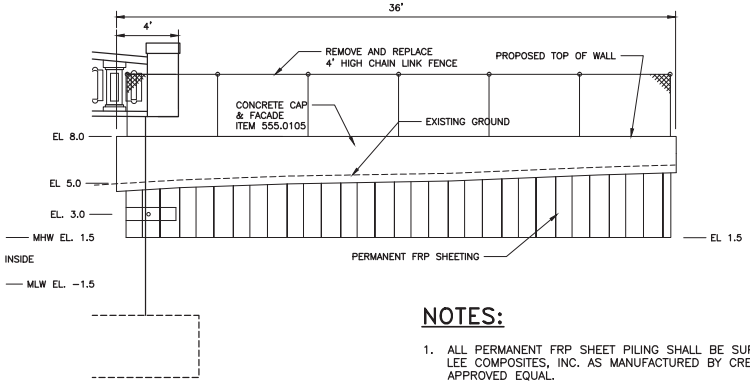


SECTION B–B
SCALE: 1/4"=1'-0"

SOUTHEAST CORNER



SECTION C–C
SCALE: 1/4"=1'-0"

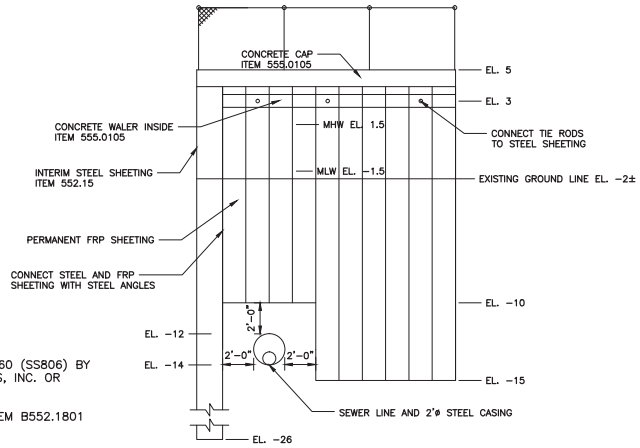


SECTION D–D
SCALE: 1/4"=1'-0"

NORTHEAST CORNER

NOTES:

1. ALL PERMANENT FRP SHEET PILING SHALL BE SUPERLOC SERIES 1560 (SS806) BY LEE COMPOSITES, INC. AS MANUFACTURED BY CREATIVE PULTRUSIONS, INC. OR APPROVED EQUAL.
2. ALL COMPONENTS SHOWN ON THIS SHEET SHALL BE PAID UNDER ITEM B552.1801 UNLESS NOTED OTHERWISE.
3. SHEET PILING SHALL BE GRAY IN COLOR.
4. SHEETING ON THE CANAL (WEST) SIDE WITHIN 2 FEET LATERALLY OF THE OUTER CASING OF THE SEWER SHALL BE DRIVEN TO AN ELEVATION NO LOWER THAN 2 FEET ABOVE THE OUTER CASING OF THE SEWER. SEE SECTION B–B FOR DETAILS.
5. SEE DRAWING NO. PSD–1 FOR GENERAL PERMANENT SHEETING DETAILS.



PROJECTED SECTION E–E
SCALE: 1/4"=1'-0"
SOUTHWEST CORNER SHOWN
(NORTHWEST CORNER IS SIMILAR)

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CLIENT: TOWN OF BABYLON, LINDENHURST, NY

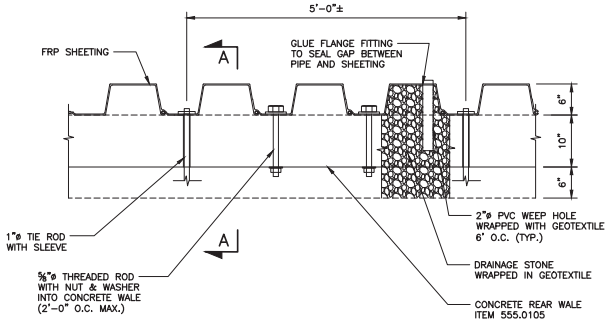
LKB CONSULTING ENGINEERS — LOCKWOOD, KESSLER & BARTLETT, INC. — CONSULTING ENGINEERS SINCE 1889 — SYOSSET, NEW YORK

PROJECT NAME: AMERICAN VENICE BRIDGES

PERMANENT SHEETING PLAN
EAST RIVIERA DRIVE

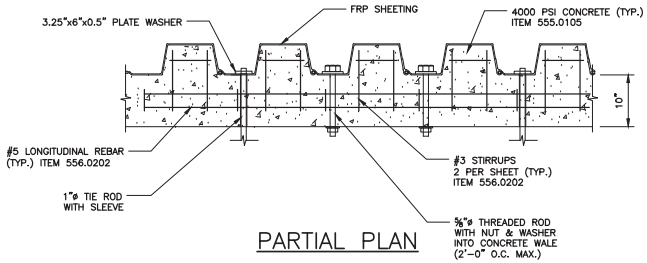
DESIGN BY:	DMM
DRAWN BY:	DMM
CHECKED BY:	WTC
DATE:	8/2016
SCALE:	AS SHOWN
PROJECT NO.	5423–01
DRAWING NO.	PSP–E1

File Name: I:\projects\5423 00 american venice bridges\cadd\sheets\structural\permanent sheeting plan.dwg
Plot Date: 8/30/2016 5:02 PM
Plotted By: Margolin, Daniel

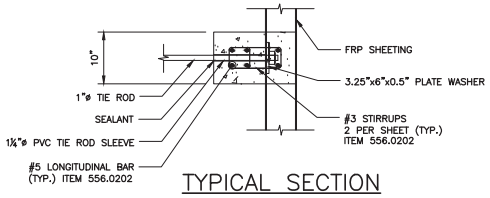


SECTIONAL PLAN

SCALE: 1"=1'-0"



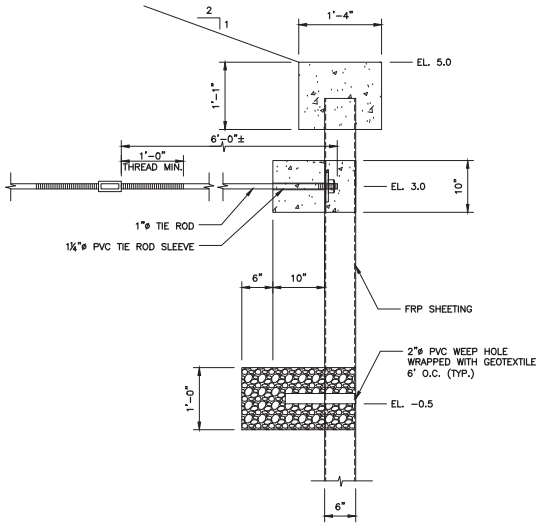
PARTIAL PLAN



TYPICAL SECTION

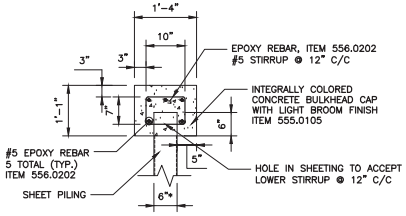
CONCRETE WALE BULKHEAD DETAIL

SCALE: 1"=1'-0"



SECTION A–A

SCALE: 1"=1'-0"



BULKHEAD CAP DETAIL

SCALE: ¾"=1'-0"

* WIDTH OF CAP DEPENDS ON SHEETING SELECTED.

NOTES:

1. ALL COMPONENTS SHOWN ON THIS SHEET SHALL BE PAID FOR UNDER ITEM B552.1801 UNLESS NOTED OTHERWISE.
2. ALL PERMANENT FRP SHEET PILING SHALL BE SUPERLOC SERIES 1560 (SS806) BY LEE COMPOSITES, INC. AS MANUFACTURED BY CREATIVE PULTRUSIONS, INC. OR APPROVED EQUAL.
3. BULKHEAD MUST BE BRACED UNTIL CURING OF CONCRETE WALE IS COMPLETE. AN UNSUPPORTED BULKHEAD LOADED PRIOR TO WALE GAINING FULL STRENGTH MAY RESULT IN FAILURE OF SHEETING.
4. CONCRETE MIX TO BE TYPE 2 WITH A 28 DAY COMPRESSIVE STRENGTH OF 4000 PSI. MIX DESIGN TO BE SUBMITTED TO TOWN OF BABYLON FOR APPROVAL.
5. REINFORCING STEEL TO HAVE A MIN. STRENGTH OF 60 KSI AND A 3" CONCRETE COVER AND BE EPOXY COATED (PAID UNDER ITEM 556.0202).
6. UNLESS INDICATED OTHERWISE, ALL STEEL PLATES AND FASTENERS ARE TO BE 316 STAINLESS STEEL.
7. THREADED TIE RODS SHALL BE STEEL CONFORMING TO ASTM A572 AND HOT-DIPPED GALVANIZED. THREADED TIE RODS SHALL BE SUPPLIED WITH STAINLESS STEEL WASHER PLATES AND HEX NUTS. TIE RODS SHALL BE TIGHTENED UNTIL TAUT.

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CLIENT: TOWN OF BABYLON, LINDENHURST, NY

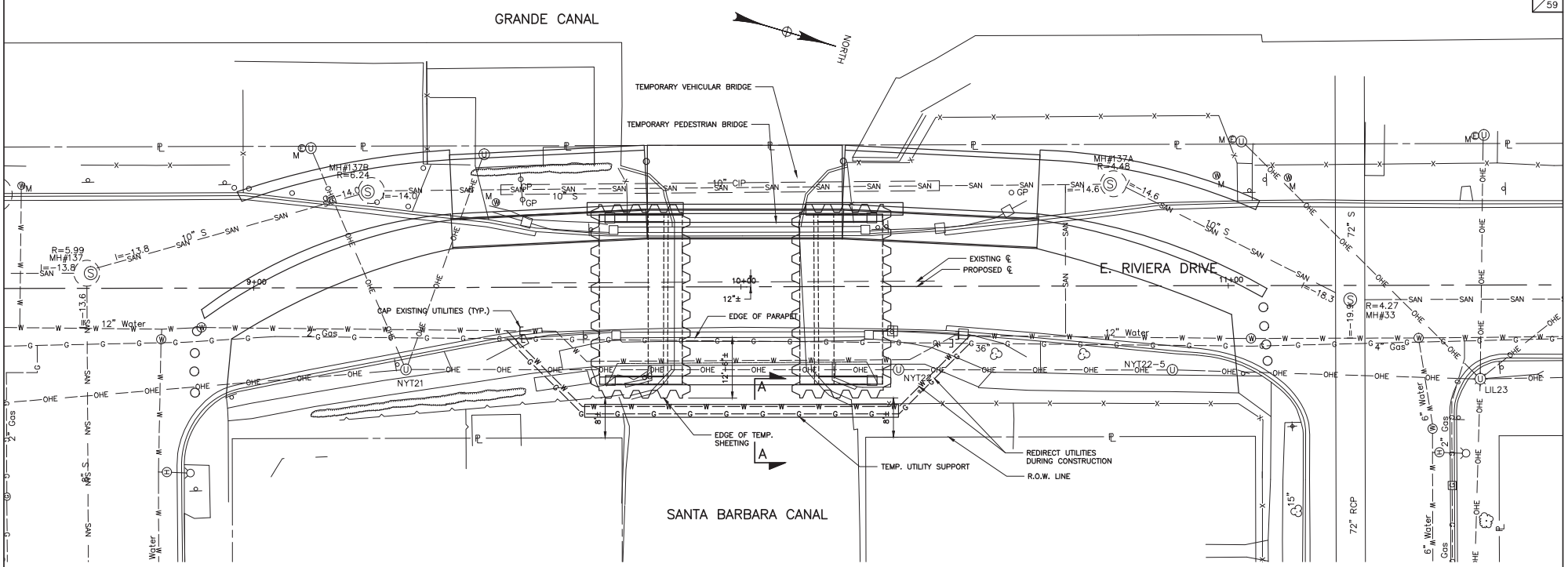
LKB CONSULTING ENGINEERS — LOCKWOOD, KESSLER & BARTLETT, INC. CONSULTING ENGINEERS SINCE 1889 SYOSSET, NEW YORK

PROJECT NAME: AMERICAN VENICE BRIDGES

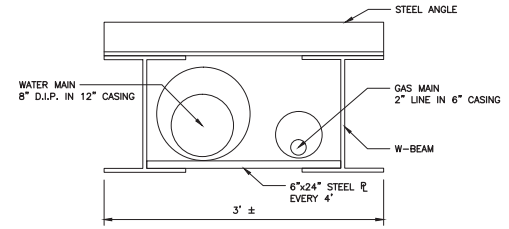
PERMANENT SHEETING DETAILS

DESIGN BY:	DMM
DRAWN BY:	DMM
CHECKED BY:	WTC
DATE:	8/2016
SCALE:	AS SHOWN
PROJECT NO.	5423-01
DRAWING NO.	PSD-1

File Name: I:\projects\5423 00 american venice bridges\cadd\sheets\structural\permanent sheeting plan.dwg
Plot Date: 8/30/2016 5:02 PM
Plotted By: Margolin, Daniel



PLAN
SCALE: 1"=10'



SECTION A–A
SCALE: 1½"=1'–0"

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CLIENT
TOWN OF BABYLON
LINDENHURST, NY

LKB CONSULTING ENGINEERS
LOCKWOOD, KESSLER & BARTLETT, INC.
CONSULTING ENGINEERS SINCE 1889 SYOSSET, NEW YORK

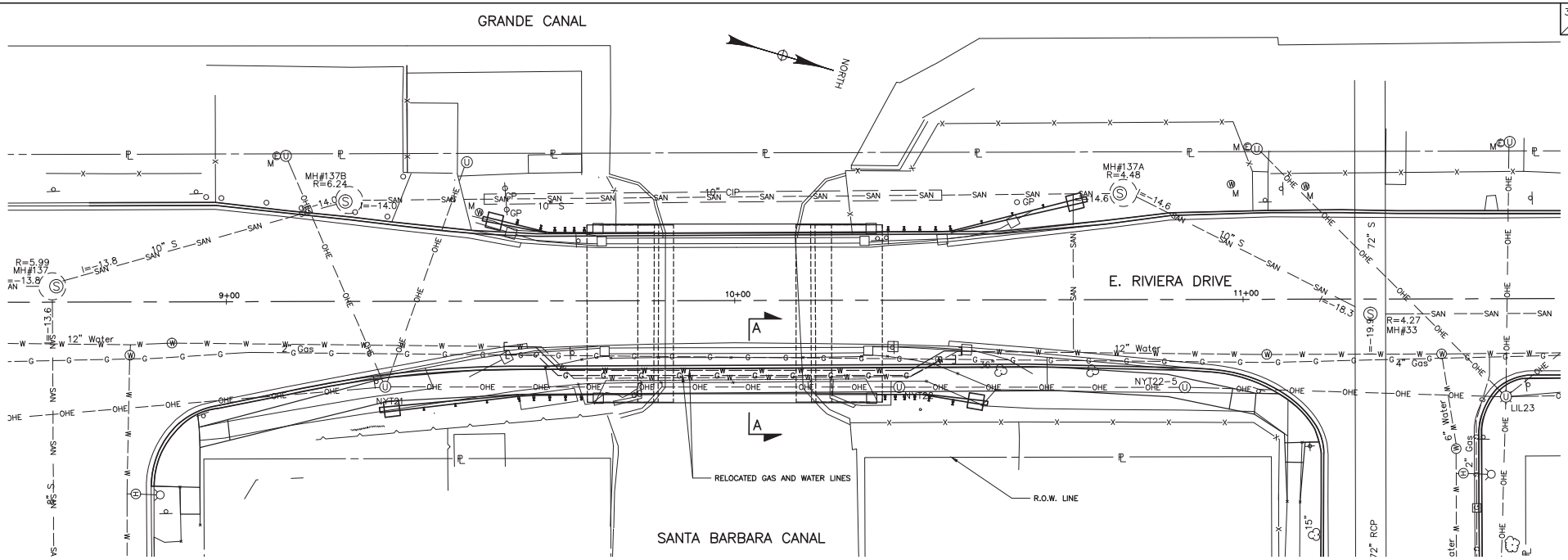
PROJECT NAME: AMERICAN VENICE BRIDGES

TEMPORARY UTILITY SUPPORT DETAILS EAST RIVIERA DRIVE

DESIGN BY: GG
DRAWN BY: DMM
CHECKED BY: WTC
DATE: 8/2016
SCALE: AS SHOWN

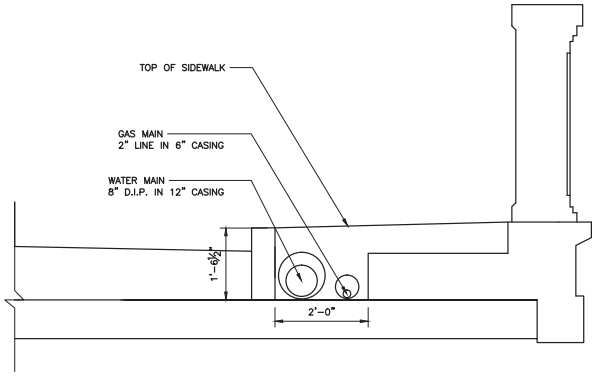
PROJECT NO. 5423–01
DRAWING NO. TU–E1

File Name: I:\projects\5423 00 american venice bridges\cadd\sheets\structural\temporary utility support details.dwg
Plot Date: 8/30/2016 5:02 PM
Plotted By: Margolin, Daniel



PLAN

SCALE: 1"=10'



SECTION A–A

SCALE: ¾"=1'-0"

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LINDENHURST, NY

LKB CONSULTING ENGINEERS

LOCKWOOD, KESSLER & BARTLETT, INC.
CONSULTING ENGINEERS SINCE 1889 SYOSSET, NEW YORK

PROJECT NAME: AMERICAN VENICE BRIDGES

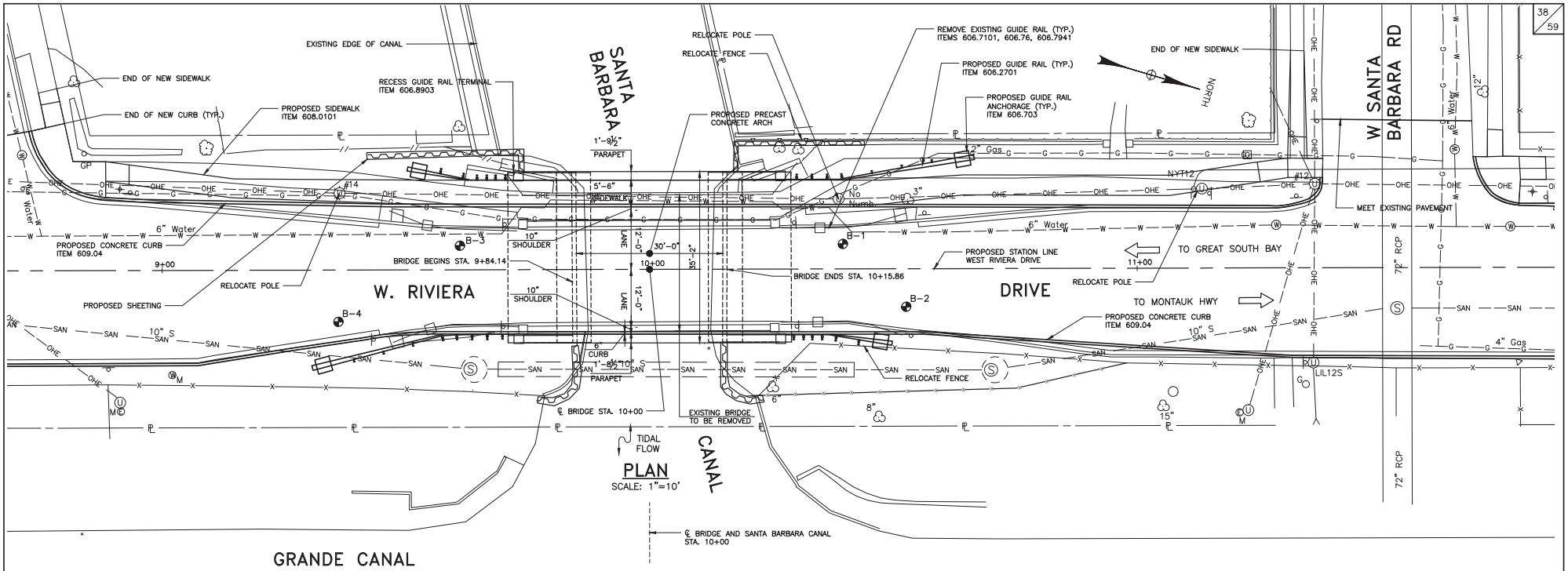
UTILITY PLAN EAST
RIVIERA DRIVE

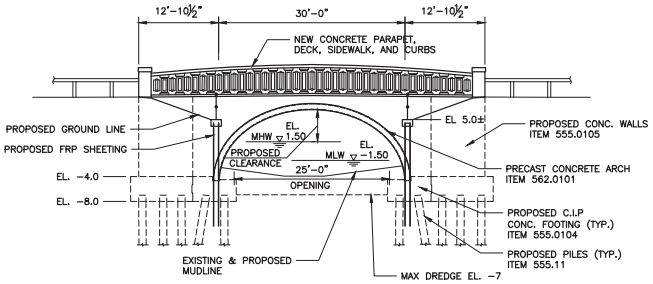
DESIGN BY:	DMM
DRAWN BY:	DMM
CHECKED BY:	WTC
DATE:	8/2016
SCALE:	AS SHOWN

PROJECT NO. 5423-01

DRAWING NO. UP-E1

File Name: I:\projects\5423 00 american venice bridges\cadd\sheets\structural\utility plan.dwg
Plot Date: 8/30/2016 5:03 PM
Plotted By: Margolin, Daniel





ELEVATION

SCALE: 1"=10'

NOTES:

1. FOR SOIL BORINGS, SEE PROJECT MANUAL.
2. SEE DRAWING NO. GPP-1 FOR NEW PAVEMENT LIMITS.
3. FULL DEPTH PAVEMENT REPLACEMENT SHALL BE DONE FOR THE FULL EXTENT OF THE PROJECT EXCEPT FOR THE FINAL FIVE FEET AT ENDS WHERE THE THE ASPHALT SHALL BE MILLED AND AN OVERLAY ADDED.

LEGEND:

DIRECTION OF TRAFFIC

SOIL BORING

0 10' 20'

REV.	DATE	REMARKS	BY
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CLIENT: TOWN OF BABYLON, LINDENHURST, NY

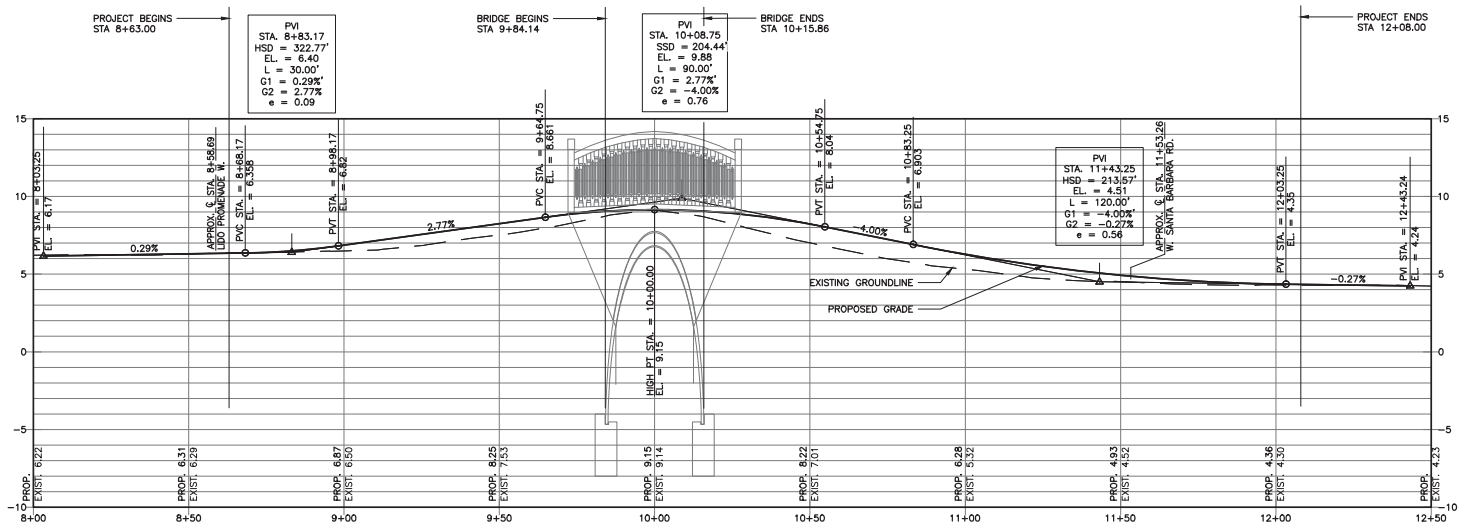
LKB CONSULTING ENGINEERS — LOCKWOOD, KESSLER & BARTLETT, INC. CONSULTING ENGINEERS SINCE 1889 SYOSSET, NEW YORK

PROJECT NAME: AMERICAN VENICE BRIDGES

BRIDGE PLAN AND ELEVATION WEST RIVIERA DRIVE

DESIGN BY:	DMM
DRAWN BY:	DMM
CHECKED BY:	WTC
DATE:	8/2016
SCALE:	1:10
PROJECT NO.	5423-01
DRAWING NO.	BPE-W1

File Name: I:\projects\5423 00 american venice bridges\cadd\sheets\structural\bridge plan, elevation and section.dwg
Plot Date: 8/30/2016 5:04 PM
Plotted By: Margolin, Daniel



STATIONLINE PROFILE

HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE: 1"=4'

File Name: I:\projects\5423 00 american venice bridges\cadd\sheets\structural\profile.dwg
Plot Date: 8/30/2016 5:04 PM
Plotted By: Margolin, Daniel

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CLIENT
TOWN OF BABYLON
LINDENHURST, NY

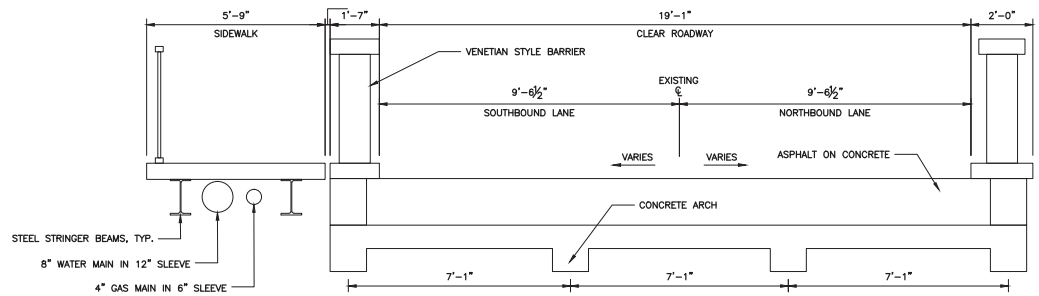
LKB CONSULTING ENGINEERS
LOCKWOOD, KESSLER & BARTLETT, INC.
CONSULTING ENGINEERS SINCE 1889 SYOSSET, NEW YORK

PROJECT NAME: AMERICAN VENICE BRIDGES

PROFILE WEST RIVIERA DRIVE

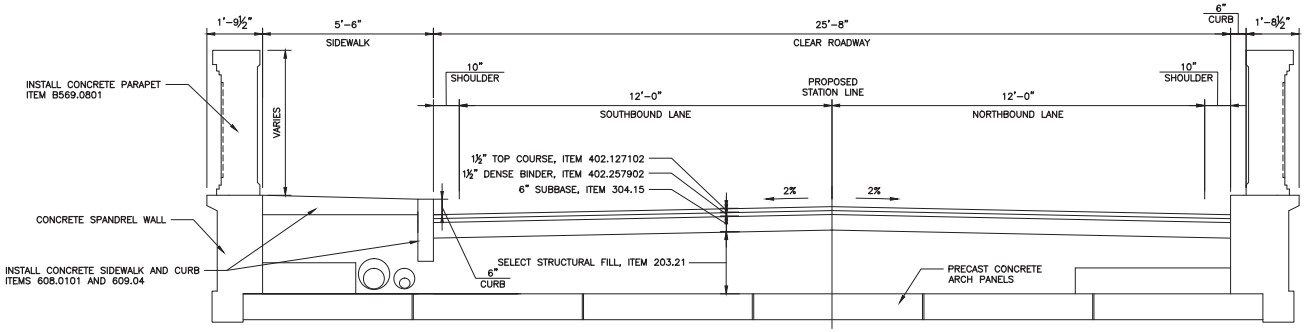
DESIGN BY: MR
DRAWN BY: EZ
CHECKED BY: WTC
DATE: 8/2016
SCALE: AS SHOWN

PROJECT NO. 5423-01
DRAWING NO. P-W1



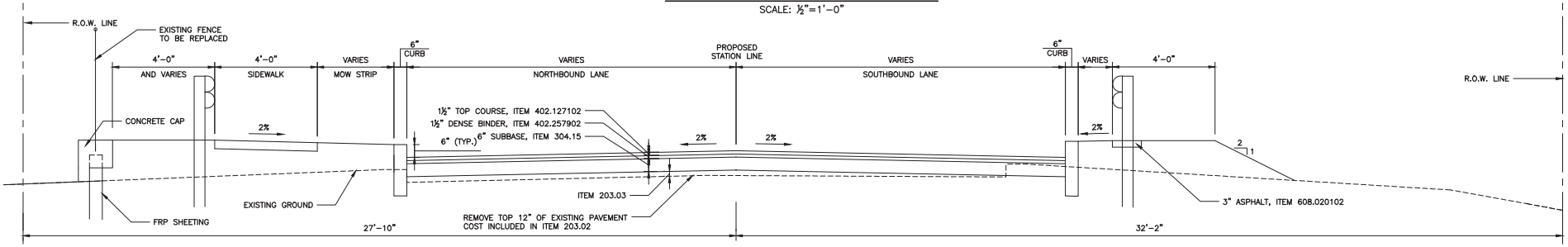
EXISTING BRIDGE SECTION

SCALE: ½"=1'-0"



PROPOSED BRIDGE SECTION

SCALE: ½"=1'-0"



TYPICAL APPROACH SECTION

SCALE: ½"=1'-0"

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TOWN OF BABYLON
LINDENHURST, NY

LKB CONSULTING ENGINEERS

LOCKWOOD, KESSLER & BARTLETT, INC.
CONSULTING ENGINEERS SINCE 1889 SYOSSET, NEW YORK

PROJECT NAME: AMERICAN VENICE BRIDGES

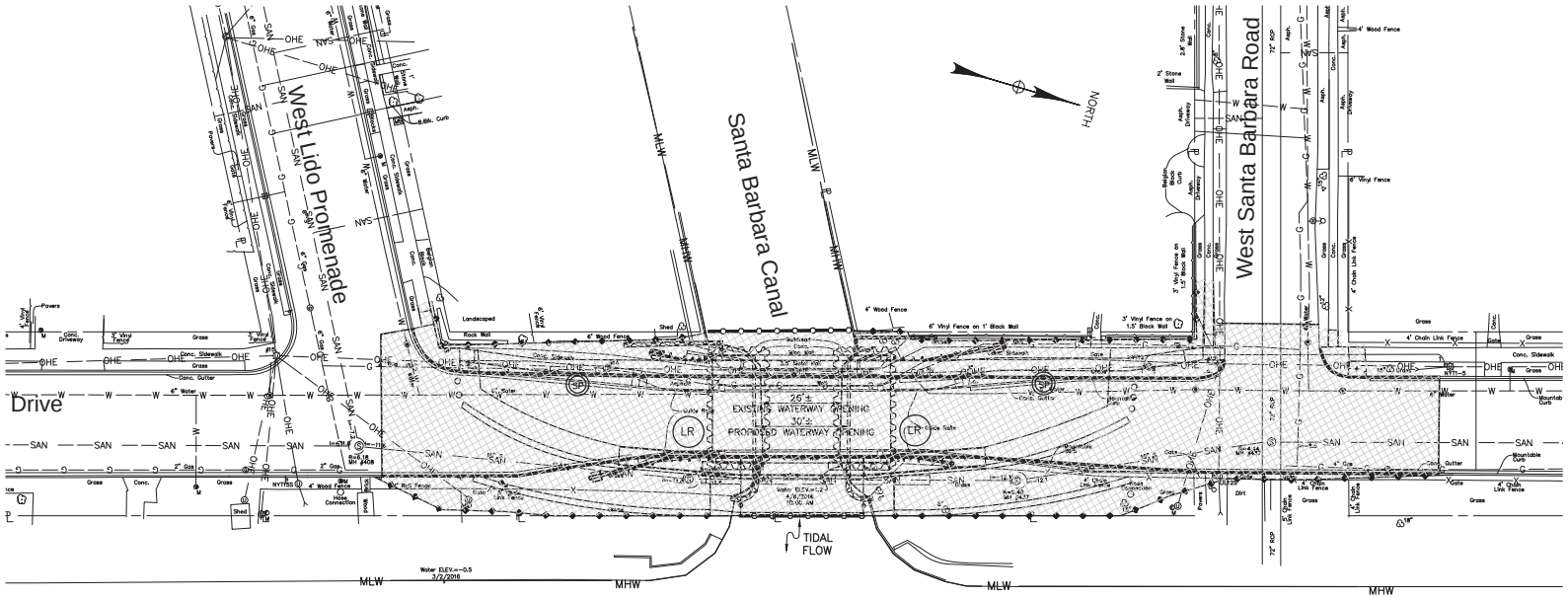
TYPICAL SECTIONS
WEST RIVIERA DRIVE

DESIGN BY: DMM
DRAWN BY: DMM
CHECKED BY: WTC
DATE: 8/2016
SCALE: AS SHOWN

PROJECT NO. 5423-01

DRAWING NO. TS-W1

File Name: I:\projects\5423 00 american venice bridges\cadd\sheets\structural\typical sections.dwg
Plot Date: 8/30/2016 5:05 PM
Plotted By: Margolin, Daniel



PLAN

SCALE: 1"=20'

LEGEND:

—— MHW ——	MEAN HIGH WATER
—— MLW ——	MEAN LOW WATER
	LIMIT OF ROADWAY DISTURBANCE
	SILT FENCE, ITEM 209.13
	TURBIDITY CURTAIN, ITEM 209.1501
SP	STOCKPILE
LR	LEACHING RING, ITEM 209.30000010

0 20' 40'

REV.	DATE	REMARKS	BY
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TOWN OF BABYLON
LINDENHURST, NY

LKB CONSULTING ENGINEERS

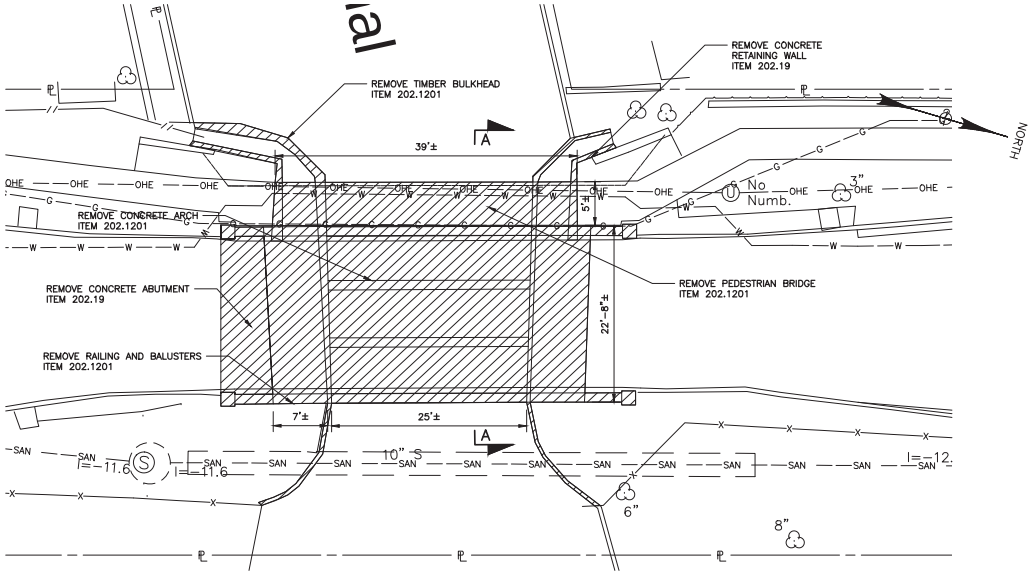
LOCKWOOD, KESSLER & BARTLETT, INC.
CONSULTING ENGINEERS SINCE 1889 SYOSSET, NEW YORK

PROJECT NAME: AMERICAN VENICE BRIDGES

SOIL EROSION
CONTROL PLAN
WEST RIVIERA DRIVE

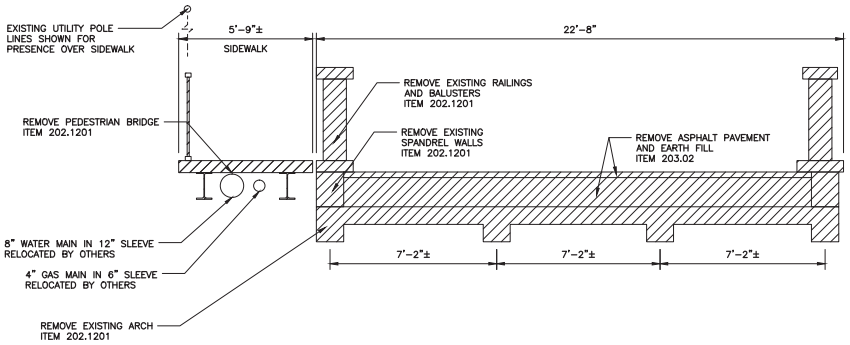
DESIGN BY:	DMM
DRAWN BY:	DMM
CHECKED BY:	WTC
DATE:	8/2016
SCALE:	1:20
PROJECT NO.	5423-01
DRAWING NO.	SEC-W1

File Name: I:\projects\5423 00 american venice bridges\cadd\sheets\structural\soil erosion control plan.dwg
Plot Date: 8/30/2016 5:05 PM
Plotted By: Margolin, Daniel



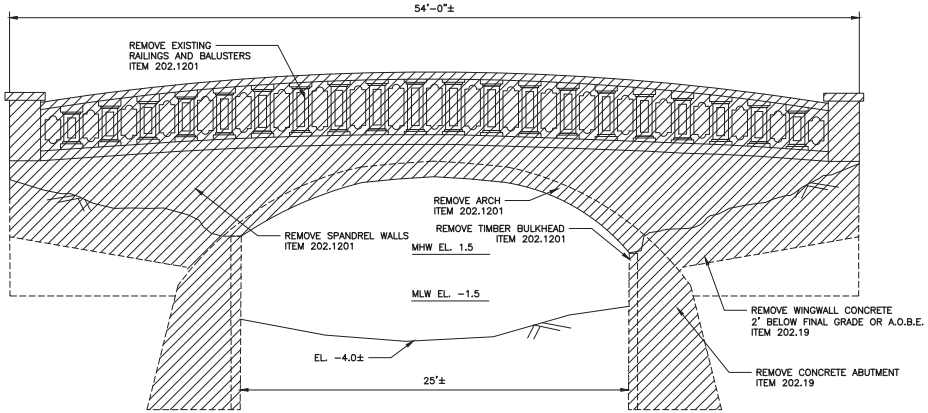
EXISTING BRIDGE PLAN

SCALE: ⅛"=1'-0"



SECTION A–A

SCALE: ⅜"=1'-0"



EXISTING ELEVATION

SCALE: ¼"=1'-0"

NOTES:

1. EXISTING SUBSTRUCTURE SHALL BE REMOVED WITHIN THE LIMITS SHOWN ON THE PLANS UNDER ITEM 202.19 IN THE BRIDGE ESTIMATE.
2. EXISTING SUPERSTRUCTURE SHALL BE REMOVED UNDER ITEM 202.1201 IN THE BRIDGE ESTIMATE.
3. ALL REMOVALS ARE TO BE COORDINATED WITH TEMPORARY SHEETING.

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CLIENT

TOWN OF BABYLON
LINDENHURST, NY

LKB CONSULTING ENGINEERS

LOCKWOOD, KESSLER & BARTLETT, INC.
CONSULTING ENGINEERS SINCE 1889 SYOSSET, NEW YORK

PROJECT NAME: AMERICAN VENICE BRIDGES

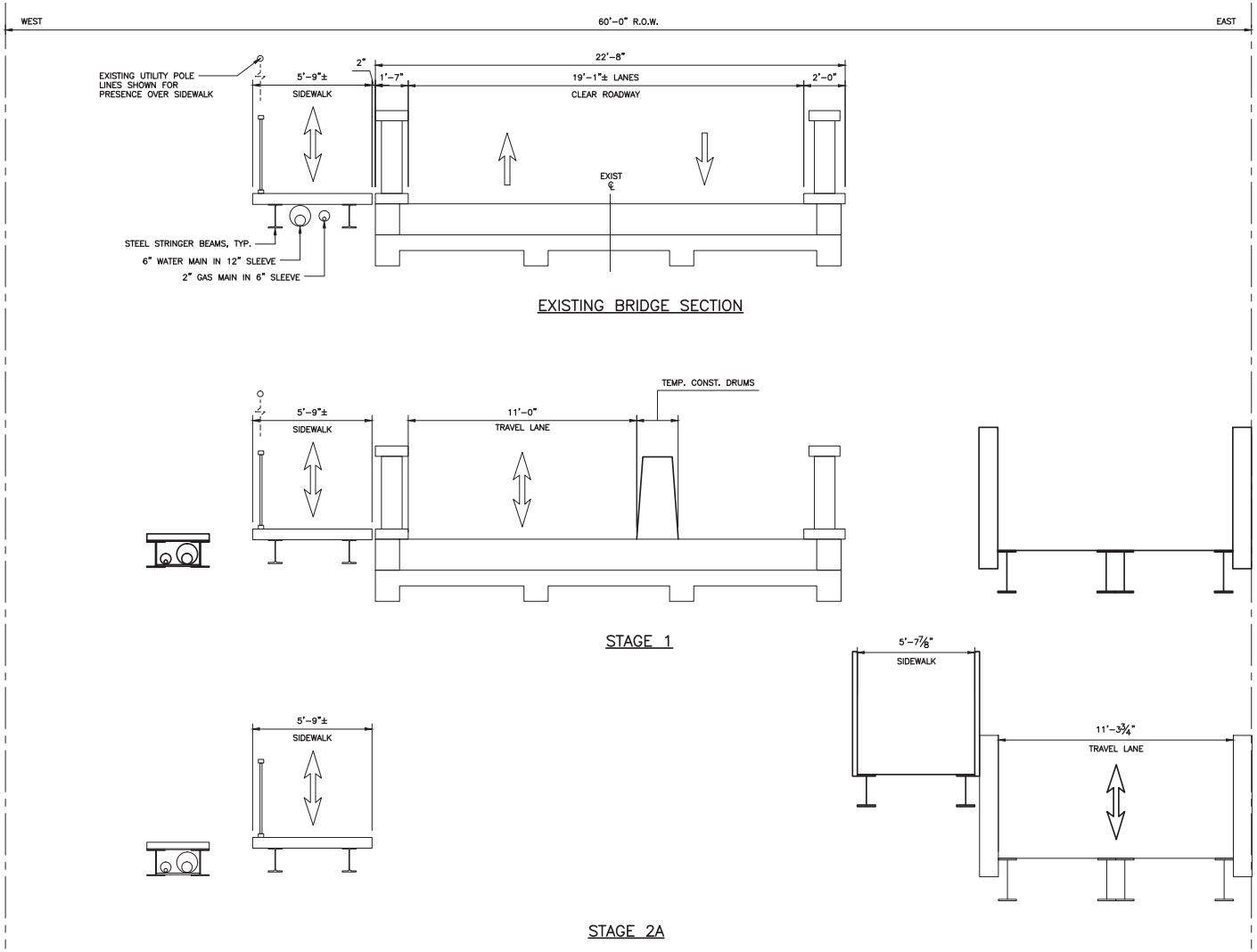
DEMOLITION PLAN
WEST RIVIERA DRIVE

DESIGN BY:	DMM
DRAWN BY:	DMM
CHECKED BY:	WTC
DATE:	8/2016
SCALE:	AS SHOWN

PROJECT NO. 5423-01

DRAWING NO. DP-W1

File Name: I:\projects\5423 00 american venice bridges\cadd\sheets\structural\demolition plan.dwg
Plot Date: 8/30/2016 5:06 PM
Plotted By: Margolin, Daniel



SUGGESTED SEQUENCE OF CONSTRUCTION:

PRE-STAGE CONSTRUCTION:

1. ESTABLISH TEMPORARY EROSION CONTROL AS PER THE SOIL EROSION CONTROL PLAN.

NOTE: EXISTING UTILITIES ARE TO BE TEMPORARILY SUPPORTED.

STAGE 1 CONSTRUCTION:

1. INSTALL TEMPORARY TRAFFIC SIGNAL AND REALIGN PAVEMENT MARKINGS FOR ONE-LANE, TWO-WAY TRAFFIC CONTROL, AND REDIRECT TRAFFIC TO THE EAST SIDE OF BRIDGE.
2. INSTALL TEMPORARY SHEETING FOR COFFERDAM ON CANAL (EAST) SIDE AND INSTALL TEMPORARY BRIDGE SUPPORT PILES.
3. CONSTRUCT TEMPORARY VEHICULAR BRIDGE STRUCTURE.

STAGE 2A CONSTRUCTION:

1. PLACE NECESSARY ASPHALT ON THE APPROACHES. REALIGN PAVEMENT MARKINGS FOR TRAFFIC OVER THE TEMPORARY BRIDGE AND REDIRECT TRAFFIC ONTO THE TEMPORARY ROADWAY BRIDGE. PEDESTRIANS ARE TO REMAIN ON THE EXISTING SIDEWALK.
2. REMOVE EXISTING ROADWAY BRIDGE.
3. INSTALL TEMPORARY SHEETING AND PILES FOR FINAL BRIDGE THAT ARE BENEATH TEMPORARY PEDESTRIAN STRUCTURE.

   NOTE: AUGER OVERSIZED HOLES ABOVE PILES TO BOTTOM OF FOOTING ELEVATION PRIOR TO DRIVING PILES.
4. CONSTRUCT TEMPORARY PEDESTRIAN BRIDGE STRUCTURE.

REV.	DATE	REMARKS	BY
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CLIENT: TOWN OF BABYLON, LINDENHURST, NY

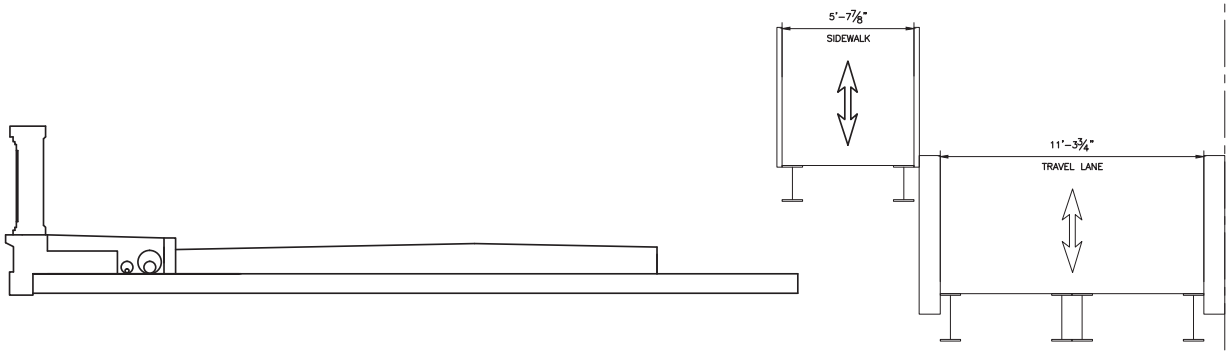
LKB CONSULTING ENGINEERS — LOCKWOOD, KESSLER & BARTLETT, INC. — CONSULTING ENGINEERS SINCE 1889 — SYOSSET, NEW YORK

PROJECT NAME: AMERICAN VENICE BRIDGES

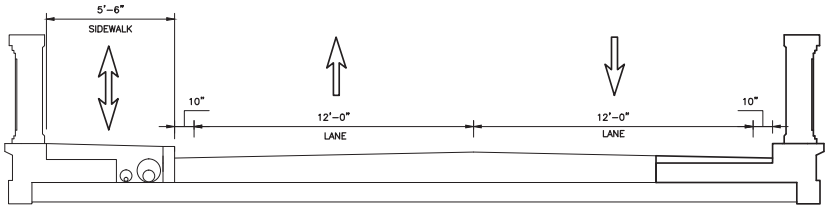
SUGGESTED SEQUENCE OF CONSTRUCTION 1 WEST RIVIERA DRIVE

DESIGN BY:	DMM
DRAWN BY:	DMM
CHECKED BY:	WTC
DATE:	8/2016
SCALE:	3/8"=1'-0"
PROJECT NO.	5423-01
DRAWING NO.	SS-W1

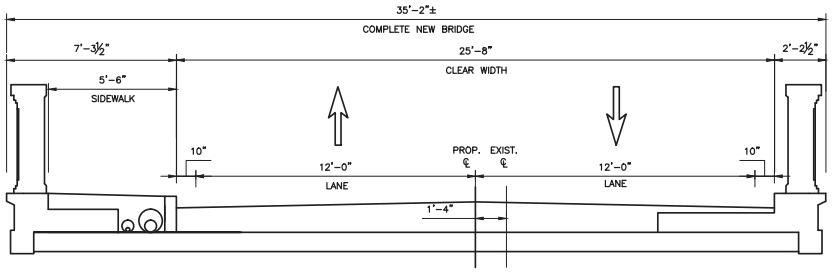
File Name: I:\projects\5423 00 american venice bridges\cadd\sheets\structural\construction sequence.dwg
Plot Date: 8/30/2016 5:06 PM
Plotted By: Margolin, Daniel



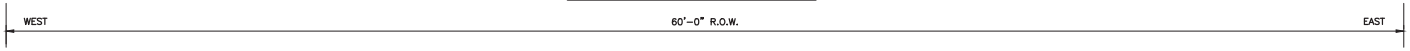
STAGE 2B



STAGE 3



PROPOSED BRIDGE SECTION



SUGGESTED SEQUENCE OF CONSTRUCTION:

STAGE 2B CONSTRUCTION:

1. REDIRECT PEDESTRIAN TRAFFIC OVER TEMPORARY PEDESTRIAN BRIDGE.
2. REMOVE EXISTING PEDESTRIAN BRIDGE STRUCTURE.
3. INSTALL REMAINING TEMPORARY SHEETING.
4. INSTALL REMAINING PILES AND FOOTINGS FOR WINGWALLS AND ABUTMENTS.
5. LEVEL AND SET PRECAST CONCRETE ARCH ON NEW FOUNDATION.
6. INSTALL CONCRETE WINGWALLS, PLACE BACKFILL MATERIAL.
7. CONSTRUCT ENTIRE ROADWAY SECTION, SIDEWALK, AND BARRIER ON RESIDENTIAL (WEST) SIDE ONLY.

STAGE 3 CONSTRUCTION:

1. REDIRECT PEDESTRIAN TRAFFIC OVER NEW SIDEWALK.
2. REMOVE TEMPORARY PEDESTRIAN BRIDGE.
3. CONSTRUCT REMAINING PARAPET AND SLAB.
4. ADD LANE STRIPING AS SHOWN ON PLANS.
5. REMOVE TEMPORARY TRAFFIC SIGNAL AND REDIRECT TWO WAY ROADWAY TRAFFIC OVER NEW BRIDGE.
6. REMOVE TEMPORARY ROADWAY BRIDGE AND RESTORE ANY DISTURBED AREAS.

REV.	DATE	REMARKS	BY
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CLIENT: TOWN OF BABYLON, LINDENHURST, NY

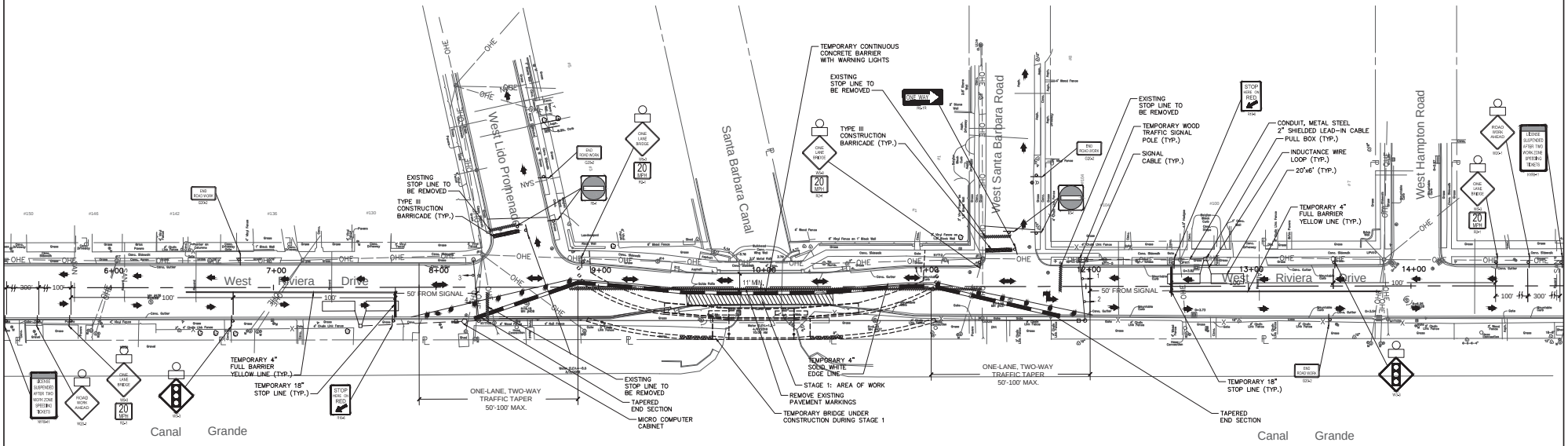
LKB CONSULTING ENGINEERS — LOCKWOOD, KESSLER & BARTLETT, INC. — CONSULTING ENGINEERS SINCE 1889 — SYOSSET, NEW YORK

PROJECT NAME: AMERICAN VENICE BRIDGES

SUGGESTED SEQUENCE OF CONSTRUCTION 2 WEST RIVIERA DRIVE

DESIGN BY:	DMM
DRAWN BY:	DMM
CHECKED BY:	WTC
DATE:	8/2016
SCALE:	3/8"=1'-0"
PROJECT NO.	5423-01
DRAWING NO.	SS-W2

File Name: I:\projects\5423 00 american venice bridges\cadd\sheets\structural\construction sequence.dwg
Plot Date: 8/30/2016 5:06 PM
Plotted By: Margolin, Daniel



WEST RIVIERA DRIVE
MAINTENANCE AND PROTECTION OF TRAFFIC PLAN
STAGE 1
SCALE: 1"=30'

LEGEND:

- TEMPORARY CONCRETE BARRIER
- TEMPORARY SIGN
- FLOW OF TRAFFIC
- WARNING LIGHT
- WORK ZONE
- EXISTING PAVEMENT MARKING REMOVAL
- TEMPORARY TRAFFIC SIGNAL FACE (BY OTHERS)
- CONSTRUCTION DRUM
- TYPE III BARRICADE

0 30' 60'

REV.	DATE	REMARKS	BY

CLIENT: TOWN OF BABYLON, LINDENHURST, NY

B. THAYER ASSOCIATES
100 Crossways Park Drive West
Suite 104
Woodbury, New York 11797
(516) 364-0660

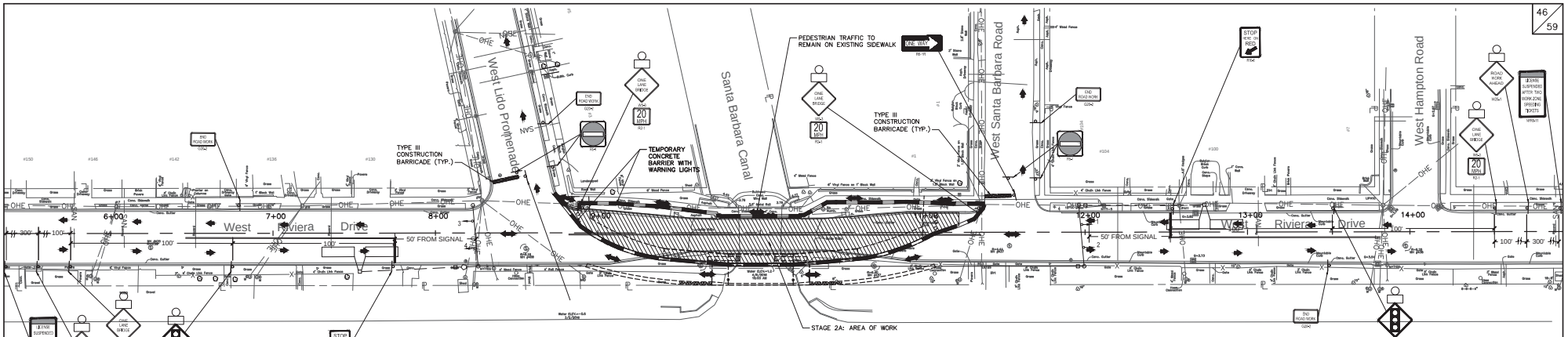
PROJECT NAME: AMERICAN VENICE BRIDGES

WORK ZONE TRAFFIC CONTROL PLANS 1
WEST RIVIERA DRIVE

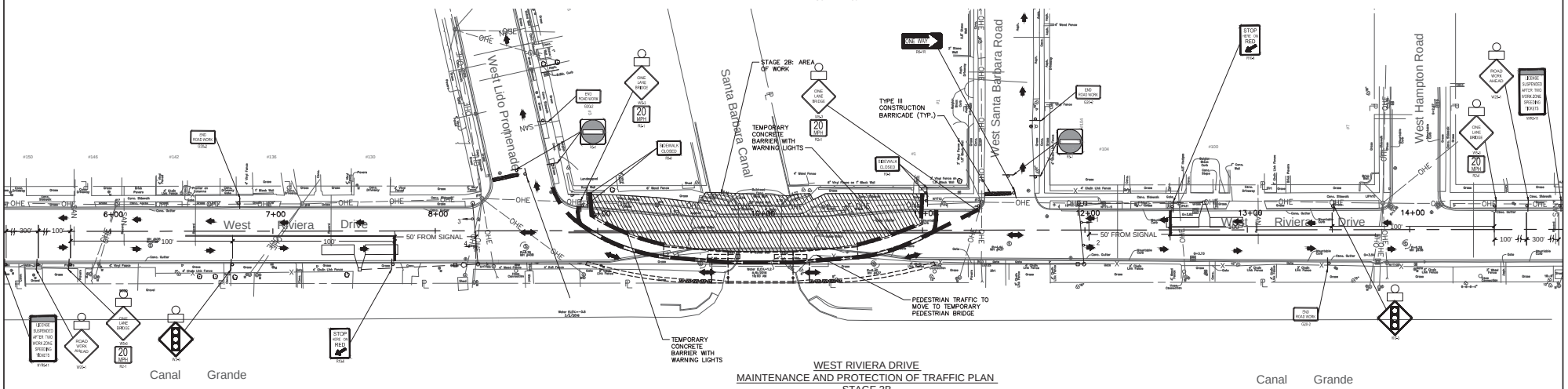
DESIGN BY: ---
DRAWN BY: ---
CHECKED BY: ---
DATE: 8/2016
SCALE: 1:30

PROJECT NO. 5423-01
DRAWING NO. MPT-W1

File Name: I:\projects\5423 00 american venice bridges\cadd\sheets\structural\c-mpt.dwg
Plot Date: 8/30/2016 5:07 PM
Plotted By: Margolin, Daniel



WEST RIVIERA DRIVE
MAINTENANCE AND PROTECTION OF TRAFFIC PLAN
STAGE 2A
SCALE: 1"=30'



WEST RIVIERA DRIVE
MAINTENANCE AND PROTECTION OF TRAFFIC PLAN
STAGE 2B
SCALE: 1"=30'

LEGEND:

- TEMPORARY CONCRETE BARRIER
- TEMPORARY SIGN
- FLOW OF TRAFFIC
- WARNING LIGHT
- WORK ZONE
- EXISTING PAVEMENT MARKING REMOVAL
- TEMPORARY TRAFFIC SIGNAL FACE (BY OTHERS)
- CONSTRUCTION DRUM
- TYPE III BARRICADE

0 30' 60'

REV.	DATE	REMARKS	BY

CLIENT: TOWN OF BABYLON, LINDENHURST, NY

B. THAYER ASSOCIATES
100 Crossways Park Drive West
Suite 104
Woodbury, New York 11797
(516) 364-0660

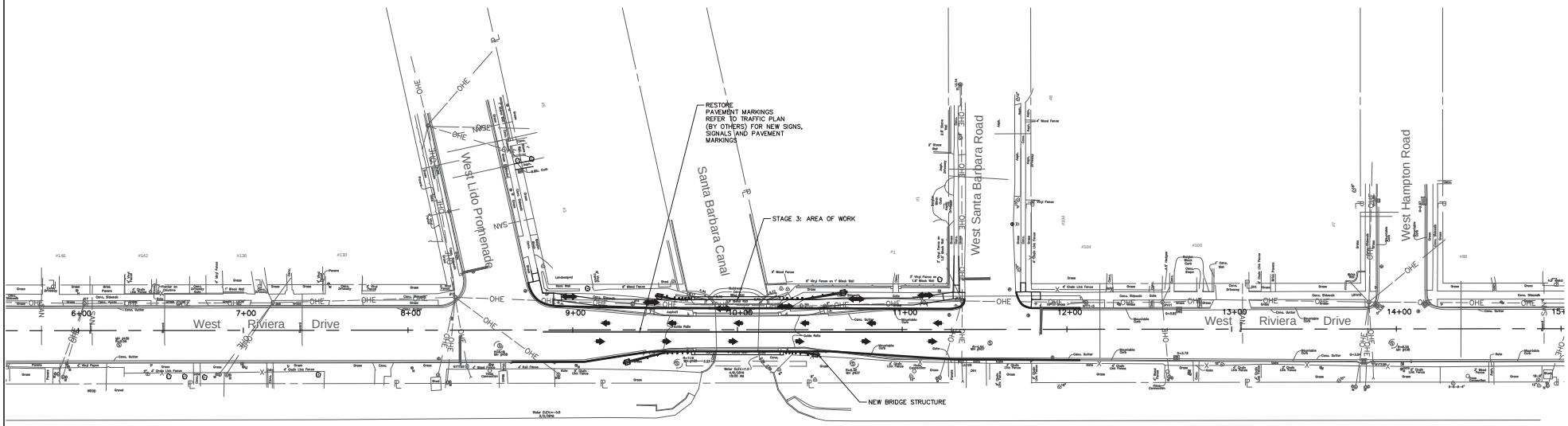
PROJECT NAME: AMERICAN VENICE BRIDGES

WORK ZONE TRAFFIC CONTROL PLANS 2
WEST RIVIERA DRIVE

DESIGN BY: ---
DRAWN BY: ---
CHECKED BY: ---
DATE: 8/2016
SCALE: 1:30

PROJECT NO. 5423-01
DRAWING NO. MPT-W2

File Name: I:\projects\5423 00 american venice bridges\cadd\sheets\structural\c-mpt.dwg
Plot Date: 8/30/2016 5:07 PM
Plotted By: Margolin, Daniel



WEST RIVIERA DRIVE
MAINTENANCE AND PROTECTION OF TRAFFIC PLAN
STAGE 3
SCALE: 1"=30'

0 30' 60'

REV.	DATE	REMARKS	BY

CLIENT
TOWN OF BABYLON
LINDENHURST, NY

B. THAYER ASSOCIATES

100 Crossways Park Drive West
Suite 104
Woodbury, New York 11797
(516) 364-0660

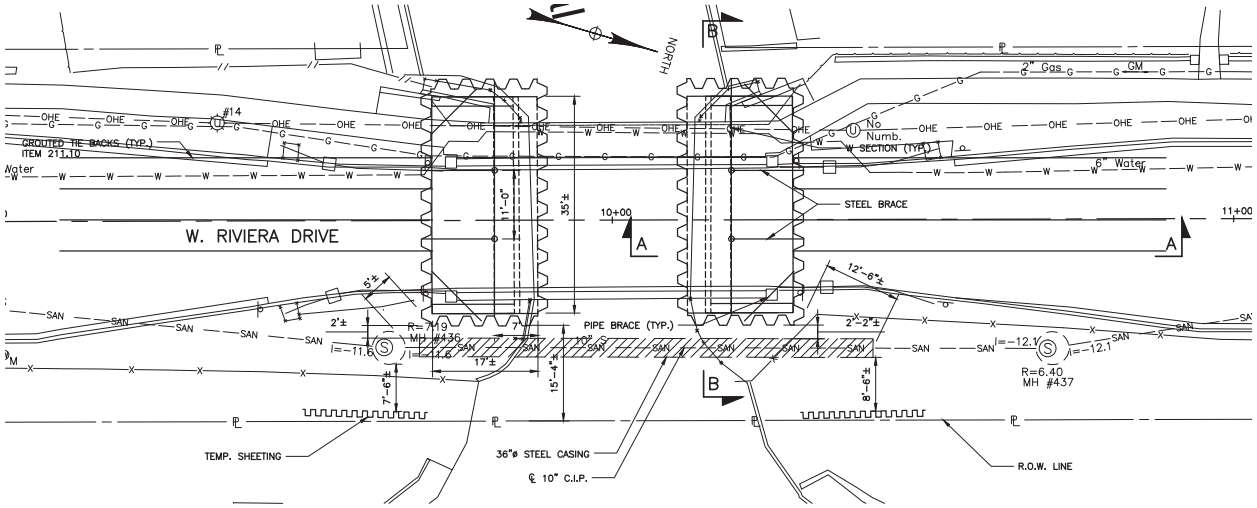
PROJECT NAME: AMERICAN VENICE BRIDGES

WORK ZONE TRAFFIC CONTROL PLANS 3
WEST RIVIERA DRIVE

DESIGN BY: ---
DRAWN BY: ---
CHECKED BY: ---
DATE: 8/2016
SCALE: 1:30

PROJECT NO. 5423-01
DRAWING NO. MPT-W3

File Name: I:\projects\5423 00 american venice bridges\cadd\sheets\structural\c-mpt.dwg
Plot Date: 8/30/2016 5:07 PM
Plotted By: Margolin, Daniel



PLAN

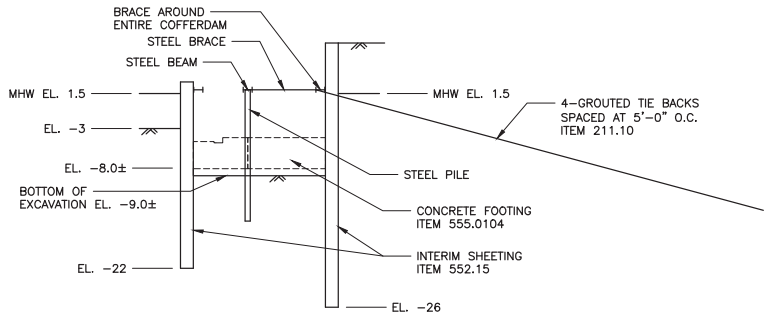
SCALE: 1"=10'

NOTES:

1. ADDITIONAL EROSION CONTROL MEASURES MAY BE REQUIRED A.O.B.E. COST TO BE INCLUDED UNDER THE APPROPRIATE ITEMS.
2. THE CONTRACTOR SHALL SUBMIT A DEWATERING PLAN TO THE ENGINEER. THE PLAN WILL FOLLOW GUIDELINES FOR DISCHARGE OF WATER.
3. CONTRACTOR MAY POUR CONCRETE FOR FOOTINGS DIRECTLY AGAINST TEMPORARY SHEETING.

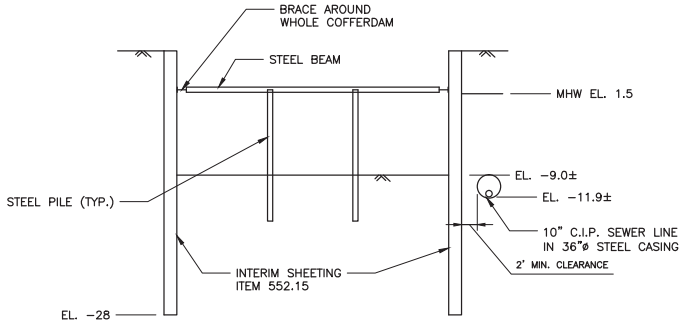
TEMPORARY SHEETING NOTES:

1. ALL COMPONENTS OF THE COFFERDAM ON THIS DRAWING SHALL BE PAID FOR UNDER ITEM 553.020002 UNLESS NOTED OTHERWISE. INTERIM SHEETING SHALL BE PAID UNDER ITEM 552.15.
2. INTERIM STEEL SHEETING SHALL HAVE A MINIMUM SECTION MODULUS OF 45 in^3.
3. A SURCHARGE OF 300 PSF IS ASSUMED.
4. THE FOLLOWING INFORMATION WAS USED IN THIS DESIGN OF INTERIM SHEETING:
   ϕ = 33° Ka = 0.29 Kp' = 2.71 γ = 120PSF
5. ALL STEEL SHEETING SHALL HAVE A MINIMUM Fy=36KSI.
6. THE CONTRACTOR SHALL SUBMIT DESIGN CALCULATIONS AND PLANS, SEALED BY A N.Y.S. LICENSED PROFESSIONAL ENGINEER FOR APPROVAL BY THE E.I.C.
7. BRACED SHEETING WITH GROUTED TIEBACKS AND INTERIOR PILES WITH TENSION MEMBERS ARE SHOWN. CONTRACTOR MAY PROPOSE ALTERNATIVE METHOD.



SECTION A-A

SCALE: ⅛"=1'-0"



SECTION B-B

SCALE: ⅛"=1'-0"

REV.	DATE	REMARKS	BY
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CLIENT: TOWN OF BABYLON, LINDENHURST, NY

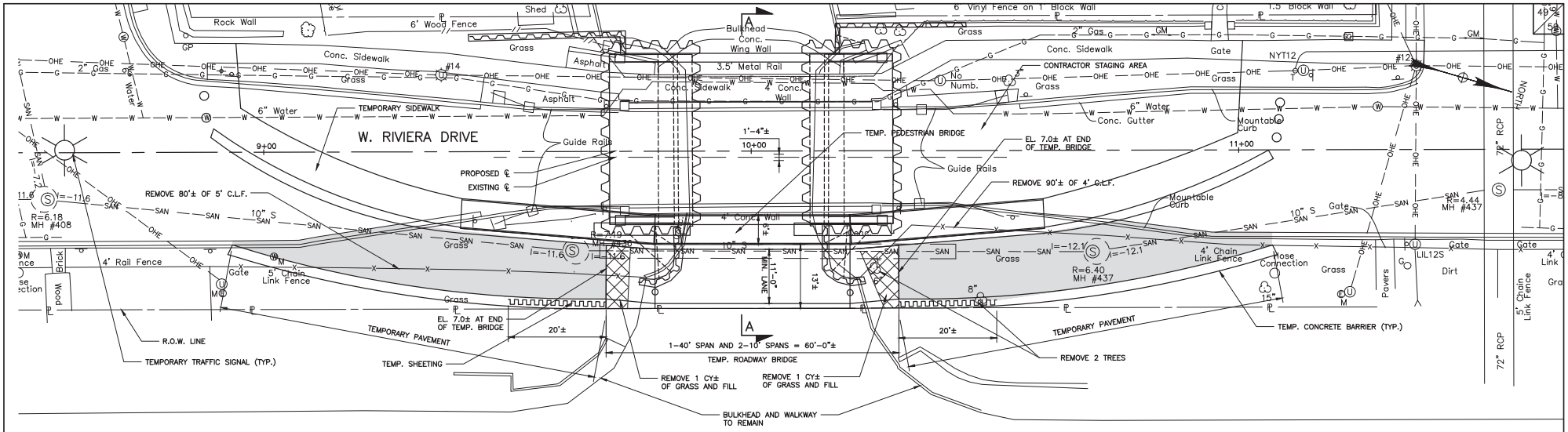
LKB CONSULTING ENGINEERS — LOCKWOOD, KESSLER & BARTLETT, INC. CONSULTING ENGINEERS SINCE 1889 SYOSSET, NEW YORK

PROJECT NAME: AMERICAN VENICE BRIDGES

TEMPORARY SHEETING PLAN
WEST RIVIERA DRIVE

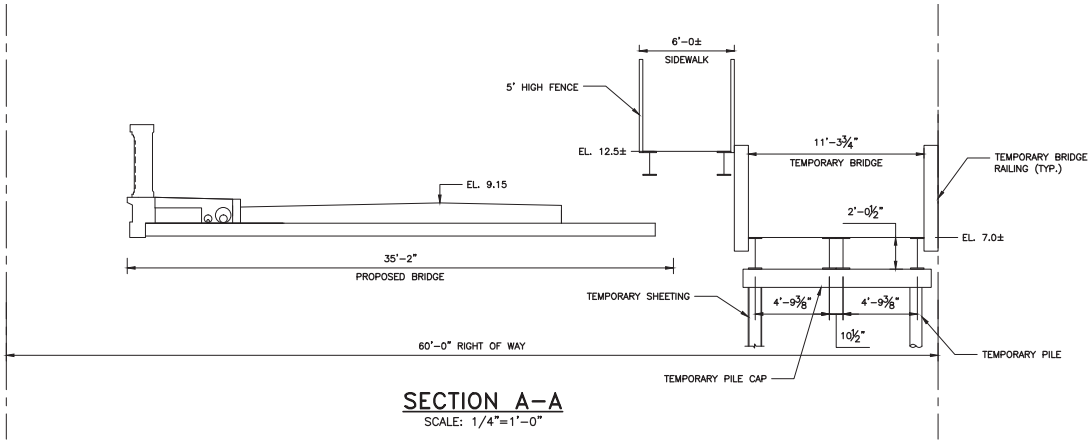
DESIGN BY:	DMM
DRAWN BY:	DMM
CHECKED BY:	WTC
DATE:	8/2016
SCALE:	AS SHOWN
PROJECT NO.	5423-01
DRAWING NO.	TSP-W1

File Name: I:\projects\5423 00 american venice bridges\cadd\sheets\structural\temporary sheeting and cofferdam plan.dwg
Plot Date: 8/30/2016 5:08 PM
Plotted By: Margolin, Daniel



PLAN

SCALE: 1"=10'



SECTION A-A

SCALE: 1/4"=1'-0"

NOTES:

1. TEMPORARY BRIDGE SHALL BE 40' QUICKBRIDGE – 2 UNIT, BY MABEY INC. OR APPROVED EQUAL.
2. TEMPORARY VEHICULAR BRIDGE SHALL HAVE A LIVE LOAD CAPACITY GREATER THAN OR EQUAL TO AN HS-25 LOAD, AND THE TEMPORARY PEDESTRIAN BRIDGE SHALL HAVE A LIVE LOAD CAPACITY GREATER THAN OR EQUAL TO 90 PSF.
3. EACH SUPPORT SHOWN (CAP BEAM ON TEMPORARY SHEETING AND PILE CAP) SHALL BE DESIGNED FOR UNFACTORED APPLIED LOAD OF 75 KIPS.
4. CONTRACTOR MAY PROPOSE ALTERNATE TEMPORARY BRIDGE CONSTRUCTION AND SUPPORT AS WELL AS AN ALTERNATE METHOD OF MAINTENANCE OF TRAFFIC.
5. ALL LANDSCAPING, FENCING, AND SOIL REMOVALS/ ADDITIONS DELINEATED ON THIS DRAWING ARE NECESSARY ONLY IF TEMPORARY BRIDGE IS CONSTRUCTED, AND ARE THUS PAID FOR UNDER ITEMS 619.0602 AND 619.0604.

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CLIENT: TOWN OF BABYLON, LINDENHURST, NY

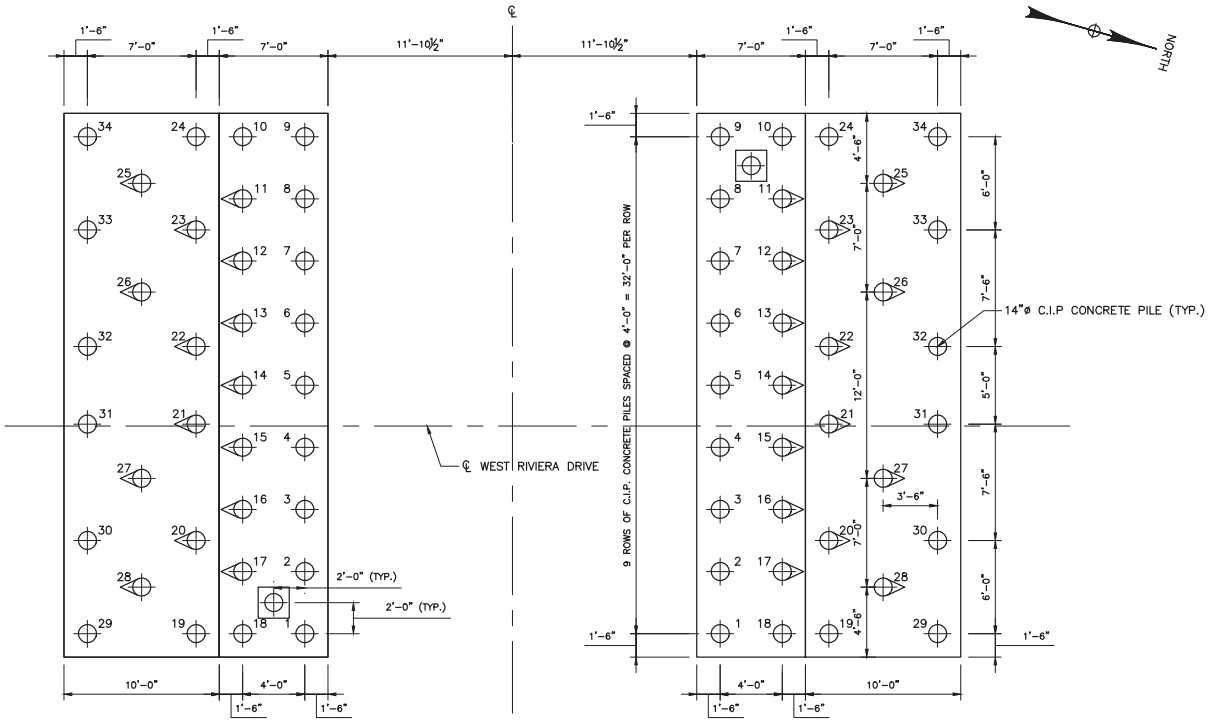
LKB CONSULTING ENGINEERS — LOCKWOOD, KESSLER & BARTLETT, INC. — CONSULTING ENGINEERS SINCE 1889 — SYOSSET, NEW YORK

PROJECT NAME: AMERICAN VENICE BRIDGES

TEMPORARY BRIDGE PLAN
WEST RIVIERA DRIVE

DESIGN BY:	GG
DRAWN BY:	DMM
CHECKED BY:	WTC
DATE:	8/2016
SCALE:	AS SHOWN
PROJECT NO.	5423-01
DRAWING NO.	TBP-W1

File Name: I:\projects\5423 00 american venice bridges\cadd\sheets\structural\temporary bridge plan.dwg
Plot Date: 8/30/2016 5:09 PM
Plotted By: Margolin, Daniel



SOUTH ABUTMENT

CONCRETE PILE PLAN

SCALE: ¼"=1'-0"

NORTH ABUTMENT

NOTES:

1. ESTIMATED TOTAL LENGTHS FOR ALL PILES ARE MEASURED FROM CUTOFF POINT TO THE TIP OF PILE. THIS INFORMATION SHALL BE USED AS A BASIS FOR ESTIMATION ONLY.
2. FOR DESIGN PURPOSES, THE PILE LOAD DOES NOT EXCEED 80 KIPS/PILE FOR ABUTMENT PILES (1–18) AND 65 KIPS/PILE FOR WINGWALL PILES (19–34). MINIMUM PILE CAPACITY BLOW COUNT IS ESTIMATED AT 8 BLOWS PER INCH. THIS QUANTITY IS TO BE VERIFIED BY THE FOUNDATION CONTRACTOR GEOTECH.
3. THE PILES SHALL BE INSTALLED TO THE DEPTH REQUIRED TO PROVIDE A FACTOR OF SAFETY OF 2.
4. PILE CUTOFF ELEVATIONS:
   NORTH ABUTMENT: –7.5
   SOUTH ABUTMENT: –7.5
   NORTH WINGWALLS: –7.5
   SOUTH WINGWALLS: –7.5
5. APPROXIMATE PILE MINIMUM TIP ELEVATIONS:
   NORTH ABUTMENT: –37.5
   SOUTH ABUTMENT: –37.5
   NORTH WINGWALLS: –27.5
   SOUTH WINGWALLS: –27.5
6. FOR STRUCTURAL NOTES, SEE DWG. NO. SN–1.
7. A STATIC LOAD TEST SHALL BE PERFORMED AT THE LOCATIONS SHOWN ON THE PLAN. TESTING SHALL BE AS PER ASTM D–1143 (QUICK LOAD). THE TEST PILES SHALL BE LOADED TO TWICE THE DESIGN CAPACITY, ITEM 551.50220017. TEST PILES ARE TO BE ABANDONED AFTER LOAD TEST.

LEGEND:

- C.I.P. CONCRETE PILE, ITEM 551.11
- BATTERED CAISSON PILE, ITEM 551.11 (PILES BATTERED 6:1)
- TEST PILE, ITEM 551.50220017

PILE GROUP NO.	LOCATION SOUTH ABUTMENT ESTIMATED LENGTH	LOCATION SOUTH ABUTMENT ACTUAL LENGTH	PILE GROUP NO.	LOCATION SOUTH ABUTMENT ESTIMATED LENGTH	LOCATION SOUTH ABUTMENT ACTUAL LENGTH	PILE GROUP NO.	LOCATION SOUTH ABUTMENT ESTIMATED LENGTH	LOCATION SOUTH ABUTMENT ACTUAL LENGTH
1	30'		13	30'		25	20'	
2	30'		14	30'		26	20'	
3	30'		15	30'		27	20'	
4	30'		16	30'		28	20'	
5	30'		17	30'		29	20'	
6	30'		18	30'		30	20'	
7	30'		19	20'		31	20'	
8	30'		20	20'		32	20'	
9	30'		21	20'		33	20'	
10	30'		22	20'		34	20'	
11	30'		23	20'				
12	30'		24	20'				

PILE GROUP NO.	LOCATION NORTH ABUTMENT ESTIMATED LENGTH	LOCATION NORTH ABUTMENT ACTUAL LENGTH	PILE GROUP NO.	LOCATION NORTH ABUTMENT ESTIMATED LENGTH	LOCATION NORTH ABUTMENT ACTUAL LENGTH	PILE GROUP NO.	LOCATION NORTH ABUTMENT ESTIMATED LENGTH	LOCATION NORTH ABUTMENT ACTUAL LENGTH
1	30'		13	30'		25	20'	
2	30'		14	30'		26	20'	
3	30'		15	30'		27	20'	
4	30'		16	30'		28	20'	
5	30'		17	30'		29	20'	
6	30'		18	30'		30	20'	
7	30'		19	20'		31	20'	
8	30'		20	20'		32	20'	
9	30'		21	20'		33	20'	
10	30'		22	20'		34	20'	
11	30'		23	20'				
12	30'		24	20'				

REV.	DATE	REMARKS	BY
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CLIENT

TOWN OF BABYLON
LINDENHURST, NY

LKB CONSULTING ENGINEERS

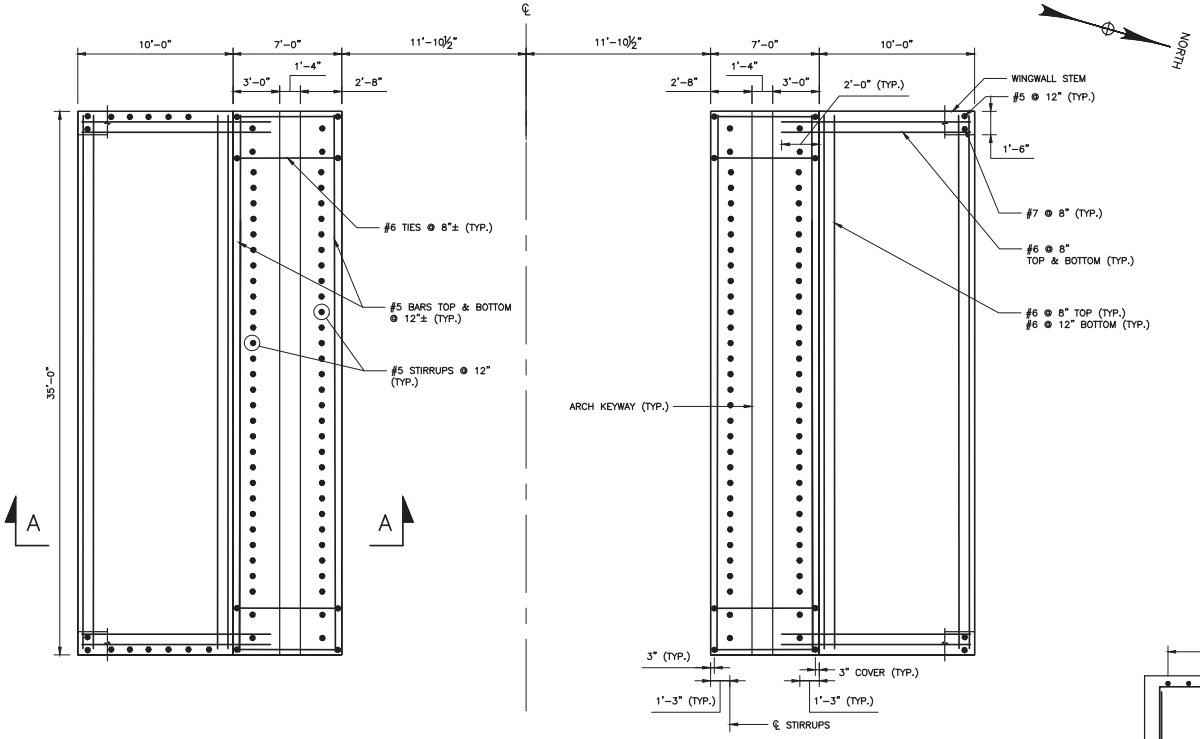
LOCKWOOD, KESSLER & BARTLETT, INC.
CONSULTING ENGINEERS SINCE 1889 SYOSSET, NEW YORK

PROJECT NAME: AMERICAN VENICE BRIDGES

CONCRETE PILE PLAN
WEST RIVIERA DRIVE

DESIGN BY:	DMM
DRAWN BY:	DMM
CHECKED BY:	WTC
DATE:	8/2016
SCALE:	1/4"=1'-0"
PROJECT NO.	5423–01
DRAWING NO.	CPP–W1

File Name: I:\projects\5423 00 american venice bridges\cadd\sheets\structural\c.i.p. concrete pile plan.dwg
Plot Date: 8/30/2016 5:09 PM
Plotted By: Margolin, Daniel

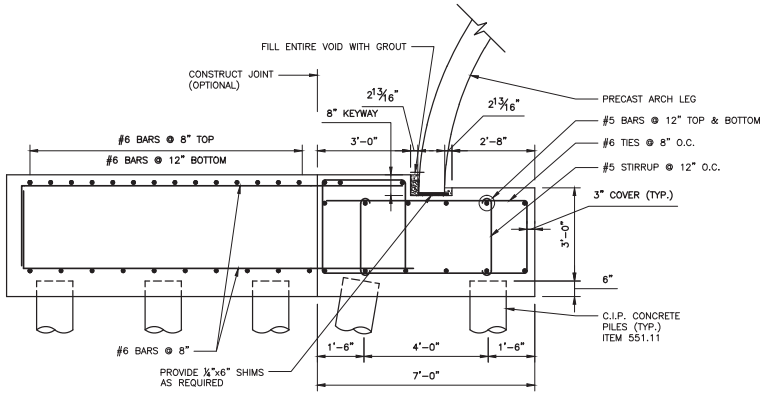


FOUNDATION PLAN

ONLY FOOTING REINFORCEMENT SHOWN
SCALE: ¼"=1'-0"

NOTES:

1. ALL REINFORCEMENT SHOWN SHALL BE EPOXY COATED AND BE PAID UNDER ITEM 556.0202 UNLESS OTHERWISE NOTED.



SECTION A–A

SCALE: ½"=1'-0"

REV.	DATE	REMARKS	BY
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CLIENT

TOWN OF BABYLON
LINDENHURST, NY

LKB CONSULTING ENGINEERS

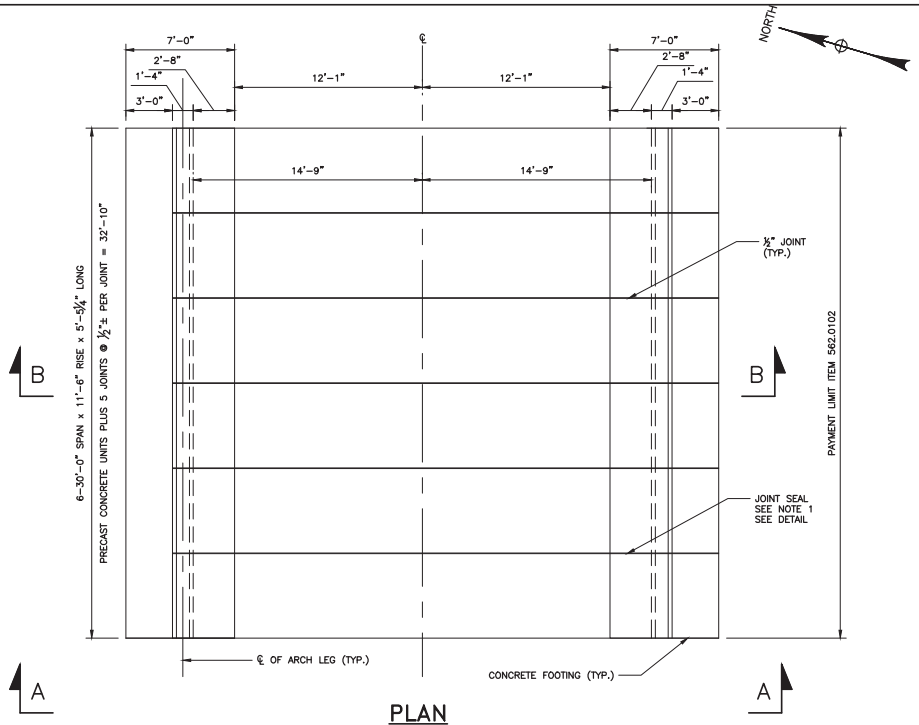
LOCKWOOD, KESSLER & BARTLETT, INC.
CONSULTING ENGINEERS SINCE 1889 SYOSSET, NEW YORK

PROJECT NAME: AMERICAN VENICE BRIDGES

FOUNDATION PLAN
WEST RIVIERA DRIVE

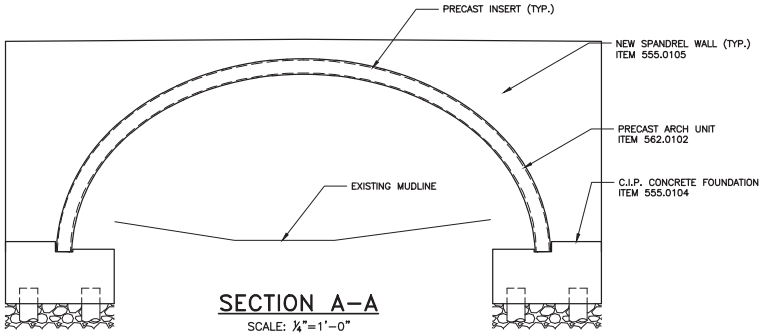
DESIGN BY:	DMM
DRAWN BY:	DMM
CHECKED BY:	WTC
DATE:	8/2016
SCALE:	AS SHOWN
PROJECT NO.	5423-01
DRAWING NO.	FP-W1

File Name: I:\projects\5423 00 american venice bridges\cadd\sheets\structural\foundation plan.dwg
Plot Date: 8/30/2016 5:09 PM
Plotted By: Margolin, Daniel



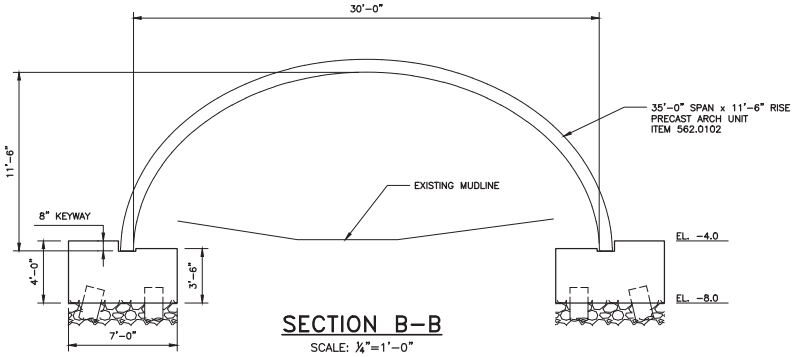
PLAN

SCALE: ¼"=1'-0"



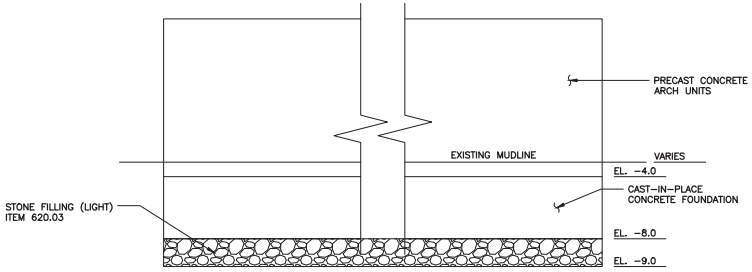
SECTION A–A

SCALE: ¼"=1'-0"



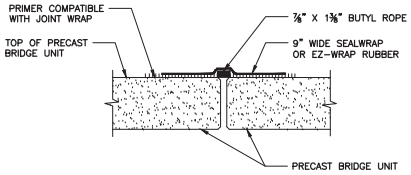
SECTION B–B

SCALE: ¼"=1'-0"



NORTH AND SOUTH ABUTMENT PROPOSED OUTSIDE FACE ELEVATIONS

N.T.S.



JOINT SEAL DETAIL

N.T.S.

NOTE:

1. JOINT SEAL SHALL BE PAID FOR UNDER ITEM 562.0102, REINFORCED CONCRETE SPAN UNITS.

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CLIENT: TOWN OF BABYLON LINDENHURST, NY

LKB CONSULTING ENGINEERS

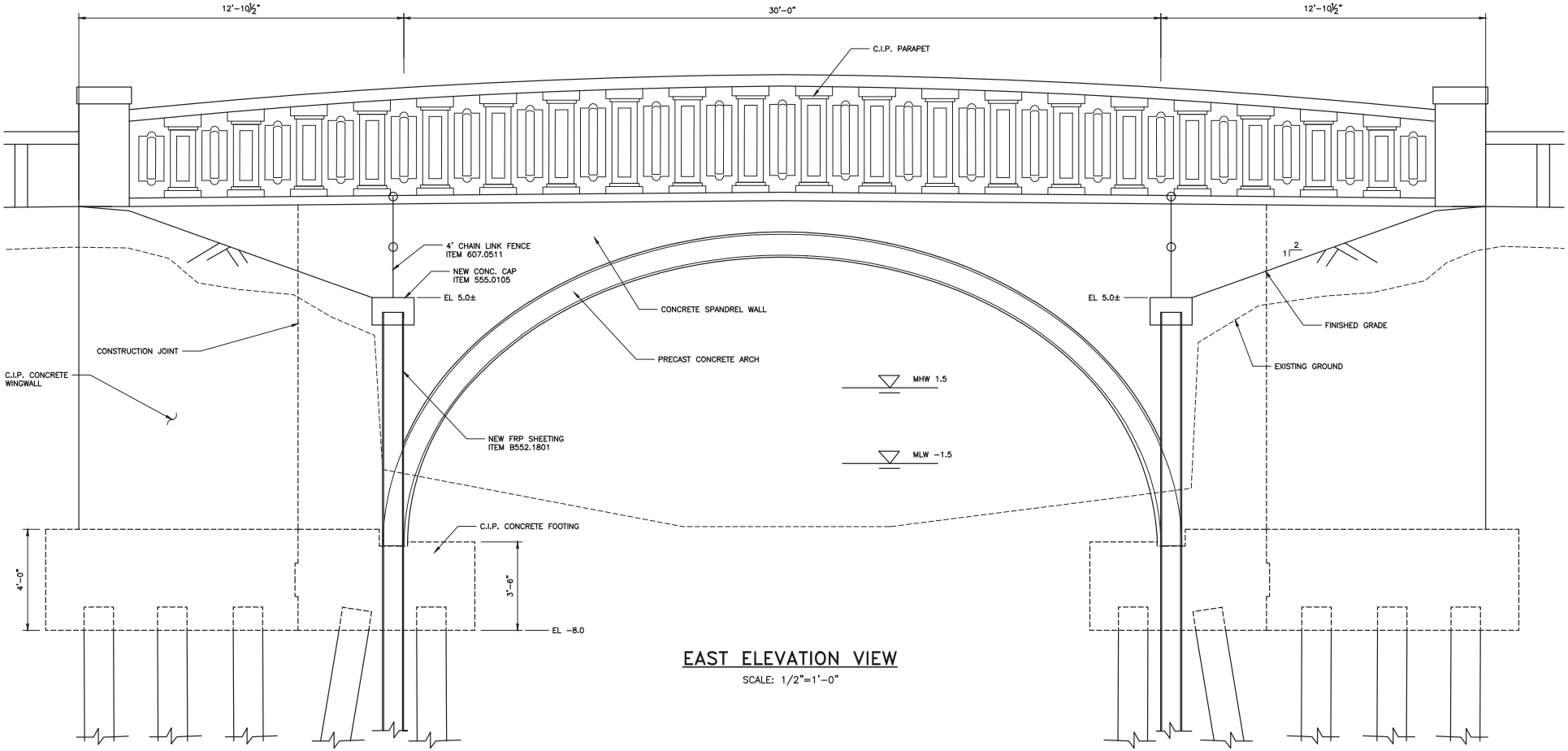
LOCKWOOD, KESSLER & BARTLETT, INC.
CONSULTING ENGINEERS SINCE 1889 SYOSSET, NEW YORK

PROJECT NAME: AMERICAN VENICE BRIDGES

PRECAST CONCRETE ARCH DETAILS WEST RIVIERA DRIVE

DESIGN BY:	DMM
DRAWN BY:	DMM
CHECKED BY:	WTC
DATE:	8/2016
SCALE:	AS SHOWN
PROJECT NO.	5423-01
DRAWING NO.	PCA-W1

File Name: I:\projects\5423 00 american venice bridges\cadd\sheets\structural\precast concrete arch details.dwg
Plot Date: 8/30/2016 5:09 PM
Plotted By: Margolin, Daniel



EAST ELEVATION VIEW

SCALE: 1/2"=1'-0"

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LINDENHURST, NY

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LOCKWOOD, KESSLER & BARTLETT, INC.
CONSULTING ENGINEERS SINCE 1889 SYOSSET, NEW YORK

PROJECT NAME: AMERICAN VENICE BRIDGES

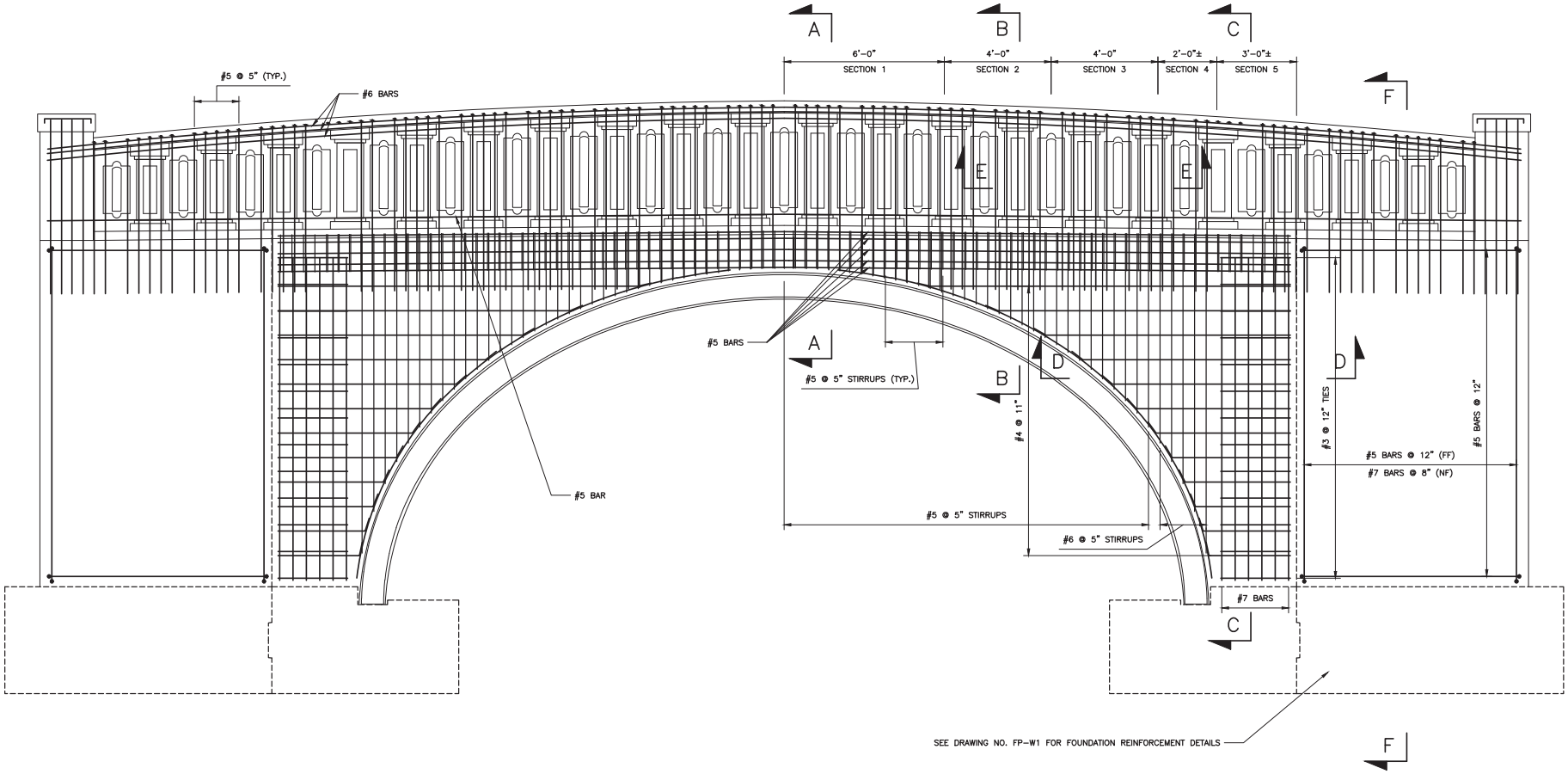
WINGWALL ELEVATION
WEST RIVIERA DRIVE

DESIGN BY:	DMM
DRAWN BY:	DMM
CHECKED BY:	WTC
DATE:	8/2016
SCALE:	AS SHOWN

PROJECT NO. 5423-01

DRAWING NO. WE-W1

File Name: I:\projects\5423 00 american venice bridges\cadd\sheets\structural\wingwall details.dwg
Plot Date: 8/30/2016 5:09 PM
Plotted By: Margolin, Daniel



WEST ELEVATION

SCALE: ½"=1'-0"

NOTES:

1. ALL CONCRETE SHALL BE PAID UNDER ITEM 555.0105 UNLESS NOTED OTHERWISE. FOOTING CONCRETE SHALL BE PAID UNDER ITEM 555.0104. PARAPET CONCRETE AND REINFORCEMENT SHALL BE PAID UNDER ITEM B569.0801.
2. ALL BAR REINFORCEMENT SHOWN ON THIS DRAWING SHALL BE EPOXY COATED AND BE PAID UNDER ITEM 556.0202 UNLESS NOTED OTHERWISE.

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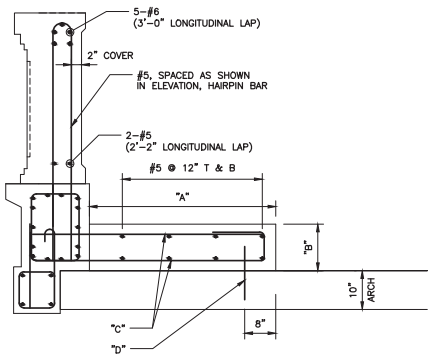
LOCKWOOD, KESSLER & BARTLETT, INC.
CONSULTING ENGINEERS SINCE 1889 SYOSSET, NEW YORK

PROJECT NAME: AMERICAN VENICE BRIDGES

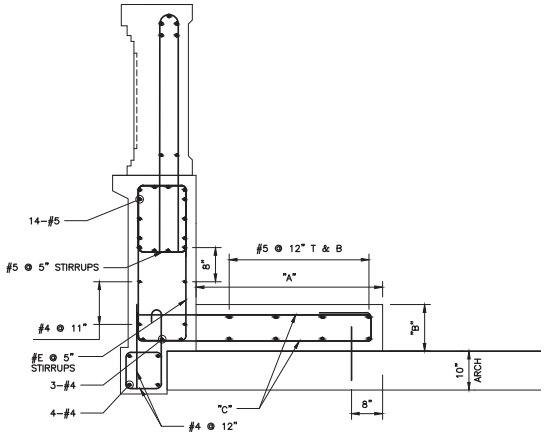
REINFORCEMENT DETAILS 1
WEST RIVIERA DRIVE

DESIGN BY:	GG
DRAWN BY:	DMM
CHECKED BY:	WTC
DATE:	8/2016
SCALE:	AS SHOWN
PROJECT NO.	5423-01
DRAWING NO.	RD-W1

File Name: I:\projects\5423 00 american venice bridges\cadd\sheets\structural\reinforcement layouts.dwg
Plot Date: 8/30/2016 5:09 PM
Plotted By: Margolin, Daniel

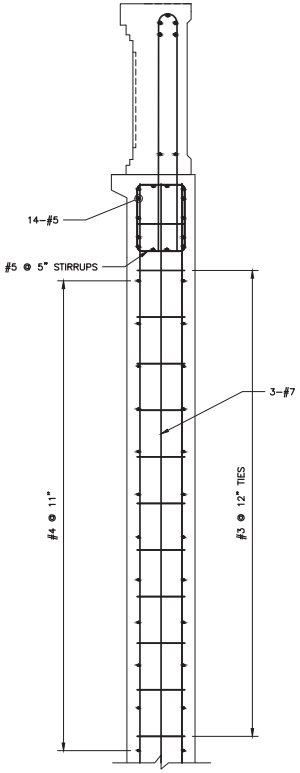


SECTION A–A
SCALE: ¾"=1'–0"

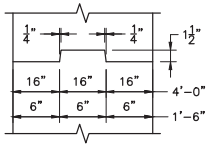


SECTION B–B
SCALE: ¾"=1'–0"

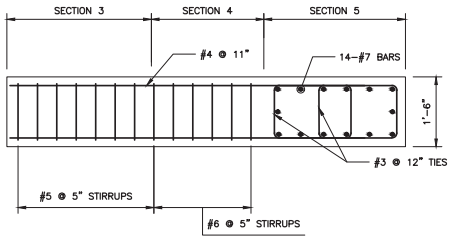
			"A"	"B"	"C"	"D"	"E"
SECTION	1	UNDER SIDEWALK	3'	12"	#5@4"	#5@12"	5
		UNDER ASPHALT	5'	10"	#6@5"	#5@12"	5
	2	UNDER SIDEWALK	3'	12"	#5@4"	#5@12"	5
		UNDER ASPHALT	5'	10"	#6@5"	#5@12"	5
	3	-	5'	12"	#5@4"	#5@18"	5
	4	-	5'	15"	#6@4"	#5@18"	6
	5	-	5'	20"	#6@4"	#5@18"	-



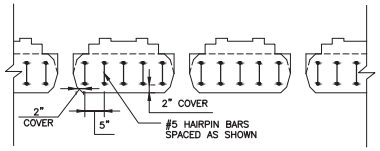
SECTION C–C
SCALE: ¾"=1'–0"



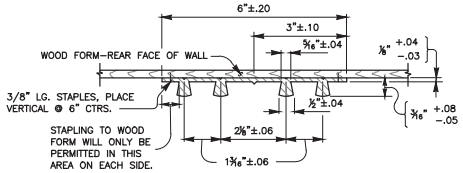
CONSTRUCTION JOINT KEYWAY
N.T.S.



SECTION D–D
SCALE: ¾"=1'–0"



SECTION E–E
SCALE: ¾"=1'–0"



TYPE D WATERSTOP
N.T.S.

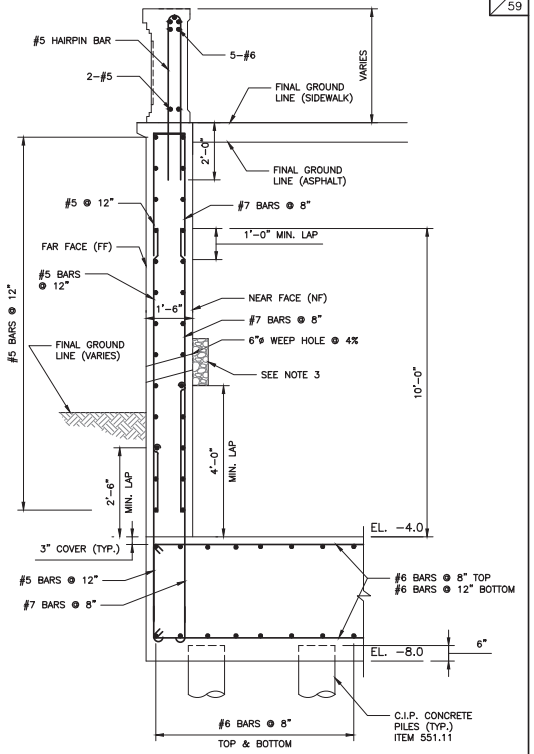
WATERSTOPS SHALL CONFORM TO THE REQUIREMENTS OF SECTION 705–11 OF THE NYSDOT SPECIFICATIONS.

HOLES MUST NOT BE MADE IN WATERSTOPS FOR ANY PURPOSE EXCEPT AS REQUIRED FOR STAPLING TO FORMS.

TYPE "D" WATERSTOP SHALL BE LIGHT GRAY IN COLOR.

THE COST OF FURNISHING AND PLACING WATERSTOPS SHALL BE INCLUDED IN THE PRICE BID FOR THE CONCRETE ITEMS.

NOTE:
WATERSTOPS SHALL BE USED AT ALL CONSTRUCTION & CONTRACTION JOINTS EXCEPT WHERE OTHERWISE NOTED.



SECTION F–F
SCALE: ½"=1'–0"

NOTES:

1. ALL CONCRETE SHALL BE PAID UNDER ITEM 555.0105 UNLESS NOTED OTHERWISE. FOOTING CONCRETE SHALL BE PAID UNDER ITEM 555.0104. PARAPET CONCRETE AND REINFORCEMENT SHALL BE PAID UNDER ITEM B569.0801.
2. ALL BAR REINFORCEMENT SHOWN ON THIS DRAWING SHALL BE EPOXY COATED AND BE PAID UNDER ITEM 556.0202 UNLESS NOTED OTHERWISE.
3. PROVIDE FILTER FABRIC AND 1CF BAGGED STONE BEHIND WEEPHOLE. COST INCLUDED UNDER ITEM 555.0105.

REV.	DATE	REMARKS	BY
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CLIENT
TOWN OF BABYLON
LINDENHURST, NY

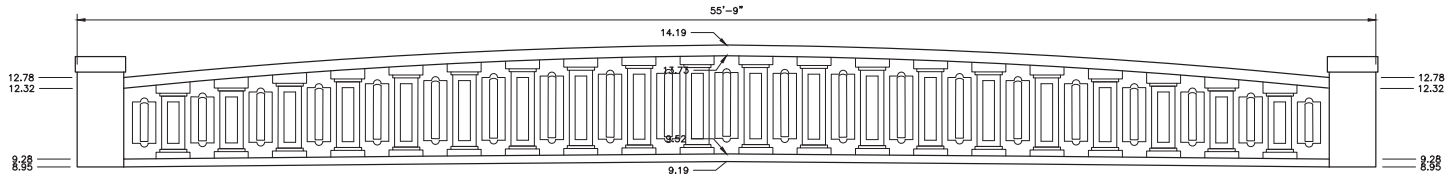
LKB CONSULTING ENGINEERS
LOCKWOOD, KESSLER & BARTLETT, INC.
CONSULTING ENGINEERS SINCE 1889 SYOSSET, NEW YORK

PROJECT NAME: AMERICAN VENICE BRIDGES

REINFORCEMENT DETAILS
2 WEST RIVIERA DRIVE

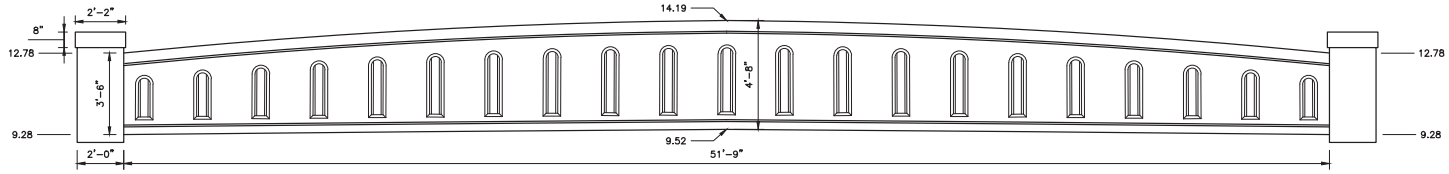
DESIGN BY: GG	PROJECT NO. 5423–01
DRAWN BY: DMM	
CHECKED BY: WTC	DRAWING NO. RD–W2
DATE: 8/2016	
SCALE: AS SHOWN	

File Name: I:\projects\5423 00 american venice bridges\cadd\sheets\structural\reinforcement layouts.dwg
Plot Date: 8/30/2016 5:09 PM
Plotted By: Margolin, Daniel



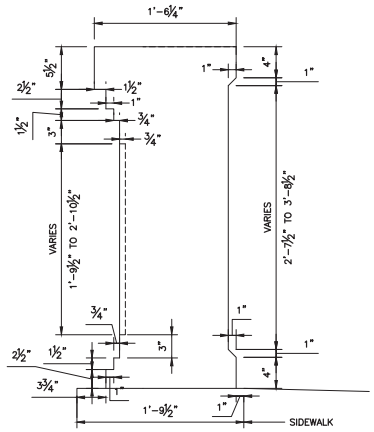
EXTERIOR ELEVATION VIEW

SCALE: ⅜"=1'-0"



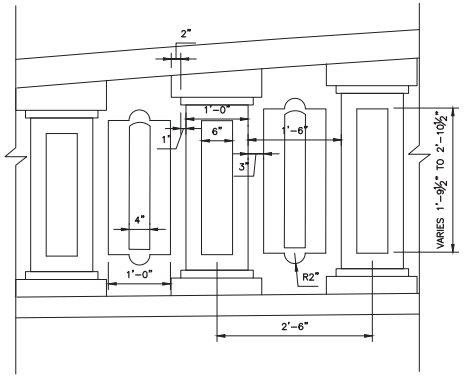
INTERIOR ELEVATION VIEW

SCALE: ⅜"=1'-0"



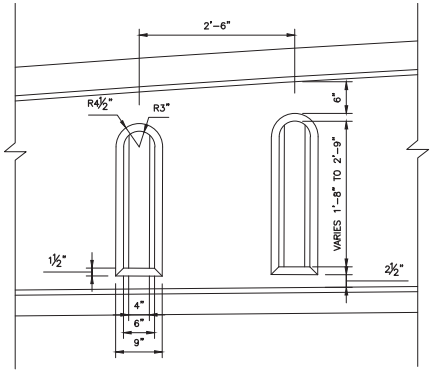
BARRIER SECTION

SCALE: 1½"=1'-0"



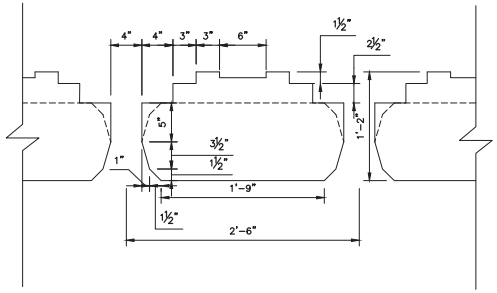
PARTIAL EXTERNAL ELEVATION VIEW

SCALE: 1"=1'-0"



PARTIAL INTERNAL ELEVATION VIEW

SCALE: 1"=1'-0"



BARRIER PLAN

SCALE: 1½"=1'-0"

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LKB CONSULTING ENGINEERS

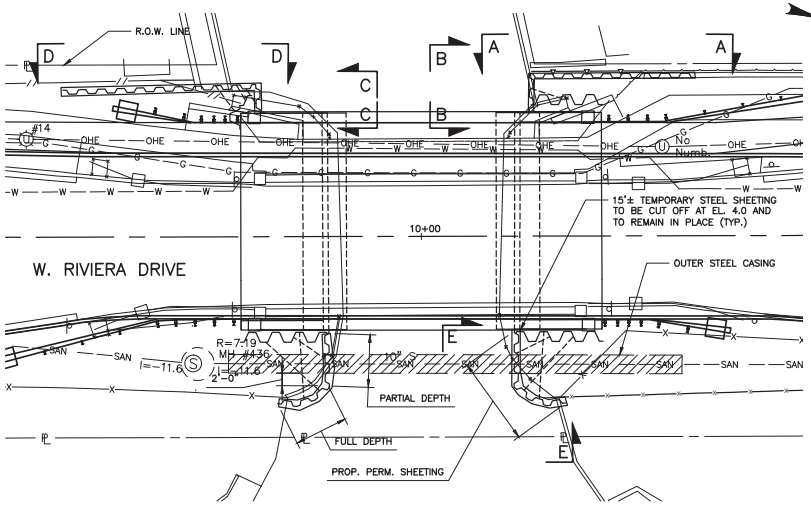
LOCKWOOD, KESSLER & BARTLETT, INC.
CONSULTING ENGINEERS SINCE 1889 SYOSSET, NEW YORK

PROJECT NAME: AMERICAN VENICE BRIDGES

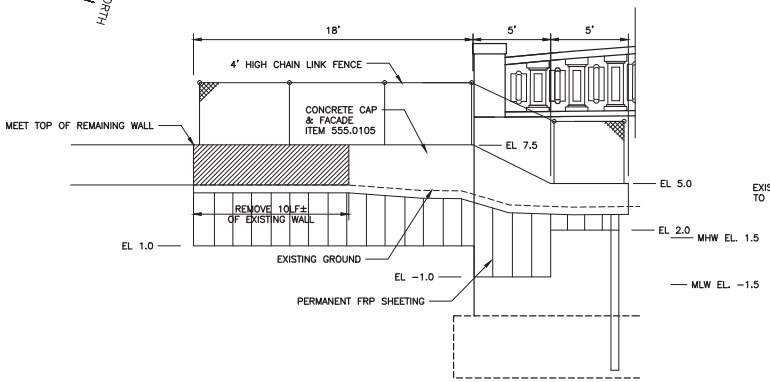
BRIDGE RAILING DETAILS
WEST RIVIERA DRIVE

DESIGN BY:	DMM
DRAWN BY:	DMM
CHECKED BY:	WTC
DATE:	8/2016
SCALE:	AS SHOWN
PROJECT NO.	5423-01
DRAWING NO.	BRD-W1

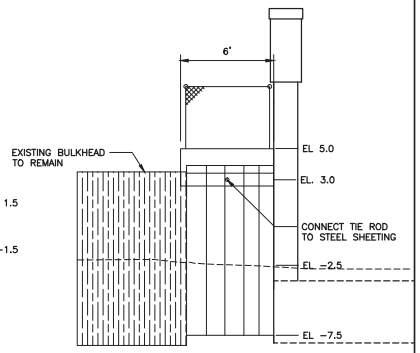
File Name: I:\projects\5423 00 american venice bridges\cadd\sheets\structural\bridge railing details.dwg
Plot Date: 8/30/2016 5:10 PM
Plotted By: Margolin, Daniel



PLAN
SCALE: 1"=10'

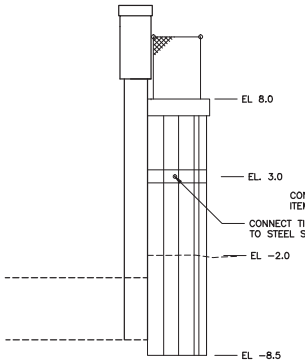


SECTION A–A
SCALE: 1/4"=1'-0"

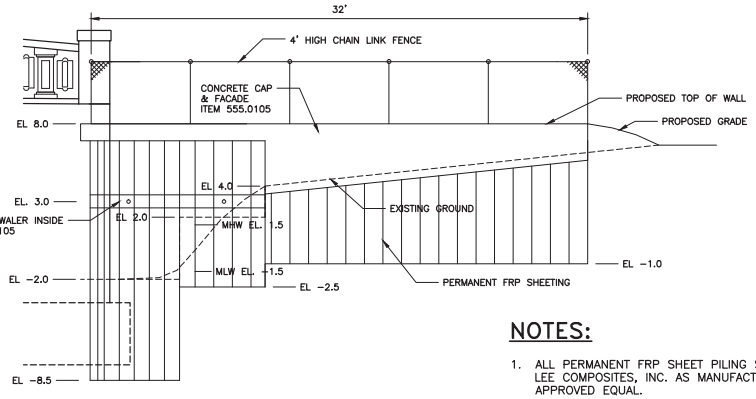


SECTION B–B
SCALE: 1/4"=1'-0"

NORTHWEST CORNER



SECTION C–C
SCALE: 1/4"=1'-0"

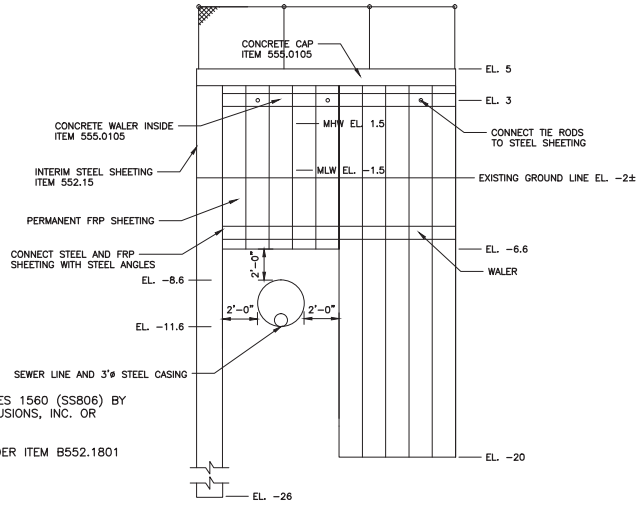


SECTION D–D
SCALE: 1/4"=1'-0"

SOUTHWEST CORNER

NOTES:

1. ALL PERMANENT FRP SHEET PILING SHALL BE SUPERLOC SERIES 1560 (SS806) BY LEE COMPOSITES, INC. AS MANUFACTURED BY CREATIVE PULTRUSIONS, INC. OR APPROVED EQUAL.
2. ALL COMPONENTS SHOWN ON THIS SHEET SHALL BE PAID UNDER ITEM B552.1801 UNLESS NOTED OTHERWISE.
3. SHEET PILING SHALL BE GRAY IN COLOR.
4. SHEETING ON THE CANAL (WEST) SIDE WITHIN 2 FEET LATERALLY OF THE OUTER CASING OF THE SEWER SHALL BE DRIVEN TO AN ELEVATION NO LOWER THAN 2 FEET ABOVE THE OUTER CASING OF THE SEWER. SEE SECTION B–B FOR DETAILS.
5. SEE DRAWING NO. PSD–1 FOR GENERAL PERMANENT SHEETING DETAILS.



PROJECTED SECTION E–E
SCALE: 1/4"=1'-0"
NORTHEAST CORNER SHOWN
(SOUTHEAST CORNER IS SIMILAR)

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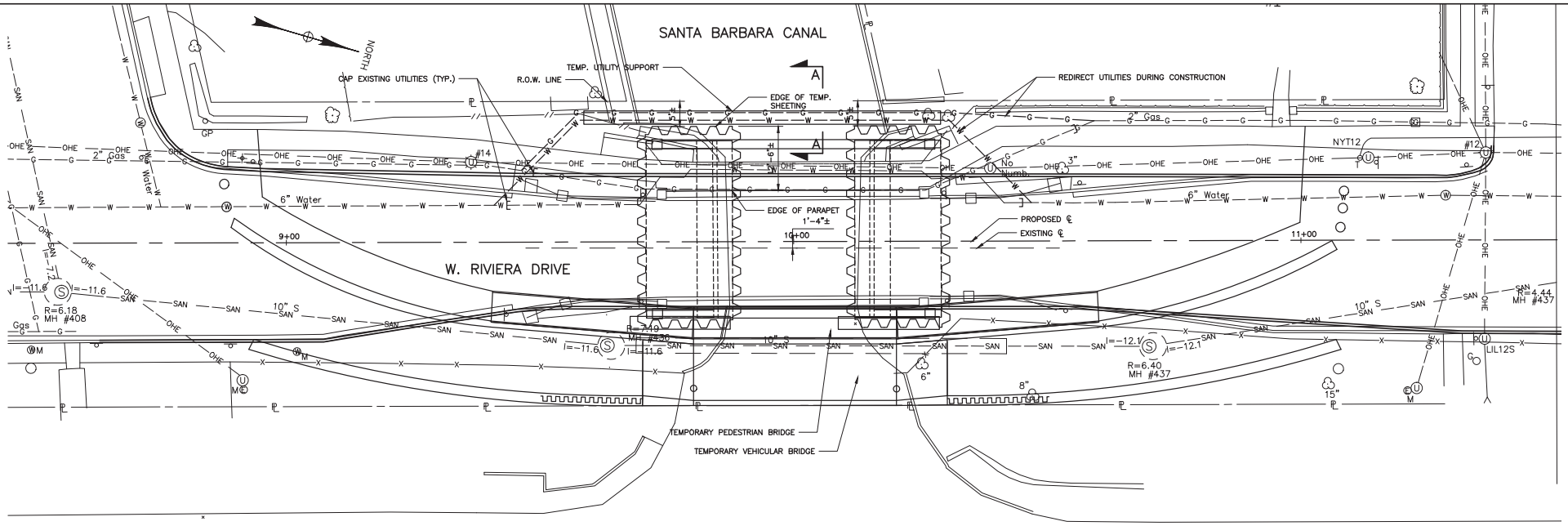
LKB CONSULTING ENGINEERS
LOCKWOOD, KESSLER & BARTLETT, INC.
CONSULTING ENGINEERS SINCE 1889 SYOSSET, NEW YORK

PROJECT NAME: AMERICAN VENICE BRIDGES

PERMANENT SHEETING PLAN
WEST RIVIERA DRIVE

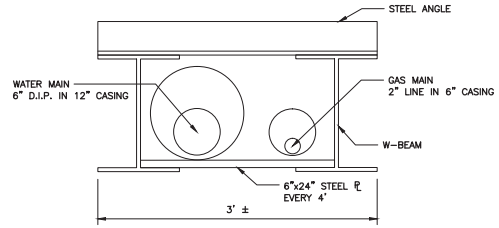
DESIGN BY: DMM	PROJECT NO. 5423–01
DRAWN BY: DMM	
CHECKED BY: WTC	DRAWING NO. PSP–W1
DATE: 8/2016	
SCALE: AS SHOWN	

File Name: I:\projects\5423 00 american venice bridges\cadd\sheets\structural\permanent sheeting plan.dwg
Plot Date: 8/30/2016 5:10 PM
Plotted By: Margolin, Daniel



PLAN

SCALE: 1"=10'



SECTION A-A

SCALE: 1½"=1'-0"

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TOWN OF BABYLON
LINDENHURST, NY

LKB CONSULTING ENGINEERS

LOCKWOOD, KESSLER & BARTLETT, INC.
CONSULTING ENGINEERS SINCE 1889 SYOSSET, NEW YORK

PROJECT NAME: AMERICAN VENICE BRIDGES

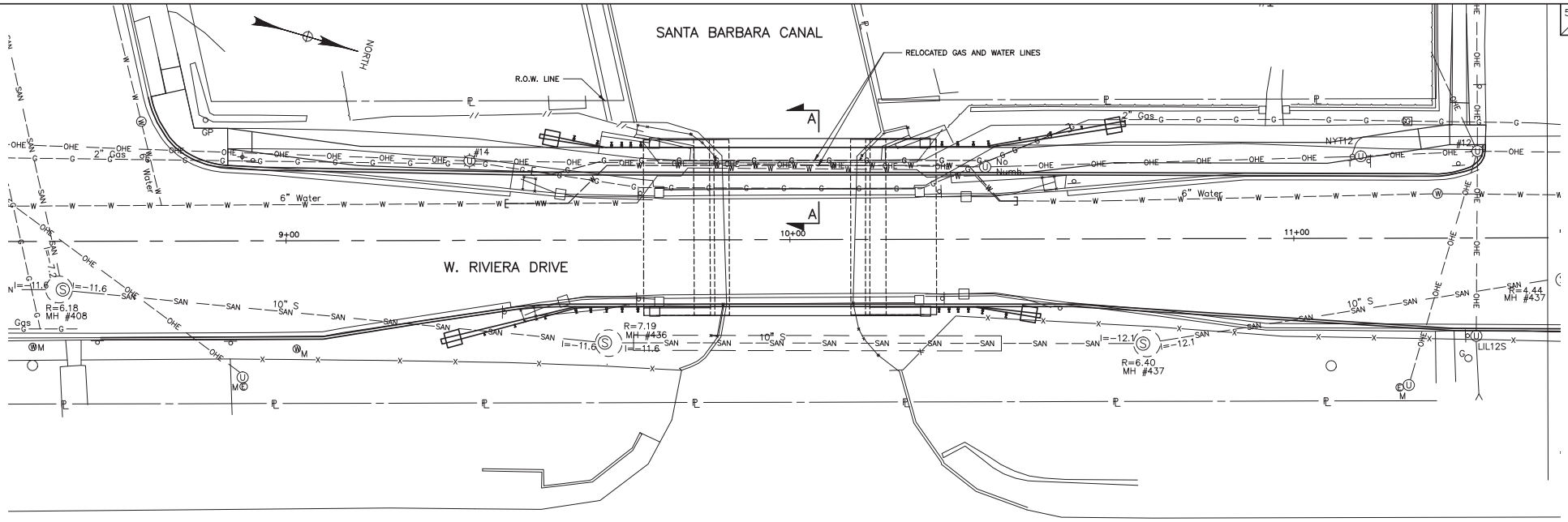
TEMPORARY UTILITY SUPPORT DETAILS WEST RIVIERA DRIVE

DESIGN BY: GG
DRAWN BY: DMM
CHECKED BY: WTC
DATE: 8/2016
SCALE: AS SHOWN

PROJECT NO. 5423-01

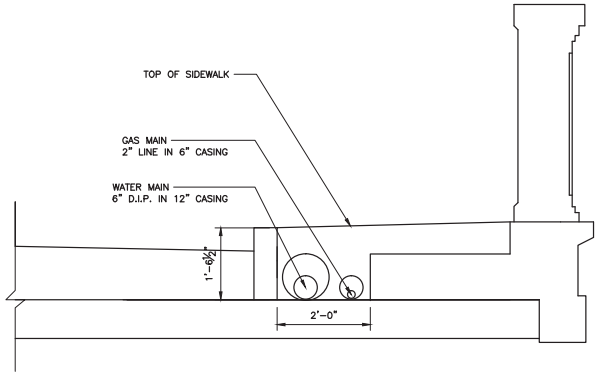
DRAWING NO. TU-W1

File Name: I:\projects\5423 00 american venice bridges\cadd\sheets\structural\temporary utility support details.dwg
Plot Date: 8/30/2016 5:11 PM
Plotted By: Margolin, Daniel



PLAN

SCALE: 1"=10'



SECTION A–A

SCALE: ¾"=1'-0"

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TOWN OF BABYLON
LINDENHURST, NY

LKB CONSULTING ENGINEERS

LOCKWOOD, KESSLER & BARTLETT, INC.
CONSULTING ENGINEERS SINCE 1889 SYOSSET, NEW YORK

PROJECT NAME: AMERICAN VENICE BRIDGES

UTILITY PLAN WEST
RIVIERA DRIVE

DESIGN BY:	DMM
DRAWN BY:	DMM
CHECKED BY:	WTC
DATE:	8/2016
SCALE:	AS SHOWN

PROJECT NO. 5423–01

DRAWING NO. UP–W1

File Name: I:\projects\5423 00 american venice bridges\cadd\sheets\structural\utility plan.dwg
Plot Date: 8/30/2016 5:12 PM
Plotted By: Margolin, Daniel

SPECIAL SPECIFICATIONS

FOR

REHABILITATION OF THE
AMERICAN VENICE BRIDGES

TOWN OF BABYLON

COPIAGUE, NY

CONTRACT NO. 15G31

LKB #5423

SUBMISSION 8/31/16

ITEM B552.1801 PERMANENT FIBER REINFORCED POLYMER SHEETING (TIE BACK)

DESCRIPTION

This work shall consist of furnishing and installing permanent fiber reinforced polymer sheeting at the locations and to the elevation(s) shown in the contract documents or as directed by the Engineer. All of the sheeting and supports will be left in place as a finished structure.

MATERIALS

A. Sheet Piles – Sheet pile profile shall be manufactured with an interlocking feature that ensures adjacent panels maintain alignment. The sheeting material shall be an engineered composite material protruded from a resin and glass reinforcement fiber matrix having the following properties. The sheet pile shall be free from visible cracks and other injurious defects.

1. **Manufacturer.** SuperLoc Series 1560 – Composite Sheet Piling as provided by Lee Composites Inc., P.O Box 11286, Spring, TX, 77391-1286, 281-376-6146, or approved equal.

2. **Resin System.** This system shall be pultruded with Vinyl Ester (VE) bisphenol- A epoxy resin which contains UV inhibitors and reinforced with E-glass commercial grade fiberglass meeting the requirements of ASTM D578. The sheet pile sections shall contain a polyester surfacing veil 10 mils in thickness which encapsulates the FRP sheet pile glass reinforcements.

3. **Physical Properties.** Properties tabulated below are used for finished sheet piles.

CHARACTERISTIC	REQUIREMENT	STANDARD
Tensile Strength (LW*)	58,950 psi	ASTM D638
Tensile Strength (CW*)	10,130 psi	ASTM D638
Compressive Strength (LW)	50,980 psi	ASTM D6641
Compressive Strength (CW)	19,180 psi	ASTM D6641
Modulus of Elasticity (LW)	3,260,000 psi	ASTM D638
Modulus of Elasticity (CW)	1,460,000 psi	ASTM D638
Inplane Shear Strength	11,040 psi	ASTM D5379
Depth of Sheet	6 inches	
Moment of Inertia	24.13 in^4/ft	
Section Modulus	8.02 in^3/ft	
Weight	3.22 psf	

The sheet pile must be manufactured in an ISO9001:2008 Certified Facility

*LW = Lengthwise *CW = Crosswise

B. Other Materials – The provisions of §552-2 shall apply.

CONSTRUCTION DETAILS

The provisions of §552-3 shall apply with the exception that all mentions of the "State" shall be changed to the "Town."

ITEM B552.1801 PERMANENT FIBER REINFORCED POLYMER SHEETING (TIE BACK)

METHOD OF MEASUREMENT

The provisions of §552-4.02 shall apply.

BASIS OF PAYMENT

The unit price bid for this work shall include the cost of furnishing all labor, materials and equipment necessary to satisfactorily complete the work including such items but not limited to sheeting, tie rods, weepholes, drainage stone with geotextiles, washers, bolts, backfilling, and other miscellaneous hardware. The cost of the concrete for the waler and caps, as well as the reinforcement contained therein, shall be paid under their respective items. The cost of maintaining the excavated area free from earth, water, ice, and snow will be included in the price bid for the appropriate excavation item.

ITEM B569.0801 HYBRID TEXAS AESTHETIC AND VENETIAN STYLE CONCRETE BRIDGE BARRIER

DESCRIPTION

The provisions of §569-1 shall apply.

MATERIALS

The provisions of §569-2 shall apply with the following modifications and/ or additions

A. Cast-In-Place Concrete – Self Consolidating Concrete (SCC), shall meet the provisions of Section 555, Structural Concrete and the requirements described in the following paragraphs.

The Contractor shall submit a proposed mix design for Self Consolidating Concrete (SCC) using materials from the Department's Approved List of Materials and Equipment. When a viscosity modifying admixture (VMA) is used, it must be one which is compatible with other admixtures being used in the mix. Use of a Corrosion Inhibiting Admixture, meeting the requirements of §711-13, in SCC will be as required by the plans and contract documents and included in the bid price of this item.

The Contractor will prepare a trial batch using those specific materials to be used on the project and must demonstrate the mix's ability to achieve the specified properties to the Engineer's satisfaction. At least three weeks prior to placement, the contractor shall supply:

- Detailed mix design including materials sources, admixtures, and batch amounts.
- Compressive strength results, including rate of strength gain for 1, 3, 7, 14, and 28 days, or maturity curves with corresponding temperatures as appropriate.
- Proposed target limits for spread, indicating acceptable low and high spread limits and proposed actions when mixture testing is outside of the target limits.
- Proposed visual stability index (VSI) target limits for acceptance.
- Proposed air content target within specified limits.
- J-ring test results, according to ASTM C1621, proving minimal blocking assessment of less than 2".
- Column segregation results, according to ASTM C1610, proving a maximum segregation index of 15%.
- Static Segregation Resistance Using Penetration Test in accordance with ASTM C1712. The measured penetration shall be less than 1 inch.

The Contractor will provide an American Concrete Institute (ACI) Certified Concrete Field Testing Technician, Grade 1 or higher to perform tests and fabricate samples for the test batch(es).

The Contractor will provide a proposed quality control plan, including how the above performance criteria will be maintained and actions taken when test results are not acceptable. Once a mix design is accepted by the Department, changes other than minor fluctuations in admixture dosage rates will require a new mix design and trial batch.

Sampling and testing of SCC during placement will be in accordance with the requirements of Materials Method 9.2 – Field Inspection of Portland Cement Concrete except as modified here:

- Slump flow measured according to ASTM C1611.
- Air content measured according to ASTM C231, except the sample container shall

be filled in one lift without vibration, rodding or tapping.

Cylinders cast according to ASTM C31 except the sample container shall be filled in one lift without vibration, rodding or tapping.

All other provisions of Section 555 shall apply, unless otherwise directed by the Engineer.

B. Form Liners – Form liner inserts shall leave a crisp, sharp definition of the architectural surface and openings as specified in the contract drawings. Form liner inserts shall not compress more than ¼ inch when concrete is poured at a rate of 10 vertical feet per hour. Form liner inserts shall be removable without causing deterioration of the surface or underlying concrete. Form liner inserts shall be submitted to the Engineer for approval prior to their use.

The form liner inserts shall be made from a two-component urethane formulation and be factory mold bonded to plywood in a one-step process. They shall be GrayLastic: Custom Urethane as manufactured by Fitzgerald Formliners, 1500 E. Chestnut Ave. Santa Ana, CA 92701, 800-547-7760, or approved equal.

C. Release Agent – When the manufacturer requires the use of an agent to facilitate the release of the Form liner panel from the concrete, or when its use is specified on the plans, such agent shall be non-staining and evenly spread over the entire liner surface. Formwork for custom form liners shall also be treated as needed. Form release material shall be Bio-Nox as manufactured by Nox-Crete, or approved equal. The release agent shall be compatible with the form liner material.

D. Form Ties - designed to separate at least 1 inch back from finished surface, leaving only a neat hole that can be plugged with patching material.

E. Color Stain – The concrete penetrating stain shall be an exterior, single component, water based, thermoplastic acrylic emulsion which carries its color and water repellent protection into the concrete. All Concrete stain shall be of the same batch and lot and shall be delivered to the application site in original sealed containers clearly marked with the manufacturer's name, brand name, type of material, batch and lot numbers, date of manufacture, and color.

F. Patching Material - 701-04 concrete repair material.

CONSTRUCTION DETAILS:

The provisions of §569-3.02 and §569-3.04 shall apply with the following modifications and/ or additions

A. Quality of Work -The process of form lining, texturing and color staining of the hardened concrete shall be performed in strict accordance with the manufacturer's recommendations and as approved by the Engineer.

If unevenness in color, lines of work termination, etc. exist, the Engineer may have all such surfaces re-applied at the Contractor's expense. Additional coverage, if deemed required, shall be carried to a natural break-off point.

B. Quality Assurance -

1. **Manufacturer** of form liner inserts – minimum of five years experience making molds to create textured concrete surfaces as specified in the contract documents. Submit documentation with shop drawings.

2. **Contractor/Subcontractor (installer) -** Must demonstrate a minimum of five years experience in this type of work, citing at least three projects of a similar size, complexity and scope and shall submit the following to the EIC before any work is to proceed: project names and locations; clear and detailed photographs of formed and stained concrete surfaces; names, addresses and phone numbers of architects/ owners, etc. of those specific projects. Failure to submit any of these required materials will be the basis for rejection.

3. **Color Stain System Application** – Contractor must demonstrate that he/she is trained and/or authorized by the stain Manufacturer in the application and special techniques of that Manufacturer's stain.

4. **Technical information, training** in finishing techniques and on-site support provided by the Form Liner or stain manufacturer(s) must be arranged by the Contractor as needed.

C. Submittals -

1. **Catalog cuts, manufacturer's literature, and technical data** for the materials specified herein, including but not limited to form liner, release agent, concrete patching material and color charts for staining of hardened concrete.

2. **Photographs -** color photographs of three (3) similar past projects of the Contractor and other materials under "Quality Assurance: Contractor/Subcontractor (Installer), above.

D. Other Details –

1. **Release of Form Liners From Hardened Concrete** – NYSDOT Approved List release agents, if required shall be utilized and applied to the form liners before the concrete is poured. Release agents shall be applied in strict accordance with release agent manufacturer recommendations. Hand-charged sprayers will only be allowed if a thin uniform coating of release agent is obtained on the liner.

   Form Removal shall be in accordance with Section 555 of the NYSDOT Standard Specifications. The form liners may be detached from the forms and then removed from the concrete, or they may remain attached to the forms and the entire forming system removed from the concrete. Remove the form liners from the top, down. Curing of concrete shall proceed in accordance with Section 555 of the NYSDOT Standard Specifications. Curing covers or wet burlap and curing covers shall be used. Curing compounds shall not be used, as they are incompatible with the color staining material.

2. **Care and Cleaning of Form Liner -** Form liner inserts shall be cleaned the same day they are removed from the wall with a power wash and mild detergent. Synthetic brushes with stiff bristles may be used on stubborn areas. Mild acid washes may also be used. Solvents shall not be used. If necessary, patching of holes shall be performed with 100% clear silicone caulk. Form liners shall be stored inside or under a protective, non-transparent cover, off of the ground.

3. **Concrete Patching and Preparation -** After form liners are removed from the hardened concrete, the textured uncolored surface shall be prepared for color staining. All holes larger then 3/8" in greatest principal dimension shall be filled with concrete patching material in accordance with Section 701-04 of the NYSDOT Standard Specifications, as approved by the manufacturer and Engineer. Any such patching shall be hand-shaped to meet adjacent surfaces and otherwise blend in and match the character of the particular texture in which it occurs.

4. **Grinding of Seams** shall be performed immediately after removal of the form liners. Perform final bush hammering to blend defects and ground areas into the final texture. In particular, the process of patching and preparation shall be subject to approval of the manufacturer and Engineer.

5. **Joints -** Construction and expansion/contraction joints shall extend to the full depth of the concrete at the locations shown on the plans. When construction joints are needed but not shown on the plans, the Contractor and the Engineer shall agree on the proper locations of such joints so as not to distract from the appearance of the imprinted pattern and to minimize the possibilities of cracking.

6. **Relief -** The depth of relief specified and shown on the plans shall not be varied.

7. **Color Staining** (by manufacturer) **-** the hardened concrete, including any patching, shall be a minimum of 30 days old before color is applied. Clean surface prior to application of stain material to assure that surface is free of laitance, dirt, dust, grease, efflorescence, paint, or other foreign material, following supplier's instructions for surface preparation. Do not sand blast. Preferred method to remove laitance is pressure washing with water. Completed surface shall be free of blemishes, discoloration, surface voids and unnatural form marks. After the parapet has dried, the color staining process is applied using colors approved by the Engineer. Water-based stains shall be used in air temperatures between 46 degrees F and 90 degrees F. Stain also shall not be applied unless weather conditions will permit complete drying of material prior to rain, fog or dew. Adjacent surfaces not to receive stain shall be masked.

METHOD OF MEASUREMENT

The provisions of §569-4 shall apply.

BASIS OF PAYMENT

The provisions of §569-5 shall apply.

REHABILITATION OF BINS 2261360 AND 2261370
RIVIERA DRIVE BRIDGES (EAST AND WEST) OVER SANTA BARBARA CANAL
CONTRACT NO. 15G31
ADVANCE DETAIL PLANS
8/31/2016

ESTIMATE OF QUANTITIES

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY						COST				
			EAST	ACTUAL	WEST	ACTUAL	TOTAL	ACTUAL	UNIT PRICE	EAST	WEST	BOTH	TOTAL
201.06	CLEARING AND GRUBBING	LS					1		$50,000	$0.00	$0.00	$50,000.00	$50,000.00
202.120001	REMOVING EXISTING SUPERSTRUCTURES - EAST RIVIERA DRIVE	LS	1				1		$100,000.00	$100,000.00	$0.00	$0.00	$100,000.00
202.120002	REMOVING EXISTING SUPERSTRUCTURES - WEST RIVIERA DRIVE	LS			1		1		$100,000.00	$0.00	$100,000.00	$0.00	$100,000.00
202.19	REMOVAL OF SUBSTRUCTURES	CY	50		50		100		$300.00	$15,000.00	$15,000.00	$0.00	$30,000.00
203.02	UNCLASSIFIED EXCAVATION AND DISPOSAL	CY	500		460		960		$60.00	$30,000.00	$27,600.00	$0.00	$57,600.00
203.03	EMBANKMENT IN PLACE	CY	420		275		695		$80.00	$33,600.00	$22,000.00	$0.00	$55,600.00
203.06	SELECT FILL	CY	85		70		155		$90.00	$7,650.00	$6,300.00	$0.00	$13,950.00
203.21	SELECT STRUCTURAL FILL	CY	155		155		310		$90.00	$13,950.00	$13,950.00	$0.00	$27,900.00
206.01	STRUCTURE EXCAVATION	CY	245		245		490		$90.00	$22,050.00	$22,050.00	$0.00	$44,100.00
206.05	TEST PIT EXCAVATION	EA	2		2		4		$1,000.00	$2,000.00	$2,000.00	$0.00	$4,000.00
209.13	SILT FENCE - TEMPORARY	LF	620		550		1170		$12.00	$7,440.00	$6,600.00	$0.00	$14,040.00
209.1501	TURBIDITY CURTAIN - TEMPORARY	LF	95		95		190		$30.00	$2,850.00	$2,850.00	$0.00	$5,700.00
209.30000010	LEACHING RING ENERGY DISSIPATOR FOR DEWATERING	EA	2		2		4		$3,000.00	$6,000.00	$6,000.00	$0.00	$12,000.00
211.10	GROUTED TIEBACKS (TEMPORARY)	EA	8		8		16		$7,000.00	$56,000.00	$56,000.00	$0.00	$112,000.00
304.15	SUBBASE COURSE, OPTIONAL TYPE	CY	190		195		385		$100.00	$19,000.00	$19,500.00	$0.00	$38,500.00
402.127102	12.5 F1 TOP COURSE HMA, 70 SERIES COMPACTION	TON	110		100		210		$150.00	$16,500.00	$15,000.00	$0.00	$31,500.00
402.257902	25 F9 BINDER COURSE HMA, 70 SERIES COMPACTION	TON	105		95		200		$135.00	$14,175.00	$12,825.00	$0.00	$27,000.00
407.0102	DILUTED TACK COAT	GAL	50		50		100		$15.00	$750.00	$750.00	$0.00	$1,500.00
520.05000010	SAWCUTTING PCC AND COMPOSITE PAVEMENT	LF	8		16		24		$4.00	$32.00	$64.00	$0.00	$96.00
520.09000010	SAWCUTTING ASPHALT CONCRETE	LF	125		120		245		$4.00	$500.00	$480.00	$0.00	$980.00
551.11	CAST-IN-PLACE CONCRETE PILES	LF	1720		1720		3440		$200.00	$344,000.00	$344,000.00	$0.00	$688,000.00
551.13	FURNISHING EQUIPMENT FOR DRIVING PILES	LS					1		$125,000.00	$0.00	$0.00	$125,000.00	$125,000.00
551.50220017	STATIC PILE LOAD TEST	EA	2		2		4		$35,000.00	$70,000.00	$70,000.00	$0.00	$140,000.00
B552.1801	PERMANENT FIBER REINFORCED POLYMER SHEETING (TIE BACK)	SF	1150		1310		2460		$80.00	$92,000.00	$104,800.00	$0.00	$196,800.00
552.15	INTERIM STEEL SHEETING	SF	6400		6400		12800		$50.00	$320,000.00	$320,000.00	$0.00	$640,000.00
553.020001	COFFERDAMS (TYPE 2) - EAST RIVIERA DRIVE	EA	2		0		2		$100,000.00	$200,000.00	$0.00	$0.00	$200,000.00
553.020002	COFFERDAMS (TYPE 2) - WEST RIVIERA DRIVE	EA	0		2		2		$100,000.00	$0.00	$200,000.00	$0.00	$200,000.00
555.0104	FOOTING CONCRETE, CLASS A	CY	168		170		338		$1,400.00	$235,200.00	$238,000.00	$0.00	$473,200.00
555.0105	CONCRETE FOR STRUCTURES, CLASS A	CY	78		78		156		$1,600.00	$124,800.00	$124,800.00	$0.00	$249,600.00
556.0202	EPOXY-COATED BAR REINFORCEMENT FOR STRUCTURES	LB	30000		30000		60000		$4.00	$120,000.00	$120,000.00	$0.00	$240,000.00
562.0101	REINFORCED CONCRETE SPAN UNITS - EAST RIVIERA DRIVE	SY	194		0		194		$925.00	$179,450.00	$0.00	$0.00	$179,450.00
562.0102	REINFORCED CONCRETE SPAN UNITS - WEST RIVIERA DRIVE	SY	0		194		194		$925.00	$0.00	$179,450.00	$0.00	$179,450.00
B569.0801	HYBRID TEXAS AESTHETIC AND VENETIAN STYLE CONCRETE BRIDGE BARRIER	LF	112		112		224		$2,300.00	$257,600.00	$257,600.00	$0.00	$515,200.00
604.07	ALTERING DRAINAGE STRUCTURES, LEACHING BASINS AND MANHOLES	EA	3		4		7		$1,500.00	$4,500.00	$6,000.00	$0.00	$10,500.00
606.2701	HPBO (MOD.) CORRUGATED BEAM GUIDE RAILING	LF	50		45		95		$90.00	$4,500.00	$4,050.00	$0.00	$8,550.00
606.2703	ANCHORAGE UNITS FOR HPBO (MOD.) CORRUGATED BEAM GUIDE RAILING	EA	4		4		8		$3,000.00	$12,000.00	$12,000.00	$0.00	$24,000.00
606.7101	REMOVING AND DISPOSING HPBO (MOD.) CORRUGATED BEAM GUIDE RAILING	LF	100		100		200		$10.00	$1,000.00	$1,000.00	$0.00	$2,000.00
606.76	REMOVING AND DISPOSING OF GUIDE POSTS, GUIDE RAIL POSTS, AND MEDIAN BARRIER POSTS	EA	22		16		38		$25.00	$550.00	$400.00	$0.00	$950.00
606.7941	REMOVING AND DISPOSING ANCHORAGE UNITS FOR HPBO (MOD.) CORRUGATED BEAM GUIDE RAILING	EA	4		4		8		$100.00	$400.00	$400.00	$0.00	$800.00
606.8903	TRANSITION: HPBO (MOD.) CORRUGATED BEAM GUIDE RAILING TO SINGLE SLOPE CONCRETE HALF SECTION BARRIER	EA	4		4		8		$1,700.00	$6,800.00	$6,800.00	$0.00	$13,600.00
607.0511	VINYL COATED STEEL CHAIN-LINK FENCE ON PLASTIC COATED FRAME WITH TOP RAIL 4 FEET HIGH	LF	25		90		115		$150.00	$3,750.00	$13,500.00	$0.00	$17,250.00
607.41010010	TEMPORARY PLASTIC BARRIER FENCE	LF	150		150		300		$6.00	$900.00	$900.00	$0.00	$1,800.00
607.99010003	REMOVE AND RELOCATE FENCING	LF	70		180		250		$85.00	$5,950.00	$15,300.00	$0.00	$21,250.00
608.0101	CONCRETE SIDEWALKS AND DRIVEWAYS	CY	20		20		40		$550.00	$11,000.00	$11,000.00	$0.00	$22,000.00
608.020102	HOT MIX ASPHALT (HMA) SIDEWALKS, DRIVEWAYS, BICYCLE PATHS, AND VEGETATION CONTROL STRIPS	TON	6		5		11		$400.00	$2,400.00	$2,000.00	$0.00	$4,400.00
608.21	EMBEDDED DETECTABLE WARNING UNITS	SY	2		3		5		$400.00	$800.00	$1,200.00	$0.00	$2,000.00
609.04	CAST-IN-PLACE CONCRETE CURB	LF	740		665		1405		$25.00	$18,500.00	$16,625.00	$0.00	$35,125.00
610.1402	TOPSOIL - ROADSIDE	CY	5		7		12		$200.00	$1,000.00	$1,400.00	$0.00	$2,400.00
610.1403	TOPSOIL - LAWNS	CY	10		16		26		$250.00	$2,500.00	$4,000.00	$0.00	$6,500.00
610.1601	TURF ESTABLISHMENT - ROADSIDE	SY	45		63		108		$10.00	$450.00	$630.00	$0.00	$1,080.00
610.1602	TURF ESTABLISHMENT - LAWN	SY	90		144		234		$10.00	$900.00	$1,440.00	$0.00	$2,340.00

REHABILITATION OF BINS 2261360 AND 2261370
RIVIERA DRIVE BRIDGES (EAST AND WEST) OVER SANTA BARBARA CANAL
CONTRACT NO. 15G31
ADVANCE DETAIL PLANS
8/31/2016

ESTIMATE OF QUANTITIES

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY						COST				
			EAST	ACTUAL	WEST	ACTUAL	TOTAL	ACTUAL	UNIT PRICE	EAST	WEST	BOTH	TOTAL
614.060503	TREE REMOVAL OVER 24 INCHES TO 36 INCHES DIAMETER BREAST HEIGHT - STUMPS CUT TO BELOW GRADE	EA	1		0		1		$10,000.00	$10,000.00	$0.00	$0.00	$10,000.00
619.01	BASIC WORK ZONE TRAFFIC CONTROL	LS					1		$280,000.00	$0.00	$0.00	$280,000.00	$280,000.00
619.04	TYPE III CONSTRUCTION BARRICADES	EA	6		6		12		$60.00	$360.00	$360.00	$0.00	$720.00
619.0601	TEMPORARY STRUCTURES AND APPROACHES - EAST RIVIERA DRIVE (VEHICULAR)	EA	1		0		1		$140,000.00	$140,000.00	$0.00	$0.00	$140,000.00
619.0602	TEMPORARY STRUCTURES AND APPROACHES - WEST RIVIERA DRIVE (VEHICULAR)	EA	0		1		1		$120,000.00	$0.00	$120,000.00	$0.00	$120,000.00
619.0603	TEMPORARY STRUCTURES AND APPROACHES - EAST RIVIERA DRIVE (PEDESTRIAN)	EA	1		0		1		$15,000.00	$15,000.00	$0.00	$0.00	$15,000.00
619.0604	TEMPORARY STRUCTURES AND APPROACHES - WEST RIVIERA DRIVE (PEDESTRIAN)	EA	0		1		1		$15,000.00	$0.00	$15,000.00	$0.00	$15,000.00
619.080102	REMOVE PAVEMENT MARKING STRIPES, EPOXY PAINT	LF	180		180		360		$1.00	$180.00	$180.00	$0.00	$360.00
619.0901	TEMPORARY PAVEMENT MARKINGS STRIPES (TRAFFIC PAINT)	LF	1100		1200		2300		$0.50	$550.00	$600.00	$0.00	$1,150.00
619.1301	TEMPORARY TRAFFIC SIGNALS - EAST RIVIERA DRIVE	EA	1		0		1		$50,000.00	$50,000.00	$0.00	$0.00	$50,000.00
619.1302	TEMPORARY TRAFFIC SIGNALS - WEST RIVIERA DRIVE	EA	0		1		1		$50,000.00	$0.00	$50,000.00	$0.00	$50,000.00
619.1704	TEMPORARY CONCRETE BARRIER (PINNED) WITH WARNING LIGHTS	LF	600		600		1200		$60.00	$36,000.00	$36,000.00	$0.00	$72,000.00
620.03	STONE FILLING (LIGHT)	CY	45		45		90		$100.00	$4,500.00	$4,500.00	$0.00	$9,000.00
625.01	SURVEY OPERATIONS	LS					1		$80,000.00	$0.00	$0.00	$80,000.00	$80,000.00
634.99010017	BUILDING CONDITION SURVEY	LS					1		$10,000.00	$0.00	$0.00	$10,000.00	$10,000.00
637.03	CONCRETE CYLINDER CURING BOX	EA	1		1		2		$2,000.00	$2,000.00	$2,000.00	$0.00	$4,000.00
637.13	ENGINEER'S FIELD OFFICE - TYPE 3	MO	12		12		24		$5,000.00	$60,000.00	$60,000.00	$0.00	$120,000.00
637.34	OFFICE TECHNOLOGY AND SUPPLIES	DC					1		$1.00	$0.00	$0.00	$1.00	$1.00
647.31	RELOCATE SIGN PANEL, SIGN PANEL ASSEMBLY SIZE I (UNDER 30 SQUARE FEET)	EA	5		6		11		$300.00	$1,500.00	$1,800.00	$0.00	$3,300.00
647.41	REMOVE AND STORE SIGN PANEL, SIGN PANEL ASSEMBLY SIZE I (UNDER 30 SQUARE FEET)	EA	2		2		4		$40.00	$80.00	$80.00	$0.00	$160.00
B662.0001	RELOCATING GAS LINE	LS					1		$20,000.00	$0.00	$0.00	$20,000.00	$20,000.00
662.60030008	ALTERING ELEVATION OF GAS VALVE BOXES	EA	1		2		3		$800.00	$800.00	$1,600.00	$0.00	$2,400.00
663.30	RELOCATE EXISTING WATER VALVE & VALVE BOX	EA	10		8		18		$800.00	$8,000.00	$6,400.00	$0.00	$14,400.00
B663.36	RELOCATING WATER LINE	LS					1		$20,000.00	$0.00	$0.00	$20,000.00	$20,000.00
B680.9450	RELOCATE UTILITY POLES	EA	4		3		7		$20,000.00	$80,000.00	$60,000.00	$0.00	$140,000.00
685.11	WHITE EPOXY REFLECTORIZED PAVEMENT STRIPES - 20 MILS	LF	235		235		470		$1.00	$235.00	$235.00	$0.00	$470.00
685.12	YELLOW EPOXY REFLECTORIZED PAVEMENT STRIPES - 20 MILS	LF	430		490		920		$1.00	$430.00	$490.00	$0.00	$920.00
697.03	FIELD CHANGE PAYMENT	DC					1		$1.00	$0.00	$0.00	$1.00	$1.00
698.04	ASPHALT PRICE ADJUSTMENT	DC					1		$1.00	$0.00	$0.00	$1.00	$1.00
698.05	FUEL PRICE ADJUSTMENT	DC					1		$1.00	$0.00	$0.00	$1.00	$1.00
699.040001	MOBILIZATION	LS					1		$244,343.80	$0.00	$0.00	$244,343.80	$244,343.80
									SUBTOTAL	$2,778,082.00	$2,745,509.00	$829,347.80	$6,352,938.80

SUBTOTAL	$6,352,938.80
10% CONTINGENCY	$635,293.88
SUBTOTAL WITH CONTINGENCIES	$6,988,232.68
SAY	$7,000,000.00

RE: American Venice Bridges - Preliminary Plans and Estimate

Raichel, Maureen <Mraichel@LKBINC.COM>

Wed 07/13/2016 1:50 PM

Inbox

To: Gaye, Gene <GGaye@LKBINC.COM>; Accardi, Matt (STORMRECOVERY) <Matt.Accardi@stormrecovery.ny.gov>;

Cc: King, Thomas J (STORMRECOVERY) <Thomas.King@stormrecovery.ny.gov>; Andrea Gievers (AGievers@tectonicengineering.com) <AGievers@tectonicengineering.com>; Culver, Wayne <wculver@lkbinc.com>; Margolin, Daniel <DMargolin@LKBINC.COM>;

ATTENTION: This email came from an external source. Do not open attachments or click on links from unknown senders or unexpected emails.

Matt, In addition to the sample Erosion Control Drawing that Gene sent you, we have the following information to add.

American Venice Bridge Project-Soil Erosion Control Information

The contractor shall follow soil erosion control measures as outlined in the plans and specifications and in accordance with any and all permits issued for the subject project. In addition, measures will be evaluated during construction and if required, changes to the systems in place will be made. This may include the addition, removal and/or replacement of materials.
Soil erosion control measure will be extensive during this project as the location of the bridges are over/adjacent to the Santa Barbara and Grande Canals, and there will be work elements in the tidal water of the canal.

In order to protect the adjacent properties to the work zone, the contractor will have to establish all erosion control measure prior to any work being performed on site. Measures include but are not limited to:

1. Install temporary silt fences on land, along the edge of the work zone. The silt fence will prevent soil and/or debris from being washed off site onto private properties or into natural water bodies and storm sewers.

2. Install turbidity curtains in the water, adjacent to the work zone. The turbidity curtains will minimize sediment transportation within the water from the area of disturbance out to the larger body of water.

3. Provide leaching rings for excavation activities. Rings will remove sediment from the water before the water leaves the site and returns to the storm drains or water body. The ring will be set up prior to excavation of any material. Based on work performed at any given time, a second ring may be added to the site for ease of access, or may be moved prior to different stages of construction.

All measures as described will be maintained during construction. Systems will be replaced and/or repairs will be made as needed.
Leaching rings may be removed off site once all excavation activities are completed and there is no longer a need for the item.
Silt fences and turbidity curtains will remain on site for the duration of the contract.

Please note that you requested information for soil erosion control items including the turbidity curtain and silt fences. If you need additional information regarding temporary environmental impacts to the area from various items in the contract, please let us know.

If you have any questions or comments, or need additional information, please do not hesitate to contact us.
Thank you,
Maureen

Maureen Raichel, PE
Senior Civil Engineer
Lockwood, Kessler & Bartlett, Inc
Consulting Engineers
Civil/Municipal Engineering | Construction Services
Electrical, Mechanical & Plumbing Engineering
Power Engineering | Environmental Services
Real Estate Inspection Engineering
Site Engineering & Landscape Architectural Services
Solid Waste Engineering | Structural Engineering
Survey & Mapping | Transportation Engineering

One Aerial Way, Syosset, NY 11791 V: 516.938.0600 x290 F: 516.931.6344
Syosset, NY | Pleasantville, NY | Waterbury, CT | www.lkbinc.com

---

From: Gaye, Gene
Sent: Tuesday, July 12, 2016 4:13 PM
To: 'Accardi, Matt (STORMRECOVERY)' <Matt.Accardi@stormrecovery.ny.gov>
Cc: King, Thomas J (STORMRECOVERY) <Thomas.King@stormrecovery.ny.gov>; Andrea Gievers (AGievers@tectonicengineering.com) <AGievers@tectonicengineering.com>; Culver, Wayne <wculver@lkbinc.com>; Margolin, Daniel <DMargolin@LKBINC.COM>; Raichel, Maureen <Mraichel@LKBINC.COM>
Subject: RE: American Venice Bridges - Preliminary Plans and Estimate

Hi Matt,
The attached is what we have used on past projects, and notes are listed therein.
I hope this meets your needs, and if not please let me know.
Thanks, Gene

Gene Gaye, P.E.
Senior Structural Engineer
Lockwood, Kessler & Bartlett,
Consulting Engineers, Inc.
1 Aerial Way
Syosset, NY 11791

From: Accardi, Matt (STORMRECOVERY) [mailto:Matt.Accardi@stormrecovery.ny.gov]
Sent: Monday, July 11, 2016 5:38 PM
To: Gaye, Gene <GGaye@LKBINC.COM>
Cc: King, Thomas J (STORMRECOVERY) <Thomas.King@stormrecovery.ny.gov>; Andrea Gievers (AGievers@tectonicengineering.com) <AGievers@tectonicengineering.com>
Subject: Fw: American Venice Bridges - Preliminary Plans and Estimate

Hi Gene,

I see that Wayne is out on vacation for the next two weeks. Would you be able to assist with the request below?

Thank you,
Matt

Matt Accardi
Bureau of Environmental Review and Assessment
Governor's Office of Storm Recovery

25 Beaver Street, 5th Floor
New York, New York 10004
Office: (212) 480-6265
Mobile: (646) 830-6902
matt.accardi@stormrecovery.ny.gov

From: Accardi, Matt (STORMRECOVERY)
Sent: Sunday, July 10, 2016 5:29 PM
To: Culver, Wayne
Cc: Andrea Gievers (AGievers@tectonicengineering.com)
Subject: Re: American Venice Bridges - Preliminary Plans and Estimate

Hi Wayne,

We are beginning to draft our environmental review documents based on the attached document that you provided last month.

I see that pages 8 and 24 of the pdf file containing the designs provide the Soil Erosion Control Plans for each bridge. Do you happen to have some stock language that we can use in our narrative explaining the the timing, setup, and breakdown of the turbidity curtain and silt fence?

Thank you,
Matt

From: Culver, Wayne <wculver@lkbinc.com>
Sent: Friday, June 17, 2016 4:10 PM
To: Scopaz, Valerie (STORMRECOVERY); 'Lee, Kathy'; Accardi, Matt (STORMRECOVERY); Ednie, Brian; 'Catherine Wuertz'; Genaway, David (STORMRECOVERY); 'DeAngelis, Marisa'; Gaye, Gene; 'Joseph Guarino'; 'Kathy Lynch'; 'LaFont, Bonnie'; 'Peter Casserly'; King, Thomas J (STORMRECOVERY); 'Tom Stay'; vmarotta@TOWNOFBABYLON.com; 'Victoria Russell'
Cc: James Causarano; Kevin Papasian (kpapasian@bthayerassociates.com); Margolin, Daniel; Raichel, Maureen
Subject: American Venice Bridges - Preliminary Plans and Estimate

ATTENTION: This email came from an external source. Do not open attachments or click on links from unknown senders or unexpected emails.

All

Attached are the preliminary plans and cost estimate for the American Venice Bridges for review and comment. If anyone prefers full size drawings, please let me know and we will send you a set. Comments can be provided via email and/or presented at our next meeting.

Wayne

Wayne T. Culver, P.E.
Director of Structural Engineering
Lockwood, Kessler & Bartlett, Inc
One Aerial Way
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"Still Leading the Way."

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Lockwood, Kessler & Bartlett Inc.

TOWN OF BABYLON
DEPARTMENT OF PUBLIC WORKS

SCOPING REPORT FOR THE REHABILITATION OR RECONSTRUCTION TO ELIMINATE LOAD POSTING

For

Riviera Drive Bridges (East and West) over Santa Barbara Canal
BINs 2261360 and 2261370

Lindenhurst, New York

Prepared By:
Greenman-Pedersen, Inc.
325 West Main Street
Babylon, NY 11702

July, 2014

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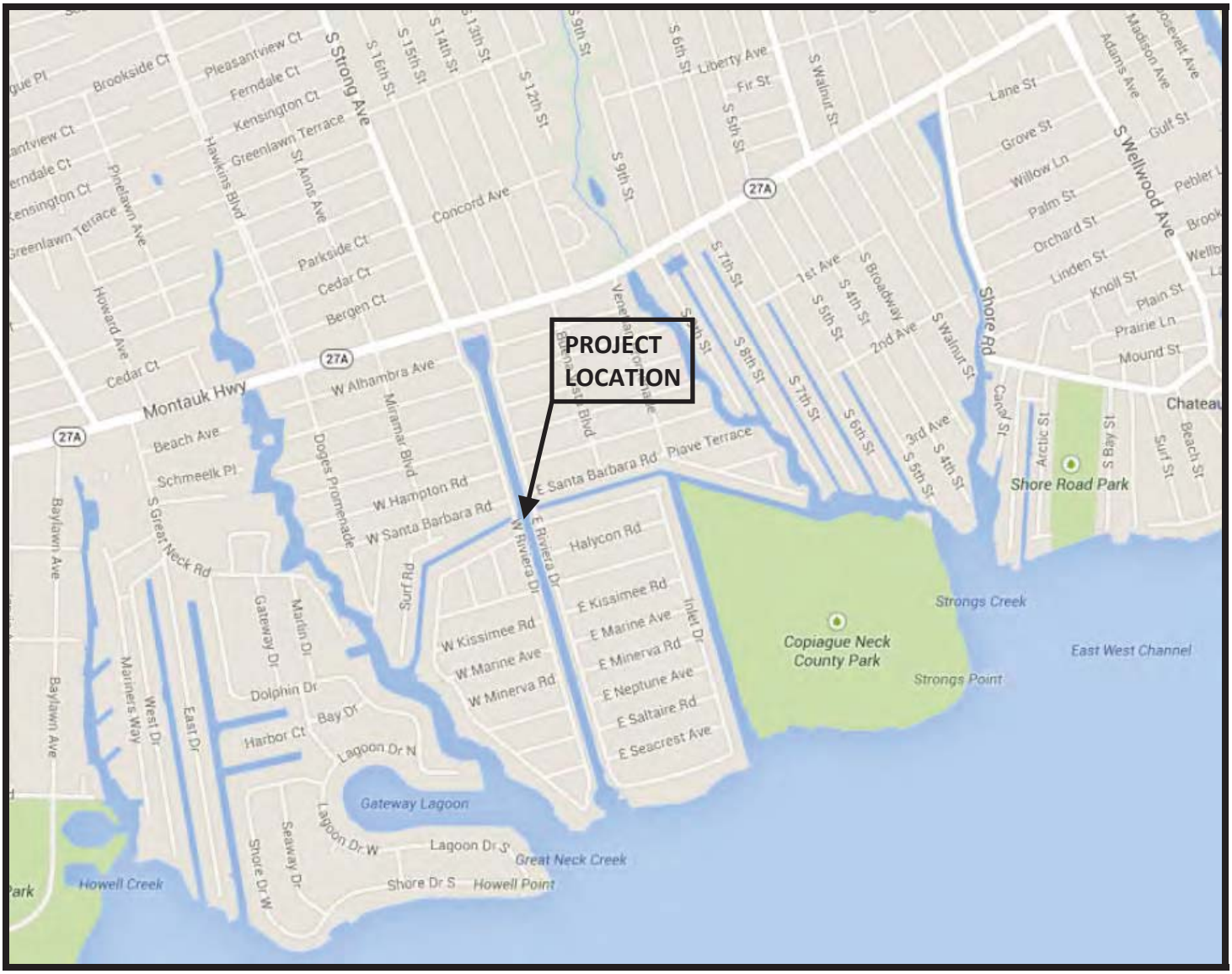
NYSDOT Design Advisory- FRP
NYSDOT Special Specification – FRP

APPENDIX B
Contech Precast Bridge Plans and Sections

TOWN OF BABYLON
DEPARTMENT OF PUBLIC WORKS

Riviera Drive Bridges (East and West)
over Santa Barbara Canal
BINs 2261360 and 2261370



1.0 History and Description of Bridges

Research indicates that the Riviera Drive East (BIN 2261360) and the Riviera Drive West (BIN 2261370) bridges over Santa Barbara Canal were originally built in 1910 by Suffolk County under an unknown contract number. Their construction is of reinforced concrete, earth filled, ribbed arch rigid frame construction. Bridges of this type, built by the County in this era were designed for 15 ton live loading.

County records indicate that by 1957, extensive deterioration of the concrete arches dictated lowering the posted live load limit of the bridges to 8 tons. After extensive concrete repairs in that year, County Officials were permitted to raise the posted live load limit to 12 tons. Specifications for the 1957 bridge repairs, which included pressure grouting of the cracks and pneumatic concrete repairs, were available through the Town of Babylon Department of Public Works (TOB DPW). Photographs taken before the repairs indicate severe concrete distress in the interior and exterior ribs of the bridges with extensive exposure of the bottom bar reinforcement. A report of an inspection made subsequent to the repairs found the repaired concrete to have a "dear" ring upon sounding and recommended raising the posted live load limit.

In 1969, a separate pedestrian walkway structure was added alongside each bridge. The Walkway construction consisted of steel stringers and a concrete slab with an independent substructure. As-built plans of the original bridges are not available, although an incomplete plan was found in the archives at the TOB DPW. This plan shows the same general configuration such as span length and vertical clearance, but does not reflect the bridges' ribbed construction. Thus, it is assumed to be preliminary and not the final design. Plans and specifications for the 1969 walkway modification of the bridges are available at the TOB DPW.

In 1990, rehabilitation work was performed to reroute and replace the existing utilities carried by the bridge, including replacement of the existing sidewalk slabs and aluminum railings. Plans for the 1990 rehabilitation work are available at the TOB DPW.

The Riviera Drive East and the Riviera Drive West bridges are identical in configuration. Each single span bridge consists of a reinforced concrete, earth filled, ribbed arch rigid frame structure carrying two (2) vehicular traffic lanes and an adjacent sidewalk structure consisting of two (2) rolled steel beams with a reinforced concrete deck and a pedestrian railing.

The bridges carrying Riviera Drive East and West are both oriented in the North-South direction and are separated by the adjacent Grande Canal. Each bridge crosses over the Santa Barbara Canal, which is oriented in the East-West direction. These waterways are tidally influenced and connect to the Great South Bay. Each of these structures provides the sole vehicular access to the residential neighborhoods south of the Santa Barbara Canal.

For each bridge, the clear span of the arch between spring lines is 25' and the total length of the bridge is 54'-4". The span length of the sidewalk structure, measured between the center line of bearings, is 34' with the total length of 37'. The thickness and reinforcement details of the arch and ribs are unknown since as-built drawings are not available. The four (4) concrete ribs were measured to be 14" wide and spaced at 7'-2" on center. The depth of the ribs vary across the span length symmetrically about the midspan, from 1'-4¼" at each spring line to 10¼" at midspan.

The arch structure is supported on concrete abutments with in-line wingwalls. The reinforcement details are unknown since as-built drawings are not available. The substructure of the pedestrian sidewalk consists of a reinforced concrete stub abutment supported on timber piles with flared concrete wingwalls. The substructures are set back behind a timber bulkhead that lines the canal.

On each bridge, there are two (2) 9'-6" lanes of vehicular traffic carried on the bridge bordered by two (2) 45-inch high concrete railings. The approximate 5-foot pedestrian sidewalk is contained between the

concrete barrier and an aluminum railing on the outside face of the bridge. The total width of each bridge, including the sidewalk is approximately 28'-6".

2.0 Inspection Findings

Visual and non-destructive inspections were performed on April 18, 2014 in order to examine and report on the current condition of the existing bridges' components and adjoining features including: substructures, superstructure, approaches and waterway.

Overall, the bridges are in fair condition, meaning, there are signs of deterioration, but they are functioning as originally designed.

Both bridges have "Narrow Bridge" signs in advance of the bridge on each approach. Although not required as the clear width between bridge railings exceeds 18'-0" it was observed that local traffic usually does not cross the bridge at the same time as opposing traffic [Photo 1].

Speed limit (20 mph) and load posting (12 tons) regulatory signs are also on each approach of the bridges [Photos 2 & 11].

East Riviera Drive Bridge:

Several horizontal and vertical cracks up to ¼" wide are present on the abutment stems and/or pedestals under the sidewalk. Sounding of the concrete produced no evidence of delamination [Photos 4 & 5].

The Northwest embankment behind timber sheeting has eroded creating a sink hole approximately 4' x 5' and up to 5' deep. There are also multiple broken or missing timber planks [Photos 6 & 7]. This condition could pose a safety hazard to pedestrians.

Undermining of the concrete apron on the Northeast embankment measures up to 4' laterally. There are also multiple broken or missing timber planks [Photo 8].

The North baluster on the east bridge rail has impact damage that occurred between a site visit on March 28th and inspection on April 18th, 2014. There is a full depth crack just above the roadway and the top is pulling away from the remaining portion of the bridge rail exposing rebar connecting the two pieces [Photo 9]. This condition poses a safety hazard to pedestrians and vehicular traffic.

Minor efflorescence is emanating from hairline cracks in Rib #3 [Photo 10]. Soundings from the underside of the arch provided no evidence of deterioration or delamination.

West Riviera Drive Bridge

Undermining of the concrete apron on the Northeast embankment measures up to 4' laterally and has allowed for the settlement of up to 3"± vertically. There are also multiple broken, deteriorated or missing timber planks [Photos 13 & 14].

The underside of the concrete arch exhibits several delaminated areas. Soundings of the concrete showed no further deterioration or delamination since the previous NYSDOT Biennial Inspection. Area residents have attempted to paint over the marked delaminated areas. There is an approximately 8' long by up to ⅛" wide crack on West Face of Rib #3. Concrete was solid when sounded with hammer. [Photos 15 – 18].

3.0 Load Rating

Bridges of this type built in this era were typically designed for 15 ton live load. Currently, the bridges are posted for 12 ton live load limit due to the deteriorating concrete arches and ribs. As a comparison, a new bridge would be designed for a 36 ton live load.

Previous inspection reports that include load ratings, state that the bridges were not ratable because it is a concrete arch and as-builts are not available.

Section 6.1.4, AASHTO Manual for Bridge Evaluation, 2nd Edition, 2011, covers bridges with unknown structural components. According to this section, knowledge of the live load used in the original design, the current condition of the structure and the live load history could be used to assign a safe load capacity.

To understand why a load posting was placed on this structure, GPI has reviewed the NYSDOT BIN folder and previous inspection reports Previous reports indicate that the bridges experienced severe corrosion and were repaired in the 1950's, late 60's and again in 1990. Our experience with concrete structures indicates that once corrosion has begun the process can be slowed but not stopped. Given the age and historical condition of these structures, and the fact that the original design plans are not available, GPI believes that the assigned 12 ton load rating is appropriate for these bridges.

4.0 Utilities

The following utilities are either carried by the bridges or in the vicinity:

- Gas main: 4-inch diameter high pressure gas main in a 6-inch diameter casing carried under the sidewalk.
- Water Main: 8-inch diameter water main in a 12" diameter casing carried under the sidewalk.
- Overhead: Overhead utility lines including electric, telephone and cable, run above the outside fascia of the sidewalk on each bridge.
- Underground: 10-inch sewer located in the Grande Canal adjacent to the bridge.

The utilities located under the sidewalks will be temporarily supported during construction. The permanent locations for the gas and water mains will be selected during final design once the final sections of the precast concrete arches are determined.

Potential permanent locations for the gas and water main include:

- Located between the concrete arch units
- Supported off the concrete arch fascia
- Under a separate sidewalk structure adjacent to the concrete arches.

5.0 Alternatives and Estimates

The condition of these structures requires that a course of action be taken to improve the load carrying capacity of each, and bring the performance of these bridges in line with the needs of the traveling public and the community. It was noted that these bridges provide the only vehicular egress for the residents and likewise provide the only access for emergency or other services needed on the peninsula. After Superstorm Sandy, construction equipment, needed for repairs on residential as well as public property, was limited to the 12 Ton capacity of the bridges. The purpose of this study is to identify alternative engineering solutions that could provide improved long term access to the community that is safe and cost effective.

Alternative 1 - Rehabilitate Existing Bridge with Fiber Reinforced Polymer (FRP) for Structural Improvement of Arch

This option would repair the deteriorated concrete areas of the bridges and increase the structural capacity by installing fiber reinforced polymer (FRP) to the underside of the arches and ribs. In addition, improvements to the substructure would also be required.

This system works in the following manner. Carbon fiber strands are woven into sheets and adhered to the underside of the arch and ribs with the strands orientated parallel to the direction of traffic with epoxy resin. The existing reinforcement is already stressed due to the dead load of the structure. The live load stresses will be carried by both the reserve capacity of the existing reinforcing and the new FRP carbon strands that are glued with epoxy adhesives to the underside of the top slab. As live loads are applied to the top slab, the FRP's that are bonded become stressed in tension, thus providing extra capacity for live loads.

According to specialists in this system, the maximum increase in shear or flexural capacity achieved by this type of reinforcement is approximately 40% of the original design capacity. This option will not eliminate load restrictions for the structure and will still require a posted restriction.

Prior to application of the FRP strands, all deteriorated areas of concrete on the underside of the structure's arch and ribs must be repaired to provide a sound concrete surface for the application. Then the concrete is prepared for bonding by means of abrasive blasting or grinding to remove existing laitance (scale, calcium, dirt, etc...) and expose aggregate.

The underside of the arch and ribs are then primed with epoxy resin and allowed to become tacky. The carbon fiber FRP's are saturated in epoxy resin then placed on the entire underside of the arch and ribs for the length of the structure.

NYSDOT has used FRP's on previous projects on an experimental basis. A Structures Design Advisory was issued by NYSDOT Main Office Structures in December 2002 to provide guidance on the application of FRP composites for bridge decks and superstructures (see Appendix A). In addition, there is also a NYSDOT special specification, Item Number 582.08000016 "Fiber Reinforced Polymer Repair of Structures" (see Appendix A).

The FRP application would improve the condition of the superstructures, however it does not improve the condition of the substructure, which is also in fair to poor condition due to failure of the supporting soil resulting from adjacent bulkhead failures.

If this Alternative is utilized, it will be required that the "As-Builts" be placed in the NYSDOT BIN Folder so future inspectors of the bridge could be made aware of the FRP repair beforehand so as to become familiar with the system.

Work associated with Alternative 1 includes:

- Repair of cracked and delaminated concrete at underside of arch and ribs.
- Repair of spalled, cracked and delaminated concrete at abutments and pedestals.
- Install FRP system to underside of arch and ribs.
- Repair erosion and undermining of embankments and replace all timber bulkheads.
- Replace damaged pylon at concrete railing.
- Replace chain link fence at all wingwall embankments.
- Clearing and grubbing at all embankments.

Alternative 2 - Bridge Replacement using Staged Construction

This option would remove the existing structures and replace with new precast concrete arch bridges using staged construction. Each bridge replacement would take place at the same time, with half of each bridge closed and the remaining half of each bridge open to a single lane of traffic with directional control via a temporary signal. This option would remove any load restrictions for the structure.

The sequence of operation would be as follows for the East Riviera Drive bridge (West Riviera Drive would be similar), see sketches SK-02 and SK-03:

- Demolish sidewalk and east portion of the bridge while maintaining 1 reversible lane of traffic on the existing bridge
- Construct east portion of the bridge
- Demolish west portion of the existing bridge while maintaining 1 lane of traffic on the new bridge.
- Construct west portion of the bridge.
- Construct sidewalk on the east side of the bridge.

Work items associated with Alternative 2 include:

- Clearing and grubbing at all embankments.
- Remove Existing structure from waterway.
- Remove and replace abutments and wingwalls.
- Install new precast concrete arch bridge.
- Repave roadway and install roadway joints on both sides of bridge.
- Remove load posting sign.
- Install NYSDOT approved Texas Aesthetic Concrete Bridge Barrier (see photo below) along the headwalls with guide rail returns.
- Repair erosion and undermining of embankments and replace all timber bulkheads.
- Replace chain link fence at all wingwall embankments.

It is anticipated that construction for each bridge will take approximately 16 weeks. Construction of both bridges could take place simultaneously to reduce the overall construction duration.

Texas Aesthetic Concrete Bridge Barrier

Alternative 3 - Bridge Replacement using Temporary Bridge

This option would remove the existing structures and replace with new precast concrete arch bridges using a temporary bridge. One of the bridges would be closed entirely while the other would remain open with a temporary bridge crossing the Grande Canal at Minerva Road, see sketch SK-04. This option would limit marine traffic North of the temporary bridge for the duration of construction operations. Construction operations would be planned for off-season months to minimize marine traffic disruption. This option would remove any load restrictions for the structure.

The sequence of operation would be as follows for the construction of the East and West Riviera Drive bridges:

- Construct temporary bridge at Minerva Road and detour traffic from East Riviera Drive to West Riviera Drive.
- Demolish the East Riviera Drive bridge.
- Construct new abutments and wingwalls.
- Install pre-cast concrete arches.
- Pave East Riviera Drive roadway.
- Detour traffic from West Riviera Drive to East Riviera Drive.
- Demolish the West Riviera Drive bridge.
- Construct new abutments and wingwalls.
- Install pre-cast concrete arches.
- Pave West Riviera Drive roadway.
- Remove temporary bridge and rebuild docks adjacent to Minerva Road.

Work items associated with Alternative 3 include:

- Acquire temporary easement on both sides of Grande Canal at Minerva Road for erection of temporary bridge.
- Erect temporary bridge at Minerva Road.
- Remove Existing structure from waterway.
- Install new concrete abutments and wingwalls.
- Install new precast concrete arch bridge.
- Repave roadway and install roadway joints on both sides of bridge.
- Remove load posting sign.
- Install NYSDOT approved Texas Aesthetic Concrete Bridge Barrier (see photo above in Alternative 2) along the headwalls with guide rail returns.
- Repair erosion and undermining of embankments and replace all timber bulkheads.
- Replace chain link fence at all wingwall embankments.
- Clearing and grubbing at all embankments.

It is anticipated that construction for each bridge will take approximately 8 weeks.

Alternative 1 - Rehabilitate Existing Bridge with Fiber Reinforced Polymer (FRP)

ITEM No.	DESCRIPTION	PAY UNIT	UNIT PRICE	QTY.	COST
201.06	Clearing and Grubbing	LS	$25,000	1	$25,000
202.81010010	Removal of Existing Timber Fender System	LS	$105,000	1	$105,000
580.01	Removal of Structural Concrete	CY	$3,500	14	$49,000
582.05	Removal of Structural Concrete - Replacement with Class A Concrete	CY	$11,900	8	$95,200
582.06	Removal of Structural Concrete -Replacement with Class D Concrete	SF	$420	402	$168,840
582.07	Removal of Structural Concrete -Replacement with Vertical and Overhead Patching Material	SF	$350	202	$70,700
582.08000016	Fiber Reinforced Polymer Repair of Structures (Precured And Wet Lay-Up)	SF	$280	2000	$560,000
594.9503001	Timber Bulkhead	LF	$2,100	200	$420,000
	Concrete Bridge Railing Repairs	LS	$9,375	1	$9,375
209.1501	Turbidity Curtain	LF	$42	300	$12,600
	Containment System	LS	$120,400	2	$240,800

SUB-TOTAL	$1,756,515
15% M.P.T.	$263,477
5% SURVEY	$87,826
4% MOBILIZATION	$84,313
30% CONTINGENCY	$632,345
SUBTOTAL	$2,824,476
ESCALATION (2 Years)	$289,509
DESIGN	$425,000
CONSTRUCTION INSPECTION	$200,000
TOTAL	$3,738,985
SAY	**$3,800,000**

Alternative 2 - Bridge Replacement using Staged Construction

ITEM No.	DESCRIPTION	PAY UNIT	UNIT PRICE	QTY.	COST
201.06	Clearing and Grubbing	LS	$31,250	1	$31,250
202.12nnnn	Removing Existing Superstructures	LS	$182,000	1	$182,000
202.19	Removal of Substructures	CY	$560	80	$44,800
202.81010010	Removal of Existing Timber Fender System	LS	$105,000	1	$105,000
203.21	Select Structure Fill	CY	$63	622	$38,875
402.01nnnn	Superpave HMA	TON	$125	140	$17,500
551.11	Cast-In-Place Concrete Piles	LF	$56	3200	$179,200
555.08	Footing Concrete, Class HP	CY	$750	125	$93,750
569.08	Texas Aesthetic Concrete Bridge Barrier	LF	$438	300	$131,250
594.95030010	Timber Bulkhead	LF	$2,100	200	$420,000
	ConTech Bridge System	EA	$350,000	2	$700,000
619.13nn	Temporary Traffic Signals	ELOC	$7,500	4	$30,000
619.1611	Maintain Traffic Signal Equipment (Requirement A)	INTM	$1,250	3	$3,750
609.04xx	Concrete Curbs	LF	$75	300	$22,500
557.30	Concrete Sidewalk	SY	$150	170	$25,500
	Guide Railing	LF	$38	300	$11,250
209.1501	Turbidity Curtain	LF	$42	300	$12,600
	Containment System	LS	$49,000	2	$98,000
553.020002	Cofferdam	LS	$77,000	1	$77,000
	Dewatering	LS	$70,000	1	$70,000
	Geotechnical Investigation	LS	$50,000	1	$50,000
	Landscaping	LS	$100,000	1	$100,000

SUB-TOTAL	$2,444,225
15% M.P.T.	$366,634
5% SURVEY	$122,211
4% MOBILIZATION	$117,323
30% CONTINGENCY	$879,921
SUBTOTAL	$3,930,314
ESCALATION (2 Years)	$402,857
DESIGN	$600,000
CONSTRUCTION INSPECTION	$200,000
TOTAL	$5,133,171
SAY	**$5,200,000**

Alternative 3 - Bridge Replacement using Temporary Bridge

ITEM No.	DESCRIPTION	PAY UNIT	UNIT PRICE	QTY.	COST
201.06	Clearing and Grubbing	LS	$50,000	1	$50,000
202.12nnnn	Removing Existing Superstructures	LS	$182,000	1	$182,000
202.19	Removal of Substructures	CY	$560	80	$44,800
202.81010010	Removal of Existing Timber Fender System	LS	$140,000	1	$140,000
203.21	Select Structure Fill	CY	$63	622	$38,875
402.01nnnn	Superpave HMA	TON	$125	140	$17,500
551.11	Cast-In-Place Concrete Piles	LF	$56	3200	$179,200
555.08	Footing Concrete, Class HP	CY	$750	125	$93,750
569.08	Texas Aesthetic Concrete Bridge Barrier	LF	$438	300	$131,250
594.95030010	Timber Bulkhead	LF	$2,100	300	$630,000
	ConTech Bridge System	EA	$350,000	2	$700,000
619.06nn	Temporary Structures and Approaches	EA	$259,000	1	$259,000
619.13nn	Temporary Traffic Signals	ELOC	$7,500	4	$30,000
619.1611	Maintain Traffic Signal Equipment (Requirement A)	INTM	$1,250	3	$3,750
	Dock Rental	MNTH	$8,400	3	$25,200
609.04xx	Concrete Curbs	LF	$75	300	$22,500
557.30	Concrete Sidewalk	SY	$150	170	$25,500
	Guide Railing	LF	$38	300	$11,250
209.1501	Turbidity Curtain	LF	$42	300	$12,600
	Containment System	LS	$49,000	2	$98,000
553.020002	Cofferdam	LS	$77,000	1	$77,000
	Dewatering	LS	$70,000	1	$70,000
	Geotechnical Investigation	LS	$50,000	1	$50,000
	Landscaping	LS	$100,000	1	$100,000

SUB-TOTAL	$2,992,175
15% M.P.T.	$448,826
5% SURVEY	$149,609
4% MOBILIZATION	$143,624
30% CONTINGENCY	$1,077,183
SUBTOTAL	$4,811,417
ESCALATION (2 Years)	$493,170
DESIGN	$725,000
CONSTRUCTION INSPECTION	$200,000
TOTAL	$6,229,588
SAY	**$6,300,000**

6.0 Recommendation

Three (3) rehabilitation and/or replacement alternatives have been considered in conjunction with goals of the project to increase the bridge rating and remove load restrictions on the bridge.

The feasibility of each alternative was evaluated on the basis of the following issues:

- Advantages
- Disadvantages
- Load Capacity
- Design Criteria
- Conformance to Town of Babylon, NYSDOT & AASHTO Standards and Specifications
- Construction Feasibility
- Future Maintenance
- Maintenance of Traffic
- Environmental, Community and Permit Issues
- Cost

It is recommended that **Alternative 2** be utilized for the rehabilitation of the bridges that carry Riviera Drive (East and West) over Santa Barbara Canal. This alternative offers an innovative, cost effective solution for increased structural capacity that will minimize the impact on the traveling public and community while eliminating all load posting restrictions for the structures.

Alternative 1 was eliminated from consideration because it does not improve the load carrying capacity of the structure to an acceptable level in accordance with current standards. Alternative 3 was eliminated due to its higher cost and potential adverse impact to the public during construction.

INSPECTION PHOTOS

BRIDGE INSPECTION PHOTOS

Photo No. 1 **Location:** Bridge Approach **Description:** Both Bridges have Narrow Bridge Signs located on the Approaches. **Reference:** IMG_0177.JPG	
Photo No. 2 **Location:** East Bridge - North (End) Approach **Description:** Regulatory Signs Posting the Speed Limit as 20mph and Weight Limit on Bridge as 12 Tons. **Reference:** IMG_0004.JPG	

BRIDGE INSPECTION PHOTOS

Photo No. 3

Location:

East Bridge - West (Left) Elevation

Description:

General view of Bridge Fascia and Canal.

Reference:

IMG_0173.JPG

Photo No. 4

Location:

East Bridge – East Side of South Abutment (Begin Right)

Description:

Pedestal and Stem exhibit several cracks up to ¼" wide.

Reference:

IMG_0183.JPG

BRIDGE INSPECTION PHOTOS

Photo No. 5 **Location:** East Bridge - East Side of North Abutment (End Rightt) **Description:** Pedestal and Stem exhibit several cracks up to 3/16" wide. **Reference:** IMG_0105.JPG	
Photo No. 6 **Location:** East Bridge – Northwest Embankment (End Left) **Description:** Embankment behind timber sheeting has eroded creating a sink hole approximately 4' x 5' and up to 5' deep. There are multiple missing timber planks. **Reference:** IMG_0179.JPG	

BRIDGE INSPECTION PHOTOS

Photo No. 7 **Location:** East Bridge – Northwest Embankment (End Left) **Description:** Embankment behind timber sheeting has eroded creating a sink hole approximately 4' x 5' and up to 5' deep. There are multiple missing timber planks. **Reference:** IMG_0118.JPG	
Photo No. 8 **Location:** East Bridge – Northeast Embankment (End Right) **Description:** Concrete Apron is Undermined up to 4' Laterally behind Failed Timber Sheeting. **Reference:** IMG_0103.JPG	

BRIDGE INSPECTION PHOTOS

Photo No. 9 **Location:** East Bridge – North End of East Bridge Rail (End Right) **Description:** Impact Damage has broken the End Baluster on East Bridge Rail. **Reference:** IMG_0010.JPG	
Photo No. 10 **Location:** East Bridge - Midspan towards North (End) Abutment **Description:** Minor Efflorescence emanating from Hairline Cracks in Rib #3. **Reference:** IMG_0000.JPG	

BRIDGE INSPECTION PHOTOS

Photo No. 11	
Location:	
West Bridge – North Approach	
Description:	
Regulatory Signs Posting the Speed Limit as 20mph and Weight Limit on Bridge as 12 Tons.	
Reference:	
IMG_0015.JPG	
Photo No. 12	
Location:	
West Bridge – East (Right) Elevation	
Description:	
General view of Bridge Fascia and Canal.	
Reference:	
IMG_0122.JPG	

BRIDGE INSPECTION PHOTOS

Photo No. 13 **Location:** West Bridge – Northeast Embankment (End Right) **Description:** Concrete Apron is Undermined up to 4' Laterally behind Failed Timber Sheeting. Apron has also Settled 3"± (Arrow pointing to settlement) **Reference:** IMG_0124.JPG	
Photo No. 14 **Location:** West Bridge – Northeast Embankment (End Right) **Description:** Concrete Apron is Undermined up to 4' Laterally behind Failed Timber Sheeting. **Reference:** IMG_0000.JPG	

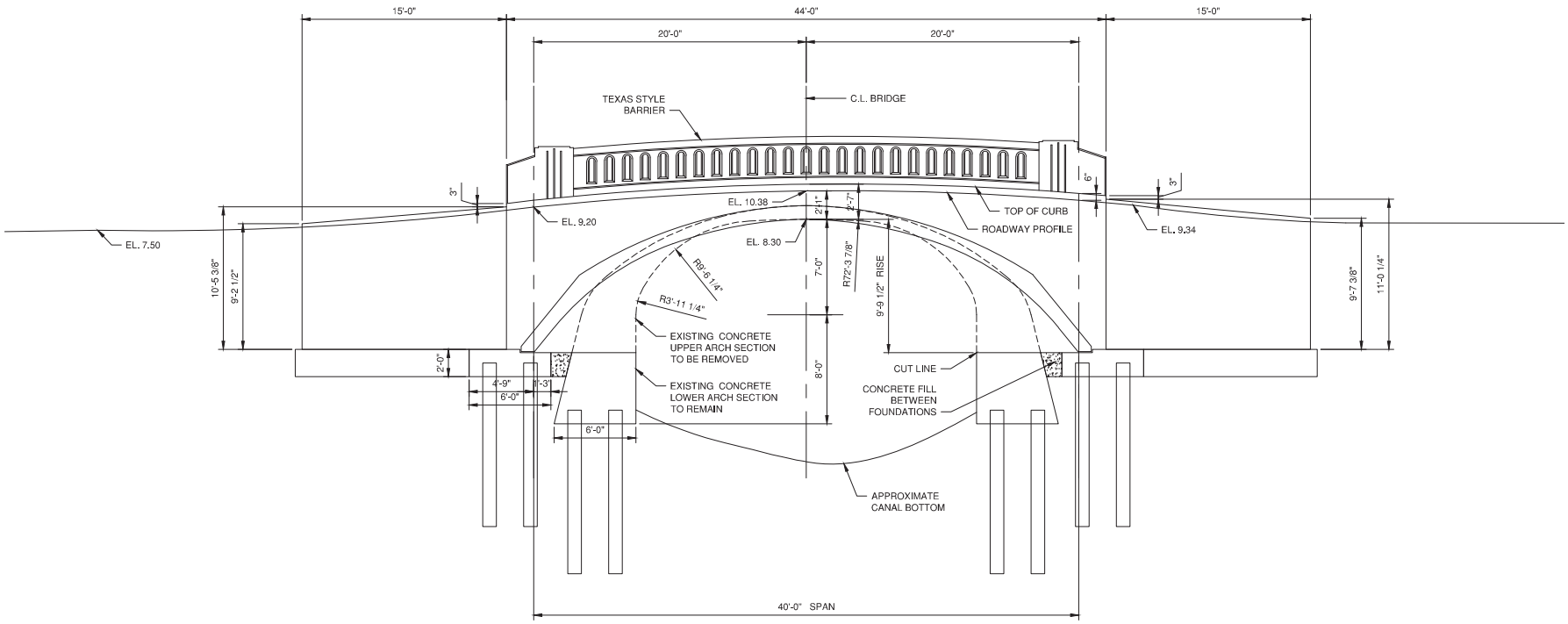
BRIDGE INSPECTION PHOTOS

Photo No. 15 **Location:** West Bridge – Bay 2 Midspan towards South (Begin) Abutment **Description:** Underside of Concrete Arch exhibit several Delaminated (hollow sounding) Areas. **Reference:** IMG_0133.JPG	
Photo No. 16 **Location:** West Bridge – Bay 3 Midspan towards North (End) Abutment **Description:** Underside of Concrete Arch exhibit several Delaminated (hollow sounding) Areas. **Reference:** IMG_0131.JPG	

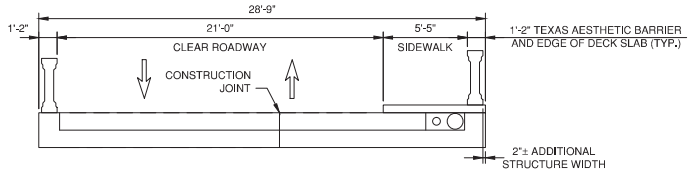
BRIDGE INSPECTION PHOTOS

Photo No. 17 **Location:** West Bridge – Rib 3 @ North (End) Abutment **Description:** Underside of Concrete Arch exhibit several Delaminated (hollow sounding) Areas. Approximately 8' Long by up to 1/8" Wide Crack on West Face of Rib #3. Concrete solid when sounded with hammer. **Reference:** IMG_0136.JPG	
Photo No. 18 **Location:** West Bridge – East (Right) Fascia **Description:** Minor Efflorescence on East Fascia. **Reference:** IMG_0130.JPG	

SKETCHES



TYPICAL SECTION



PROPOSED BRIDGE SECTION

GPI
Greenman-Pedersen, Inc.
Engineering and Construction Services
325 West Main Street, Babylon, NY 11702
Tel: (631) 587-5060 Fax: (631) 422-3479

REVISIONS
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CLIENT: TOWN OF BABYLON
PROJECT: RIVIERA BRIDGES
DRAWING TITLE: PROPOSED & EXISTING SECTION

SCALE:	1" = 4'-0"
DRAWN BY:	D.C.
CHECKED BY:	J.S.
DATE:	JULY 18, 2014
PROJECT NUMBER:	2014012

DRAWING No. SK-1
SHEET No. 1 of 4

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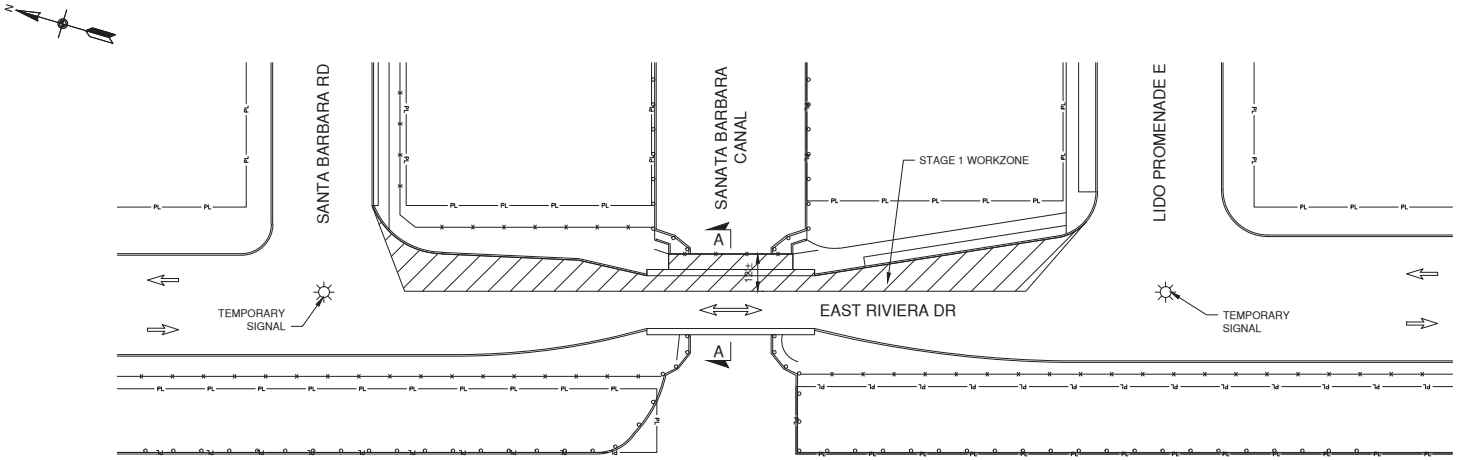
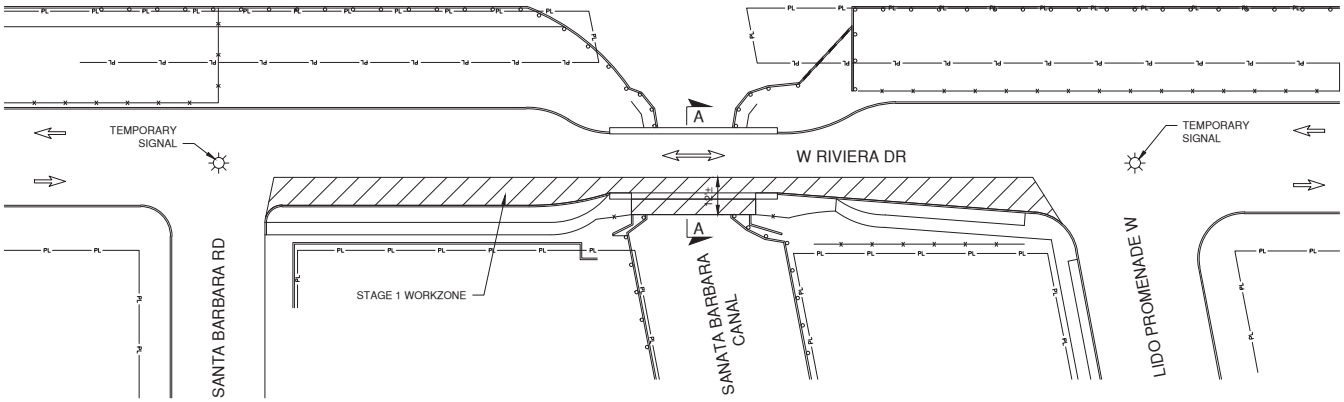


GRANDE CANAL



STAGE I PLAN SHOWN
(STAGE II SIMILAR AND OPPOSITE SIDE)

NOTES:

1. FOR SECTION A-A, SEE DWG. NO. SK-1.

GPI
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REVISIONS
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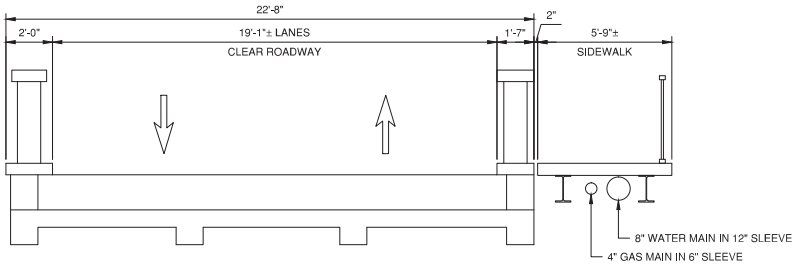
CLIENT: TOWN OF BABYLON
PROJECT: RIVIERA BRIDGES
DRAWING TITLE: ALT 2 STAGING PLAN

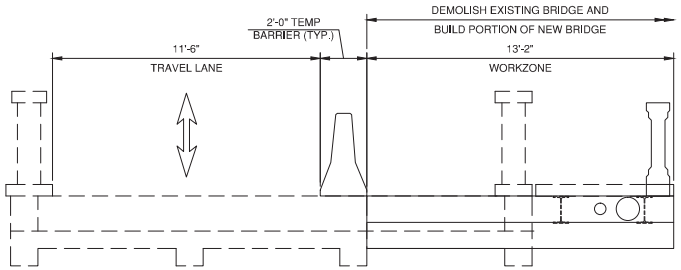
SCALE:	1" = 20'-0"
DRAWN BY:	D.C.
CHECKED BY:	J.S.
DATE:	JULY 18, 2014
PROJECT NUMBER:	2014012

DRAWING No. SK-2
SHEET No. 2 of 4

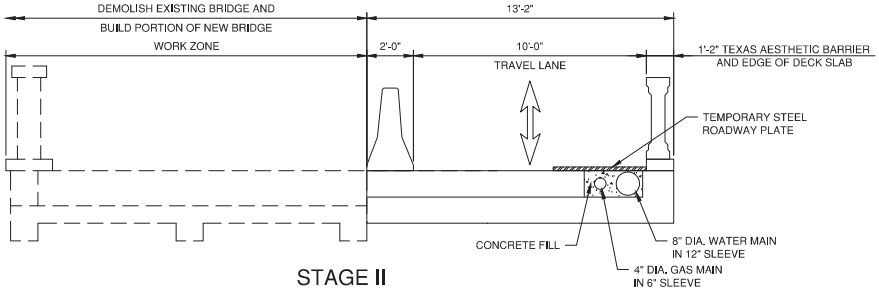
Filename: O:\2014\BAB-2014012.00 TOB RIVIERA BRIDGES\CADD\CONTRACT PLANS\BRIDGES\ALT 2 STAGING PLAN.DWG Plot Date: 7/17/2014 9:12 AM Plotted By: MACAROFF, ALEXANDER



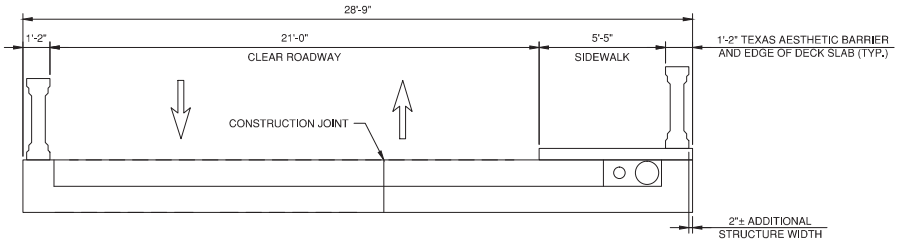
EXISTING BRIDGE SECTION



STAGE I



STAGE II



PROPOSED BRIDGE SECTION

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Engineering and Construction Services
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Tel: (631) 587-5060 Fax: (631) 422-3479

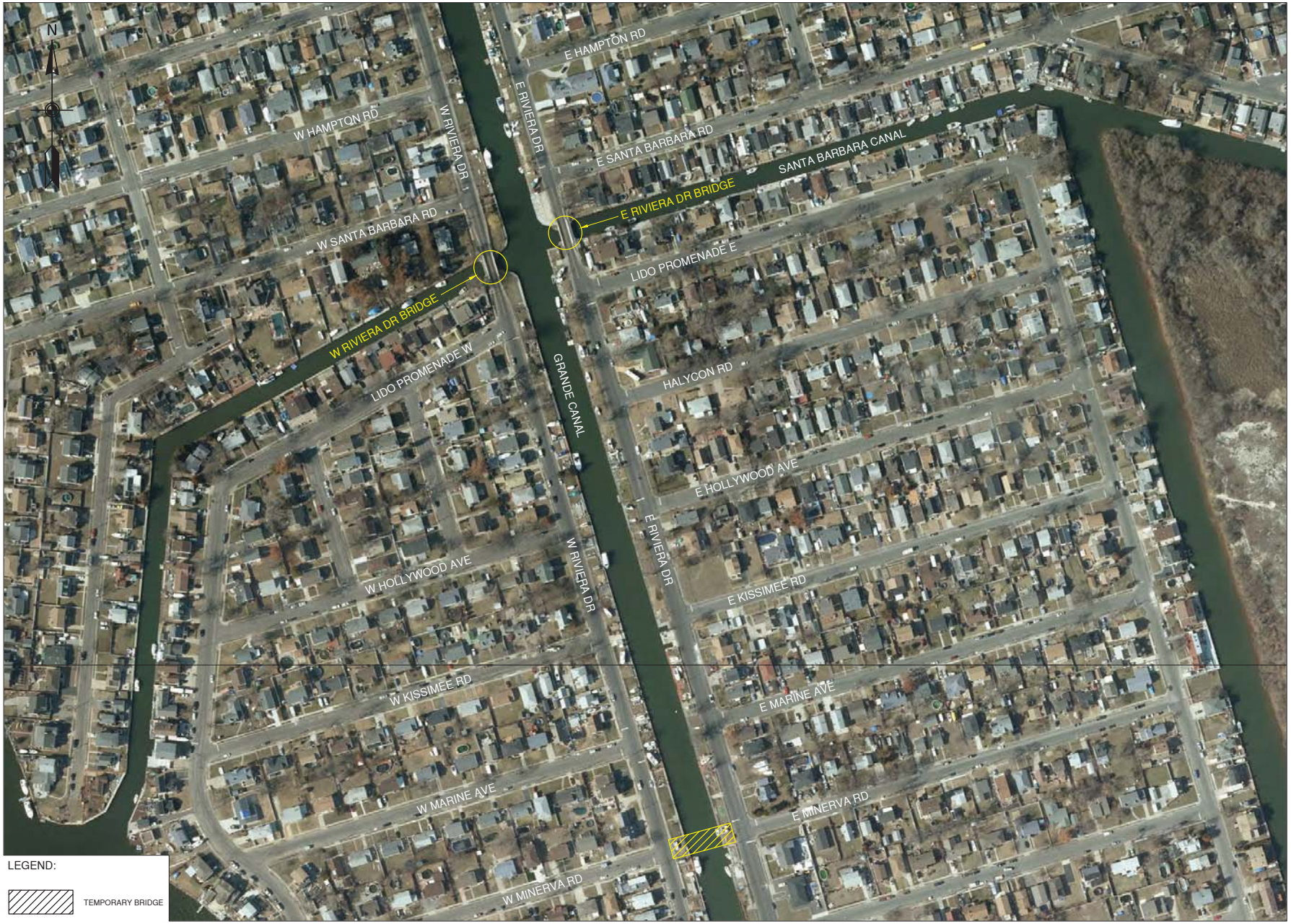
REVISIONS
8 7 6 5 4 3 2 1

CLIENT: TOWN OF BABYLON
PROJECT: RIVIERA BRIDGES
DRAWING TITLE: ALT 2 STAGED CONSTRUCTION SECTIONS

SCALE:	3/8" = 1'-0"
DRAWN BY:	D.C.
CHECKED BY:	J.S.
DATE:	JULY 18, 2014
PROJECT NUMBER:	2014012

DRAWING No. SK-3
SHEET No. 3 of 4

Filename: O:\2014\BAB-2014012.00 TOB RIVIERA BRIDGES\CADD\CONTRACT PLANS\BRIDGES\ALT 2 STAGED CONSTRUCTION SECTIONS.DWG Plot Date: 7/17/2014 9:12 AM Plotted By: MACAROFF, ALEXANDER



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REVISIONS
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CLIENT: TOWN OF BABYLON

PROJECT: RIVIERA BRIDGES

DRAWING TITLE: ALTERNATE 3 TEMPORARY BRIDGE

SCALE:	1" = 100'-0"
DRAWN BY:	D.C.
CHECKED BY:	J.S.
DATE:	JULY 18, 2014
PROJECT NUMBER:	2014012

DRAWING No.	SHEET No.
SK-4	4 of 4

APPENDIX A

New York State Department of Transportation
STRUCTURES DIVISION

STRUCTURES DESIGN ADVISORY

Issued by: MAIN OFFICE STRUCTURES DIVISION	SUBJECT: FRP Decks & Superstructures	CODE: 02-003 DATE: Dec. 9, 2002
APPROVED BY:		SUPERSEDES: None

I. PURPOSE:

The purpose of this advisory is to provide guidance on the application of fiber reinforced polymer (FRP) composites for bridge decks and superstructures. These materials are a new technology in bridge applications and in the right circumstances can offer significant advantages over traditional materials. This design advisory offers guidance for their use.

II. BACKGROUND:

FRP composite decks and superstructures have been used on eight bridges in New York State and approximately 40 nationwide. Though composites have been researched and used extensively in other industries, these bridge projects were designed and built without the benefit of nationally accepted standards. This document is based on recent construction experience of various DOT's, input from researchers, general state of the art, and in-service performance.

FRP bridge decks and superstructures are typically made with vinylester or polyester resin reinforced with E-glass fiber. They are pre-engineered and fabricated in a shop, then assembled and installed at a bridge site where a wearing surface is added. FRP's are engineered materials with their strength dependant on several factors such as fiber type, fiber volume, fiber orientation, resin type, manufacturing method, and the bonding materials used in the final assembly.

Advantages and disadvantages of FRP decks and superstructures are summarized below.

<u>Advantages:</u>

1. Light weight. A typical 200mm (8") FRP deck with its wearing surface weighs approximately 122 kg/m^2 (25 psf) vs. 581 kg/m^2 (119 psf) for a standard 240mm (9.5") concrete deck.

A typical new superstructure composed completely of FRP materials and spanning 10m (30') weighs approximately 270 kg/m^2 (55psf).

2. Resistance to de-icing salts and other chemicals.
3. Fast installation due to modular, pre-fab nature and the elimination of time consuming forming and curing necessary for conventional concrete decks.
4. Reduced traffic delay which leads to lower user costs, less expense for maintenance and protection of traffic, and better public relations.
5. Good durability. The cracking, corrosion of reinforcement, and spalling associated with concrete decks is eliminated.
6. Long service life. Many large, non-civil structures have been used in harsh environments for decades. FRP decks are expected to provide a long service life with little maintenance. While definitive estimates of the service life of an FRP deck cannot be made at this time, it is not unreasonable to expect the service life of the FRP deck to be as long as the bridge.
7. Fatigue resistance.
8. Fabrication in a controlled environment is conducive to good quality control.
9. Ease of installation. A deck replacement project can be done with a stand-by "where & when" contractor or maintenance forces using standard details. This type of project administration can bring fast relief of a posting problem.
10. A bridge rehabilitation using FRP can solve a posting problem for much less than a bridge replacement.
11. Less environmental impact and fewer permits will be required if a bridge can be rehabilitated through the use of lightweight FRP than replaced.

<u>Disadvantages:</u>

1. Higher initial cost compared to a conventional concrete deck. The unit cost of FRP materials is often more expensive than conventional materials.
2. FRP's low modulus of elasticity leads to a deflection driven design which does not allow a designer to fully capitalize on the FRP's strength.
3. Currently available designs are proprietary. There is no standard manufacturing process.
4. Response to thermal change is slightly different than for concrete and steel and requires special consideration when an FRP deck is used on a concrete or steel superstructure or when FRP is used for a superstructure.
5. Some past projects have experienced a failure of the wearing surface (i.e. cracking and/or debonding). Research is underway to identify the best material for a wearing surface.
6. A thorough analysis of the material's behavior requires a finite element model. This will be a requirement for approval of the system.

7. FRP material properties like strength and stiffness naturally degrade over time. The resultant tendency to creep must be addressed in the design. Appropriate strength reduction factors need to be used to insure adequate stiffness over the entire service life of the structure.
8. Limited FRP experience within the construction industry.
9. Lack of long term performance data. There are few FRP bridges that have been in service for any substantial length of time. The first bridge in the U.S. to carry public traffic was built in 1997. New York's first FRP bridge opened a year later.
10. Lack of design standards and conventions for material characterization.
11. Bridge railing systems attached to FRP decks have not been crash tested. Static tests have been done successfully.

There are several active research projects that will further the state of the practice. NYSDOT is assessing various types of wearing surfaces to find a durable one that bonds well to FRP. Federal Highway Administration has contracted for studies that may evolve into AASHTO guidelines for the design and construction of composite decks and superstructures, as well as for material standards. In addition, FHWA's Innovative Bridge Research and Construction (IBRC) funding program will provide an abundance of data from completed projects.

There are several manufacturing methods used for FRP decks. (*pultrusion* e.g. Martin Marietta Composites, *vacuum-assisted-resin-transfer-molding* (VARTM) e.g. Hardcore Composites, *open mold hand lay-up* e.g. Kansas Structural Composites). Each has its own merits. The following table is offered as a qualitative comparison:

➡feature manufacturing method	ability to get custom sizes	adherence to dimensional tolerances	attractive cost	ability to incorporate special features e.g. scuppers	overall quality
1. Pultruded	L	H	L	L	H
2. VARTM	H	L	H	H	M
3. Open mold	H	M	H	M	M

relative benefit: H = high, M = Medium, L = Low

If an FRP deck is used a special specification will need to be prepared. Assistance is available from the contacts listed in this Design Advisory. The specification will be performance based because the systems use proprietary designs and manufacturing methods. Using performance standards also has additional benefits of encouraging innovation and refinement of new technology.

III. DESIGNER GUIDELINES:

FRP deck systems are required to meet a performance based specification. They are required to have PE certified design calculations, an installation procedure and working drawings are required to be submitted to the Deputy Chief Engineer (Structures). Wearing surface materials are also to be selected from an Approved List if not listed specifically as part of the decking system. Assistance in selecting an appropriate wearing surface is available from the contacts listed at the end of this Design Advisory. Each supplier is responsible for certification of the finished product as well as quality control (QC) during the manufacturing process. NYSDOT will verify adherence to the approved QC plan through its own quality assurance (QA) reviews. Criteria for placing FRP decks and superstructures on the Department's Approved List of Materials and Equipment is currently being developed.

Though FRP decks and superstructures are very similar in nature, one important distinction is that an FRP deck is a manufactured product that the supplier designs and manufactures according to stipulated parameters. The manufacturer must certify compliance. An FRP superstructure with a span over 20' is, however, by definition, a bridge. NYS law requires that any bridge, either site built or manufactured, be certified by a licensed NYS professional engineer and that a Level 1 load rating be filed with the Department.

Though not mandatory, the project designer should consider specifying that FRP superstructures be load tested prior to placing the bridge in service. This will serve to verify the Finite Element Model.

Project designers may consider FRP decks in the following circumstances:

1. A posted bridge that could benefit from a reduction in dead load and subsequent increase in load rating.
2. Where a bridge needs to be widened without imposing additional loads on the substructure.
3. An historic structure that must be saved (i.e. rehabilitated instead of replaced) due to its cultural value.
4. Moveable spans where the light weight can save operating expenses.
5. A bridge with an existing light weight deck (e.g. steel grating) that needs another lightweight deck. An FRP deck provides the additional benefit of protecting the superstructure from the elements.

6. Any bridge needing a deck designed for light duty like those on locally owned structures constructed of timber or corrugated steel pans with asphalt. In these instances, stringer spacing is typically less than three feet.
7. When there is a benefit to installing decks or superstructures in a short time period to reduce the cost of maintenance and protection of traffic and reduce congestion.

Other project selection criteria:

1. Traffic volume: Though fatigue test data suggests that there is not a concern about using of FRP decks on high volume roads, the project designer should be cautious about the application in an area that would be difficult to monitor or repair. Low volume roads provide an opportunity for easy access so that more can be learned with little risk.
2. Skew: Deck manufacturers have been successful in the fabrication and installation of skewed superstructures and the use of FRP decks on skewed steel bridges, however the pultruded deck systems are more difficult to adopt to a skew.
3. Span: There are several deck systems that can be used with a span length up to 2.5m. Superstructures built thus far have been relatively short spans (<14m). This is due to the difficulty in controlling deflection. Longer spans will most likely require the use of high performance carbon fiber or a hybrid system which utilizes concrete or other materials with FRP.
4. Depth: FRP decks are commonly available as 200mm (8") or 125 mm (5") deep section, although custom depths are available. During preliminary project design, a rule of thumb can be used for the depth of a FRP superstructure: i.e. one inch for each foot of span. If desired, a slimmer section can be obtained by asking the manufacturer to engineer the fabric architecture accordingly.

Cost Considerations:

In certain circumstances FRP decks and superstructures can offer significant advantages that result in a project with net savings over one using conventional construction practice. For example, capitalizing on their modular nature FRP decks can reduce the duration of a project and subsequent user costs. At the present time, complete FRP superstructures are generally very expensive compared to precast concrete structures in the same span range. Precast concrete structures offer many of the advantages of FRP superstructures. For this reason, the use of complete FRP superstructures is not strongly recommended at this time.
Since the cost of an FRP deck or superstructure typically is substantially more than steel and concrete, part of the scoping process must involve an evaluation of all costs

associated with a project. FRP may offer direct monetary and user cost savings due to speed of construction, shortening of the project, elimination of a detour structure, etc. Similar benefits may also be available from prestressed concrete systems, precast structures, exodermic decks, etc. A cost comparison should be made considering all
available options. Since cost can be influenced by a supplier's schedule and product demand, manufacturers should be contacted for an estimate of current prices. Recent price ranges including installation are:

- Decks: $700 - $860 /SM ($65-$80 /SF) of deck area
- Superstructure: $1,600 - $2,125/SM ($150 - $200 /SF) of deck area

Specific design criteria are:

1. To avoid long term creep, predicted strains under design dead load shall be less than 10% of the FRP composite's minimum guaranteed ultimate strength. Strain under all service loads shall be less than 20% of the minimum guaranteed ultimate strength. The ultimate strength is based on coupon testing and noted in the approved plans.
2. An environmental durability factor (knockdown factor) of 0.65 is applied to the material properties to account for degradation of properties over time.
3. Because of the material's typical low modulus of elasticity, most designs will be driven by deflection limitations and not strength requirements.
4. Although the criteria for deflection is somewhat arbitrary, it should typically be kept at L/800 of the supporting span length for superstructures and L/500 for decks.
5. In cases where the deck is expected to fail in a manner other than tension of the laminate, a factor of safety of five shall be applied. We anticipate that, as reliability factors are obtained for FRP materials, a load and resistance factor design (LRFD) methodology will be developed by AASHTO.
6. Protect exposed surfaces from ultraviolet (UV) exposure using suitable paint.
7. If an FRP deck is being installed on a steel superstructure, careful consideration must be given to the method of attachment. Composite action between the FRP and steel is not to be assumed in capacity calculations. However, the connection itself must be detailed to prevent failure when load is transferred between the two. The design of the interface should either insure composite action or provide a slip mechanism to prevent it.
8. FRP can heat up rapidly when exposed to direct sunlight. A dark wearing surface exacerbates the phenomenon. Experience has shown that a thermal gradient will occur between the top and bottom of an FRP deck when surface temperatures change fast but are not able to be conducted through the FRP immediately. This problem is especially likely to occur in early spring or late fall. The design shall assume a 100 degree F temperature difference between the

top and bottom of the deck and account for any subsequent internal thermal stresses. Since this temperature gradient can lead to an arching action as the top surface expands faster than the bottom, it may also affect the selection of bearing and anchorage details.

9. Each manufacturing method has its own benefits. In general, pultruded sections produce a good quality, consistent product with tight dimensional tolerances; however, prices tend to be slightly higher than for other methods. The more
custom methods (VARTM and hand lay-up) allow the depth of the section to be easily changed, and to accommodate a cross slope, inclusion of scuppers, or custom "knockouts." The designer needs to decide if the application necessitates a particular method of fabrication.
10. Acceptable wearing surfaces will be designated for each particular manufacturer.
11. A bonded FRP curb may be used if and only if it is protected from impact by bridge rail. Concrete curbs have also been attached to FRP decks.
12. The joint over the bridge seat can be eliminated by carrying the FRP deck over the abutment stem to terminate on the approach side of the bridge. This allows any joint leakage to weep into the fill rather than onto the seat.
13. Pourable silicone joint material has performed well as an expansion joint and is easily repairable.

The project designer will need to show outside limits of the deck, (the core of the system will be as per approved shop drawings), maximum deck thickness and weight, abutment and bearing details with elevations, and final elevation of the deck surface with wearing surface. Railing treatment will also be detailed by the project designer.

Since FRP decks are relatively new, consultation and approval of the Main Office Structures Division DCES is required for all proposed installations. This should be done as early as possible in the design process.

Questions shall be directed to Michael Twiss at (518) 485-7256 or Art Yannotti at (518) 457-4453 of the Structures Design Bureau.

ITEM 582.08000016 FIBER REINFORCED POLYMER REPAIR OF STRUCTURES (PRECURED AND WET LAY-UP) SQ FT
ITEM 582.09000016 FIBER REINFORCED POLYMER REPAIR OF STRUCTURES (NEAR-SURFACE-MOUNTED) FT
ITEM 582.10000016 CONCRETE REPAIR FOR FIBER REINFORCED POLYMER SQ FT

DESCRIPTION

Furnish and install fiber reinforced polymer (FRP) composite materials for bonded repair and retrofit of concrete structures in accordance with the Contract Documents. The Contractor's attention is directed to Source of Supply and Quality Requirements, with regard to advising Departmental Representatives of the sources of the proposed FRP composite materials for use in highway bridges.

MATERIALS

FRP composite materials using isophthalic polyester, vinylester, and epoxy resins, and glass or carbon fibers are covered by this specification. FRP composite materials are classified based on resin type, fiber type, and fiber architecture.

Use an FRP system from the Department's Approved List of Materials and Equipment. Submit manufacturer's certifications for all delivered and stored FRP components before starting the project.

Furnish Samples of precured or near-surface-mounted (NSM) FRP or witness panels of wet lay-ups to the Engineer. Any material that does not meet the requirements of the Contract Documents will be rejected. Additional witness panels may be taken during the installation process.

Follow the tolerances recommended by the manufacturer, unless more stringent requirements are specified in this Specification or in the Contract Documents.

Provide all necessary equipment, in sufficient quantities and in clean and operating conditions, for continuous uninterrupted FRP installation.

Meet the requirements of the following subsections of §700 - Materials:

Grout §701-05
Mortar §701-08

CONSTRUCTION

A. SITE CONSIDERATIONS

Provide necessary pathways, scaffolding, and other means of access to the general project site and to the specific repair area for the personnel, equipment, and materials. Remove all obstructions such as pipes, conduits, and wiring, after making records for subsequent reinstallation at the completion of the project. Remove vegetation, fences, and other obstructions that prevent access for repair, and upon approval of the Engineer, reinstall or dispose of.

B. SAFETY

Include this work in the Health and Safety Plan in accordance with §107-05.

C. STORAGE, HANDLING, AND DISPOSAL

1. Storage

Deliver and store all components of the FRP system in the original factory-sealed, unopened packaging or containers with proper labels identifying the manufacturer, brand name, system identification number, and date. Store catalysts and initiators separately. Protect all components from dust, moisture, chemicals, direct sunlight, physical damage, fire, and temperatures outside the range specified in the system data sheets.

2. Handling

Handle all components of the FRP system, especially fiber sheets, according to the manufacturer's recommendations. Protect them from damage and avoid misalignment or breakage of the fibers by

pulling, separating, or wrinkling them or by folding the sheets. After cutting, stack sheets dry or with separators, or rolled gently at a radius no tighter than 1 foot, or as recommended by the manufacturer.

3. Disposal

Dispose of any component of the FRP system that has exceeded its shelf life or pot life, that has not been properly stored, and any unused or excess material that is deemed waste.

D. SUBMITTALS

Submit the following documents to the Engineer prior to installing the FRP system. In addition, when a Professional Engineer (PE) designs the FRP system, the PE must sign and stamp all design documents, including Working Drawings, and submit two copies for approval to the Deputy Chief Engineer (Structures). Allow three (3) weeks for review after complete calculations, drawings, and any supplemental data are received by the D.C.E.S.

1. Qualifications of Contractor/ Applicator

Document a minimum of 3 years of experience or 15 similar field applications with acceptable reference letters from respective Owners and provide a certificate of completed training from the Manufacturer/Supplier for at least one field representative who will be present on site throughout the project.

2. Design Details and Working Drawings

a. Design details

When only the required loads and capacities of FRP system are shown in the Contract Documents, engage the services of a Professional Engineer (PE) to design the FRP repair. Design the FRP in accordance with the American Concrete Institute (ACI) 440, “Guide for the Design and Construction of Externally Bonded FRP Systems for Strengthening Concrete Structures.” Use appropriate strength reduction factors for a minimum life span of 20 years.

b. Working drawings

Prepare and submit Working (Shop) Drawings in accordance with the New York State Steel Construction Manual for shop drawings. Include the type of FRP system, work locations, relevant dimensions of the system and the work plan on the working drawings, including the necessary preparations of the existing structure in the case of repair. Include the time schedule for various steps in the work and clearly identify the environmental conditions that may affect the application and curing of the FRP system.

3. Quality control

Provide a quality control plan for approval by the Engineer. Include specific procedures for tracking and inspection of all FRP components prior to installation, inspection of all prepared surfaces prior to FRP application, inspection of the work in progress to assure conformity with specifications, obtaining quality assurance samples, inspection of all completed work, performing tests for approval, and repair of any defective work. Repair or remove and replace any part of the work that fails to comply with the requirements.

4. Other documents

1. The Manufacturer’s Safety Data Sheet (MSDS). Make the MSDS for each FRP component available to all at the work site.

2. The manufacturer's system information sheet which identifies the mechanical, physical, and chemical properties of all components of the FRP system.

3. The application guide that contains the installation and maintenance procedures.

E. CONCRETE REPAIR

Repair the concrete, if necessary, according to Section 582 of NYSDOT Standard Specifications, and clean and prepare all concrete surfaces prior to installing the FRP system.

1. Repair of Defective Reinforcement

Repair all defective steel reinforcement. Do not apply FRP systems to concrete suspected of containing corroded reinforcement. Clean and prepare corroded or otherwise defective reinforcement by abrasive cleaning to near white appearance. Cut damaged reinforcement that needs to be replaced at sufficient length to ensure full section and sound material in the remaining portion. Provide sufficient length for splices for ruptured or cut reinforcing or prestressing steel.

Place mechanical anchorage for the repair material if specified in the Contract Documents. Secure anchors in place by tying to other secured bars, and do not permit anchors to protrude outside concrete surface. If necessary, build up the concrete surface to cover the protrusions.

2. Restoration of Concrete Cross Section

Fill the area of removed concrete, and any void larger than ½ inch diameter and $^{1}/_{8}$ inch depth, with repair material that conforms to NYSDOT Standard Specifications. Use a repair material that has a compressive strength equal to or greater than 4.5 ksi and 5.5 ksi at 7 days and 28 days, respectively. Submit the design mix for all repair materials to the Engineer for approval. Use a repair material that has minimum bond strength to the existing concrete of 200 psi in the pull-off test meeting ASTM D4541. Restore the section to concrete and exposed steel which is clean, sound, and free of surface moisture and frost. Apply water continuously to concrete for 12 hours before placement of patching materials. Fill all cracks and cuts in the concrete wider than 0.01 inch by pressure injection of epoxy according to NYSDOT Standard Specifications. If water is leaking through cracks or concrete joints, provide water protection and a water conveyance and weep holes before restoring the section. Cure the repair material a minimum of 7 days before installing the FRP system, unless the curing and strength are verified by tests.

F. SURFACE PREPARATION

Prepare the surface after the Engineer approves the repair and restoration of the concrete section. Contact-critical applications are treated the same as bond-critical applications. Provide an adhesive bond with adequate strength between FRP and concrete. Promote continuous contact between FRP and concrete by providing a clean, smooth, and flat or convex surface.

1. Surface grinding

Grind all irregularities, unevenness, and sharp protrusions in the surface profile to a smooth surface with less than .04 inch deviation. Use a disk grinder or other similar device to remove stains, paint, or any other surface substance that may affect the bond.

2. Chamfering corners

Chamfer or round to a minimum radius of ½ inch all inside and outside corners and sharp edges. Grind ridges, form lines, and sharp or roughened edges greater than ¼ inch. Remove obstructions and embedded objects before installing the FRP system.

3. Grooves for near-surface-mounted FRP

Make a properly dimensioned groove in the concrete, where the FRP bar or strip is to be placed. Take care to avoid local fracture of the concrete surrounding the groove. Free the groove of loose, unsound, or bond-inhibiting materials such as oil, efflorescence, or moisture. Remove all obstructions and embedded objects from the groove area.

4. Surface profiling

Fill and smooth over any remaining voids or depressions with diameters larger than ½ inch or depths greater than $^{1}/_{8}$ inch, when measured from a 1 foot straight edge placed on the surface, using putty made of epoxy-resin mortar or polymer-cement mortar with strength equal to or greater than 4 ksi. Cure the patching material a minimum of 7 days before installing the FRP system, unless the curing and strength are verified by tests.

5. Surface cleaning

Remove any dust, laitance, grease, oil, curing compounds, wax, impregnations, stains, paint coatings, surface lubricants, foreign particles, weathered layers, or any other bond-inhibiting material. If power wash is used, allow the surface to dry thoroughly before installing the FRP system. Protect the cleaned surface against redeposit of any bond-inhibiting materials. Cover with a water-based epoxy any newly repaired or patched surfaces that have not cured a minimum of 7 days.

G. INSTALLATION OF FRP SYSTEM

1. Shoring

Shore repaired members temporarily with conventional methods, if specified in Contract Documents, or required by the Engineer for safety. Do not remove until the FRP system has fully cured and gained its design strength.

2. Environmental Conditions

Examine environmental conditions before and during installation of the FRP system to ensure conformity to the Working Drawings. Do not apply primers, putty, saturating resins, or adhesives on cold, frozen, damp, or wet surfaces. Apply only when ambient and concrete surface temperatures are between 50°F and 90°F, or as specified by the manufacturer. Install the FRP system when the moisture level on all contact surfaces is less than 4.3%, as evaluated according to ACI 503R-93. Moisture restrictions are waived for resins that have been formulated for wet applications.

a. Moisture vapor transmission

Do not continue application of bonded FRP systems when moisture vapor transmission is present. Inject any bubble that develops from moisture vapor transmission with the same adhesive material used for the FRP system.

b. Applications in inclement weather

Auxiliary measures may be employed to correct the conditions when inclement weather does not allow installation of the FRP system. An auxiliary heat source may be used in cold weather to raise the ambient and concrete surface temperatures to acceptable levels, as recommended by the manufacturer, but to no more than the glass transition temperature (Glass Transition Temperature (Tg) -the approximate midpoint of the temperature range over which a transition in material response from elastic to viscoelastic takes place). Pressurized oil-free air may be used to dry the surface dampness.

3. Application of Wet Lay-Up FRP Systems

a. Mixing of resin components

Mix all resin components, including main agent and hardener, at the proper temperature, using the appropriate weight ratio and for a duration specified by the manufacturer, until thorough mixing with uniform color and consistency is achieved. Do not dilute resins with any organic solvents such as thinner. Manual stirring and small electrically powered mixing blades are allowed. Mix resin in quantities sufficiently small to ensure that it can be used within its pot life. Dispose of mixed resin that begins to generate heat or show signs of increased viscosity.

b. Primer and putty

A primer coat is generally required in all available FRP systems. Apply one or two coats of primer on the concrete surface to penetrate its open pores as per manufacturer's requirements. Apply the putty as soon as the primer becomes tack-free. If the putty is not applied within 7 days after the primer application, roughen the surface with sandpaper or a similar tool. Clean the resulting surface before applying the putty. Apply a thin coat of putty in one or two layers, and smooth over the surface to fill in any small voids, cracks, or uneven areas. After applying the putty, correct any swelling on the surface to meet the required surface profile. Protect the surfaces of primer and putty from dust, moisture, and other contaminants before applying the FRP.

c. Saturant

Uniformly apply the first coat of saturating resin as an undercoat on all concrete surfaces where the FRP system is to be installed. Use saturant with sufficiently low viscosity to ensure full impregnation of the fiber sheets prior to curing.

d. Applying fiber sheet and saturant

Install the fiber sheet in place and gently press onto the wet saturant. Release any entrapped air between the fiber sheet and concrete surface by rolling across the sheet in the direction parallel to the fibers, while allowing the resin to impregnate the fibers to the concrete. Rolling perpendicular to the fiber direction is not allowed. In bidirectional fabrics, roll initially in the fill direction end to end, and then in the warp direction. Apply sufficient saturant on top of the fiber sheet, as an overcoat, to ensure full saturation of the fibers. Apply undercoat, fiber sheets, and overcoat with no interruption.

e. Multiple fiber plies

In multi-ply installations, repeat the sequence above for each additional fiber sheet. The amount of resin overcoat for intermediate plies is approximately 15% greater than a single-ply installation, because the saturant serves as overcoat for the applied ply and undercoat for the next ply. Follow the Contract Documents for the fiber orientation and ply stacking sequence. Apply each ply before the onset of complete gelation of the previous layer. Determine the number of plies that can be applied in a single day based on the manufacturer's recommendation. Multiple plies can also be applied in several days. When previous layers are cured, interlayer surface preparation, such as light sanding and filling with putty may be required.

f. Overlapping

Construct a lap joint when an interruption occurs in the direction of the fibers. The minimum lap splice is 6 inches. Stagger lap splices on multiple plies and adjacent strips. No lap joint is necessary in the transverse direction.

g. Alignment of FRP materials

Deviation in the alignment more than 5° (approximately ½ inch/foot) is not acceptable. Install the fibers free of kinks, folds, and waviness.

h. Anchoring of FRP sheets

Anchor the FRP sheets to the concrete following the method specified Working Drawings. Take care to avoid damage to the FRP system and to the concrete when using mechanical clamps and fasteners. Take precautions when steel fasteners are used for carbon FRP to avoid galvanic corrosion. Embed FRP anchors sufficiently into the concrete.

4. Application of PreCured FRP Systems

Follow the procedure for Wet Lay-Up Systems except as directed below. Prepare the surface with an open roughened texture.

a. Application of adhesive

Apply adhesive evenly to all concrete surfaces where the precured FRP system is to be installed. Follow the manufacturer's recommendation for the thickness and viscosity of the adhesive layer.

b. Placement of precured system

Clean and cut the precured FRP system to the required length, then place it into the wet adhesive. Release entrapped air between the laminate and concrete and remove excess adhesive. Do not disturb the applied FRP system before the adhesive fully cures.

c. Grouting of precured shells

Grout precured shells around concrete columns no less than 24 hours after installation following the procedure on the Working Drawings.

5. Application of Near-Surface-Mounted FRP Systems

NSM FRP systems are an alternative to externally bonded FRP systems. In this system, a bar or strip is inserted and anchored into a precut groove. Do not install the NSM FRP system when surface moisture is present on the concrete or when rainfall or condensation is anticipated.

a. Application of embedding paste

Mix the components of the embedding paste to the ratio specified by the manufacturer until thorough mixing with uniform color and consistency is achieved. Half-fill all the grooves with paste.

b. Placing FRP reinforcement

Clean the round FRP bar or rectangular FRP strip, cut it to the proper length, and place it at the middepth of the groove. Lightly press it so as to force the paste to flow around it and completely fill the space between FRP and the sides of the groove. Then fully fill the groove with additional paste and level the surface.

6. Curing

Follow the approved curing procedure. Elevated temperatures, not modified chemistry, may be used to achieve a rapid cure. Installed plies must be cured before placing subsequent plies. Do not apply the full load until curing is complete.

7. Protective Coating and Finishing

Apply the protective coating on the surface of the FRP system. Use a nonvapor-barrier, flexible waterproofing compatible with the FRP system. The coating may be a polymer-modified Portland cement coating or a polymer-based latex coating. Use methods for vertical or overhead work. Match the color and texture of the adjacent concrete. Do not use solvent wipes to clean the FRP surface, unless approved by the FRP manufacturer. If abrasive cleaning is necessary, limit air pressure to avoid damage

to the fibers. Do not apply the coating when surface moisture is present or when rain or condensation is anticipated.

8. Temporary Protection

Install temporary protection after the resin has fully cured.

H. INSPECTION AND QUALITY ASSURANCE

After 24 hours of initial cure:

1. Inspection for Debonding

The Engineer will perform a visual inspection of the surface for any swelling, bubbles, voids, or delaminations. If an air pocket is suspected, a hard object will be used to tap the FRP to identify delaminated areas by sound, with at least one strike per 1 square foot. Defects smaller than ¼ inch diameter will require no corrective action, unless they occur next to edges or there are more than five such defects in an area of 10 square feet. Repair defects larger than ¼ inch diameter.

2. Inspection for Adhesion

Before applying the protective coating, perform a direct pull-off test in the presence of the Engineer and following ASTM D4541 to verify the tensile bond between the FRP system and the concrete. At a minimum, perform three pull-off tests with at least one test per span or one test per 1000 ft^2 of the FRP system. A failure at the bond line with a tensile stress below 200 psi is unacceptable. If one or more of the pull-off tests is found unacceptable, the work will be rejected and repaired.

3. Inspection for Cured Thickness

Take ½ inch diameter core samples in the presence of the Engineer to inspect the cured laminate thickness and number of plies. The sampling frequency is the same as Inspection for Adhesion. Repair cored areas. The FRP system is not acceptable if the number of plies is less than that specified in the Contract Documents, or if the cured thickness of the FRP system is less than that specified in the approved design calculations by more than $^{1}/_{32}$ inch. Repair the entire area of FRP system that is marked unacceptable.

4. Auxiliary Tests

If witness panels are required, the FRP System is not acceptable when the average tensile strength or the lowest tensile strength is more than 5% and 10%, respectively, below that specified in the Contract Documents, as determined by ASTM D3039.

I. REPAIR OF DEFECTIVE WORK

Submit a proposed repair procedure to the Engineer for approval for repairs for any condition not addressed in this Specification or in the Contract Documents.

1. Repair of Protective Coating

Defects in protective coatings can be of three types: small hairline cracks, blistering, and/or peeling. Apply a new coating to concrete with moisture content below 0.05%. Prior to any repair of protective coating, examine the FRP system, visually or otherwise, to ensure that no defect exists within or on the surface of the FRP. Repair defects in the FRP. If a protective coating appears to show small areas with cracks, lightly sand the local surface. Apply a new coating with the appropriate primer based on the manufacturer's recommendations. At the minimum, apply the coating over an area extending 1 inch on either side of the defect. If the protective coating shows signs of blistering, carefully scrape clean the entire area of blisters as well as the surrounding area to a distance of at least 1 foot. Completely remove

the existing coating of a blistered surface before recoating. Wipe the area clean and then dry thoroughly. Once dry, the area can be recoated after application of the primer coat, if required by the manufacturer. If the surface shows signs of excessive peeling, scrape off the entire coating, and lightly sand, wipe clean, and thoroughly dry before applying a new coat.

2. Epoxy Injection of Small Defects

Small voids or surface discontinuities no greater than ¼ inch diameter are not defects, and require no corrective action, unless they occur next to edges or when there are more than five such defects in an area of 10 square feet. Repair small defects between ¼ inch and 1 ¼ inch diameter using low-pressure epoxy injection, as long as the defect is local and does not extend through the complete thickness of the laminate, in the case of multi-ply FRP systems. If any delamination growth is suspected between the FRP plies due to injection, halt the procedure and repair according to Patching of Minor Defects.

3. Patching of Minor Defects

Minor defects are those with diameters between 1 ¼ inch and 6 inch, and frequency of less than five per any unit surface area of 10 feet length or width. Remove the area surrounding the defects to an extent of at least 1 inch on all sides. Wipe the area clean and thoroughly dry. Patch the area by adding an FRP patch of the same type of the original laminate and extending at least 1 inch on all sides of the removed area. Repair can also be conducted using the procedure in Replacement of Large Defects.

4. Replacement of Large Defects

Mark defects larger than 6 inch diameters and scarify out to at least 1 inch on all sides. For multi-ply FRP systems, scarify progressively through the layers until past the defective area. If the defect extends to the first FRP ply adjacent to the concrete, remove the entire thickness of FRP and primer. Prepare the concrete and apply the primer after ensuring that the surface and FRP are clean and dry. Follow procedures for a new system when applying in the scarified area, except add an additional layer extending a minimum of 6 inch on all sides of the scarified area as a patch. After curing, apply the protective coating over the entire area.

METHOD OF MEASUREMENT

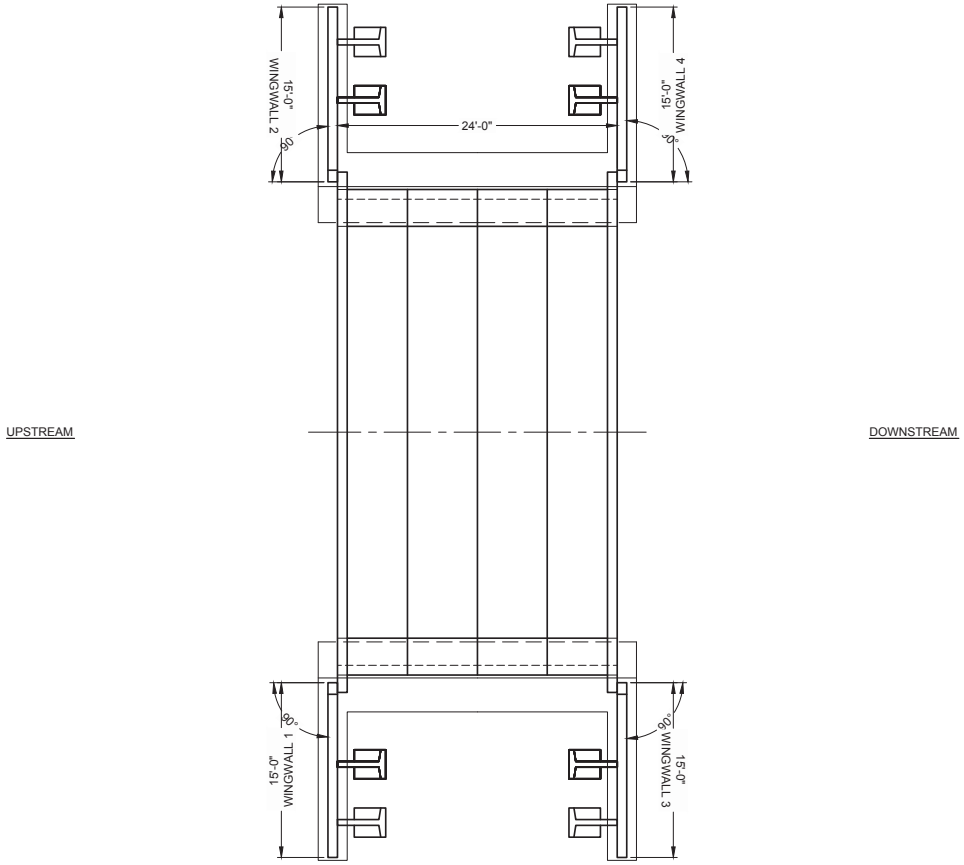
The various types of composite repairs and strengthening will be measured by the linear foot to the nearest 4 inches of each bar or strip for near-surface-mounted FRP systems and by the square foot to the nearest 1 square foot for precured and wet lay-up systems. The quantity to be paid for is the area of the existing concrete covered with FRP composite material or the length of the FRP bars and strips as incorporated into the work.

Concrete repair will be measured by the square foot to the nearest 1 square foot. The quantity to be paid for is the area of concrete repaired to receive the FRP composite material.

BASIS OF PAYMENT

The unit price bid per linear foot or square foot for FRP repair and strengthening of concrete substructures includes the cost of all materials, labor, equipment, testing, and other services necessary to satisfactorily complete the work in accordance with these specifications and the directions of the Engineer. Concrete repairs made to prepare for installation of the FRP will be paid for under a separate item. Include the cost of all repairs or replacement of the FRP resulting from failed test data in the unit price bid.

APPENDIX B



BRIDGE PLAN

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CON SPAN O-SERIES

CONTECH
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DRAWING

Riviera Bridge replacement
CON/SPAN O-Series O740 40'-0" Span x 9'-9 1/2" Rise
1 Cell - 24' Long
Babylon, New York

PROJECT No.: 202984	SEQ. No.:	DATE: 5/7/2014
DESIGNED: DYOB		DRAWN: DYOB
CHECKED: DYOB		APPROVED: DYOB
SHEET NO.: 1 OF 5		

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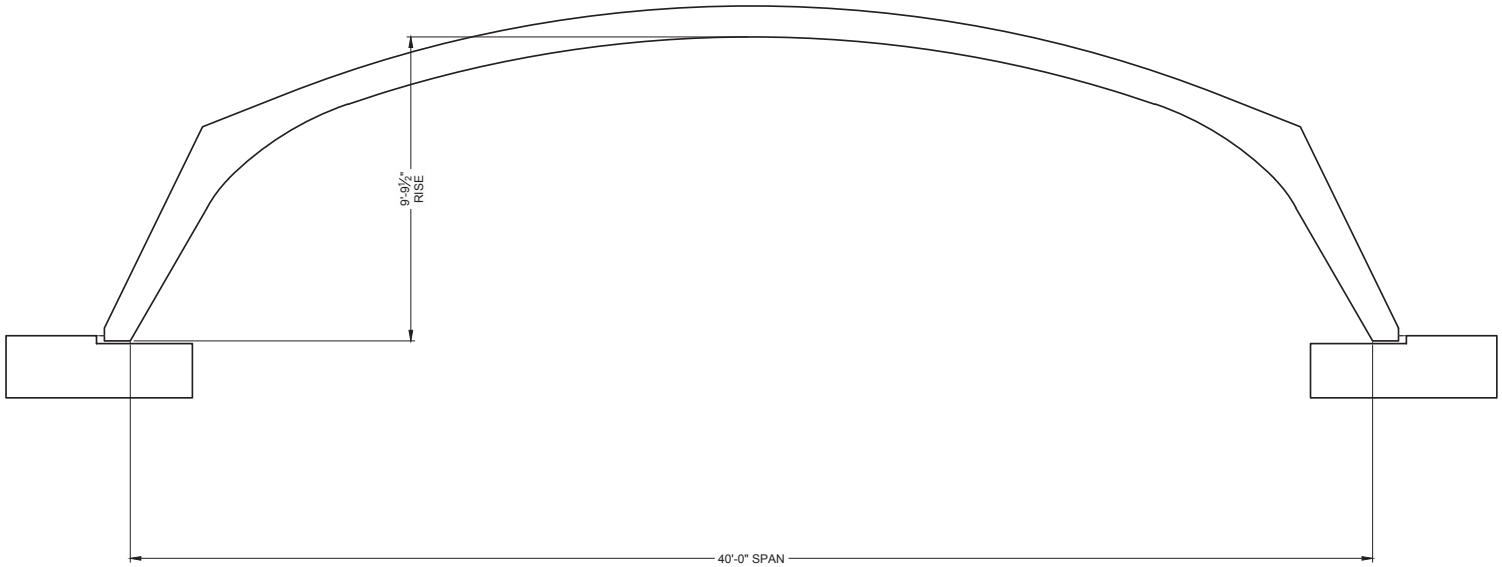

CROSS SECTION

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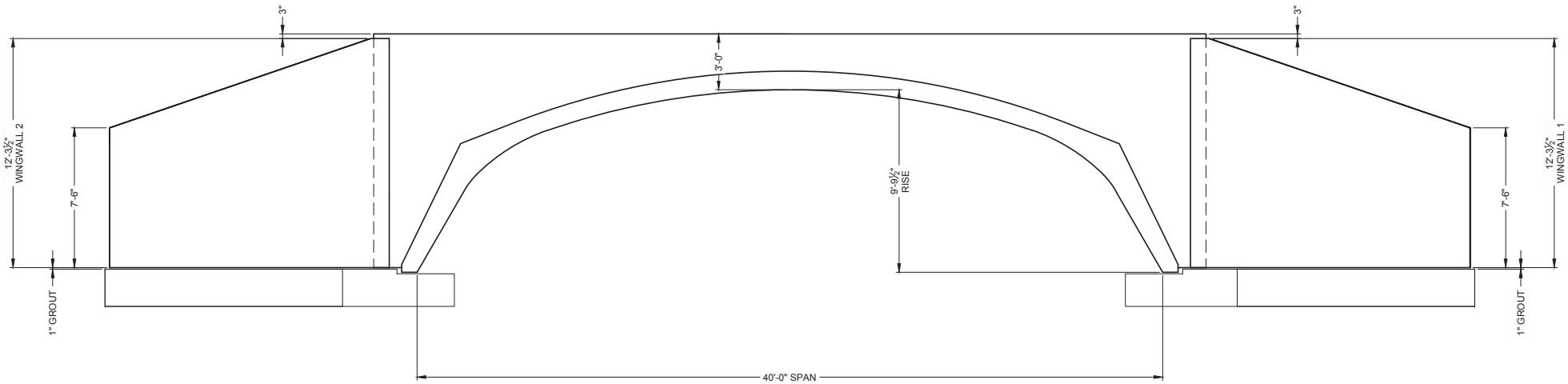

UPSTREAM END ELEVATION

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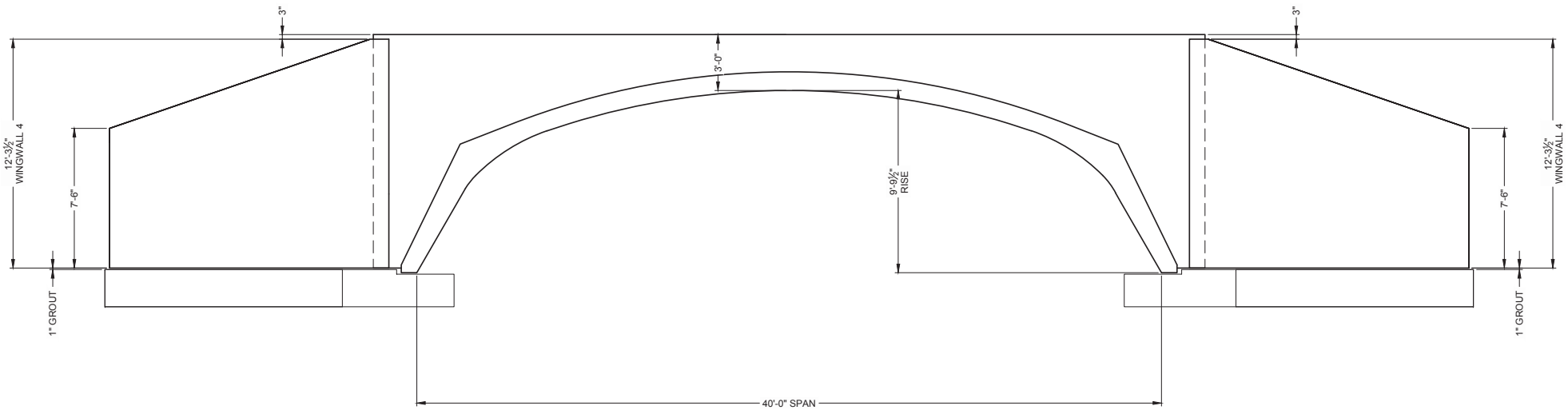

DOWNSTREAM END ELEVATION

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SHEET NO.: 4 OF 5		

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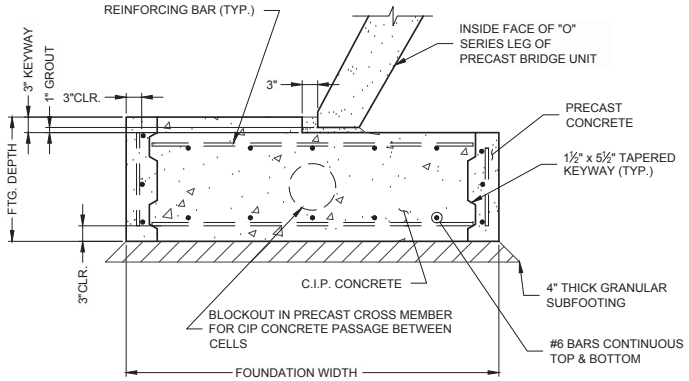
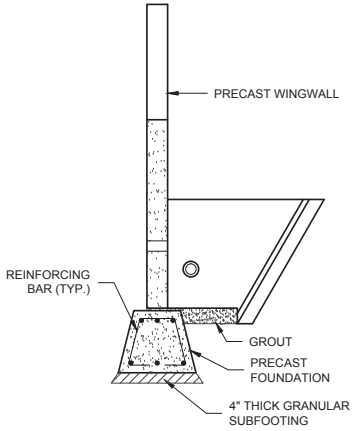
EXPRESS FOUNDATIONS

SAMPLE DRAWING ONLY



SECTION A
(NOT PROJECT SPECIFIC)



SECTION B
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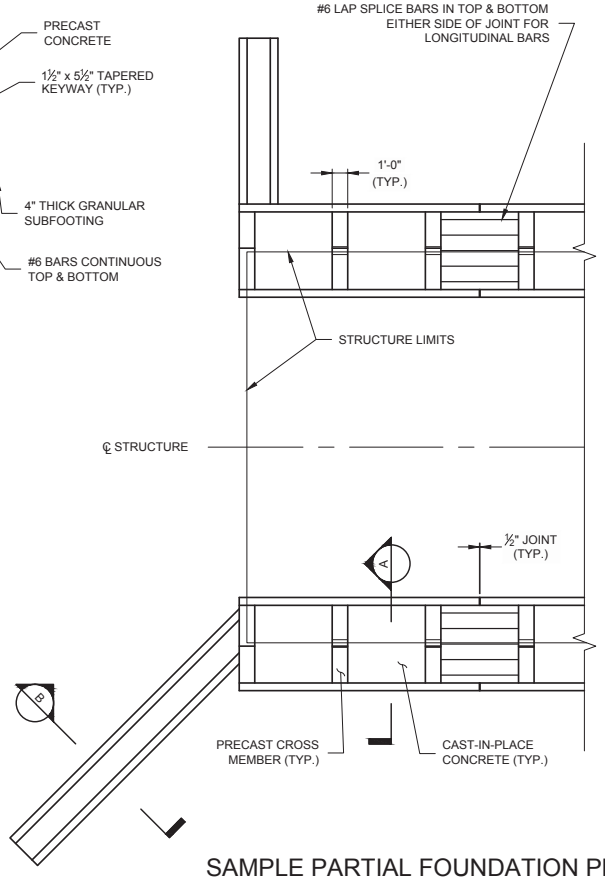

SAMPLE PARTIAL FOUNDATION PLAN
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EXPRESS FOUNDATIONS

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SHEET NO.: 5 OF 5		

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Evaluation of de minimis levels for General Conformity of Construction Projects with New York State Implementation Plans

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

The general conformity regulations apply to those federal actions in non-attainment or maintenance areas where the action's direct and indirect emissions have the potential to emit one or more of the six criteria pollutants at rates equal to or exceeding the prescribed rates.

General conformity de minimis threshold levels for the non-attainment and maintenance areas in New York State are presented in **Table 1**.

Table 1: General Conformity Threshold Levels

Non-Attainment Area and Pollutants	**Threshold** (tons/year)
ozone, other non-attainment areas inside an ozone transport region:	
volatile organic compounds (VOC)	50
nitrogen oxides (NO_x)	100
carbon monoxide (CO), maintenance areas:	
direct emissions	100
inhalable particulate matter (PM_{10}), nonattainment areas:	
direct emissions	100
fine particulate matter ($PM_{2.5}$), maintenance areas:	
direct emissions	100
SO_2	100

Source: 40 CFR § 93.153(b)

Notes: NO_x and VOCs also limited at 100 tpy in $PM_{2.5}$ maintenance areas, but ozone requirements are stricter.

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

- Do not satisfy either one of the above conditions (where the action's direct and indirect emissions have the potential to emit one or more of the six criteria pollutants at rates equal to or exceeding the threshold levels above within a non-attainment or maintenance area);
- Occur in an attainment area;
- Are related to transportation plans, programs, and projects developed, funded, or approved under Title 23 U.S.C. or the Federal Transit Act (49 U.S.C. 1601); or
- Qualify for exemptions established at 40 CFR Part 93.153.

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

Most construction work would not require a general conformity evaluation, since construction activity in general is included in the SIP estimates, based on past activity levels and assumptions regarding growth in future years. However, there may be projects which are not considered to be included in the SIP if they were beyond the scope of what was anticipated during SIP preparation. If a project is not included in the SIP or there is uncertainty regarding its inclusion, a preliminary evaluation of emissions may be sufficient to demonstrate that the project's emissions would be de minimis under the above general conformity regulations. If that is the case, a detailed conformity analysis and determination would not be required. The following analysis provides a simplified approach to preliminary evaluation, based on construction expenditure.

As a conservative estimate, the analysis below assumes that the emissions intensity per expenditure (tons per dollar) for the project would be similar to the average intensity of the construction sector in the county. This would not be applicable for projects with higher intensity (emissions per dollar) such as large infrastructure projects or intense development projects including substantial excavation and foundations work. Given this and other limitations of this analysis, it is recommended that this approach not be seen as definitive if the results are not clearly de minimis. In such cases, a more refined approach may be needed.

Construction expenditure data is available from the U.S. Census Bureau's 2007 Survey of Business Owners[1]. Since the expenditure data represent firms by their location and not necessarily the location where construction takes place, applying this data at the county level may skew the results in some cases. As a broader estimate, we have categorized the expenditure as 'upstate' and 'downstate', reflecting the higher cost of construction in the downstate area. Downstate counties include Bronx, Kings, Nassau, New York, Orange, Queens, Richmond, Rockland, Suffolk, and Westchester. Total construction expenditure in 2007 was approximately 23.1 billion dollars in the upstate area, and 71.8 billion in the downstate area.

Construction emissions by county for the year 2007 were obtained from the New York State Department of Environmental Conservation (NYSDEC)[2]. The fraction each de minimis emissions level represents of total regional emissions was calculated for each pollutant and area (upstate and downstate). The fraction of construction expenditure in each area equivalent to those emission fractions were then calculated, representing de minimis project construction expenditures which would be equivalent to de minimis emissions.

For example, the downstate VOC emissions were 2,401.6 tons per year (tpy), and the relevant de minimis VOC emissions are 50 tpy; therefore –

- de minimis as fraction of total emissions: 50 tpy ÷ 2,401.6tpy = 2.08%
- de minimis fraction of total expenditure: 2.08% × $71.8 bn = **$1.5 bn**

The total SIP emissions by pollutant and region and the resulting average project expenditure equivalent to de minimis levels are presented in **Table 2**.

[1] U.S. Census Bureau. 2007 Survey of Business Owners, Statistics for All U.S. Firms by Industry, Gender, Ethnicity, and Race for the U.S., States, Metro Areas, Counties, and Places: 2007; SB0700CSA01.
[2] NYSDEC. 2007 SIP data. (provided by DEC, 2014).

Table 2: Regional SIP Emissions and de minimis Construction Expenditure

Pollutant	Region	2007 SIP Emissions (tpy)	De Minimis (tpy)	Average Construction De Minimis Expenditure (million $)
VOC	Downstate Upstate	2,401.6 1,464.3	50 50	1,496 789
NO_x	Downstate Upstate	16,332.1 9,745.2	100 100	440 237
CO	Downstate Upstate	17,522.1 11,746.2	100 100	410 197
PM_{10}	Downstate	1,489.6	100	4,823
$PM_{2.5}$	Downstate	1,442.3	100	4,981
SO_2	Downstate	1,251.9	100	5,738
Notes: Only relevant pollutants by area are presented; see **Table 3** for details.				

Based on the above analysis, projects with projected construction expenditure substantially lower than the average construction de minimis expenditure would clearly not exceed de minimis emissions levels for general conformity purposes. **Table 3** identifies the minimum de minimis expenditure threshold in each county, based on the lowest level for all nonattainment or attainment maintenance areas within which the county is located. For example, New York County is in 4 nonattainment/maintenance areas; of all the pollutants relevant to those areas, the CO de minimis emissions have the lowest corresponding construction expenditure of 410 million dollars. Standard construction projects in Manhattan with construction expenditure substantially lower than 410 million dollars in New York County would not exceed the de minimis level for any of the relevant pollutants and would not require any further analysis or conformity determination. For projects with components in more than one county, use the lowest threshold for all counties (if that exceeds de minimis levels, this can be refined by reviewing all appropriate pollutants based on the nonattainment/maintenance areas identified in **Table 3**, the appropriate pollutant for the area type from **Table 1**, and the de minimis expenditure for each pollutant from **Table 2)**.

Table 3: De Minimis Construction Expenditure Threshold by County

County	Nonattainment / Maintenance Area				Critical Pollutant	De Minimis Expenditure Threshold (million $)
	Ozone	CO	$PM_{2.5}$	PM_{10}		
Upstate:						
Albany	X				NO_x	237
Erie	X				NO_x	237
Genesee	X				NO_x	237
Greene	X				NO_x	237
Livingston	X				NO_x	237
Monroe	X				NO_x	237
Montgomery	X				NO_x	237
Niagara	X				NO_x	237
Onondaga		X			CO	197
Ontario	X				NO_x	237
Orleans	X				NO_x	237
Rensselaer	X				NO_x	237
Saratoga	X				NO_x	237
Schenectady	X				NO_x	237
Schoharie	X				NO_x	237
Wayne	X				NO_x	237
Downstate:						
Bronx	X	X	X		CO	410
Dutchess	X				NO_x	440
Kings	X	X	X		CO	410
Nassau	X	X	X		CO	410
New York	X	X	X	X	CO	410
Orange	X		X		NO_x	440
Putnam	X				NO_x	440
Queens	X	X	X		CO	410
Richmond	X	X	X		CO	410
Rockland	X		X		NO_x	440
Suffolk	X		X		NO_x	440
Westchester	X	X	X		CO	410

GENERAL CONFORMITY WORKSHEET

Air Emissions Information

PROJECT NAME _____

LOCATION (COUNTY, STATE)_____

FOR CALENDAR YEAR _____

Estimated Construction Start Date: _____ End Date: _____

A. ON-ROAD VEHICLES

ACTIVITY	VEHICLE TYPE	# OPERATING	ON / OFF SITE	GVWR PER VEHICLE	TOTAL MILES PER VEHICLE	TOTAL MILES ALL VEHICLES
Example: Demolition	Truck	2	ON	33,000	36	72

B. OFF-ROAD VEHICLES

ACTIVITY	EQUIPMENT TYPE	# OPERATING	HORSE-POWER	GAS/ DIESEL	TOTALHRS PER VEHICLE	TOTAL HRS ALL VEHICLES
Example: Site Clearing	Backhoe	3	90	Diesel	80	240

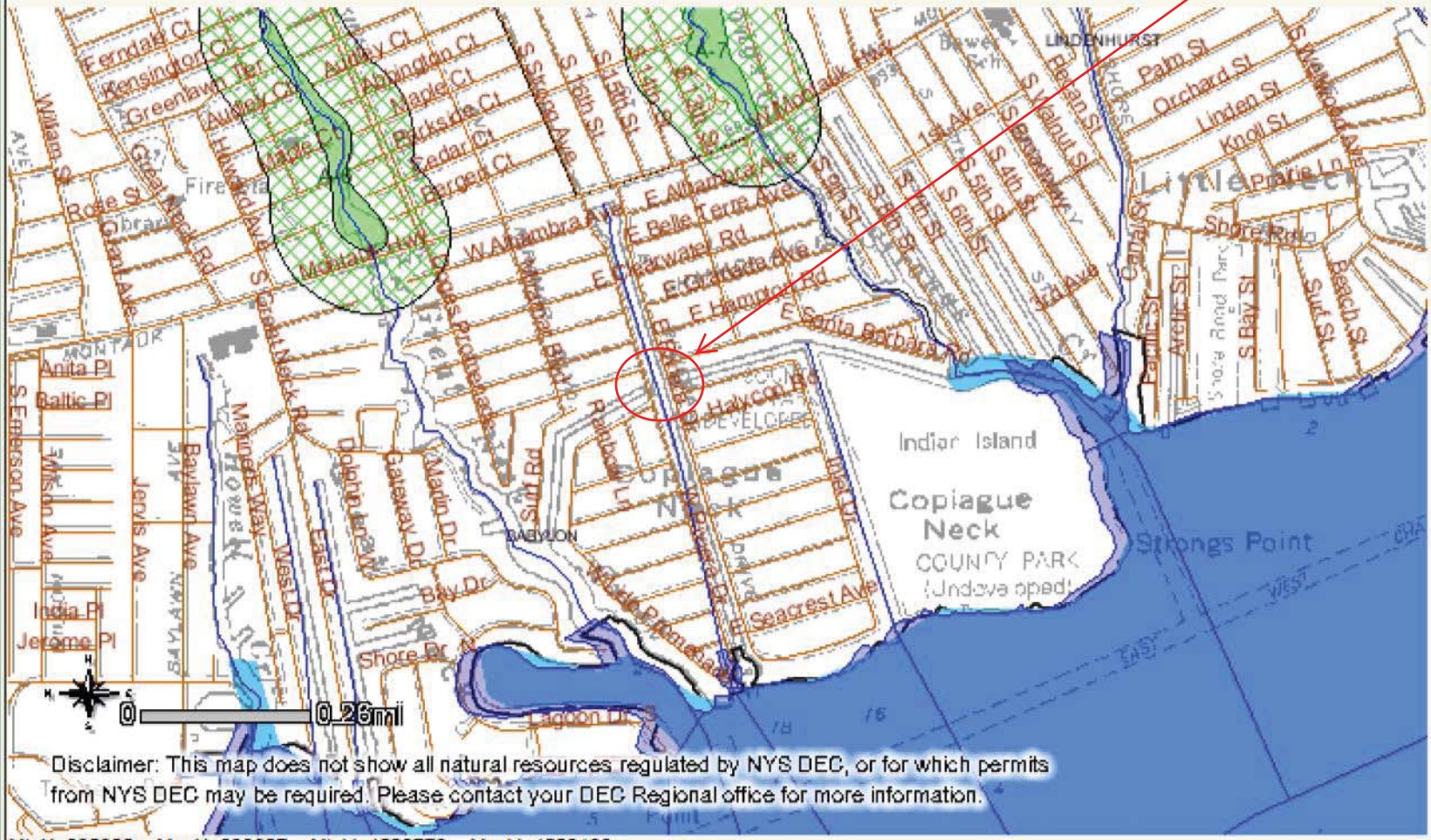
Notes:

1. If construction occurs over more than one calendar year, provide a separate table for each calendar year.
2. For ACTIVITY, include a short description of the type of activity
   - On-Road examples: workers commuting to/from job site, materials deliveries, material movement to site, etc.
   - Off-Road examples: site clearing, demolition, excavation, construction, material placement, etc.
3. For EQUIPMENT
   - On-Road examples: auto, pickup truck (gas or diesel), heavy trucks (gas or diesel), etc.
   - Off-road examples: crane, backhoe, dozer, mixer, chain saw, forklift, etc.
4. Specify whether the on-road vehicles listed are being used for transportation to/from site, or are used exclusively on the site, as this will affect the emission estimates.
5. Specify the Gross Vehicle Weight Ratings for any on-road heavy-dity diesel vehicles, as tehse are necessary to determine the correct emissions factors.
6. For worker commutation, the number of vehicles and miles traveled can be estimated by using any available data to estimate commuting distance, carpool rates, etc., (e.g., Census Journey-to-Work data).

Attachment 3

NYSDEC Environmental Resource Map,
USFWS NWI Map,
USFWS Coastal Barrier Map,
NYSDEC Tidal Wetland Map,
NYS Coastal Boundary Map

Copiague American Venice Bridges



MinX: 635320, MaxX: 638807, MinY: 4503778, MaxY: 4502169

Visible Layers

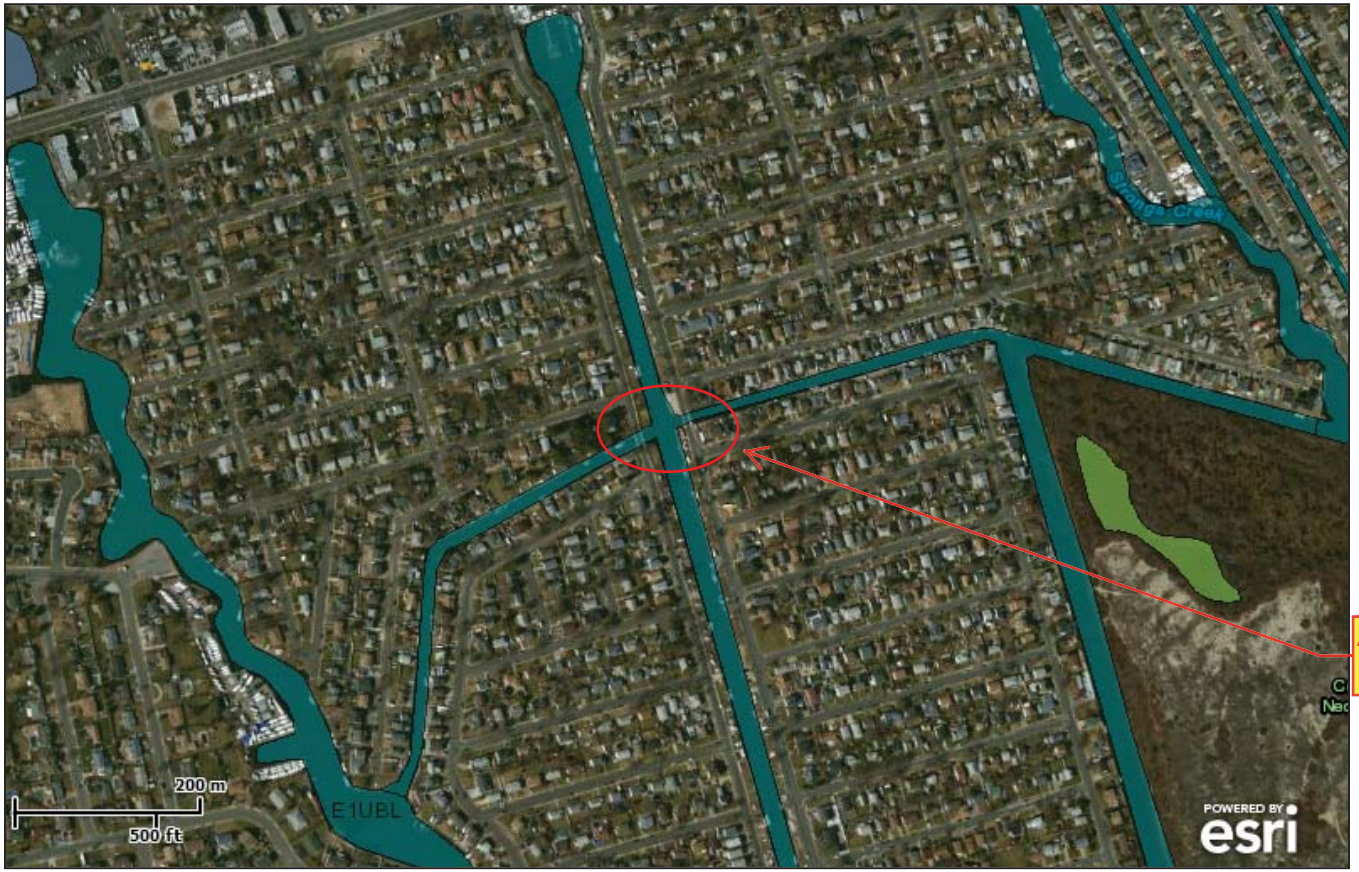
- Highlighted Feature
- Classified Streams
- Classified Ponds
- State-Regulated Freshwater Wetlands
- Wetland Checkzone
- State-Regulated Freshwater Wetlands
- Rare Plants and Rare Animals
- Significant Natural Communities Buffered
- Natural Communities Nearby
- Significant Natural Communities
- Interstate Highways
- Adirondack Park Boundary
- Counties

U.S. Fish and Wildlife Service

National Wetlands Inventory

Copiague
American Venice
Bridges

Jan 23, 2015



Wetlands

- Freshwater Emergent
- Freshwater Forested/Shrub
- Estuarine and Marine Deepwater
- Estuarine and Marine
- Freshwater Pond
- Lake
- Riverine
- Other

Riparian

- Herbaceous
- Forested/Shrub

Riparian Status

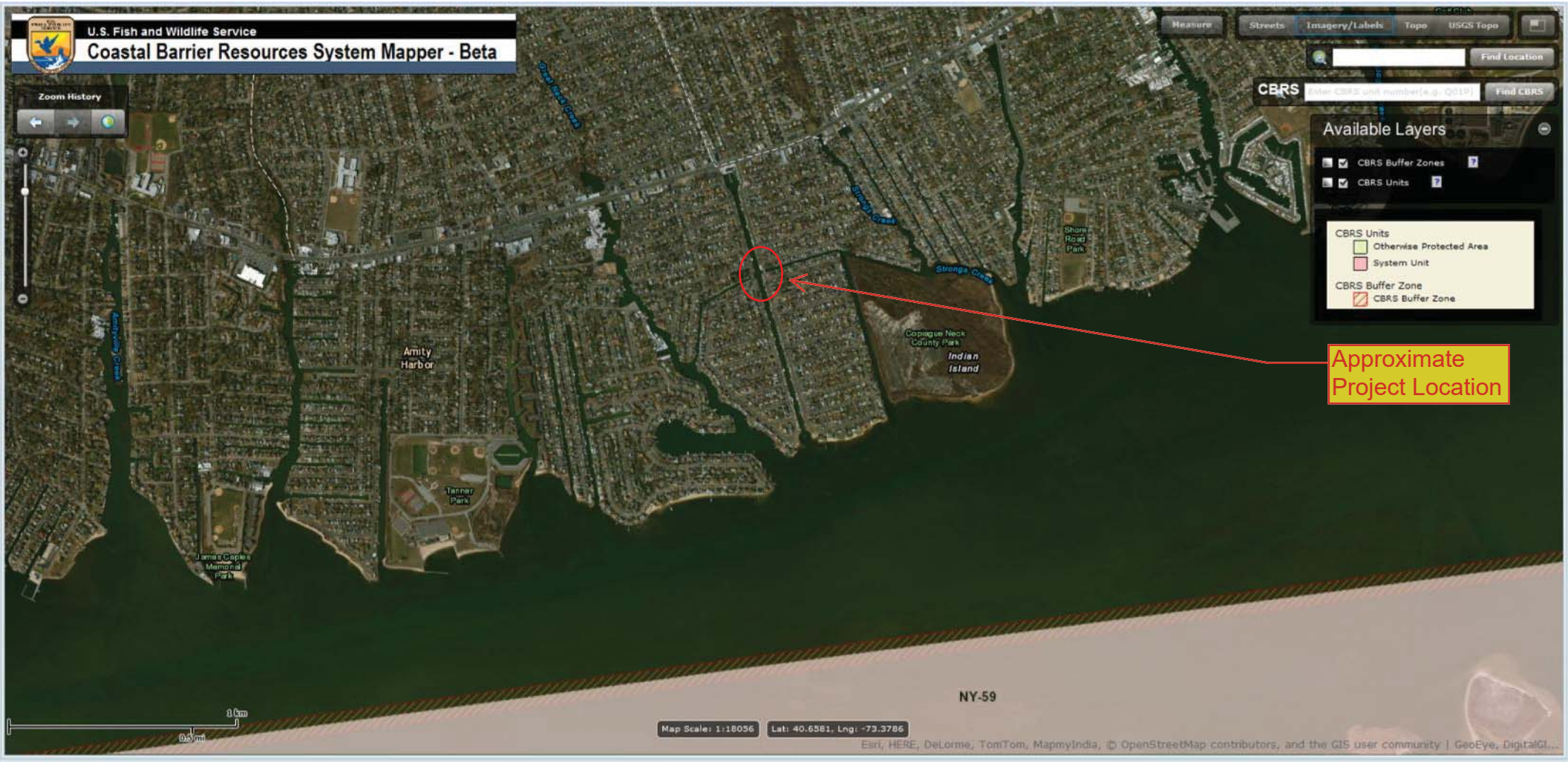
- Digital Data

Approximate Project Location

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

User Remarks:

Copiague American Venice Bridges



TIDAL WETLANDS MAP

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

MAP 638-502

INDEX MAP NUMBER 2

COPIES OF TIDAL WETLANDS MAPS AND INDEX MAPS ARE AVAILABLE FROM
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
BUILDING NUMBER 40, STATE UNIVERSITY OF NEW YORK
STONY BROOK, NEW YORK 11790

SCALE 1:2400

LEGEND

POLITICAL BOUNDARIES:

Approximate location of political boundary from based on New York State Department of Transportation TR series plan-sheet maps

WETLANDS CATEGORIES

SM Intertidal Marsh

HM High Marsh or Salt Meadow

FM Coastal Fresh Marsh

SM Coastal Shrub, Bog and Muckland

FC Formerly Connected Tidal Wetlands

IL Bordge Land

LC Littoral Zone

Areas adjacent to tidal wetlands

Landward extent of tidal wetlands

Wetlands category boundaries

DEPARTMENT OF STATE, OFFICE OF
PLANNING & DEVELOPMENT
ANDREW M. CUOMO, GOVERNOR CESAR A. PERALES, SECRETARY OF STATE

Welcome to the NYS Coastal Boundary Map

Help

Search

Address:

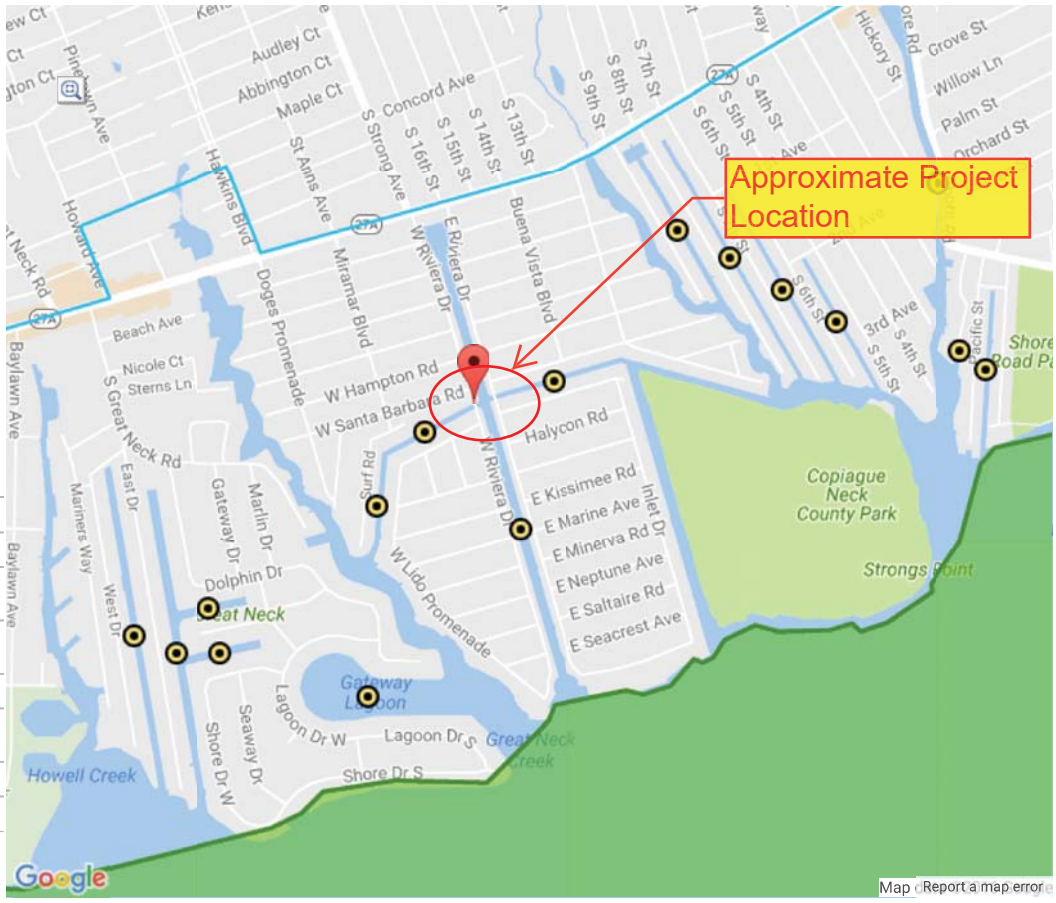
40.667121, -73.380136

Find Address

Please note that the address marker is automatically placed along the street while certain activities may take place along the waterward property boundary. Please make sure to click and drag the marker to the exact location of the proposed activity for an accurate assessment of whether or not the activity would be located within any DOS Special Management Areas.

Layers

- Landward Coastal Boundary
- Scenic Areas
- Local Waterfront Revitalization Areas
- Local Waterfront Revitalization Program Communities
- Significant Coastal Fish and Wildlife Habitats
- DOS Identified Canals
- Long Island Sound CMP (excludes LWRP communities)
- Federally Owned Lands
- Native American Lands



Latitude: 42.803 Longitude: -75.399

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Attachment 4

Floodplain Management (EO 11988) and Wetlands Protection (EO 11990) Determination

Copiague American Venice Bridges Improvements

Floodplain Management (EO 11988) and Wetlands Protection (EO 11990) Plan

Copiague American Venice Bridges Improvements
Floodplain Management EO 11988 and Wetlands Protection EO 11990 Determination
Community Reconstruction Program within NY State Community Development Block Grant Disaster Recovery Program
December 14, 2016

Introduction & Overview
The purpose of Executive Order 11988, Floodplain Management, is "to avoid to the extent possible the long- and short-term adverse impacts associated with occupancy and modification of floodplains and to avoid direct or indirect support of floodplain development wherever there is a practicable alternative." The purpose of Execute Order 11990, Protection of Wetlands, is "to avoid to the extent possible the long- and short-term adverse impacts associated with the destruction or modification of wetlands and to avoid direct or indirect support of new construction in wetlands wherever there is a practicable alternative." This plan contains the analysis prescribed by 24 CFR Part 55.

This project involves Community Development Block Grant Program – Disaster Recovery (CDBG-DR) funding for functionally dependent bridge structures for a single municipality impacted by Superstorm Sandy. The analysis that follows focuses on floodplain and wetland impacts, as there are direct wetland impacts associated with this project. Based on the type of land use and facility and other case characteristics described herein, it is concluded that there is a reasonable basis to proceed with funding for this project/ activity within floodplain and wetland. The CDBG-DR funding is administered through the New York State Rising Community Reconstruction Program which is using bottom-up community participation and State-provided technical expertise to develop resilient and sustainable communities. Thus, alternatives preventing or impeding the development of resilient and sustainable communities are not considered reasonable alternatives.

Description of Proposed Action & Land Use
The two bridges carry East Riviera and West Riviera Drive in the hamlet of Copiague, Town of Babylon, Suffolk County, New York. The bridges span over the Santa Barbara Canal and are oriented in a North-South direction. The bridges are separated by the adjacent Grande Canal. The canals are connected to the Great South Bay. Each bridge serves as the single vehicular access point for a geographically distinct and separate neighborhood.

Project activities will involve the removal of the two adjacent bridges and a replacement with new bridges of higher carrying capacity. The current bridges' roadways are 19-feet and 1-inch (19' 1") wide, with an additional 5' 9" wide sidewalk. The existing bridges have a total width of 28' 7" from parapet to parapet. The new bridges will be approximately 35' 2" wide from parapet to parapet. The 8" water main in a 12" sleeve and 2" gas main in a 6" sleeve currently located under the existing bridge walkway will be temporarily supported on utility support beams during construction above the canal during construction, and reinstalled under the sidewalks of the new bridges.

The demolition and construction of each bridge will be phased so that one travel lane is open for traffic at all times, with a temporary traffic signals and realigned pavement markings for one-way, two lane traffic control. The existing bridge will be restricted to one travel lane during construction of the temporary bridge located between the canal and the work area. After installation of the temporary bridge, the single-lane travel lane will be switched to the temporary bridge and the existing bridge removed. The existing sidewalk will remain in place while a temporary pedestrian bridge is constructed between the temporary bridge and the work area. After the temporary pedestrian bridge is in place, pedestrian traffic will be diverted to the new sidewalk and the existing walkway will be demolished. These temporary bridges will remain in place until the new bridges and walkways are constructed. This will allow for vehicular access to and from the neighborhoods while the demolition and construction are occurring.

The East Riviera Drive temporary bridge will be approximately 120' long and the West Riviera Drive temporary bridge will be approximately 60' long. They will be supported on two (2) temporary piers at the edge of Santa Barbara Canal and concrete pad abutments at the ends, at the same approximate height as the existing bridges. The temporary piers will be supported on the temporary sheet piling bridge cofferdam on one end and a temporary pile on the other end. The piers will be located at the edge of the canal. The abutments will be a concrete block supported on a shallow foundation in the ground. The West Riviera Drive temporary bridge will also have 20' of temporary sheeting on each end to support the temporary embankment which will be placed to grade from the temporary bridge to the existing roadway.

The current lower arch sections and bridge abutment sections supporting the existing bridge are located on the canal banks. The new bridge arch sections are to be built located landward of the existing arch sections, expanding the existing 26' wide canal to a 30' wide canal opening. The replacement bridge structure footings will be in the approximate same location as the existing footings, so the removal of the existing abutment footings is necessary. The exact size of the existing footings is unknown as available historical records and plans do not reveal the size.

Silt fences and turbidity curtains will be installed around the entire proposed construction site prior to work beginning. After the existing concrete arch and roadway embankment are removed, a temporary cofferdam will be installed at each abutment. A turbidity curtain will be installed in the water adjacent to the work area, from cofferdam to cofferdam, to minimize sediment transportation in water from the area of disturbance. Dewatering will be accomplished by using surface pumps to transport water from behind the cofferdams to an outlet pipe with a filter sock, to be discharged behind the turbidity curtains between the two cofferdams.

Eighteen (18) 30' piles and battered caisson piles and sixteen (16) 20' piles and battered caisson piles will be driven for each abutment, and a reinforced concrete foundation cast in place. The sheeting pilings and cofferdam will be installed using a vibratory hammer and/or a dynamic pile driver. Most of the sheeting will be left in place, with the exception of the backside of the cofferdam, the roadway side. The sheeting left in place will be cut off below the proposed grade and buried. A precast concrete arch support will be backfilled with sediment, with the spandrel walls on the bridge acting as retaining walls. The new bridge arch support will be at the same height as the current bridges in the center of the arch, with only very minor deviations from the current arch angles over the canal. New bulkheads will be installed to protect the structure from erosion, using the stockpiled soil to backfill.

Applicable Regulatory Procedure - EO 11988 and 11990

The proposed action corresponds with a noncritical action not excluded under 24 CFR §55.12(b) or (c), and the use is a functionally dependent use. Funding is permissible for the use in the floodplain and wetland if the proposed action is processed under §55.20 and the findings of the determination are affirmative to suggest that the project may proceed.

This work will be located in 100-year floodplain (SHFA Zone AE) and within federal riverine wetlands. Approximately 0.18 acres of wetlands will be temporarily disturbed and approximately 0.63 acres of floodplain will be temporarily disturbed during construction. Thus, in accordance with the decision-making process set forth in 24 CFR Part 55, this analysis focuses on floodplains and wetlands.

According to 24 CFR §55, the activity to replace bridge structure(s) occurs in a community that is in the regular program of the National Flood Insurance Program (NFIP) and the community is currently in good standing. This project involves removing and completely replacing two bridge structures, and the full eight-step floodplain/wetlands determination process in §55.20 is being followed. The following analysis examines each step in a floodplain management determination process.

***Step 1.* Determine Whether the Proposed Action is Located in the 100-year Floodplain (500-year for Critical Actions) or results in New Construction in Wetlands.**
The location of the proposed action, per the applicable FEMA flood map Firmette, is within 100-year floodplain (SFHA - AE Zone). There is an established Base Flood Elevation (BFE) of six (6) feet at the location of both bridges. The project has minor temporary impacts into tidal wetlands.

Step 2. Initiate Public Notice for Early Review of Proposal.
Because the proposed project is located in floodplain and wetlands, the Governor's Office of Storm Recovery (GOSR) published an early notice that allowed for public and public agency input on the decision to provide funding for reconstruction and development activities. The early public notice and 15-day comment period is complete. No public comments were received.

The early notice and corresponding 15-day public comment period started on March 26, 2015 with the "Notice of Early Public Review of a Proposed Activity in Wetlands and 100-Year Floodplain" being published in The Babylon Beacon newspaper, with the 15-day period expiring on April 11, 2015. The notice targeted local residents, including those in the floodplain. The notice was also sent to the following state and federal agencies on March 26, 2015: Federal Emergency Management Agency (FEMA); USFWS; U.S. Environmental Protection Agency (EPA); U.S. Army Corps of Engineers (USACE); U.S. Coast Guard (USCG); NYSDEC; and New York State Office of Emergency Management. The notice was also sent to Suffolk County and the Town of Babylon. (See **Attachments 1** and **2** of this Floodplain Management EO 11988 and Wetlands Protection EO 11990 Determination for the letter distributed to these agencies and the associated newspaper notice affidavit).

***Step 3.* Identify and Evaluate Practicable Alternatives to Locating the Proposed Action in a 100-year Floodplain (or 500-year Floodplain if a Critical Action) or Wetland.**
The program is structured to provide eligible communities with resources and expertise to build resilience to future flooding events. This community was impacted by Superstorm Sandy, and the neighborhoods south of the bridges were not accessible by heavy emergency equipment during Superstorm Sandy. Given the scope of the proposed action to replace these bridges, potential alternatives must be considered in order to try and mitigate the amount of damage from future flood events.

One alternative is to rehabilitate the existing bridge with fiber reinforced polymer (FRP) for structural improvement of the arch. This would include repairing the deteriorated concrete areas and increase the structural capacity by installing FRP under the arches and ribs, along with improving the substructure. Specialists consider the maximum increase in shear or flexural capacity by this type of reinforcement is about 40% of the original design capacity, still requiring a posted load rating restriction. This application would improve the superstructure condition, but not the substructure condition, which is in poor condition due to failure of the supporting soil resulting from adjacent bulkhead failures. The rehabilitation of each bridge would cost about $3,800,000. This alternative would not increase the load rating for the bridges or address deficiencies in the substructures and is not considered an optimal alternative. (Source: Town of Babylon Department of Public Works Scoping Report for the Rehabilitation or Reconstruction to Eliminate Load Posting for Riviera Drive Bridges (East and West) over Santa Barbara Canal BINs 2261360 and 2261370 dated July 2014)

Another alternative is to fill the canals with fill and connect the two neighborhoods to the mainland thereby eliminating the need for the bridges. This option would require wetlands to be filled, and would limit the residents' capacity to access waterways and water recreation. This alternative might drive down the prices of area properties because of the reduced water access, and it would also adversely affect species, water quality, and wetlands. Moreover, it is likely this option would not be allowed because it would eliminate access through these channels. Therefore, this is not considered a feasible alternative.

Another alternative would be for no action to occur, meaning the Town would not be receiving grant funds to replace the bridge structures, and the reduced load rating would remain on both bridges. Emergency access via heavy vehicles to the neighborhoods would still be hindered. In addition, this alternative would not support the resiliency of this community during flood or emergency events. The project would be impeded due to the lack of financial support; which means the bridges would continue to deteriorate in place. This could greatly impact emergency access to the area and access to the neighborhood by residents. Accordingly, the "no action" decision would not support Copiague's resilience to future storm events.

Due to the number of developed parcels within this community, prohibition of rehabilitation of the structure providing access to the structures within floodplain is not practicable. As the bridge structure is a functionally dependent use, it is allowed to be constructed in floodplain.

The above identified alternatives will be re-evaluated in response to public comments received.

Step 4. **Identify & Evaluate Potential Direct & Indirect Impacts Associated with Occupancy or Modification of 100-year Floodplain and Potential Direct & Indirect Support of Floodplain and Wetland Development that Could Result from Proposed Action.**
The focus of floodplain evaluation should be on adverse impacts to lives and property, and on natural and beneficial floodplain values. Natural and beneficial values include consideration of potential for adverse impacts on water resources such as natural moderation of floods, water quality maintenance, and groundwater recharge.

According to the FEMA Report - A Unified National Program for Floodplain Management, two definitions commonly used in evaluating actions in floodplain are "structural" and "non-structural" activities. Per the report, structural activity is usually intended to mean adjustments that modify the behavior of floodwaters through the use of measures such as public works dams, levees and channel work. Non-structural is usually intended to include all other adjustments (e.g., regulations, insurance, etc.) in the way society acts when occupying or modifying a floodplain. These definitions are used in describing impacts that may arise in association with potential advancement of this case.

Natural moderation of floods
As the project occurs in a developed area and is the access point for many residents of developed parcels situated within 100-year floodplain, the project may potentially result in future indirect impacts to property during certain severe floods and related natural disasters. These direct effects can be the increased accessibility and reliability of the bridges for emergency crews to access the residential neighborhoods.

Living resources such as flora and fauna
A potential impact that may arise is that during construction there could be disturbance to the canal and areas landward of the canal where bridge foundations will be built. However, this would be more likely if there are not construction best management practices (BMPs) implemented during the construction period and afterward to return disturbed areas to pre-construction conditions. A qualitative evaluation suggests the potential would be relatively small because the new bridge will be mainly placed in the same location as the existing bridges with minor deviations in already disturbed areas landward of the canal and construction will adhere to BMPs.

Impacts to Property & Lives
The action does present potential to impact occupancy of floodplain because the bridges serve as the only vehicular access points to the residents within floodplain. The project is not expected to significantly modify property in floodplains as there will be ground disturbance in previously disturbed areas. Earthwork does not appear to increase flood displacement.

Occupancy of this floodplain in this suburban to undeveloped coastal area has taken place over an extended recent history. According to Suffolk County's 2014 Draft update to the 2000 version of their Multi-Jurisdictional Multi-Hazard Mitigation Plan, the Town of Babylon is at risk for frequent flooding for hurricanes, flooding, and severe storms (page 9.4-9). Considering the context of the area, this action represents an activity at only two bridge locations among many real property parcels that are located within floodplain. Thus, funding this project/ activity does constitute indirect continued support of floodplain occupancy and development. In the event of severe flooding and associated natural hazards in the future, there is potential for further damage to this structure and impacts to the accessibility of this neighborhood. However, given that design for new bridges to increase load capacity on the bridges and to use new footings to support the bridge, the risk for impacts to this structure from future flood is low.

The predominantly in-kind and in-place reconstruction of the Site sustains area property values and community character within a district and neighborhood that has been settled for a long time. It enables continued and reliable access to these neighborhoods, which might otherwise degrade, or cease to exist, without support in rehabilitating this infrastructure. If this project/ activity were not funded, there probably would be other undefined, undesirable indirect impacts to residents' quality of life, ease of accessibility to their homes, and access to emergency services, in the event they are needed.

Cultural resources such as archaeological, historic & recreational aspects
These damaged structures were constructed in approximately 1910 by Suffolk County. The New York State Historic Preservation Office (SHPO) has determined that the American Venice Bridges are eligible for listing on the State and National Registers of Historic Places and funding this project would have an adverse effect on the bridges and be subject to the National Historic Preservation Act (NHPA) and its implementing regulations. Thus, a Memorandum of Agreement (MOA) regarding the Bridge Replacement Project in Babylon, New York has been filed with the Advisory Council on Historic Preservation (ACHP). The MOA, being filed with ACHP, enables GOSR to implement this project in compliance with Section 106 of the NHPA (Section 110(1) and 36 CFR 800.6(c)). GOSR shall ensure that the project is completed in accordance with the terms and stipulations of the MOA until it is expired or terminated. GOSR and the Town of Babylon have concluded, and SHPO has concurred on February 4, 2015, that there are no archaeological concerns at the Site. On October 31, 2016, SHPO stated it is their opinion "that the recordations are acceptable at this point and all stipulations have been met. No further submissions are required unless something changes."

The project will involve ground disturbing work associated with replacement of the two bridges. On March 9, 2015, GOSR sent the project information to the Tribal Historic Preservation Office of the Shinnecock Indian Nation and requested that the Nation inform GOSR if the Area of Potential Effect (APE) encompasses any historic properties of religious or cultural significance. No response has been received from the Shinnecock Indian Nation. If there is any unanticipated discovery of human remains, associated artifacts or cultural resources, then work shall be halted immediately and actions taken following the protocol established within the MOA.

Agricultural, aquacultural, & forestry resources
It is common knowledge there is substantial agriculture and fishing industry on Long Island including aquaculture. Per the 2012 State Comptrollers Report, Agriculture in Long Island, Figure 2 shows that considering "Agricultural Production by Commodity Group in Long Island (2007)," aquaculture at $7.6 Million sales revenue represents 2.9% of this total type of economic product. It is conceivable that during the short-term construction activities the disturbance could impact water quality and the sector, although the impact attributable to this use could not be quantitatively derived. However, a qualitative analysis suggests that the impact would be very small as mitigative measures and BMPs will be utilized during construction, including, but not limited to, installing temporary silt fencing on land to prevent soil and/or

debris from being washed off-site and installing turbidity curtains in the water to minimize sediment transportation from the area of disturbance to the larger body of water per the soil erosion control plan. Project activities will be completed in accordance with all applicable federal, state and local permit requirements and conditions. Permits required for this project will be obtained by the Town before commencing work and appended to the environmental review record when received from the permitting agencies. Thus, no or minor temporary impacts from the proposed project activities are anticipated.

***Step 5.* Where Practicable, Design or Modify the Proposed Action to Minimize the Potential Adverse Impacts To and From the 100-Year Floodplain and to Restore and Preserve its Natural and Beneficial Functions and Values.**

Given the scope to replace the bridges and the proposed funding support, it is a direct policy requirement to specify standards that mitigate flood risk. There were mitigation measures in the form of constructing new bridges supports using current design standard practices and BMPs.

However, it is still reasonable to promote awareness of future risks of natural hazards, including flooding, plus the physical, social and economic impacts that potential events could convey, including through potential for future physical damage to bridges and surrounding properties.

***Step 6.* Reevaluate the Alternatives and Proposed Action.**

The rehabilitation alternatives within floodplain would not sufficiently address the load capacity of the bridges. This means that emergency vehicles would still be restricted in accessing the neighborhoods that the bridges serve. Moreover, these are functionally dependent structures that must be placed in floodplain.

The "no action" alternative would not address the need this municipality has for help in funding their replacement or rehabilitated bridges. Without funding this grant provides, the municipality could struggle to build resilience to future floods in the particular location.

Therefore, the alternatives examined are not considered desirable and the action to fund bridge reconstruction is still practicable in light of exposure to flood hazards in floodplain, possible adverse impacts on floodplain, the extent to which it may aggravate current hazards to other floodplains, and the potential to disrupt natural and beneficial functions and values of floodplains. Furthermore, the Town will have to abide by State and local codes for floodplain development in rebuilding the bridge structures. As such, the impact on a floodplain would be less than with both the "no action" and rehabilitation alternatives.

The impacts of these alternatives will be re-evaluated in response to any public comments received.

***Step 7.* Issue Findings and Public Explanation.**

It is the finding of this report that there is no better alternative than to provide funding for the replacement of the two existing bridges. The location within floodplain cannot be avoided due to necessity of the bridges to connect approximately 600 households to the mainland of Long Island, New York. However, not funding any actions would mean that the Town would receive grant funds to replace the bridge structures, and the reduced load rating would remain on both bridges. Emergency access via heavy vehicles to the neighborhoods would still be hindered. In addition, this alternative would not support the resiliency of this community during flood or emergency events and the bridges would continue to deteriorate in place. This could greatly impact emergency access to the area and access to the neighborhood by residents.

A final notice, formally known as "Notice of Policy Determination" was published in accordance with 24 CFR 55, for a 15-day comment period. (See **Attachment 3** of this Floodplain Management EO 11988 and Wetlands Protection EO 11990 Determination for the letter distributed to the associated agencies). The 7-day comment period started with the Final Notice publishing in the Amityville Record newspaper on December 15, 2016 and the 15-day period expires December 30, 2016.

Step 8. **Continuing Responsibility of Responsible Entity & Recipient.**
The Governor's Office of Storm Recovery (GOSR), operating under the auspices of the New York State Homes and Community Renewal's (NYSHCR) Housing Trust Fund Corporation, is the responsible entity. The responsible entity will make available educational materials regarding best practices for structures located in floodplains. It is acknowledged there is a continuing responsibility by the responsible entity, New York State Housing Trust Fund/ Division of Homes and Community Renewal, to ensure, to the extent feasible and necessary, compliance with Steps 5 through 7.

Attachment 1
Notice of Early Public Review
Floodplain Management
Executive Order 11988

NOTICE OF EARLY PUBLIC REVIEW OF A
PROPOSED ACTIVITY IN 100-YEAR FLOODPLAIN AND WETLAND
March 26, 2015

To: All Interested Agencies, Groups & Individuals

The Governor's Office of Storm Recovery (GOSR), operating under the auspices of the New York State Homes & Community Renewal's Housing Trust Fund Corporation, is the Responsible Entity for direct administration of the U.S. Dept. of Housing & Urban Development (HUD) Community Development Block Grant – Disaster Recovery (CDBG-DR) program. The purpose of this early notice is to identify that GOSR is undertaking the decision-making process required by Federal Executive Order (EO) 11988 and EO 11990 in accordance with HUD regulations at 24 CFR §55.20 (Subpart C-Procedures for Making Determinations on Floodplain Management and Protection of Wetlands). GOSR invites public comment on the potential effect that implementing physical mitigation at the functionally dependent location below could potentially have on a 100-year floodplain and wetlands. GOSR is conducting this review in order to determine whether or not funding assistance should be granted.

Project Name: The applicant proposed to receive storm rehabilitation funding is the Town of Babylon, and the project is known as the Copiague American Venice Bridges Improvements. The applicant property consists of two bridges carrying public roadways, East and West Riviera Drive, over the Santa Barbara Canal in the hamlet of Copiague, Town of Babylon, Suffolk County, NY.

Brief Description of Project: The proposed action is to replace two aging bridges located at East Riviera Drive and West Riviera Drive in the hamlet of Copiague, Town of Babylon, Suffolk County, NY. The two bridges provide the only vehicular access point to the neighborhoods located south of each bridge. The current bridges have a load rating of 12 tons only, and the bridges do not support use by heavy emergency and rescue equipment. In order to decrease vulnerability of the neighborhoods, the bridges will be replaced with higher capacity bridges so that emergency equipment and vehicles have unconstrained access to the neighborhoods in the event of an emergency.

There are multiple purposes for this notice. First, people who may be affected by activities in floodplains and wetlands and those who have an interest in protection of the natural environment have an opportunity to express their concerns and provide information about such subjects. Besides this general notice, certain local, state and federal agencies are being directly informed about the project. Second, adequate public notice is an important public education tool. Dissemination of information and floodplain development facilitate federal efforts to reduce the risks associated with the occupancy and modification of these areas. Third, as a matter of fairness, when the federal government determines it will participate in actions taking place in floodplain, it must inform those who may be put at greater or continued risk.

Comments or requests for information from the public are invited and will be received for fifteen (15) days from the date of this publication. Any individual, group, or agency may submit written comments on the

actions to: Thomas King, Certifying Officer, Governor's Office of Storm Recovery, 99 Washington Avenue, Suite 1224, Albany, New York, 12231. Comments may also be submitted via email at *NYSCDBG_DR_ER@nyshcr.org* or by telephone, excepting public holidays, at (646) 417-4660 weekdays from 9:00 AM - 5:00 PM.

Best Regards,

Thomas King, Certifying Officer
Governor's Office of Storm Recovery

Attachment 2
Notice of Early Public Review Affidavit
Floodplain Management
Executive Order 11988

THE BEACON

Newspapers

65 Deer Park Avenue
Babylon, NY 11702
Phone : (631) 587-5612
Fax: (631) 587-0198
email: beaconnews@rcn.com

Affidavit of Publication

County of Suffolk
State of New York

Carolyn James, being duly sworn, deposes and says that she is the office clerk of The Beacon, a weekly newspaper published at Babylon in the County of Suffolk Staete of New York, and that a notice, a printed copy of which is hereto annexed has been published in said newspaper once in each week for

week(s) one (1)

March 26, 2015

VIZ:

Carolyn James

Sworn to me before this 26th day of March, 2015.

Notary Public, Suffolk County

Donna M. Consola
NOTARY PUBLIC State of New York
No. 01C0507719
Qualified in Suffolk County
Commission Expires March 25, 2018

NOTICE OF EARLY PUBLIC REVIEW OF A PROPOSED ACTIVITY IN 100-YEAR FLOODPLAIN AND WETLAND
March 26, 2015

To: All Interested Agencies, Groups & Individuals

The Governor's Office of Storm Recovery (GOSR), operating under the auspices of the New York State Homes & Community Renewal's Housing Trust Fund Corporation, is the Responsible Entity for direct administration of the U.S. Dept. of Housing & Urban Development (HUD) Community Development Block Grant – Disaster Recovery (CDBG-DR) program. The purpose of this early notice is to identify that GOSR is undertaking the decision-making process required by Federal Executive Order (EO) 11988 and EO 11990 in accordance with HUD regulations at 24 CFR §55.20 (Subpart C-Procedures for Making Determinations on Floodplain Management and Protection of Wetlands). GOSR invites public comment on the potential effect that implementing physical mitigation at the functionally dependent location below could potentially have on a 100-year floodplain and wetlands. GOSR is conducting this review in order to determine whether or not funding assistance should be granted.

Project Name: The applicant proposed to receive storm rehabilitation funding is the Town of Babylon, and the project is known as the Copiague American Venice Bridges Improvements. The applicant property consists of two bridges carrying public roadways, East and West Riviera Drive, over the Santa Barbara Canal in the hamlet of Copiague, Town of Babylon, Suffolk County, NY.

Brief Description of Project: The proposed action is to replace two aging bridges located at East Riviera Drive and West Riviera Drive in the hamlet of Copiague, Town of Babylon, Suffolk County, NY. The two bridges provide the only vehicular access point to the neighborhoods located south of each bridge. The current bridges have a load rating of 12 tons only, and the bridges do not support use by heavy emergency and rescue equipment. In order to decrease vulnerability of the neighborhoods, the bridges will be replaced with higher capacity bridges so that emergency equipment and vehicles have unconstrained access to the neighborhoods in the event of an emergency.

There are multiple purposes for this notice. First, people who may be affected by activities in floodplains and wetlands and those who have an interest in protection of the natural environment have an opportunity to express their concerns and provide information about such subjects. Besides this general notice, certain local, state and federal agencies are being directly informed about the project. Second, adequate public notice is an important public education tool. Dissemination of information and floodplain development facilitate federal efforts to reduce the risks associated with the occupancy and modification of these areas. Third, as a matter of fairness, when the federal government determines it will participate in actions taking place in floodplain, it must inform those who may be put at greater or continued risk.

Comments or requests for information from the public are invited and will be received for fifteen (15) days from the date of this publication. Any individual, group, or agency may submit written comments on the actions to: Thomas King, Certifying Officer, Governor's Office of Storm Recovery, 99 Washington Avenue, Suite 1224, Albany, New York, 12231. Comments may also be submitted via email at NY-SCDBG_DR_ER@nyshcr.org or by telephone, excepting public holidays, at (646) 417-4660 weekdays from 9:00 AM - 5:00 PM.

Thomas King, Certifying Officer
Governor's Office of Storm Recovery
15-259 3/26

Attachment 3
Final Notice
Floodplain Management
Executive Order 11988

Governor's Office of Storm Recovery

ANDREW M. CUOMO
Governor

LISA BOVA-HIATT
Executive Director

PUBLIC NOTICE
COMBINED FINAL NOTICE AND PUBLIC REVIEW OF A PROPOSED ACTIVITY IN A 100-YEAR FLOODPLAIN AND WETLAND, NOTICE OF FINDING OF NO SIGNIFICANT IMPACT (FONSI), AND NOTICE OF INTENT TO REQUEST RELEASE OF FUNDS (NOI-RROF)

COPIAGUE AMERICAN VENICE BRIDGES IMPROVEMENTS

December 14, 2016

Name of Responsible Entity and Recipient: New York State Homes and Community Renewal (HCR), 38-40 State Street, Hampton Plaza, Albany, NY 12207, in cooperation with the New York State Housing Trust Fund Corporation (HTFC), of the same address. Contact: Thomas J. King (518) 473-0015.

This combined notice satisfies three separate procedural requirements for project activities proposed to be undertaken. Per 24 C.F.R. Part 58.33, this is the combined Notice of Finding of No Significant Impact, Notice of Intent to Request Release of Funds (FONSI/ NOIRROF) and Final Notice and Public Explanation of a Proposed Activity in a 100-Year Floodplain/Wetland. The funds are needed immediately to replace the existing damaged bridges. As a result, the comment periods for the FONSI/ NOIRROF and Final Notice and Public Review of a Proposed Activity in 100-year floodplain and wetland have been combined.

Project Description: The Governor's Office of Storm Recovery (GOSR), an office of HCR's HTFC, is responsible for the direct administration of the United States Department of Housing and Urban Development (HUD) Community Development Block Grant – Disaster Recovery (CDBG-DR) program in New York State. GOSR proposes to provide CDBG-DR funding to the Copiague American Venice Bridges Improvements Project, which involves the replacement of two bridges located at East Riviera Drive and West Riviera Drive over the Santa Barbara Canal in the hamlet of Copiague, Town of Babylon, Suffolk County, New York (the "Proposed Project"). During Superstorm Sandy, heavy-duty emergency and rescue vehicles were unable to access the neighborhood during the storm. This lack of access delayed post-storm assistance to the neighborhoods. The total project cost is estimated to be approximately $8,216,560.00.

Public Explanation of a Proposed Activity in a 100-year Floodplain and Wetland

This work will be located in 100-year floodplain (SHFA Zone AE) and within federal riverine wetlands. Approximately 0.18 acres of wetlands will be temporarily disturbed and approximately 0.63 acres of floodplain will be temporarily disturbed during construction. A Floodplain Management and Protection of Wetlands Plan (FMPWP) has been prepared and is made available for public review and comment as described below.

There are three primary purposes for this notice. First, people who may be affected by activities in floodplains/ wetlands and those who have an interest in the protection of the natural environment have an

opportunity to express their concerns and provide information about these areas. Second, adequate public notice is an important public education tool. The dissemination of information and request for public comment about floodplains/ wetlands can facilitate and enhance federal efforts to reduce the risks associated with the occupancy and modification of these special areas. Third, as a matter of fairness, when the federal government determines it will participate in actions taking place in floodplains/ wetlands, it must inform those who may be put at greater or continued risk.

Finding of No Significant Impact

An Environmental Assessment (EA) for the Proposed Project has been prepared in accordance with the National Environmental Policy Act of 1969 (NEPA) and HUD environmental review regulations at 24 CFR Part 58. The EA is incorporated by reference into this FONSI. Subject to public comments, no further review of the Proposed Project is anticipated. HCR has determined that the EA for the project identified herein complies with the requirements of HUD environmental review regulations at 24 CFR Part 58. HCR has determined that the Proposed Project will have no significant impact on the human environment and therefore does not require the preparation of an environmental impact statement under NEPA.

Public Review: Public viewing of the EA and the FMWMP is available online at http://stormrecovery.ny.gov/environmental-docs and is also available in person Monday – Friday, 9:00 AM – 5:00 PM at the following address: Governor's Office of Storm Recovery, 99 Washington Avenue, Suite 1224, Albany, New York 12260. Contact: Thomas J. King (518) 473-0015.

Further information may be requested by writing to the above address, emailing NYSCDBG_DR_ER@nyshcr.org or by calling (518) 473-0015. This combined notice is being sent to individuals and groups known to be interested in these activities, local news media, appropriate local, state and federal agencies, the regional office of the U.S. Environmental Protection Agency having jurisdiction, and to the HUD Field Office, and is being published in a newspaper of general circulation in the affected community.

Public Comments on FMWMP, FONSI and/ or NOIRROF: Any individual, group or agency may submit written comments on the Project documents mentioned in this notice. The public is hereby advised to specify in their comments which "notice" their comments address. Comments should be submitted via email, in the proper format, on or before 5:00 pm on December 29, 2016 at NYSCDBG_DR_ER@nyshcr.org. Written comments may also be submitted at the following address, or by mail, in the proper format, to be received on or before December 29, 2016: Governor's Office of Storm Recovery, 99 Washington Avenue, Suite 1224, Albany, New York 12260. Comments may be submitted by telephone by contacting Thomas J. King at (518) 473-0015. All comments must be received on or before 5:00 pm on December 29, 2016 or they will not be considered. If modifications result from public comment, these will be made prior to proceeding with the expenditure of funds.

Request for Release of Funds and Certification

On or about December 30, 2016, the HCR certifying officer will submit a request and certification to HUD for the release of CDBG-DR funds as authorized by related laws and policies for the purpose of implementing this part of the New York CDBG-DR program.

HCR certifies to HUD that Thomas J. King, in his capacity as Certifying Officer, consents to accept the jurisdiction of the U.S. federal courts if an action is brought to enforce responsibilities in relation to the environmental review process and that these responsibilities have been satisfied. HUD's approval of the certification satisfies its responsibilities under NEPA and related laws and authorities, and allows GOSR to use CDBG-DR program funds.

Objection to Release of Funds: HUD will accept objections to its release of funds and GOSR's certification for a period of fifteen days following the anticipated submission date or its actual receipt of the request (whichever is later). Potential objectors may contact HUD or the GOSR Certifying Officer to verify the actual last day of the objection period.

The only permissible grounds for objections claiming a responsible entity's non-compliance with 24 CFR Part 58 are: (a) Certification was not executed by HCR's Certifying Officer; (b) the responsible entity has omitted a step or failed to make a decision or finding required by HUD regulations at 24 CFR Part 58; (c) the responsible entity has committed funds or incurred costs not authorized by 24 CFR Part 58 before release of funds and approval of environmental certification; or (d) another Federal agency acting pursuant to 40 CFR Part 1504 has submitted a written finding that the project is unsatisfactory from the standpoint of environmental quality.

Objections must be prepared and submitted in accordance with the required procedures (24 CFR Part 58) and shall be addressed to Tennille Smith Parker, Director, Disaster Recovery and Special Issues Division, Office of Block Grant Assistance, U.S. Department of Housing & Urban Development, 451 7th Street SW, Washington, DC 20410, Phone: (202) 402-4649.

Thomas J. King, Esq.
Certifying Officer
December 14, 2016

Attachment 5

HUD Environmental Standards Review

Copiague American Venice Bridges Improvements
Environmental Standards Review

Site Location: East and West Riviera Drive at the Santa Barbara Canal, Hamlet of Copiague, Town of Babylon, Suffolk County, New York

Introduction:
The purpose of this review is to ensure that the project complies with HUD environmental standards in relation to 24 CFR Part 58.5. Properties that are proposed for use in HUD programs "must be free of hazardous materials, contamination, toxic chemicals and gases, and radioactive substances, where a hazard could affect the health and safety of occupants or conflict with the intended utilization of the property."

A desktop review was performed to identify whether the Site referenced in the title of this document complies with the following criteria:

(i) is not Listed on an EPA Superfund National Priorities or Comprehensive Environmental Response Superfund National Priorities or Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) List, or equivalent State list;
(ii) is not located within 3,000 feet of a toxic or solid waste landfill site;
(iii) does not have an underground storage tank; and
(iv) is not known or suspected to be contaminated by toxic chemicals or radioactive materials.

Summary of Findings:
The site is not listed on a U.S. Environmental Protection Agency (EPA) Superfund National Priorities or Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) list or equivalent State list, and is not located within 3,000 feet of a toxic or solid waste landfill site.

A review of the EPA Resource Conservation and Recovery (RCRA) and NYSDEC Environmental Remediation databases provide no indication of past uses of the Site that could contaminate the Site or potentially adversely affect the occupants of the Site. Four EPA-listed and permitted RCRA hazardous waste facilities and three water discharger facilities are located within 3,000 feet of the Site. The four RCRA hazardous waste facilities and one of the three water discharger facilities have no reported permit violations and are not considered a hazard. These five facilities are in compliance with permit conditions that are enforced and meet standards to protect public health and the environment by preventing releases to the environment.

The remaining two water discharger facilities with violations reported are discussed below.

C&D Marina is a permitted waste water discharger facility located approximately 1,800 feet southwest of the Site. The facility has been in non-compliance of the CWA for two quarters due to permit schedule violations that are classified as Category II: reportable non-compliance (RNC) violations. This facility has no records of formal or informal enforcement actions due to these violations, although they have had historic formal enforcement actions. This formal enforcement action was dated 11/4/2011, when a monetary penalty was enforced by New York State. However, this facility was reported to be in compliance between July 2013 and February 28, 2015 when the before-mentioned permit schedule violations were reported, and is currently in compliance. As such, this facility is not considered a hazard that could affect the health and safety of occupants or conflict with the intended utilization of the Site due of the distance from the Site and the minor nature of the violations.

RPM Marine is a permitted waste water discharger facility located approximately 1,500 feet north-northwest of the Site. The facility has been in non-compliance of the CWA since 3/31/2011 due to permit schedule violations that are classified as Category II: reportable non-compliance (RNC) violations. This facility has a single formal enforcement action dated 4/18/2016, when a monetary penalty was enforced by New York State. However, this formal enforcement action was associated with limited or overdue discharge monitoring reports. As such, this facility is not considered a hazard that could affect the health and safety of occupants or conflict with the intended utilization of the Site due to the nature of the violations and distance from the Site.

Several spills have been reported in the area of the proposed construction of the bridges, but these minor spills have been closed by the NYSDEC. A spill being closed means that the records and data submitted indicate that the necessary cleanup and removal actions have been completed and no further remedial activities are necessary under this spill report number.

Based on a review of available environmental records for the Site and surrounding area, the Site is unlikely to contain hazardous materials, contamination, toxic chemicals and gases, and radioactive substances, where a hazard could affect the health and safety of occupants or conflict with the intended utilization of the Site. The funded activities do not involve actions that would involve potential recognized environmental conditions/ contamination. Therefore, a Phase I Environmental Site Assessment (ESA) or Phase II ESA is not warranted. As such, no further action is required at this time. Maps, and NYSDEC and EPA reports are provided at the end of this report.

Data Sources:
Tectonic has reviewed the following sources to make the above determinations: Hazardous Waste records contained in the RCRA, the Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) for sites listed under the CERCLA (otherwise known as Superfund), EPA's Toxic Release Inventory database (TRI), and the EPA Radiation Information Database (RADInfo). Tectonic reviewed the NYSDEC Remedial Site Database to assess whether the site is registered as a NYS Superfund or Environmental Restoration site. The NYSDEC Remedial Database includes records of sites that are part of the NYS Superfund, Brownfield Cleanup, Environmental Restoration, and Voluntary Cleanup Programs. The database also includes a Registry of Inactive Hazardous Waste Disposal Sites. The NYSDEC Bulk Storage Database was reviewed for records of facilities that are or have been regulated according to one of the Bulk Storage Programs- Chemical Bulk Storage, or Major Oil Facility. The NYSDEC Spill Incident Database was used to determine the potential effects of spills on or near the Site. A desktop review of Google Earth was used in conjunction with a map of active municipal landfills (provided by the NYSDEC) in determining whether there was a landfill within 3,000 feet of the Site.

Attachment 5

HUD Environmental Standards Review

Copiague American Venice Bridges Improvements
Environmental Standards Review

Site Location: East and West Riviera Drive at the Santa Barbara Canal, Hamlet of Copiague, Town of Babylon, Suffolk County, New York

Introduction:
The purpose of this review is to ensure that the project complies with HUD environmental standards in relation to 24 CFR Part 58.5. Properties that are proposed for use in HUD programs "must be free of hazardous materials, contamination, toxic chemicals and gases, and radioactive substances, where a hazard could affect the health and safety of occupants or conflict with the intended utilization of the property."

A desktop review was performed to identify whether the Site referenced in the title of this document complies with the following criteria:

(i) is not Listed on an EPA Superfund National Priorities or Comprehensive Environmental Response Superfund National Priorities or Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) List, or equivalent State list;
(ii) is not located within 3,000 feet of a toxic or solid waste landfill site;
(iii) does not have an underground storage tank; and
(iv) is not known or suspected to be contaminated by toxic chemicals or radioactive materials.

Summary of Findings:
The site is not listed on a U.S. Environmental Protection Agency (EPA) Superfund National Priorities or Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) list or equivalent State list, and is not located within 3,000 feet of a toxic or solid waste landfill site.

A review of the EPA Resource Conservation and Recovery (RCRA) and NYSDEC Environmental Remediation databases provide no indication of past uses of the Site that could contaminate the Site or potentially adversely affect the occupants of the Site. Four EPA-listed and permitted RCRA hazardous waste facilities and three water discharger facilities are located within 3,000 feet of the Site. The four RCRA hazardous waste facilities and one of the three water discharger facilities have no reported permit violations and are not considered a hazard. These five facilities are in compliance with permit conditions that are enforced and meet standards to protect public health and the environment by preventing releases to the environment.

The remaining two water discharger facilities with violations reported are discussed below.

C&D Marina is a permitted waste water discharger facility located approximately 1,800 feet southwest of the Site. The facility has been in non-compliance of the CWA for two quarters due to permit schedule violations that are classified as Category II: reportable non-compliance (RNC) violations. This facility has no records of formal or informal enforcement actions due to these violations, although they have had historic formal enforcement actions. This formal enforcement action was dated 11/4/2011, when a monetary penalty was enforced by New York State. However, this facility was reported to be in compliance between July 2013 and February 28, 2015 when the before-mentioned permit schedule violations were reported, and is currently in compliance. As such, this facility is not considered a hazard that could affect the health and safety of occupants or conflict with the intended utilization of the Site due of the distance from the Site and the minor nature of the violations.

RPM Marine is a permitted waste water discharger facility located approximately 1,500 feet north-northwest of the Site. The facility has been in non-compliance of the CWA since 3/31/2011 due to permit schedule violations that are classified as Category II: reportable non-compliance (RNC) violations. This facility has a single formal enforcement action dated 4/18/2016, when a monetary penalty was enforced by New York State. However, this formal enforcement action was associated with limited or overdue discharge monitoring reports. As such, this facility is not considered a hazard that could affect the health and safety of occupants or conflict with the intended utilization of the Site due to the nature of the violations and distance from the Site.

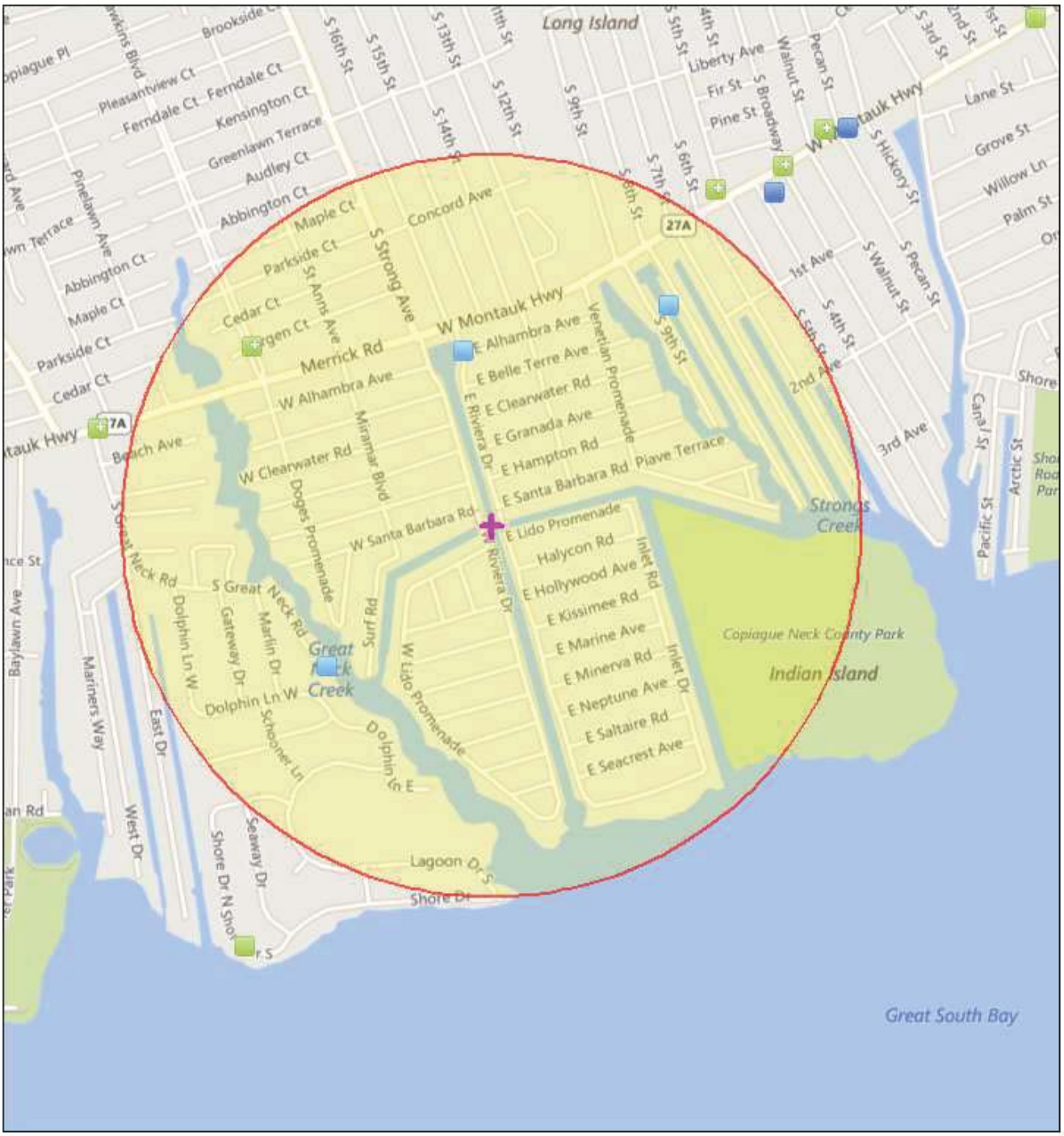
Several spills have been reported in the area of the proposed construction of the bridges, but these minor spills have been closed by the NYSDEC. A spill being closed means that the records and data submitted indicate that the necessary cleanup and removal actions have been completed and no further remedial activities are necessary under this spill report number.

Based on a review of available environmental records for the Site and surrounding area, the Site is unlikely to contain hazardous materials, contamination, toxic chemicals and gases, and radioactive substances, where a hazard could affect the health and safety of occupants or conflict with the intended utilization of the Site. The funded activities do not involve actions that would involve potential recognized environmental conditions/ contamination. Therefore, a Phase I Environmental Site Assessment (ESA) or Phase II ESA is not warranted. As such, no further action is required at this time. Maps, and NYSDEC and EPA reports are provided at the end of this report.

Data Sources:
Tectonic has reviewed the following sources to make the above determinations: Hazardous Waste records contained in the RCRA, the Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) for sites listed under the CERCLA (otherwise known as Superfund), EPA's Toxic Release Inventory database (TRI), and the EPA Radiation Information Database (RADInfo). Tectonic reviewed the NYSDEC Remedial Site Database to assess whether the site is registered as a NYS Superfund or Environmental Restoration site. The NYSDEC Remedial Database includes records of sites that are part of the NYS Superfund, Brownfield Cleanup, Environmental Restoration, and Voluntary Cleanup Programs. The database also includes a Registry of Inactive Hazardous Waste Disposal Sites. The NYSDEC Bulk Storage Database was reviewed for records of facilities that are or have been regulated according to one of the Bulk Storage Programs- Chemical Bulk Storage, or Major Oil Facility. The NYSDEC Spill Incident Database was used to determine the potential effects of spills on or near the Site. A desktop review of Google Earth was used in conjunction with a map of active municipal landfills (provided by the NYSDEC) in determining whether there was a landfill within 3,000 feet of the Site.

Maps

Copiague American Venice Bridges



November 3, 2016

1:18,056

0 0.15 0.3 0.6 mi

0 0.25 0.5 1 km

- RCRAINFO (clustered)
- Buffer Area
- RCRAINFO (single)
- AIRS (single)
- PCS (single)
- Search Result (point)

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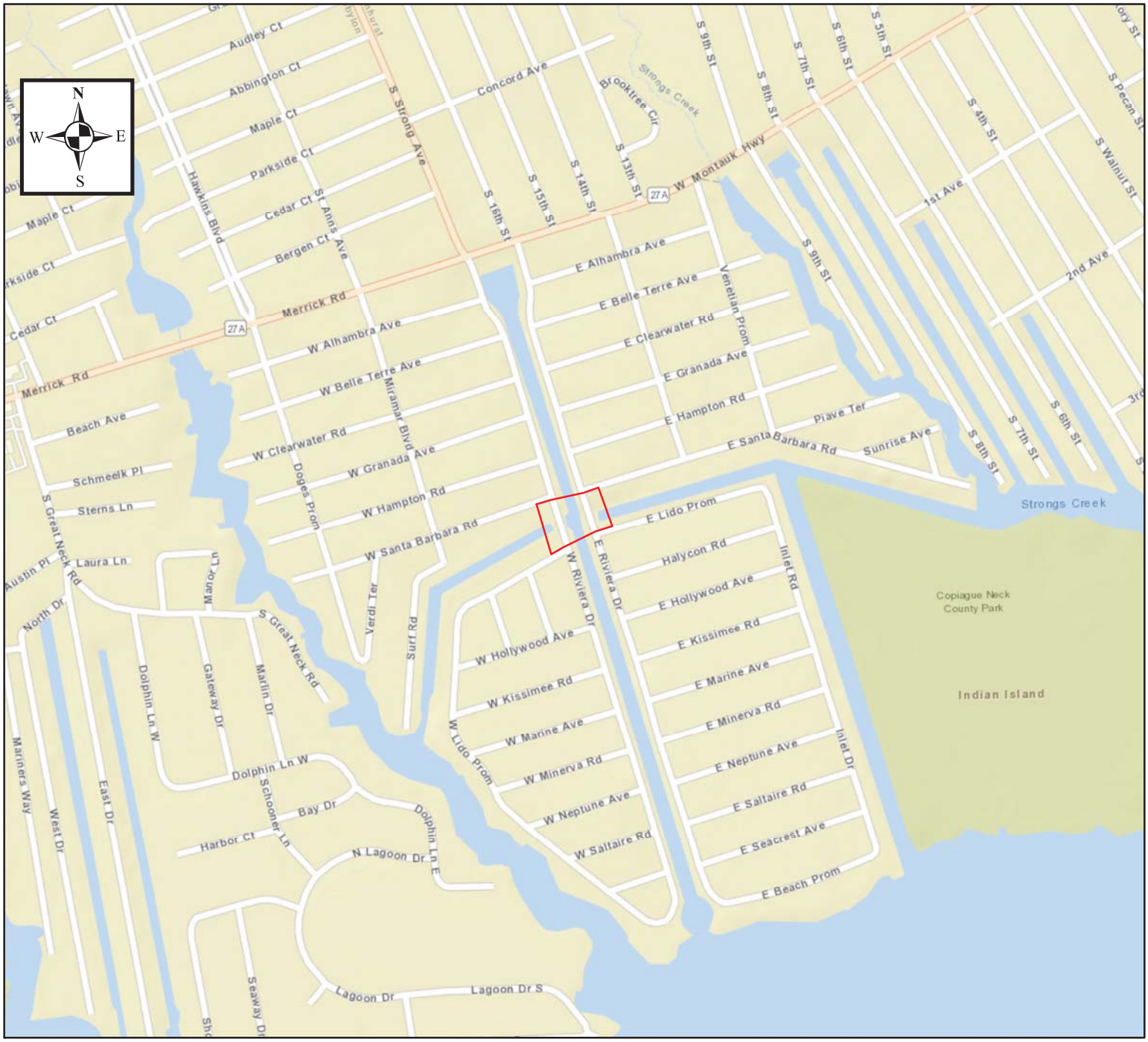


TECTONIC
Practical Solutions, Exceptional Service

0 500 1,000 2,000 Feet

1:10,000

Copiague American Venice Bridges Improvements
East Riviera Drive & West Riviera Drive
Copiague, NY
Suffolk County

Created: 11/3/2016
Source data: Environmental remediation sites listed in the NYSDEC Environmental Remediation Database. Properties listed on the NYSDEC Bulk Storage Database. Solid waste landfill information provide by NYSDEC.

Legend

- Copiague American Venice Bridges Improvements
- Chemical Bulk Storage
- Petroleum Bulk Storage
- Major Oil Storage
- Brownfield Cleanup
- Environmental Restoration
- State Superfund
- RCRA
- Voluntary Cleanup
- Landfills

ECHO Enforcement and Compliance History Online

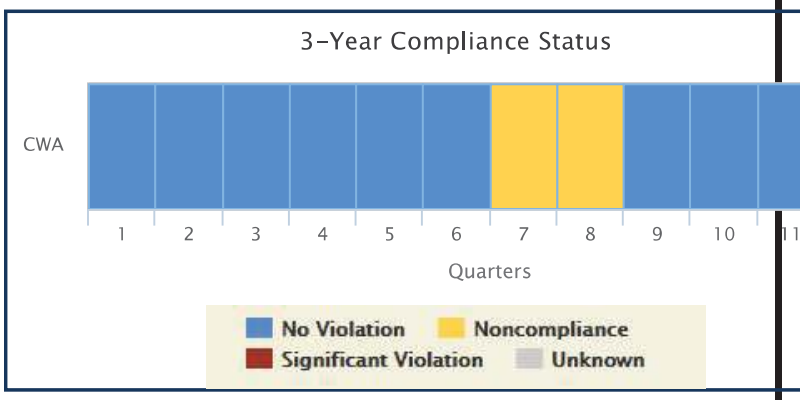
Detailed Facility Report

Facility Summary

C & D MARINA

519 S GREAT NECK RD, BABYLON, NY 11702

FRS (Facility Registry Service) ID: 110043438517
EPA Region: 02
Latitude: 40.664
Longitude: -73.385
Locational Data Source: NPDES
Industry: Marinas
Indian Country: N



Enforcement and Compliance Summary

Statute	Insp (5 Years)	Date of Last Inspection	Compliance Status	Qtrs in NC (Non-Compliance) (of 12)	Qtrs in Significant Violation	Informal Enforcement Actions (5 years)	Formal Enforcement Actions (5 years)	Penalties from Formal Enforcement Actions (5 years)	EPA Cases (5 years)	Penalties from EPA Cases (5 years)
CWA	--	--	No Violation	2	0	--	1	$1,000	--	--

Related Reports

- CWA Pollutant Loading Report
- CWA Effluent Charts

Regulatory Information

Clean Air Act (CAA): No Information
Clean Water Act (CWA): Minor, Permit Effective (NYR00E371)
Resource Conservation and Recovery Act (RCRA): No Information
Safe Drinking Water Act (SDWA): No Information

Other Regulatory Reports

Air Emissions Inventory (EIS): No Information
Greenhouse Gas Emissions (eGGRT): No Information
Toxic Releases (TRI): No Information

Facility/System Characteristics

Facility/System Characteristics

System	Statute	Identifier	Universe	Status	Areas	Permit Expiration Date	Indian Country	Latitude	Longitude
FRS		110043438517					N	40.664	-73.385
ICP	CWA	NYR00E371	Minor: General Permit Covered Facility	Effective	Storm Water Industrial	09/30/2017	N	40.664	-73.385

Facility Address

System	Statute	Identifier	Facility Name	Facility Address
FRS		110043438517	C & D MARINA	519 S GREAT NECK RD, BABYLON, NY 11702
ICP	CWA	NYR00E371	C & D MARINE SERVICE INC	519 S GREAT NECK RD, COPIAGUE, NY 11726

Facility SIC (Standard Industrial Classification) Codes

System	Identifier	SIC Code	SIC Desc
ICP	NYR00E371	4493	Marinas

Facility NAICS (North American Industry Classification System) Codes

System	Identifier	NAICS Code	NAICS Description

No data records returned

Facility Tribe Information

Reservation Name	Tribe Name	EPA Tribal ID	Distance to Tribe (miles)
No data records returned			

Enforcement and Compliance

Compliance Monitoring History (5 years)

Statute	Source ID	System	Inspection Type	Lead Agency	Date	Finding
No data records returned						

Entries in italics are not considered inspections in official counts.

Compliance Summary Data

Statute	Source ID	Current SNC (Significant Non-compliance)/HPV (High Priority Violation)	Description	Current As Of	Qtrs in NC (Non-Compliance) (of 12)
CWA	NYR00E371	No		06/30/2016	2

Three Year Compliance Status by Quarter

Statute	Program/Pollutant/Violation Type	QTR 1	QTR 2	QTR 3	QTR 4	QTR 5	QTR 6	QTR 7	QTR 8	QTR 9	QTR 10	QTR 11	QTR 12	QTR 13*
	CWA (Source ID: NYR00E371)	07/01-09/30/13	10/01-12/31/13	01/01-03/31/14	04/01-06/30/14	07/01-09/30/14	10/01-12/31/14	01/01-03/31/15	04/01-06/30/15	07/01-09/30/15	10/01-12/31/15	01/01-03/31/16	04/01-06/30/16	07/01-09/30/16
	Facility-Level Status	**No Viol**	**No Viol**	**No Viol**	**No Viol**	**No Viol**	**No Viol**	**In Viol**	**In Viol**	**No Viol**	**No Viol**	**No Viol**	**No Viol**	Und
	SNC (Significant Non-compliance)/RNC (Reportable Non-Compliance) History							W(N/A)	R(Resolvd)					
	Permit Schedule Violations													
CWA	Schedule Event achieved late but reported: Status/Progress Report							02-28-15	05-01-15					
CWA	Schedule Event reported late: Status/Progress Report							02-28-15	05-01-15					
CWA	Schedule Event unachieved and not reported: Status/Progress Report							02-28-15	05-01-15					
CWA	Schedule Event unachieved but reported: Status/Progress Report							02-28-15	05-01-15					

*Quarter 13 is draft/unofficial and has not been fully quality assured. Read more

Informal Enforcement Actions (5 Years)

Statute	Source ID	Type of Action	Lead Agency	Date
No data records returned				

Formal Enforcement Actions (5 Years)

Statute	Source ID	Type of Action	Lead Agency	Date	Penalty	Penalty Description
CWA	NYR00E371	State Administrative Order of Consent	State	11/04/2011	$1,000	

ICIS (Integrated Compliance Information System) Case History (5 years)

Primary Law/Section	Case No.	Case Type	Lead Agency	Case Name	Issued/Filed Date	Settlement Date	Federal Penalty	State/Local Penalty	SEP (Supplemental Environmental Project) Cost	Comp Action Cost
No data records returned										

Environmental Conditions

Water Quality

Permit ID	Combined Sewer System?	Number of CSO (Combined Sewer Overflow) Outfalls	Watershed (HUC (Hydrologic Unit Code) 8)	Watershed Name (HUC (Hydrologic Unit Code) 8)	Watershed (HUC (Hydrologic Unit Code) 12)	Watershed Name (HUC (Hydrologic Unit Code) 12)	Receiving Waters	Impaired Waters	Impaired Class	Causes of Impairment(s) by Group(s)	Watershed with ESA (Endangered Species Act)-listed Aquatic Species?
NYR00E371			02030202	SOUTHERN LONG ISLAND	020302020406	Santapogue Creek-Great South Bay	GREAT NECK CREEK	303(D) Listed	5	PATHOGENS	Yes

Waterbody Designated Uses

Reach Code	Waterbody Name	Exceptional Use	Recreational Use	Aquatic Life Use	Shellfish Use	Beach Closure Within Last Year	Beach Closure Within Last Two Years
02030202000569	Great Neck Creek	No	No	No	No	No	No

Air Quality

Non-Attainment Area?	Pollutant(s)
Yes	Ozone
No	Lead
Yes	Particulate Matter
No	Sulfur Dioxide

Pollutants

Toxics Release Inventory History of Reported Chemicals Released in Pounds per Year at Site

TRI Facility ID	Year	Total Air Emissions	Surface Water Discharges	Off-Site Transfers to POTWs (Publicly Owned Treatment Works)	Underground Injections	Releases to Land	Total On-site Releases	Total Off-site Releases
No data records returned								

Toxics Release Inventory Total Releases and Transfers in Pounds by Chemical and Year

Chemical Name
No data records returned

Demographic Profile

Demographic Profile of Surrounding Area (3 Miles)

This section provides demographic information regarding the community surrounding the facility. ECHO compliance data alone are not sufficient to determine whether violations at a particular facility had negative impacts on public health or the environment. Statistics are based upon the 2010 US Census and American Community Survey data, and are accurate to the extent that the facility latitude and longitude listed below are correct. The latitude and longitude are obtained from the EPA Locational Reference Table (LRT) when available.

Radius of Area:	3	Land Area:	64%	Households in Area:	31,665
Center latitude:	40.664	Water Area:	36%	Housing Units in Area:	33,185
Center Longitude:	-73.385	Population Density:	5,102/sq.mi.	Households on Public Assistance:	417
Total Persons:	92,735	Percent Minority:	33%	Persons Below Poverty Level:	14,381

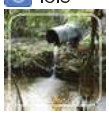
Race Breakdown	Persons (%)	Age Breakdown	Persons (%)
White:	71,322 (76.91%)	Child 5 years and younger:	5,137 (5.54%)
African-American:	10,731 (11.57%)	Minors 17 years and younger:	20,423 (22.02%)
Hispanic-Origin:	16,894 (18.22%)	Adults 18 years and older:	72,311 (77.98%)
Asian/Pacific Islander:	1,850 (1.99%)	Seniors 65 years and older:	12,773 (13.77%)
American Indian:	339 (.37%)		
Other/Multiracial:	8,493 (9.16%)		

Education Level (Persons 25 & older)	Persons (%)	Income Breakdown	Households (%)
Less than 9th Grade:	3,386 (5.59%)	Less than $15,000:	1,870 (6.33%)
9th through 12th Grade:	4,565 (7.53%)	$15,000 - $25,000:	1,990 (6.74%)
High School Diploma:	22,088 (36.45%)	$25,000 - $50,000:	4,926 (16.67%)
Some College/2-yr:	16,423 (27.1%)	$50,000 - $75,000:	5,424 (18.36%)
B.S./B.A. or More:	14,132 (23.32%)	Greater than $75,000:	15,334 (51.9%)

Envirofacts

Search Results

ICIS



ICIS Detailed Reports

<< Return

This page was created on NOV-03-2016
Results are based on data extracted on OCT-12-2016

Note: You are viewing results from the modernized data system, Integrated Compliance Information System (ICIS). The state reporting this data to EPA previously reported the data to a historic data system, Permit Compliance System (PCS). Use the following button to view the historic data from PCS. Run a PCS Search

Facility

FACILITY NAME (1)	C & D MARINE SERVICE INC	NPDES	NYR00E371
STREET 1	519 S GREAT NECK RD	SIC CODE	4493 = Marinas
CITY		MAJOR / MINOR	
COUNTY NAME	Suffolk	TYPE OF OWNERSHIP	Corporation
STATE	NY	ACTIVITY STATUS	Effective
ZIP CODE	11726	INACTIVE DATE	
REGION	Region 2	TYPE OF PERMIT ISSUED	General Permit Covered Facility
LATITUDE	+40.664	ORIGINAL PERMIT ISSUE DATE	27-DEC-2006
LONGITUDE	-73.385	PERMIT ISSUED DATE	28-SEP-2012
LAT/LON CODE OF ACCURACY	5	PERMIT EXPIRED DATE	30-SEP-2017
LAT/LON METHOD	Interpolation-Map		
LAT/LON SCALE	24000	USGS HYDRO BASIN CODE	
LAT/LON DATUM	NAD83	FLOW	
RECEIVING WATERS	GREAT NECK CREEK	FEDERAL GRANT IND	
PRETREATMENT CODE		SLUDGE CLASS FAC IND	NON-POTW
MAILING NAME		SLUDGE RELATED PERMIT NUM	
MAILING STREET (1)		ANNUAL DRY SLUDGE PROD	
MAILING STREET (2)			
MAILING CITY			
MAILING STATE			
MAILING ZIP CODE			
COGNIZANT OFFICIAL		COGNIZANT OFFICIAL TEL	

Activity

FACILITY NAME (1)	C & D MARINE SERVICE INC	NPDES	NYR00E371

ACTIVITY NAME	ACTIVITY TYPE DESCRIPTION	ACTIVITY STATUS DESCRIPTION	ACTIVITY STATUS DATE	ACTUAL BEGIN DATE	ACTUAL END DATE
	Permit	Active	22-MAR-2013		
	Permit	Active	22-MAR-2013		
C & D MARINE SERVICE DMR	Administrative - Formal	Closed	04-NOV-2011	23-JAN-2012	
C & D MARINE SERVICE DMR	Administrative - Formal	Closed	04-NOV-2011	23-JAN-2012	
	Permit	Active	24-JUL-2009		
	Permit	Active	24-JUL-2009		

Contacts

FACILITY NAME (1)	C & D MARINE SERVICE INC	NPDES	NYR00E371

No Contacts Found.

Permit Tracking

FACILITY NAME (1)	C & D MARINE SERVICE INC	NPDES	NYR00E371
PERMIT ISSUED BY	NYSDEC	ORIGINAL DATE OF ISSUE	27-DEC-2006
PERMIT ISSUED DATE	28-SEP-2012	PERMIT EXPIRED DATE	30-SEP-2017
EFFECTIVE DATE	02-MAR-2013	RETIREMENT DATE	

FACILITY NAME (1)	C & D MARINE SERVICE INC	NPDES	NYR00E371
PERMIT ISSUED BY	NYSDEC	ORIGINAL DATE OF ISSUE	27-DEC-2006
PERMIT ISSUED DATE	27-DEC-2006	PERMIT EXPIRED DATE	31-MAR-2012
EFFECTIVE DATE	01-APR-2007	RETIREMENT DATE	01-MAR-2013

Permit Tracking Events:

EVENT DESCRIPTION	EVENT DATE
Permit Expiration	30-SEP-2017
Application/NOI Reviewed	22-MAR-2013
Permit Effective	02-MAR-2013
Permit Retired	01-MAR-2013
Permit Issued	28-SEP-2012
Permit Reissued	28-SEP-2012
Permit Continued	01-APR-2012
Permit Expiration	31-MAR-2012
Application/NOI Received	23-JUL-2009
Application/NOI Received	23-JUL-2009
Permit Effective	01-APR-2007
Permit Issued	27-DEC-2006

Inspections

FACILITY NAME (1)	C & D MARINE SERVICE INC	NPDES	NYR00E371

No Inspections Found.

Outfalls/Pipe Schedules

FACILITY NAME (1)	C & D MARINE SERVICE INC	NPDES	NYR00E371
OUTFALL TYPE	External Outfall	PIPE NUMBER	001
ACTIVITY STATUS	A	REPORT DESIGNATOR	A
LATITUDE		LONGITUDE	
LAT/LON ACCURACY		LAT/LON METHOD	
LAT/LON SCALE		LAT/LON DATUM	
INACTIVE DATE		USGS HYDRO BASIN CODE	
INIT DMR DUE DATE	31-MAR-10	SUBMISSION UNITS	Monthly
PIPE DESCRIPTION	STORMWATER RUNOFF - BENCHMARK MONITORING	UNITS IN SUBM. PERIOD	
INIT REPORTING DATE	01-JAN-09	REPORTING UNITS	Monthly
UNITS IN REPORTING PERIOD		DMR COMMENT	Water Transportation Facilities (SIC 4412-4499)

FACILITY NAME (1)	C & D MARINE SERVICE INC	NPDES	NYR00E371

OUTFALL TYPE	External Outfall	**PIPE NUMBER**	001
ACTIVITY STATUS	A	**REPORT DESIGNATOR**	A
LATITUDE		**LONGITUDE**	
LAT/LON ACCURACY		**LAT/LON METHOD**	
LAT/LON SCALE		**LAT/LON DATUM**	
INACTIVE DATE		**USGS HYDRO BASIN CODE**	
INIT DMR DUE DATE	28-FEB-14	**SUBMISSION UNITS**	Monthly
PIPE DESCRIPTION	STORMWATER RUNOFF - BENCHMARK MONITORING	**UNITS IN SUBM. PERIOD**	
INIT REPORTING DATE	01-JAN-13	**REPORTING UNITS**	Monthly
UNITS IN REPORTING PERIOD		**DMR COMMENT**	Water Transportation Facilities (SIC 4412-4499)

Limits Report

FACILITY NAME (1)	C & D MARINE SERVICE INC	**NPDES**	NYR00E371
PIPE NUMBER	001		
PIPE DESCRIPTION	STORMWATER RUNOFF - BENCHMARK MONITORING	**REPORT DESIGNATOR**	A
DMR COMMENT	Water Transportation Facilities (SIC 4412-4499)	**LIMIT SET TYPE**	Scheduled

LIMIT TYPE DESCRIPTION	PARAMETER DESCRIPTION	MONITORING LOCATION	SEASON NUM	LIMIT BEGIN DATE	LIMIT END DATE	CHANGE OF LIMIT STATUS	STAY TYPE DESCRIPTION	DOCKET NUMBER	LONG FORMAT
Alert	Aluminum, total recoverable	Effluent Gross	0	02-MAR-2013	30-SEP-2017				No
Alert	Iron, total recoverable	Effluent Gross	0	02-MAR-2013	30-SEP-2017				No
Alert	Lead, total recoverable	Effluent Gross	0	02-MAR-2013	30-SEP-2017				No
Alert	Zinc, total recoverable	Effluent Gross	0	02-MAR-2013	30-SEP-2017				No

FACILITY NAME (1)	C & D MARINE SERVICE INC	**NPDES**	NYR00E371
PIPE NUMBER	001		
PIPE DESCRIPTION	STORMWATER RUNOFF - BENCHMARK MONITORING	**REPORT DESIGNATOR**	A
DMR COMMENT	Water Transportation Facilities (SIC 4412-4499)	**LIMIT SET TYPE**	Scheduled

LIMIT TYPE DESCRIPTION	PARAMETER DESCRIPTION	MONITORING LOCATION	SEASON NUM	LIMIT BEGIN DATE	LIMIT END DATE	CHANGE OF LIMIT STATUS	STAY TYPE DESCRIPTION	DOCKET NUMBER	LONG FORMAT
Alert	Aluminum, total recoverable	Effluent Gross	0	01-APR-2007	31-MAR-2012				No
Alert	Iron, total recoverable	Effluent Gross	0	01-APR-2007	31-MAR-2012				No
Alert	Lead, total recoverable	Effluent Gross	0	01-APR-2007	31-MAR-2012				No
Alert	Zinc, total recoverable	Effluent Gross	0	01-APR-2007	31-MAR-2012				No

Measurements and Violations

FACILITY NAME (1)	C & D MARINE SERVICE INC	**NPDES**	NYR00E371
LIMIT TYPE	Alert	**PIPE NUMBER**	001
SEASON NUM	0	**REPORT DESIGNATOR**	A
PARAMETER CODE	Aluminum, total recoverable	**MONITORING LOCATION**	Effluent Gross

MONITORING PERIOD END DATE	DMR VALUE DESCRIPTOR	DMR VALUE	DMR UNIT	LIMIT VALUE	LIMIT VALUE DESCRIPTOR	UNIT DESCRIPTION	DISCHARGE IND	MEASUREMENT VIOLATION DESCRIPTION	RNC DETECTION DESCRIPTION	RNC DETECTION DATE	RNC RESOLUTION DESCRIPTION	RNC RESOLUTION DATE	D
31-DEC-2012	Equals	2460											

31-DEC-2011	Equals	10.1											

FACILITY NAME (1)	C & D MARINE SERVICE INC	**NPDES**	NYR00E371
LIMIT TYPE	Alert	**PIPE NUMBER**	001
SEASON NUM	0	**REPORT DESIGNATOR**	A
PARAMETER CODE	Aluminum, total recoverable	**MONITORING LOCATION**	Effluent Gross

MONITORING PERIOD END DATE	DMR VALUE DESCRIPTOR	DMR VALUE	DMR UNIT	LIMIT VALUE	LIMIT VALUE DESCRIPTOR	UNIT DESCRIPTION	DISCHARGE IND	MEASUREMENT VIOLATION DESCRIPTION	RNC DETECTION DESCRIPTION	RNC DETECTION DATE	RNC RESOLUTION DESCRIPTION	RNC RESOLUTION DATE	D
31-DEC-2015	Equals	200											
31-DEC-2014	Equals	1400											
31-DEC-2013	Equals	1830											

FACILITY NAME (1)	C & D MARINE SERVICE INC	**NPDES**	NYR00E371
LIMIT TYPE	Alert	**PIPE NUMBER**	001
SEASON NUM	0	**REPORT DESIGNATOR**	A
PARAMETER CODE	Iron, total recoverable	**MONITORING LOCATION**	Effluent Gross

MONITORING PERIOD END DATE	DMR VALUE DESCRIPTOR	DMR VALUE	DMR UNIT	LIMIT VALUE	LIMIT VALUE DESCRIPTOR	UNIT DESCRIPTION	DISCHARGE IND	MEASUREMENT VIOLATION DESCRIPTION	RNC DETECTION DESCRIPTION	RNC DETECTION DATE	RNC RESOLUTION DESCRIPTION	RNC RESOLUTION DATE	D
31-DEC-2012	Equals	1											
31-DEC-2011	Equals	11.1											

FACILITY NAME (1)	C & D MARINE SERVICE INC	**NPDES**	NYR00E371
LIMIT TYPE	Alert	**PIPE NUMBER**	001
SEASON NUM	0	**REPORT DESIGNATOR**	A
PARAMETER CODE	Iron, total recoverable	**MONITORING LOCATION**	Effluent Gross

MONITORING PERIOD END DATE	DMR VALUE DESCRIPTOR	DMR VALUE	DMR UNIT	LIMIT VALUE	LIMIT VALUE DESCRIPTOR	UNIT DESCRIPTION	DISCHARGE IND	MEASUREMENT VIOLATION DESCRIPTION	RNC DETECTION DESCRIPTION	RNC DETECTION DATE	RNC RESOLUTION DESCRIPTION	RNC RESOLUTION DATE	D
31-DEC-2015	Equals	.2											
31-DEC-2014	Equals	1.2											
31-DEC-2013	Equals	2.17											

FACILITY NAME (1)	C & D MARINE SERVICE INC	**NPDES**	NYR00E371
LIMIT TYPE	Alert	**PIPE NUMBER**	001
SEASON NUM	0	**REPORT DESIGNATOR**	A
PARAMETER CODE	Lead, total recoverable	**MONITORING LOCATION**	Effluent Gross

MONITORING PERIOD END DATE	DMR VALUE DESCRIPTOR	DMR VALUE	DMR UNIT	LIMIT VALUE	LIMIT VALUE DESCRIPTOR	UNIT DESCRIPTION	DISCHARGE IND	MEASUREMENT VIOLATION DESCRIPTION	RNC DETECTION DESCRIPTION	RNC DETECTION DATE	RNC RESOLUTION DESCRIPTION	RNC RESOLUTION DATE	D
31-DEC-2012	Equals	20.5											
31-DEC-2011	Equals	111											

FACILITY NAME (1)	C & D MARINE SERVICE INC	**NPDES**	NYR00E371
LIMIT TYPE	Alert	**PIPE NUMBER**	001
SEASON NUM	0	**REPORT DESIGNATOR**	A
PARAMETER CODE	Lead, total recoverable	**MONITORING LOCATION**	Effluent Gross

MONITORING PERIOD END DATE	DMR VALUE DESCRIPTOR	DMR VALUE	DMR UNIT	LIMIT VALUE	LIMIT VALUE DESCRIPTOR	UNIT DESCRIPTION	DISCHARGE IND	MEASUREMENT VIOLATION DESCRIPTION	RNC DETECTION DESCRIPTION	RNC DETECTION DATE	RNC RESOLUTION DESCRIPTION	RNC RESOLUTION DATE	D
31-DEC-2015	Equals	5											
31-DEC-2014	Equals	8700											
31-DEC-2013	Equals	5.82											

FACILITY NAME (1)	C & D MARINE SERVICE INC	**NPDES**	NYR00E371
LIMIT TYPE	Alert	**PIPE NUMBER**	001
SEASON NUM	0	**REPORT DESIGNATOR**	A
PARAMETER CODE	Zinc, total recoverable	**MONITORING LOCATION**	Effluent Gross

MONITORING PERIOD END DATE	DMR VALUE DESCRIPTOR	DMR VALUE	DMR UNIT	LIMIT VALUE	LIMIT VALUE DESCRIPTOR	UNIT DESCRIPTION	DISCHARGE IND	MEASUREMENT VIOLATION DESCRIPTION	RNC DETECTION DESCRIPTION	RNC DETECTION DATE	RNC RESOLUTION DESCRIPTION	RNC RESOLUTION DATE	D
31-DEC-2012	Equals	30											
31-DEC-2011	Equals	217											

FACILITY NAME (1)	C & D MARINE SERVICE INC	**NPDES**	NYR00E371
LIMIT TYPE	Alert	**PIPE NUMBER**	001
SEASON NUM	0	**REPORT DESIGNATOR**	A
PARAMETER CODE	Zinc, total recoverable	**MONITORING LOCATION**	Effluent Gross

MONITORING PERIOD END DATE	DMR VALUE DESCRIPTOR	DMR VALUE	DMR UNIT	LIMIT VALUE	LIMIT VALUE DESCRIPTOR	UNIT DESCRIPTION	DISCHARGE IND	MEASUREMENT VIOLATION DESCRIPTION	RNC DETECTION DESCRIPTION	RNC DETECTION DATE	RNC RESOLUTION DESCRIPTION	RNC RESOLUTION DATE	D
31-DEC-2015	Equals	20											
31-DEC-2014	Equals	54											
31-DEC-2013	Equals	1											

Compliance Schedules and Violations

FACILITY NAME (1)	C & D MARINE SERVICE INC	**NPDES**	NYR00E371

Compliance Schedule Events

SCHEDULE NUMBER	DATA SOURCE	EVENT DESCRIPTION	ACTUAL DATE	SCHEDULED DATE	RECEIVED DATE
1800001648	1800009037	Status/Progress Report	28-FEB-11	31-MAR-11	28-FEB-11
1800001649	1800009037	Status/Progress Report	23-JAN-12	31-MAR-12	23-JAN-12
1800001650	1800009037	Status/Progress Report	05-APR-10	31-MAR-10	05-APR-10
3000032460	1800009037	Status/Progress Report	11-FEB-13	31-MAR-13	11-FEB-13
3400046719	3400087200	Status/Progress Report	01-MAY-15	28-FEB-15	01-MAY-15
3400046720	3400087200	Status/Progress Report	10-JAN-14	28-FEB-14	10-JAN-14
3400046721	3400087200	Status/Progress Report		28-FEB-17	
3400046722	3400087200	Status/Progress Report	08-JAN-16	29-FEB-16	08-JAN-16
3400157607	3400087200	Corrective Action Plan	28-JUL-14	31-JUL-14	28-JUL-14
3600010442	3400087200	Corrective Action Plan	28-JUL-14	31-JUL-14	28-JUL-14

Compliance Schedule Violations

SCHEDULE NUMBER	DATA SOURCE	VIOLATION	RNC DETECTION CODE	RNC DETECTION DATE	RNC RESOLUTION CODE	RNC RESOLUTION DATE
	1800009037	DMR, Limited - Overdue	Non-receipt Violation, Non-Monthly Average	01-MAY-2010	RE - Two Years Past Detection (System Administratively Resolved)	01-MAY-2012
	1800009037	DMR, Limited -	Non-receipt Violation, Non-	01-MAY-2011	RE - Resolved RP by NPDES Closure of Enf. Action Final	04-NOV-2011

		Overdue	Monthly Average		Order with Comp. Schedule	
	3400087200	DMR, Limited - Overdue	Non-receipt Violation, Non-Monthly Average	31-MAR-2015	RE - Back into Compliance	01-MAY-2015

Pretreatment Inspections/Audits

FACILITY NAME (1)	C & D MARINE SERVICE INC	NPDES	NYR00E371

No ICIS Pretreatment Inspections Found.

Pretreatment Performance Summary

FACILITY NAME (1)	C & D MARINE SERVICE INC	NPDES	NYR00E371

No ICIS Pretreatment Performance Summary Information Found.

Note: You are viewing results from the modernized data system, Integrated Compliance Information System (ICIS). The state reporting this data to EPA previously reported the data to a historic data system, Permit Compliance System (PCS). Use the following button to view the historic data from PCS. Run a PCS Search

Last updated on 11/3/2016

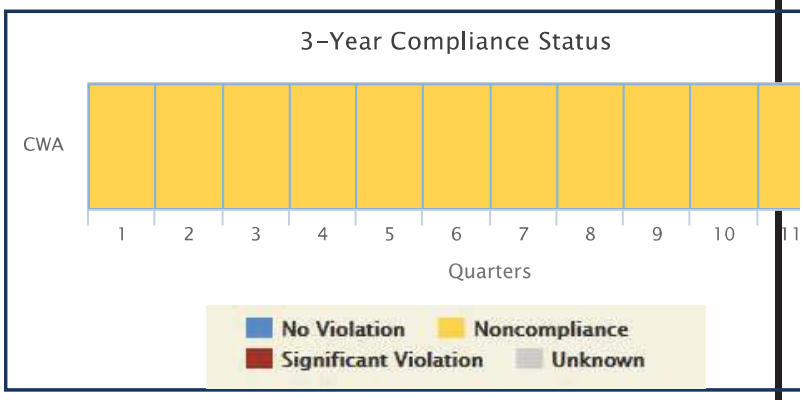
Detailed Facility Report

Facility Summary

RPM MARINE

711 WEST MONTAUK HIGHWAY, LINDENHURST, NY 11757

FRS (Facility Registry Service) ID: 110019454204
EPA Region: 02
Latitude: 40.671
Longitude: -73.381
Locational Data Source: NPDES
Industry: Marinas
Indian Country: N



Enforcement and Compliance Summary

Statute	Insp (5 Years)	Date of Last Inspection	Compliance Status	Qtrs in NC (Non-Compliance) (of 12)	Qtrs in Significant Violation	Informal Enforcement Actions (5 years)	Formal Enforcement Actions (5 years)	Penalties from Formal Enforcement Actions (5 years)	EPA Cases (5 years)	Penalties from EPA Cases (5 years)
CWA	1	05/08/2013	**Noncompliance**	12	0	--	1	$500	--	--

Related Reports

CWA Pollutant Loading Report
CWA Effluent Charts

Regulatory Information

Clean Air Act (CAA): No Information
Clean Water Act (CWA): Minor, Permit Effective (NYR00E653)
Resource Conservation and Recovery Act (RCRA): No Information
Safe Drinking Water Act (SDWA): No Information

Other Regulatory Reports

Air Emissions Inventory (EIS): No Information
Greenhouse Gas Emissions (eGGRT): No Information
Toxic Releases (TRI): No Information

Facility/System Characteristics

Facility/System Characteristics

System	Statute	Identifier	Universe	Status	Areas	Permit Expiration Date	Indian Country	Latitude	Longitude
FRS		110019454204					N	40.671	-73.381
ICP	CWA	NYR00E653	Minor: General Permit Covered Facility	Effective	Storm Water Industrial	09/30/2017	N	40.671	-73.381

Facility Address

System	Statute	Identifier	Facility Name	Facility Address
FRS		110019454204	RPM MARINE	711 WEST MONTAUK HIGHWAY, LINDENHURST, NY 11757
ICP	CWA	NYR00E653	RPM MARINE INC	711 WEST MONTAUK HWY, LINDENHURST, NY 11757

Facility SIC (Standard Industrial Classification) Codes

System	Identifier	SIC Code	SIC Desc
ICP	NYR00E653	4493	Marinas

Facility NAICS (North American Industry Classification System) Codes

System	Identifier	NAICS Code	NAICS Description

No data records returned

Facility Tribe Information

Reservation Name	Tribe Name	EPA Tribal ID	Distance to Tribe (miles)
No data records returned			

Enforcement and Compliance

Compliance Monitoring History (5 years)

Statute	Source ID	System	Inspection Type	Lead Agency	Date	Finding
CWA	NYR00E653	ICP	Evaluation	State	05/08/2013	

Entries in italics are not considered inspections in official counts.

Compliance Summary Data

Statute	Source ID	Current SNC (Significant Non-compliance)/HPV (High Priority Violation)	Description	Current As Of	Qtrs in NC (Non-Compliance) (of 12)
CWA	NYR00E653	No		06/30/2016	12

Three Year Compliance Status by Quarter

Statute	Program/Pollutant/Violation Type	QTR 1	QTR 2	QTR 3	QTR 4	QTR 5	QTR 6	QTR 7	QTR 8	QTR 9	QTR 10	QTR 11	QTR 12	QTR 13*
	CWA (Source ID: NYR00E653)	07/01-09/30/13	10/01-12/31/13	01/01-03/31/14	04/01-06/30/14	07/01-09/30/14	10/01-12/31/14	01/01-03/31/15	04/01-06/30/15	07/01-09/30/15	10/01-12/31/15	01/01-03/31/16	04/01-06/30/16	07/01-09/30/16
	Facility-Level Status	**In Viol**	**In Viol**	**In Viol**	**In Viol**	**In Viol**	**In Viol**	**In Viol**	**In Viol**	**In Viol**	**In Viol**	**In Viol**	**In Viol**	**In Viol**
	SNC (Significant Non-compliance)/RNC (Reportable Non-Compliance) History	W(N/A)	W(N/A)	W(N/A)	W(N/A)	W(N/A)	W(N/A)	W(N/A)	W(N/A)	W(N/A)	W(N/A)	W(N/A)	W(N/A)	
	Permit Schedule Violations													
CWA	Schedule Event achieved late but reported: Status/Progress Report											02-29-16	04-12-16	
CWA	Schedule Event achieved late but reported: Status/Progress Report							02-28-15	>>>	>>>	>>>	>>>	04-12-16	
CWA	Schedule Event reported late: Status/Progress Report											02-29-16	04-12-16	
CWA	Schedule Event reported late: Status/Progress Report							02-28-15	>>>	>>>	>>>	>>>	04-12-16	
CWA	Schedule Event unachieved and not reported: Status/Progress Report	03-31-11	>>>	>>>	>>>	>>>	>>>	>>>	>>>	>>>	>>>	>>>	>>>	>>>
CWA	Schedule Event unachieved and not reported: Status/Progress Report	03-31-12	>>>	>>>	>>>	>>>	>>>	>>>	>>>	>>>	>>>	>>>	>>>	>>>
CWA	Schedule Event unachieved and not reported: Status/Progress Report	03-31-13	>>>	>>>	>>>	>>>	>>>	>>>	>>>	>>>	>>>	>>>	>>>	>>>
CWA	Schedule Event unachieved and not reported: Status/Progress Report			02-28-14	>>>	>>>	>>>	>>>	>>>	>>>	>>>	>>>	>>>	>>>
CWA	Schedule Event unachieved and not reported: Status/Progress Report							02-28-15	>>>	>>>	>>>	>>>	04-12-16	
CWA	Schedule Event unachieved and not reported: Status/Progress Report											02-29-16	04-12-16	
CWA	Schedule Event unachieved but reported: Status/Progress Report											02-29-16	04-12-16	
CWA	Schedule Event unachieved but reported: Status/Progress Report							02-28-15	>>>	>>>	>>>	>>>	04-12-16	

*Quarter 13 is draft/unofficial and has not been fully quality assured. Read more

Informal Enforcement Actions (5 Years)

Statute	Source ID	Type of Action	Lead Agency	Date
No data records returned				

Formal Enforcement Actions (5 Years)

Statute	Source ID	Type of Action	Lead Agency	Date	Penalty	Penalty Description
CWA	NYR00E653	State Administrative Order of Consent	State	04/18/2016	$500	

ICIS (Integrated Compliance Information System) Case History (5 years)

Primary Law/Section	Case No.	Case Type	Lead Agency	Case Name	Issued/Filed Date	Settlement Date	Federal Penalty	State/Local Penalty	SEP (Supplemental Environmental Project) Cost	Comp Action Cost
No data records returned										

Environmental Conditions

Water Quality

Permit ID	Combined Sewer System?	Number of CSO (Combined Sewer Overflow) Outfalls	Watershed (HUC (Hydrologic Unit Code) 8)	Watershed Name (HUC (Hydrologic Unit Code) 8)	Watershed (HUC (Hydrologic Unit Code) 12)	Watershed Name (HUC (Hydrologic Unit Code) 12)	Receiving Waters	Impaired Waters	Impaired Class	Causes of Impairment(s) by Group(s)	Watershed with ESA (Endangered Species Act)-listed Aquatic Species?
NYR00E653			02030202	SOUTHERN LONG ISLAND	020302020406	Santapogue Creek-Great South Bay	THE VENICE CANAL, GREAT SOUTH BAY	303(D) Listed	5	PATHOGENS	Yes

Waterbody Designated Uses

Reach Code	Waterbody Name	Exceptional Use	Recreational Use	Aquatic Life Use	Shellfish Use	Beach Closure Within Last Year	Beach Closure Within Last Two Years
02030202000224		No	No	No	No	No	No

Air Quality

Non-Attainment Area?	Pollutant(s)
Yes	Ozone
No	Lead
Yes	Particulate Matter
No	Sulfur Dioxide

Pollutants

Toxics Release Inventory History of Reported Chemicals Released in Pounds per Year at Site

TRI Facility ID	Year	Total Air Emissions	Surface Water Discharges	Off-Site Transfers to POTWs (Publicly Owned Treatment Works)	Underground Injections	Releases to Land	Total On-site Releases	Total Off-site Releases
No data records returned								

Toxics Release Inventory Total Releases and Transfers in Pounds by Chemical and Year

Chemical Name
No data records returned

Demographic Profile

Demographic Profile of Surrounding Area (3 Miles)

This section provides demographic information regarding the community surrounding the facility. ECHO compliance data alone are not sufficient to determine whether violations at a particular facility had negative impacts on public health or the environment. Statistics are based upon the 2010 US Census and American Community Survey data, and are accurate to the extent that the facility latitude and longitude listed below are correct. The latitude and longitude are obtained from the EPA Locational Reference Table (LRT) when available.

Radius of Area:	3	Land Area:	67%	Households in Area:	36,623
Center latitude:	40.671	Water Area:	33%	Housing Units in Area:	38,355
Center Longitude:	-73.381	Population Density:	5,599/sq.mi.	Households on Public Assistance:	518
Total Persons:	106,888	Percent Minority:	34%	Persons Below Poverty Level:	16,964

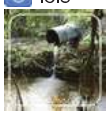
Race Breakdown	Persons (%)	Age Breakdown	Persons (%)
White:	81,065 (75.84%)	Child 5 years and younger:	5,928 (5.55%)
African-American:	13,399 (12.54%)	Minors 17 years and younger:	23,587 (22.07%)
Hispanic-Origin:	19,290 (18.05%)	Adults 18 years and older:	83,301 (77.93%)
Asian/Pacific Islander:	2,218 (2.08%)	Seniors 65 years and older:	14,721 (13.77%)
American Indian:	382 (.36%)		
Other/Multiracial:	9,825 (9.19%)		

Education Level (Persons 25 & older)	Persons (%)	Income Breakdown	Households (%)
Less than 9th Grade:	3,801 (5.43%)	Less than $15,000:	2,393 (6.94%)
9th through 12th Grade:	5,618 (8.02%)	$15,000 - $25,000:	2,366 (6.86%)
High School Diploma:	26,100 (37.25%)	$25,000 - $50,000:	5,886 (17.06%)
Some College/2-yr:	18,795 (26.83%)	$50,000 - $75,000:	6,422 (18.61%)
B.S./B.A. or More:	15,745 (22.47%)	Greater than $75,000:	17,434 (50.53%)

Envirofacts

Search Results

ICIS



ICIS Detailed Reports

<< Return

This page was created on NOV-03-2016
Results are based on data extracted on OCT-12-2016

Note: You are viewing results from the modernized data system, Integrated Compliance Information System (ICIS). The state reporting this data to EPA previously reported the data to a historic data system, Permit Compliance System (PCS). Use the following button to view the historic data from PCS. Run a PCS Search

Facility

FACILITY NAME (1)	RPM MARINE INC	NPDES	NYR00E653
STREET 1	711 WEST MONTAUK HWY	SIC CODE	4493 = Marinas
CITY		MAJOR / MINOR	
COUNTY NAME	Suffolk	TYPE OF OWNERSHIP	Corporation
STATE	NY	ACTIVITY STATUS	Effective
ZIP CODE	11757	INACTIVE DATE	
REGION	Region 2	TYPE OF PERMIT ISSUED	General Permit Covered Facility
LATITUDE	+40.671	ORIGINAL PERMIT ISSUE DATE	27-DEC-2006
LONGITUDE	-73.381	PERMIT ISSUED DATE	28-SEP-2012
LAT/LON CODE OF ACCURACY	5	PERMIT EXPIRED DATE	30-SEP-2017
LAT/LON METHOD	Interpolation-Map		
LAT/LON SCALE	24000	USGS HYDRO BASIN CODE	
LAT/LON DATUM	NAD83	FLOW	
RECEIVING WATERS	THE VENICE CANAL, GREAT SOUTH BAY	FEDERAL GRANT IND	
PRETREATMENT CODE		SLUDGE CLASS FAC IND	NON-POTW
MAILING NAME		SLUDGE RELATED PERMIT NUM	
MAILING STREET (1)		ANNUAL DRY SLUDGE PROD	
MAILING STREET (2)			
MAILING CITY			
MAILING STATE			
MAILING ZIP CODE			
COGNIZANT OFFICIAL		COGNIZANT OFFICIAL TEL	

Activity

FACILITY NAME (1)	RPM MARINE INC	NPDES	NYR00E653

ACTIVITY NAME	ACTIVITY TYPE DESCRIPTION	ACTIVITY STATUS DESCRIPTION	ACTIVITY STATUS DATE	ACTUAL BEGIN DATE	ACTUAL END DATE
RPM MARINE, INC	Administrative - Formal	Closed	18-APR-2016	12-MAY-2016	
RPM MARINE, INC	Administrative - Formal	Closed	18-APR-2016	12-MAY-2016	
Stormwater Industrial	Inspection/Evaluation	Active	04-AUG-2014	08-MAY-2013	08-MAY-2013
Stormwater Industrial	Inspection/Evaluation	Active	04-AUG-2014	08-MAY-2013	08-MAY-2013
	Permit	Active	25-JUN-2013		
	Permit	Active	25-JUN-2013		
	Permit	Active	29-OCT-2009		
	Permit	Active	29-OCT-2009		

Contacts

FACILITY NAME (1)	RPM MARINE INC	NPDES	NYR00E653

No Contacts Found.

Permit Tracking

FACILITY NAME (1)	RPM MARINE INC	NPDES	NYR00E653
PERMIT ISSUED BY	NYSDEC	ORIGINAL DATE OF ISSUE	27-DEC-2006
PERMIT ISSUED DATE	28-SEP-2012	PERMIT EXPIRED DATE	30-SEP-2017
EFFECTIVE DATE	12-JUN-2013	RETIREMENT DATE	

FACILITY NAME (1)	RPM MARINE INC	NPDES	NYR00E653
PERMIT ISSUED BY	NYSDEC	ORIGINAL DATE OF ISSUE	27-DEC-2006
PERMIT ISSUED DATE	27-DEC-2006	PERMIT EXPIRED DATE	31-MAR-2012
EFFECTIVE DATE	01-APR-2007	RETIREMENT DATE	11-JUN-2013

Permit Tracking Events:

EVENT DESCRIPTION	EVENT DATE
Permit Expiration	30-SEP-2017
Application/NOI Reviewed	25-JUN-2013
Permit Effective	12-JUN-2013
Permit Retired	11-JUN-2013
Permit Issued	28-SEP-2012
Permit Reissued	28-SEP-2012
Permit Continued	01-APR-2012
Permit Expiration	31-MAR-2012
Application/NOI Received	28-OCT-2009
Application/NOI Received	28-OCT-2009
Permit Effective	01-APR-2007
Permit Issued	27-DEC-2006

Inspections

FACILITY NAME (1)	RPM MARINE INC	NPDES	NYR00E653

INSPECTION TYPE	DATE OF INSPECTION	INSPECTION PERFORMED BY
Stormwater Industrial	04-AUG-2014	State
Stormwater Industrial	04-AUG-2014	State

Outfalls/Pipe Schedules

FACILITY NAME (1)	RPM MARINE INC	NPDES	NYR00E653
OUTFALL TYPE	External Outfall	PIPE NUMBER	001
ACTIVITY STATUS	A	REPORT DESIGNATOR	A
LATITUDE		LONGITUDE	
LAT/LON ACCURACY		LAT/LON METHOD	
LAT/LON SCALE		LAT/LON DATUM	
INACTIVE DATE		USGS HYDRO BASIN CODE	
INIT DMR DUE DATE	31-MAR-11	SUBMISSION UNITS	Monthly
PIPE DESCRIPTION	STORMWATER RUNOFF - BENCHMARK MONITORING	UNITS IN SUBM. PERIOD	
INIT REPORTING DATE	01-JAN-10	REPORTING UNITS	Monthly

UNITS IN REPORTING PERIOD		**DMR COMMENT**	Water Transportation Facilities (SIC 4412-4499)

FACILITY NAME (1)	RPM MARINE INC	**NPDES**	NYR00E653
OUTFALL TYPE	External Outfall	**PIPE NUMBER**	001
ACTIVITY STATUS	A	**REPORT DESIGNATOR**	A
LATITUDE		**LONGITUDE**	
LAT/LON ACCURACY		**LAT/LON METHOD**	
LAT/LON SCALE		**LAT/LON DATUM**	
INACTIVE DATE		**USGS HYDRO BASIN CODE**	
INIT DMR DUE DATE	28-FEB-14	**SUBMISSION UNITS**	Monthly
PIPE DESCRIPTION	STORMWATER RUNOFF - BENCHMARK MONITORING	**UNITS IN SUBM. PERIOD**	
INIT REPORTING DATE	01-JAN-13	**REPORTING UNITS**	Monthly
UNITS IN REPORTING PERIOD		**DMR COMMENT**	Water Transportation Facilities (SIC 4412-4499)

Limits Report

FACILITY NAME (1)	RPM MARINE INC	**NPDES**	NYR00E653
PIPE NUMBER	001		
PIPE DESCRIPTION	STORMWATER RUNOFF - BENCHMARK MONITORING	**REPORT DESIGNATOR**	A
DMR COMMENT	Water Transportation Facilities (SIC 4412-4499)	**LIMIT SET TYPE**	Scheduled

LIMIT TYPE DESCRIPTION	PARAMETER DESCRIPTION	MONITORING LOCATION	SEASON NUM	LIMIT BEGIN DATE	LIMIT END DATE	CHANGE OF LIMIT STATUS	STAY TYPE DESCRIPTION	DOCKET NUMBER	LONG FORMAT
Alert	Aluminum, total recoverable	Effluent Gross	0	01-APR-2007	31-MAR-2012				No
Alert	Iron, total recoverable	Effluent Gross	0	01-APR-2007	31-MAR-2012				No
Alert	Lead, total recoverable	Effluent Gross	0	01-APR-2007	31-MAR-2012				No
Alert	Zinc, total recoverable	Effluent Gross	0	01-APR-2007	31-MAR-2012				No

FACILITY NAME (1)	RPM MARINE INC	**NPDES**	NYR00E653
PIPE NUMBER	001		
PIPE DESCRIPTION	STORMWATER RUNOFF - BENCHMARK MONITORING	**REPORT DESIGNATOR**	A
DMR COMMENT	Water Transportation Facilities (SIC 4412-4499)	**LIMIT SET TYPE**	Scheduled

LIMIT TYPE DESCRIPTION	PARAMETER DESCRIPTION	MONITORING LOCATION	SEASON NUM	LIMIT BEGIN DATE	LIMIT END DATE	CHANGE OF LIMIT STATUS	STAY TYPE DESCRIPTION	DOCKET NUMBER	LONG FORMAT
Alert	Aluminum, total recoverable	Effluent Gross	0	12-JUN-2013	30-SEP-2017				No
Alert	Iron, total recoverable	Effluent Gross	0	12-JUN-2013	30-SEP-2017				No
Alert	Lead, total recoverable	Effluent Gross	0	12-JUN-2013	30-SEP-2017				No
Alert	Zinc, total recoverable	Effluent Gross	0	12-JUN-2013	30-SEP-2017				No

Measurements and Violations

FACILITY NAME (1)	RPM MARINE INC	**NPDES**	NYR00E653
LIMIT TYPE	Alert	**PIPE NUMBER**	001
SEASON NUM	0	**REPORT DESIGNATOR**	A
PARAMETER CODE	Aluminum, total recoverable	**MONITORING LOCATION**	Effluent Gross

No ICIS Measurements and Violations Information Found.

FACILITY NAME (1)	RPM MARINE INC	**NPDES**	NYR00E653
LIMIT TYPE	Alert	**PIPE NUMBER**	001
SEASON NUM	0	**REPORT DESIGNATOR**	A
PARAMETER CODE	Aluminum, total recoverable	**MONITORING LOCATION**	Effluent Gross

MONITORING PERIOD END DATE	DMR VALUE DESCRIPTOR	DMR VALUE	DMR UNIT	LIMIT VALUE	LIMIT VALUE DESCRIPTOR	UNIT DESCRIPTION	DISCHARGE IND	MEASUREMENT VIOLATION DESCRIPTION	RNC DETECTION DESCRIPTION	RNC DETECTION DATE	RNC RESOLUTION DESCRIPTION	RNC RESOLUTION DATE	D
31-DEC-2013	Less Than	200											

FACILITY NAME (1)	RPM MARINE INC	**NPDES**	NYR00E653
LIMIT TYPE	Alert	**PIPE NUMBER**	001
SEASON NUM	0	**REPORT DESIGNATOR**	A
PARAMETER CODE	Iron, total recoverable	**MONITORING LOCATION**	Effluent Gross

No ICIS Measurements and Violations Information Found.

FACILITY NAME (1)	RPM MARINE INC	**NPDES**	NYR00E653
LIMIT TYPE	Alert	**PIPE NUMBER**	001
SEASON NUM	0	**REPORT DESIGNATOR**	A
PARAMETER CODE	Iron, total recoverable	**MONITORING LOCATION**	Effluent Gross

MONITORING PERIOD END DATE	DMR VALUE DESCRIPTOR	DMR VALUE	DMR UNIT	LIMIT VALUE	LIMIT VALUE DESCRIPTOR	UNIT DESCRIPTION	DISCHARGE IND	MEASUREMENT VIOLATION DESCRIPTION	RNC DETECTION DESCRIPTION	RNC DETECTION DATE	RNC RESOLUTION DESCRIPTION	RNC RESOLUTION DATE	D
31-DEC-2013	Equals	.09											

FACILITY NAME (1)	RPM MARINE INC	**NPDES**	NYR00E653
LIMIT TYPE	Alert	**PIPE NUMBER**	001
SEASON NUM	0	**REPORT DESIGNATOR**	A
PARAMETER CODE	Lead, total recoverable	**MONITORING LOCATION**	Effluent Gross

No ICIS Measurements and Violations Information Found.

FACILITY NAME (1)	RPM MARINE INC	**NPDES**	NYR00E653
LIMIT TYPE	Alert	**PIPE NUMBER**	001
SEASON NUM	0	**REPORT DESIGNATOR**	A
PARAMETER CODE	Lead, total recoverable	**MONITORING LOCATION**	Effluent Gross

MONITORING PERIOD END DATE	DMR VALUE DESCRIPTOR	DMR VALUE	DMR UNIT	LIMIT VALUE	LIMIT VALUE DESCRIPTOR	UNIT DESCRIPTION	DISCHARGE IND	MEASUREMENT VIOLATION DESCRIPTION	RNC DETECTION DESCRIPTION	RNC DETECTION DATE	RNC RESOLUTION DESCRIPTION	RNC RESOLUTION DATE	D
31-DEC-2013	Less Than	5											

FACILITY NAME (1)	RPM MARINE INC	**NPDES**	NYR00E653
LIMIT TYPE	Alert	**PIPE NUMBER**	001
SEASON NUM	0	**REPORT DESIGNATOR**	A
PARAMETER CODE	Zinc, total recoverable	**MONITORING LOCATION**	Effluent Gross

No ICIS Measurements and Violations Information Found.

FACILITY NAME (1)	RPM MARINE INC	**NPDES**	NYR00E653
LIMIT TYPE	Alert	**PIPE NUMBER**	001

SEASON NUM	0	REPORT DESIGNATOR	A
PARAMETER CODE	Zinc, total recoverable	MONITORING LOCATION	Effluent Gross

MONITORING PERIOD END DATE	DMR VALUE DESCRIPTOR	DMR VALUE	DMR UNIT	LIMIT VALUE	LIMIT VALUE DESCRIPTOR	UNIT DESCRIPTION	DISCHARGE IND	MEASUREMENT VIOLATION DESCRIPTION	RNC DETECTION DESCRIPTION	RNC DETECTION DATE	RNC RESOLUTION DESCRIPTION	RNC RESOLUTION DATE	D
31-DEC-2013	Less Than	20											

Compliance Schedules and Violations

FACILITY NAME (1)	RPM MARINE INC	NPDES	NYR00E653

Compliance Schedule Events

SCHEDULE NUMBER	DATA SOURCE	EVENT DESCRIPTION	ACTUAL DATE	SCHEDULED DATE	RECEIVED DATE
1800008048	1800048241	Status/Progress Report		31-MAR-11	
1800008049	1800048241	Status/Progress Report		31-MAR-12	
3000032484	1800048241	Status/Progress Report		31-MAR-13	
3400077150	3400127012	Status/Progress Report	12-APR-16	28-FEB-15	12-APR-16
3400077151	3400127012	Status/Progress Report		28-FEB-14	
3400077152	3400127012	Status/Progress Report		28-FEB-17	
3400077153	3400127012	Status/Progress Report	12-APR-16	29-FEB-16	12-APR-16

Compliance Schedule Violations

SCHEDULE NUMBER	DATA SOURCE	VIOLATION	RNC DETECTION CODE	RNC DETECTION DATE	RNC RESOLUTION CODE	RNC RESOLUTION DATE
	1800048241	DMR, Limited - Overdue	Non-receipt Violation, Non-Monthly Average	01-MAY-2011	RE - Two Years Past Detection (System Administratively Resolved)	01-MAY-2013
	1800048241	DMR, Limited - Overdue	Non-receipt Violation, Non-Monthly Average	01-MAY-2012	RE - Two Years Past Detection (System Administratively Resolved)	01-MAY-2014
	1800048241	DMR, Limited - Overdue	Non-receipt Violation, Non-Monthly Average	01-MAY-2013	RE - Two Years Past Detection (System Administratively Resolved)	01-MAY-2015
	3400127012	DMR, Limited - Overdue	Non-receipt Violation, Non-Monthly Average	31-MAR-2015	RE - Resolved RP by NPDES Closure of Enf. Action Final Order with Comp. Schedule	18-APR-2016
	3400127012	DMR, Limited - Overdue	Non-receipt Violation, Non-Monthly Average	30-MAR-2016	NC - Unresolved RNC	30-MAR-2016

Pretreatment Inspections/Audits

FACILITY NAME (1)	RPM MARINE INC	NPDES	NYR00E653

No ICIS Pretreatment Inspections Found.

Pretreatment Performance Summary

FACILITY NAME (1)	RPM MARINE INC	NPDES	NYR00E653

No ICIS Pretreatment Performance Summary Information Found.

Note: You are viewing results from the modernized data system, Integrated Compliance Information System (ICIS). The state reporting this data to EPA previously reported the data to a historic data system, Permit Compliance System (PCS). Use the following button to view the historic data from PCS. Run a PCS Search

Last updated on 11/3/2016

NYSDEC Reports for Spills Located on or Within Close Proximity to the Site

Spill Incidents Database Search Details

Spill Record

Administrative Information

DEC Region: 1
Spill Number: 9802980

Spill Date/Time

Spill Date: 06/06/1998 **Spill Time:** 12:42:00 PM
Call Received Date: 06/06/1998 **Call Received Time:** 02:02:00 PM

Location

Spill Name: UNKNOWN
Address: RIVIERA DRIVE EAST
City: COPIAGUE **County:** SUFFOLK

Spill Description

Material Spilled	Amount Spilled	Resource Affected
Gasoline	5 Gal.	Surface Water

Cause: Unknown
Source: Unknown
Waterbody: GRAND CANAL

Record Close

Date Spill Closed: 06/17/1998

"Date Spill Closed" means the date the spill case was closed by the case manager in the Department of Environmental Conservation (the Department). The spill case was closed because either; a) the records and data submitted indicate that the necessary cleanup and removal actions have been completed and no further remedial activities are necessary, or b) the case was closed for administrative reasons (e.g., multiple reports of a single spill consolidated into a single spill number). The Department however reserves the right to require additional remedial work in relation to the spill, if in the future it determines that further action is necessary.

If you have questions about this reported incident, please contact the Regional Office where the incident occurred.

Spill Incidents Database Search Details

Spill Record

Administrative Information

DEC Region: 1
Spill Number: 9312568

Spill Date/Time

Spill Date: 01/25/1994 **Spill Time:** 01:00:00 PM
Call Received Date: 01/25/1994 **Call Received Time:** 01:30:00 PM

Location

Spill Name: MARK DELIASIO
Address: W RIVIERA DR & W MARINE A
City: COPIAGUE **County:** SUFFOLK

Spill Description

Material Spilled	Amount Spilled	Resource Affected
Waste Oil/Used Oil	UNKNOWN	Surface Water

Cause: Other
Source: Vessel
Waterbody: MAIN CANAL

Record Close

Date Spill Closed: 01/26/1994

"Date Spill Closed" means the date the spill case was closed by the case manager in the Department of Environmental Conservation (the Department). The spill case was closed because either; a) the records and data submitted indicate that the necessary cleanup and removal actions have been completed and no further remedial activities are necessary, or b) the case was closed for administrative reasons (e.g., multiple reports of a single spill consolidated into a single spill number). The Department however reserves the right to require additional remedial work in relation to the spill, if in the future it determines that further action is necessary.

If you have questions about this reported incident, please contact the Regional Office where the incident occurred.

Attachment 6

Section 7 Documents:
NHP Documentation,
USFWS Determination,
USFWS Acknowledgement
NMFS Letter

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
Division of Fish, Wildlife & Marine Resources
New York Natural Heritage Program
625 Broadway, 5th Floor, Albany, New York 12233-4757
Phone: (518) 402-8935 • **Fax:** (518) 402-8925
Website: www.dec.ny.gov

September 02, 2016

Chris Camacho
Tectonic Engineering
70 Pleasant Hill Road
Mountainville, NY 10953

Re: Copiague American Venice Bridges
Town/City: Babylon County: Suffolk

Dear Chris Camacho:

In response to your recent request, we have reviewed the New York Natural Heritage Program database with respect to the above project.

We have no records of rare or state-listed animals or plants, or significant natural communities at your site or in its immediate vicinity.

The absence of data does not necessarily mean that rare or state-listed species, significant natural communities, or other significant habitats do not exist on or adjacent to the proposed site. Rather, our files currently do not contain information that indicates their presence. For most sites, comprehensive field surveys have not been conducted. We cannot provide a definitive statement on the presence or absence of all rare or state-listed species or significant natural communities. Depending on the nature of the project and the conditions at the project site, further information from on-site surveys or other resources may be required to fully assess impacts on biological resources.

This response applies only to known occurrences of rare or state-listed animals and plants, significant natural communities, and other significant habitats maintained in the Natural Heritage database. Your project may require additional review or permits; for information regarding other permits that may be required under state law for regulated areas or activities (e.g., regulated wetlands), please contact the appropriate NYS DEC Regional Office, Division of Environmental Permits, as listed at www.dec.ny.gov/about/39381.html.

Sincerely,

Andrea Chaloux

Andrea Chaloux
Environmental Review Specialist
New York Natural Heritage Program

1002

October 3, 2016

Mr. Steven T. Papa
U.S. Fish and Wildlife Service
Long Island Field Office
340 Smith Road
Shirley, NY 11967

Re: Section 7 Project Review - No Effect Determination
Copiague American Venice Bridges Improvements
Town of Babylon, Suffolk County, NY

Dear Mr. Papa:

The Governor's Office of Storm Recovery (GOSR), an office of the New York State Homes and Community Renewal's (NYSHCR) Housing Trust Fund Corporation, was established to aid the statewide recovery of disaster-affected communities in New York State. GOSR is administering a U.S. Department of Housing and Urban Development (HUD) Community Development Block Grant for Disaster Recovery (CDBG-DR), including the New York Rising Community Reconstruction (NYRCR) Program. GOSR is conducting an environmental review of the above referenced project.

The purpose of this letter is to provide the U.S. Fish and Wildlife Service – Long Island Field Office (USFWS) notice of the proposed project and to document compliance with Section 7 of the Endangered Species Act (ESA), as well as the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA). As discussed below, we have reviewed the project and found that the proposed project does not jeopardize the continued existence of ESA species or destroy or adversely modify their critical habitat. This letter requests acknowledgement from the USFWS that they have received our No Effect Determination regarding the proposed project provided in this letter.

Project Description

The Copiague American Venice Bridges Improvements (Proposed Project) would consist of removing two adjacent Bridges, installation of two temporary bridges, and construction of two new bridges of higher carrying capacity over the Santa Barbara Canal. The current bridge roadways are 19.5 feet wide with an additional 4-foot wide sidewalk. The Bridges span 38 feet from abutment to abutment. The new bridges would be approximately 35 feet wide and would include two 12-foot wide traffic lanes, two 10-inch wide shoulders, concrete curbs and parapets,

and sidewalks approximately 5-feet wide. The new bridges will span approximately 56 feet from abutment to abutment. Guide rails will be installed where the existing roadway meets the bridge. The 8" water main in a 12" sleeve and 4" gas main in a 6" sleeve currently located under the existing sidewalks on both bridges will be relocated to under the sidewalks of the new bridges. During construction, the existing utilities, water mains, and gas mains would be temporarily relocated to utility poles.

On the new West Riviera Drive Bridge, a 6-foot high vinyl fence and a 6-foot-high wood fence would be installed on land southwest of the bridge. A 4-foot-high wood fence would be relocated on land northwest of the bridge, and a chain link fence would be installed on land northwest of the bridge. One tree with a 6-inch diameter at breast height (DBH) and one tree with an 8-inch DBH would be removed in order to accommodate the proposed temporary bridge (see photograph of trees proposed to be removed in **Attachment 3**). Additionally, two utility poles along West Riviera Drive would be relocated.

On the new East Riviera Drive Bridge, two retaining walls would be constructed on land east of the bridge, one utility pole would be relocated along East Riviera Drive, and hedges south of the bridge would be removed and replaced. Additionally, one tree with a 27-inch DBH and one tree with a 42-inch DBH would be removed in order to accommodate the proposed roadway expansion (see **Attachment 3**).

The current lower arch sections and bridge abutment sections supporting the existing bridge are located on the canal banks. The new bridges would expand the waterway opening from 26 feet to 30 feet wide. The existing abutment footings would be replaced with footings for the new bridges; new bulkheads would be installed to protect the structure from erosion. Minor dredging would be necessary to remove the existing footing and to backfill new the footings, as well as the new bulkhead. A turbidity curtain will be installed in the water adjacent to the work area to minimize sediment transportation in the water from the area of disturbance.

The new bridge arch sections would be built on new bridge foundations located landward of the existing Bridges' lower arch sections. Concrete fill would be used to connect the existing foundations (lower arch sections) and the new foundations. The new bridge arch support would be at the same height as the existing Bridges in the center of the arch, with slight deviations from the current arch angles over the canal. The new bridges would be formed using pre-cast and cast-in-place concrete.

During construction, temporary bridges, approximately 13 feet wide, would be installed along the existing Bridges. The East Riviera Drive temporary bridge would be approximately 120 feet long and the West Riviera Drive temporary bridge would be approximately 60 feet long. Both would be supported by temporary piers with concrete pads at the edge of the Santa Barbara Canal. The temporary piers would be supported on the temporary sheet piling bridge cofferdam on one end and a temporary pile on the other end. The abutments will be a concrete block supported on a shallow foundation in the ground. The West Riviera Drive temporary bridge will also have 20 feet of temporary sheeting on each end to support the temporary embankment, which will be placed to grade from the temporary bridge to the existing roadway.

Once the temporary bridge is installed, the existing bridge including the abutment, concrete arch and roadway embankment would be removed. Then, two cofferdams would be installed, one for each abutment. The cofferdams will be composed of steel sheeting with wales, tie backs and braces and constructed to follow the outside perimeter of the new concrete abutments and wall foundations.

Dewatering would be accomplished by using surface pumps, which would pump water into an outlet pipe with a filter sock at the end and discharge behind the turbidity curtain between the two cofferdams. The sheeting and cofferdam would be installed using a vibratory hammer and/or a dynamic pile driver. Most of the sheeting would be left in place except for the roadway side of the cofferdam. The sheeting left in place would be cut off below the proposed grade and buried.

ESA and Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act Species

The USFWS Long Island Ecological Services Field Office was contacted through the Information, Planning, and Conservation System (IPaC) regarding the potential presence of species under the jurisdiction of the USFWS within the project area. The IPaC Trust Resources Report is included as **Attachment 4**, and the USFWS Official Species List is included as **Attachment 5**. USFWS indicates that five listed species may occur within the vicinity of the project area: *Charadrius melodus* (piping plover—threatened), *Calidris canutus rufa* (red knot—threatened), *Sterna dougallii dougallii* (roseate tern), *Agalinis acuta* (sandplain gerardia—threatened), *Amaranthus pumilus* (seabeach amaranth—threatened), and *Myotis septentrionalis* (northern long-eared bat—threatened). There are no critical habitats for these or any other species within the project area.

The IPaC Trust Resources Report (**Attachment 4**) indicates that there are twenty-five species of migratory birds protected by the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act that could potentially be affected by the proposed project, including *Haliaeetus leucocephalus* (bald eagle). The NYSDEC Conservation Plan for Bald Eagles in New York State[i] provides a map of bald eagle breeding territories in New York. There are no known breeding bald eagles within the vicinity of the project site; therefore, no adverse impacts to breeding bald eagles are expected as a result of the project.

A request for species records within the project area was sent to the New York State Natural Heritage Program (NYSNHP). A response was received on September 2, 2016 (included as **Attachment 6**) indicating that there are no records of rare or state-listed animals or plants, or significant natural communities at the project site or in its immediate vicinity.

A description of each federally endangered or threatened species identified by USFWS, and the likelihood that the species may occur within the project area, is provided below. Species' descriptions are summarized from New York State Department of Environmental Conservation (NYSDEC) fact sheets[ii] and USFWS species profiles[iii] unless otherwise referenced.

Piping plover

The piping plover prefers open coastal waterways with sparse grass or other vegetation. The piping plover breeds in sandy upper beaches and sparsely vegetated shores, islands, shallow lakes, ponds, rivers, and impoundments. The piping plover is highly sensitive to human disturbance. A review of aerial imagery and site photos reveals that there are no sandy beaches or dunes immediately adjacent to this site. Instead, the canals have bulkheads and concrete abutments, and upland of the canal are busy residential roadways, actively managed sidewalks, landscaped areas with scattered trees, and residential houses. There is no suitable habitat for the piping plover in the vicinity of the project area.

No effects will occur to this species.

Red knot

The red knot breeds in the tundra region. During migration, the red knot prefers coastal beaches that are usually at or near the mouth of bays, estuaries, or tidal inlets. Wintering areas are generally intertidal habitats such as beaches with significant wave action or currents. The red knot is sensitive to human disturbance. A review of aerial imagery and site photos reveals that there are no coastal beaches or intertidal areas that receive significant wave action or currents in the project area. Instead, the canals have bulkheads and concrete abutments, and upland of the canal are busy residential roadways and actively managed sidewalks, landscaped areas with scattered trees, and residential houses. There is no suitable habitat for the red knot in the vicinity of the Project area.

No effects will occur to this species.

Roseate tern

The roseate tern prefers coastal beach and island habitats along salt bays, estuaries, and oceans. Roseate terns nest on sandy or rocky islands, especially in protected bays and estuaries, with some low plant cover that is close to shallow waters for feeding. It forages in coastal waters and sometimes well offshore. The roseate tern is sensitive to human disturbance. A review of aerial imagery and site photos reveals that there are no sandy or rocky islands or protected bays and estuaries in the vicinity of the project area. Instead, the canals have bulkheads and concrete abutments, and upland of the canal are busy residential roadways, actively managed sidewalks, landscaped areas with scattered trees, and residential houses. There is no suitable habitat for the roseate tern in the vicinity of the Project area.

No effects will occur to this species.

Sandplain gerardia

The sandplain gerardia is a flowering plant that can be found on Long Island in dry, sandy soils and in sandy plains. It was traditionally a maritime grassland species maintained by fire and grazing. In New York, it currently occurs in remnant grasslands, shrublands, and along roadsides and railroads. A review of aerial imagery and site photos reveals that the canals have bulkheads and concrete abutments, and upland of the canal are busy residential roadways, actively managed

sidewalks, landscaped areas with scattered trees, and residential houses. There is no habitat suitable for the sandplain gerardia in the Project area.

No effects are anticipated to occur to this species.

Seabeach amaranth

The seabeach amaranth is a flowering plant that usually grows on a nearly pure sand substrate. It is primarily found on over-wash flats at accreting ends of islands, lower fore-dunes, and upper strands of non-eroding beaches. A review of aerial imagery and site photos reveals that there is no sandy dune or beach habitat in the project area. There is no habitat suitable for the seabeach amaranth in the Project area and

No effects are anticipated to occur to this species.

Northern long-eared bat

According to USFWS documentation, the northern long-eared bat roosts underneath tree bark, in cavities, and in the crevices of dead and live trees. The project will involve the removal of four isolated trees (one 6-inch DBH, one 8-inch DBH, one 27-inch DBH, and one 42-inch). The project is located in a residential area that is comprised of residences, residential yards, and isolated trees, with no contiguous forest habitat. The trees proposed for removal are not located within 1000 feet of the next nearest forested/wooded habitat. Therefore, trees proposed for removal do not provide suitable habitat for the northern long-eared bat.

No effects are anticipated to occur to this species.

Conclusions

Project implementation would be conditioned upon issuance of applicable federal and state permits and would be constructed in accordance with federal and state permit conditions. The proposed project would not jeopardize the continued existence of ESA species or destroy or adversely modify their critical habitat. GOSR is submitting the above information as notification of its No Effect determination and requests acknowledgement from USFWS that they have received this determination that the proposed project would have **No Effect** on migratory birds, endangered/threatened species, or critical habitat for species under USFWS jurisdiction.

For additional information, please contact me by email at matt.accardi@stormrecovery.ny.gov or by telephone at (212) 480-6265.

Sincerely,

Matt Accardi
Bureau of Environmental Review and Assessment
Governor's Office of Storm Recovery
25 Beaver Street, 5th Floor
New York, NY 10004

Enclosures:

Attachment 1 – Aerial, Topographic, and Street Maps
Attachment 2 – Site Plans
Attachment 3 – Photograph of Trees Proposed to be Removed
Attachment 4 – USFWS IPaC Trust Resource List
Attachment 5 – USFWS Official Species List
Attachment 6 – NYSDEC Natural Heritage Correspondence

cc:

Ms. Laurie Boullianne via laurie_boullianne@fws.gov

---

[i] NYSDEC Conservation Plan for Bald Eagles in New York State. January 2015.
[ii] http://www.dec.ny.gov/animals/7494.html; http://www.dec.ny.gov/animals/7133.html
[iii] http://ecos.fws.gov/ecp/

Attachment 1

TECTONIC
Practical Solutions, Exceptional Service

0 37.5 75 150 Feet

Aerial Map - Project Location
Copiague American Venice Bridge
Copiague, NY

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TECTONIC

Practical Solutions, Exceptional Service

0 0.125 0.25 0.5 Miles

Aerial Imagery Map
Copiague American Venice Bridges
Copiague, NY

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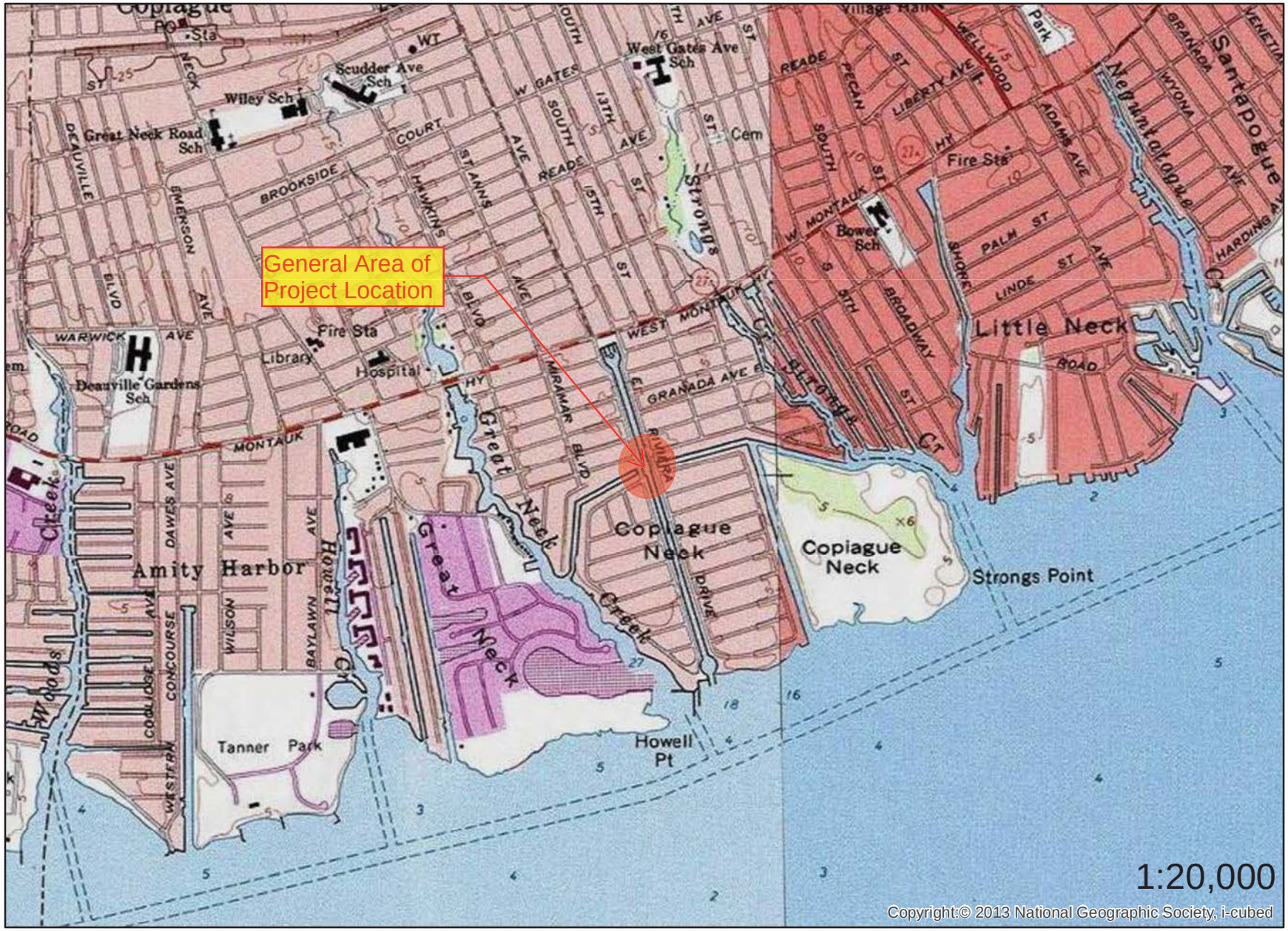

TECTONIC
Practical Solutions, Exceptional Service

0 0.125 0.25 0.5 Miles

Topographic Map
Copiague American Venice Bridges
Copiague, NY

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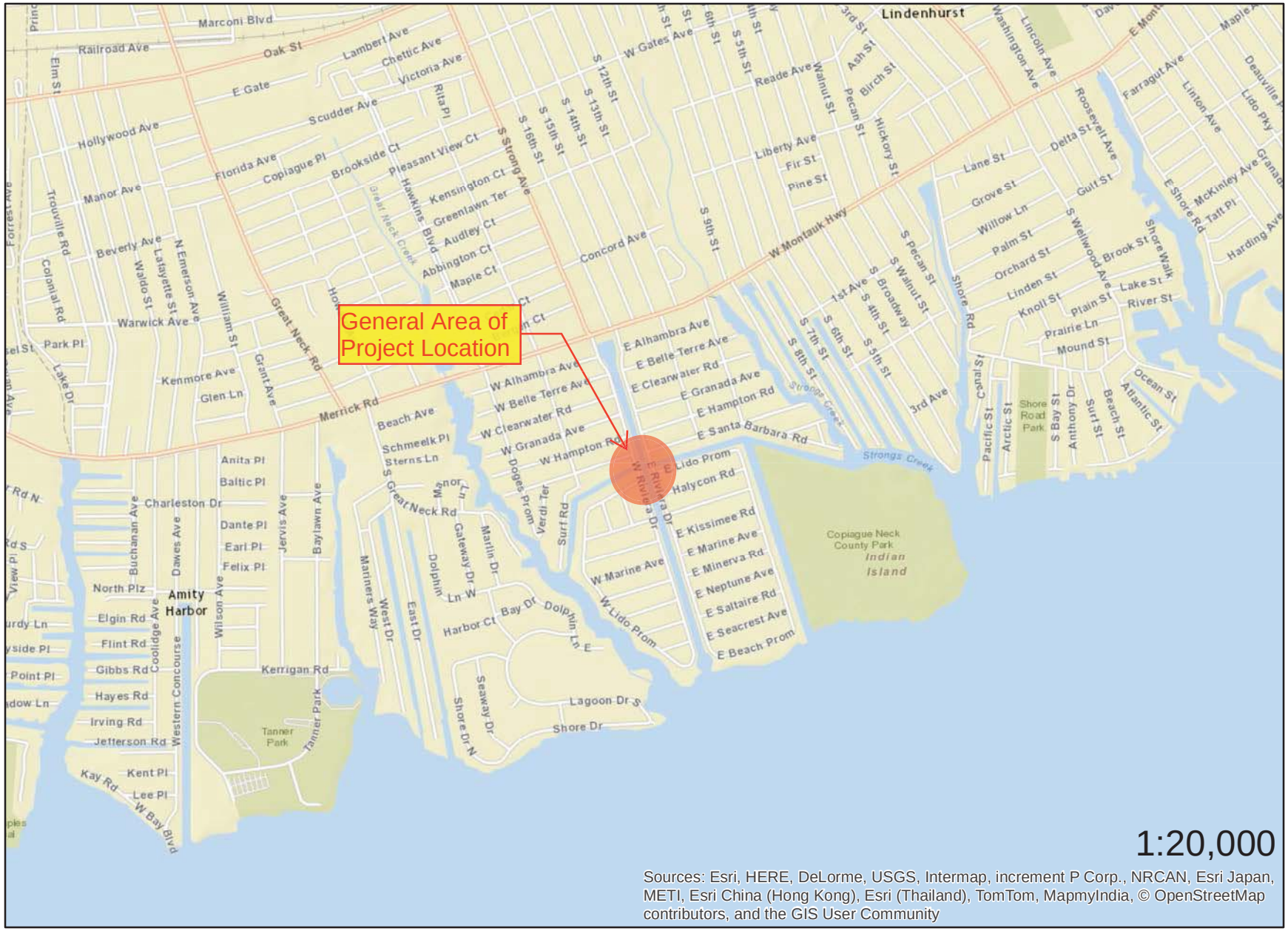

1:20,000

Sources: Esri, HERE, DeLorme, USGS, Intermap, increment P Corp., NRCAN, Esri Japan, METI, Esri China (Hong Kong), Esri (Thailand), TomTom, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

TECTONIC
Practical Solutions, Exceptional Service

0 0.125 0.25 0.5 Miles

Street Map
Copiague American Venice Bridges
Copiague, NY

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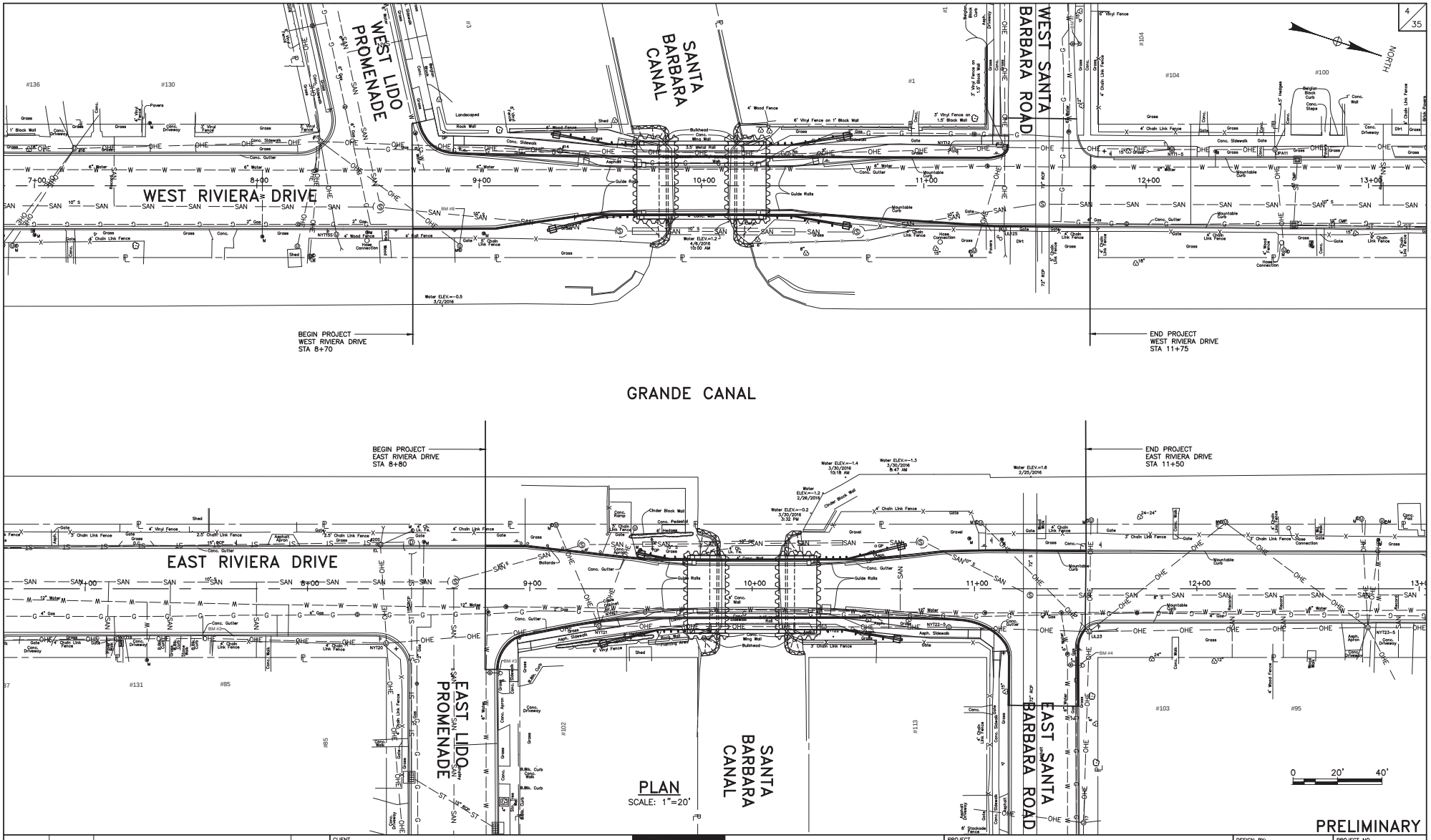
Attachment 2



PLAN
SCALE: 1"=20'

PRELIMINARY

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CLIENT

TOWN OF BABYLON
LINDENHURST, NY

LKB CONSULTING ENGINEERS

LOCKWOOD, KESSLER & BARTLETT, INC.
CONSULTING ENGINEERS SINCE 1889 SYOSSET, NEW YORK

PROJECT NAME: AMERICAN VENICE BRIDGES

GENERAL PROJECT PLAN

DESIGN BY:	DMM
DRAWN BY:	DMM
CHECKED BY:	WTC
DATE:	6/2016
SCALE:	1:20
PROJECT NO.	5423-01
DRAWING NO.	GPP-1

File Name: I:\projects\5423 00 american venice bridges\cadd\sheets\structural\general project plan.dwg
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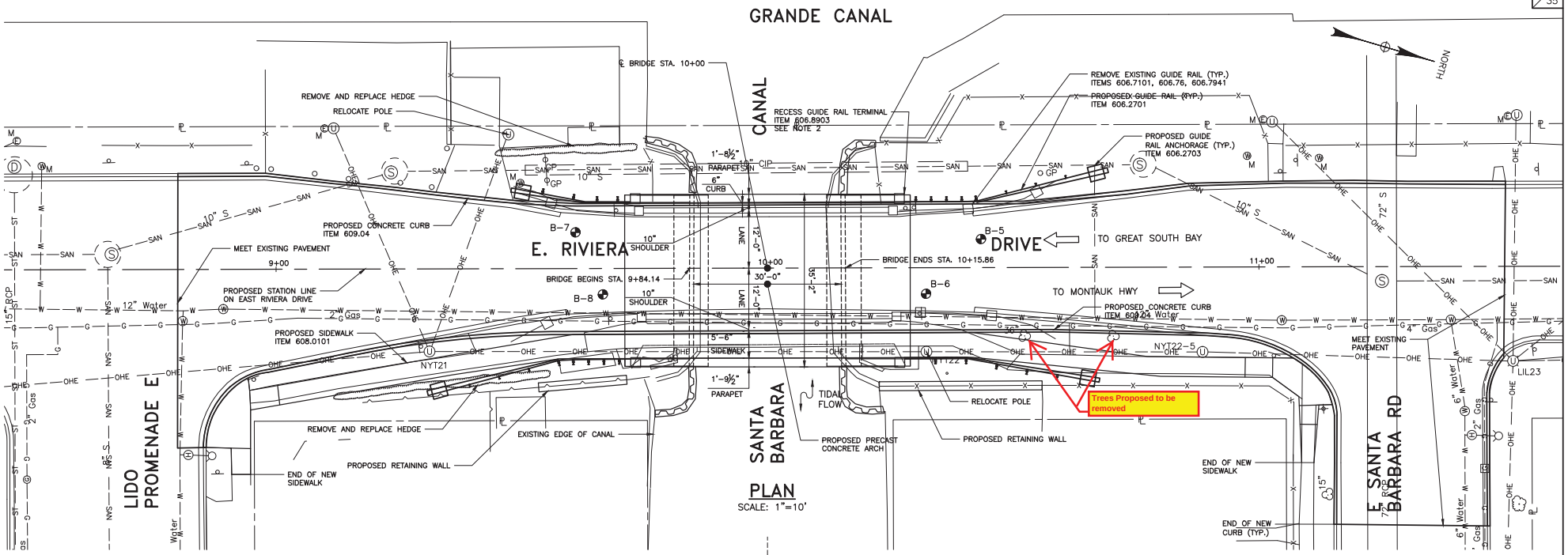
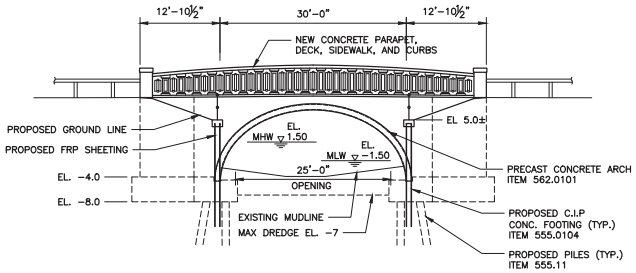
Plotted By: Margolin, Daniel



PLAN

SCALE: 1"=10'



ELEVATION

SCALE: 1"=10'

NOTES:

1. FOR SOIL BORINGS, SEE PROJECT MANUAL.
2. GUIDE RAIL TERMINAL ELEMENT (ITEM 606.8903) SHALL BE RECESSED FLUSH WITH FACE OF PARAPET ON THE APPROACH CORNERS (SOUTHEAST AND NORTHWEST).

LEGEND:

DIRECTION OF TRAFFIC

SOIL BORING

0 10' 20'

PRELIMINARY

REV.	DATE	REMARKS	BY
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CLIENT: TOWN OF BABYLON, LINDENHURST, NY

LKB CONSULTING ENGINEERS — LOCKWOOD, KESSLER & BARTLETT, INC. CONSULTING ENGINEERS SINCE 1889 SYOSSET, NEW YORK

PROJECT NAME: AMERICAN VENICE BRIDGES

BRIDGE PLAN AND ELEVATION EAST RIVIERA DRIVE

DESIGN BY: DMM
DRAWN BY: DMM
CHECKED BY: WTC
DATE: 6/2016
SCALE: 1:10

PROJECT NO. 5423-01

DRAWING NO. BPE-E1

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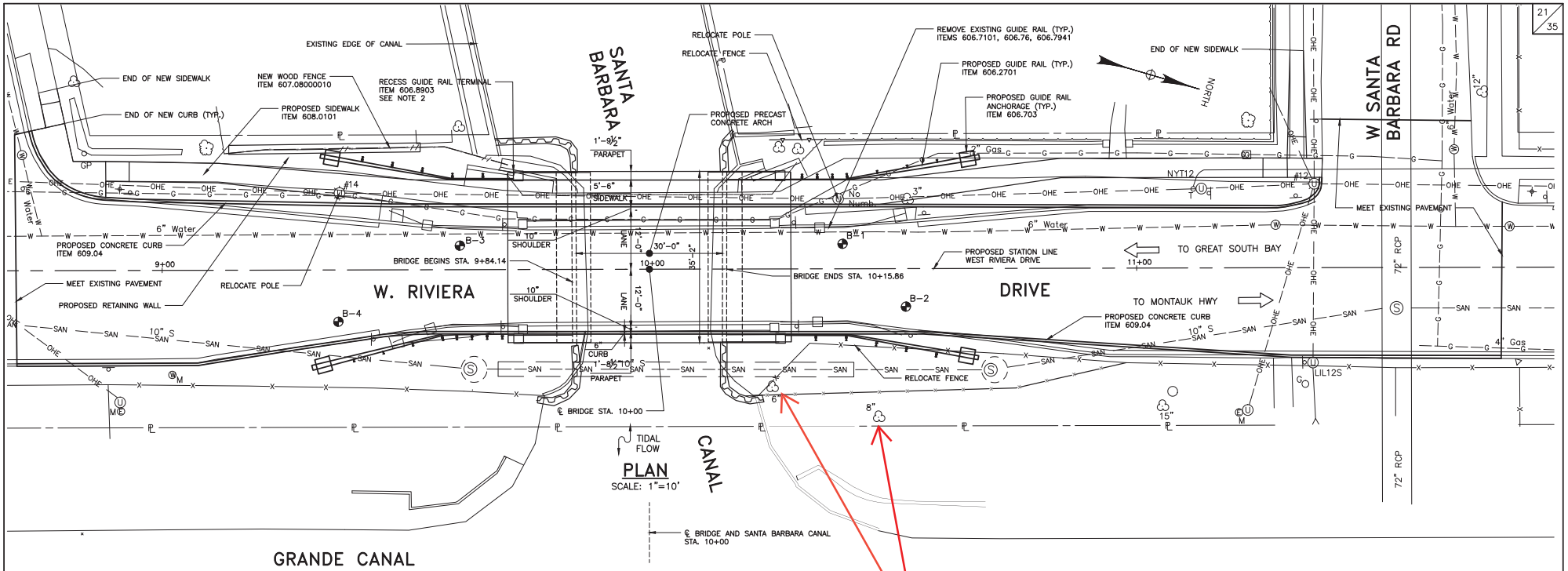
Plotted By: Margolin, Daniel



Tree recommended to be removed

NOTES:

1. FOR SOIL BORINGS, SEE PROJECT MANUAL.
2. GUIDE RAIL TERMINAL ELEMENT (ITEM 606.8903) SHALL BE RECESSED FLUSH WITH FACE OF PARAPET ON THE APPROACH CORNERS (SOUTHEAST AND NORTHWEST).

LEGEND:

DIRECTION OF TRAFFIC

SOIL BORING

PRELIMINARY

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CLIENT

TOWN OF BABYLON
LINDENHURST, NY

LKB CONSULTING ENGINEERS

LOCKWOOD, KESSLER & BARTLETT, INC.
CONSULTING ENGINEERS SINCE 1889 SYOSSET, NEW YORK

PROJECT NAME: AMERICAN VENICE BRIDGES

BRIDGE PLAN AND ELEVATION
WEST RIVIERA DRIVE

DESIGN BY:	DMM
DRAWN BY:	DMM
CHECKED BY:	WTC
DATE:	6/2016
SCALE:	1:10
PROJECT NO.	5423-01
DRAWING NO.	BPE-W1

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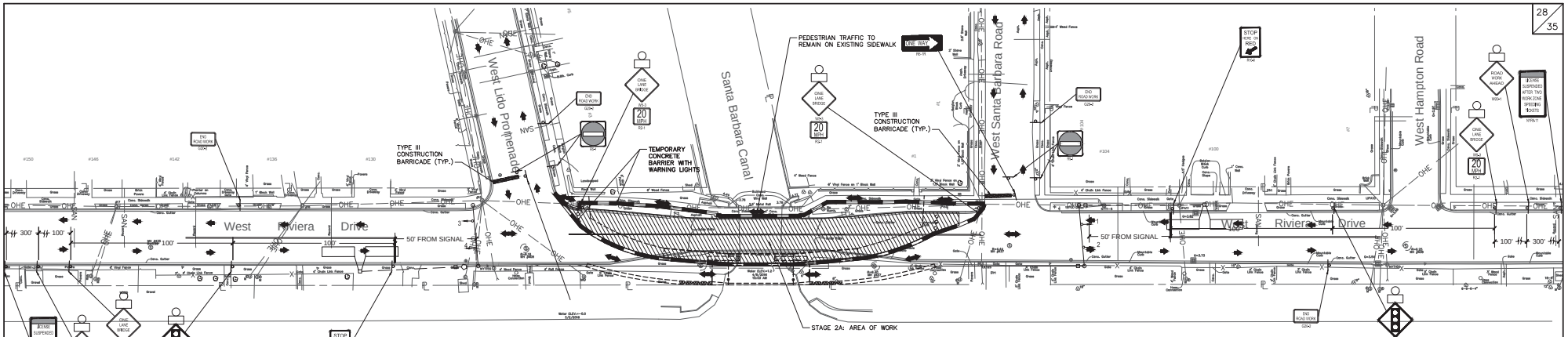
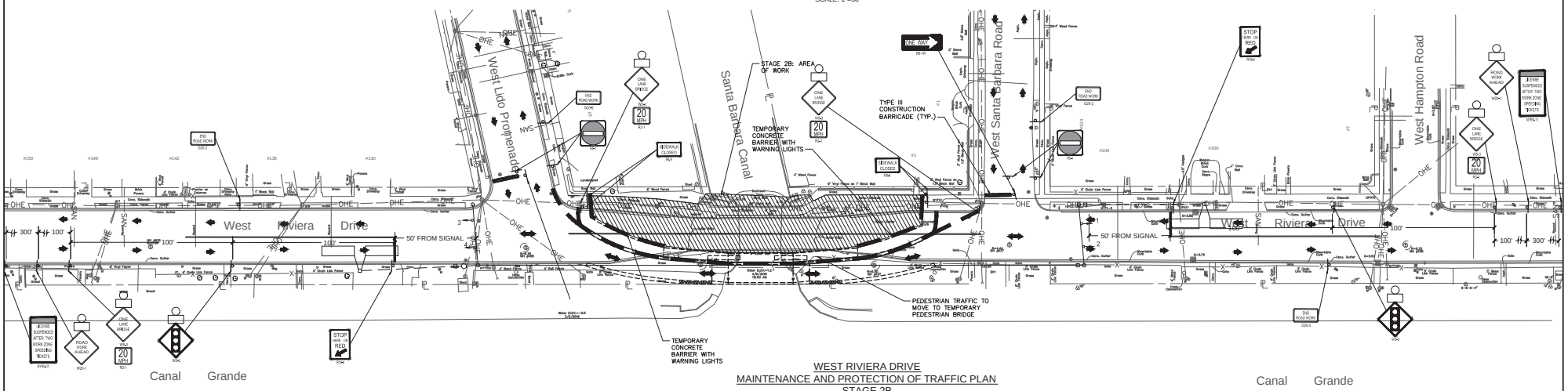
Plotted By: Margolin, Daniel



WEST RIVIERA DRIVE
MAINTENANCE AND PROTECTION OF TRAFFIC PLAN
STAGE 2A
SCALE: 1"=30'



WEST RIVIERA DRIVE
MAINTENANCE AND PROTECTION OF TRAFFIC PLAN
STAGE 2B
SCALE: 1"=30'

LEGEND:

- TEMPORARY CONCRETE BARRIER
- TEMPORARY SIGN
- FLOW OF TRAFFIC
- WARNING LIGHT
- WORK ZONE
- EXISTING PAVEMENT MARKING REMOVAL
- TEMPORARY TRAFFIC SIGNAL FACE (BY OTHERS)
- CONSTRUCTION DRUM
- TYPE III BARRICADE

0 30' 60'

PRELIMINARY

REV.	DATE	REMARKS	BY

CLIENT: TOWN OF BABYLON, LINDENHURST, NY

B. THAYER ASSOCIATES
100 Crossways Park Drive West
Suite 104
Woodbury, New York 11797
(516) 364-0660

PROJECT NAME: AMERICAN VENICE BRIDGES

WORK ZONE TRAFFIC CONTROL PLANS 2
WEST RIVIERA DRIVE

DESIGN BY: ---
DRAWN BY: ---
CHECKED BY: ---
DATE: 6/2016
SCALE: 1:30

PROJECT NO. 5423-01
DRAWING NO. MPT-W2

File Name: I:\projects\5423 00 american venice bridges\cadd\sheets\structural\c-mpt.dwg
Plot Date: 6/17/2016 3:33 PM
Plotted By: Margolin, Daniel

Attachment 3

W Riviera Dr
Exit Street View
Trees proposed to be removed
© 2016 Google
© 2016 Google
6 ft
Report a problem
Tour Guide
Google earth
lat 40.667652° lon -73.379546° elev 18 ft eye alt 18 ft

Trees proposed to be removed

Attachment 4

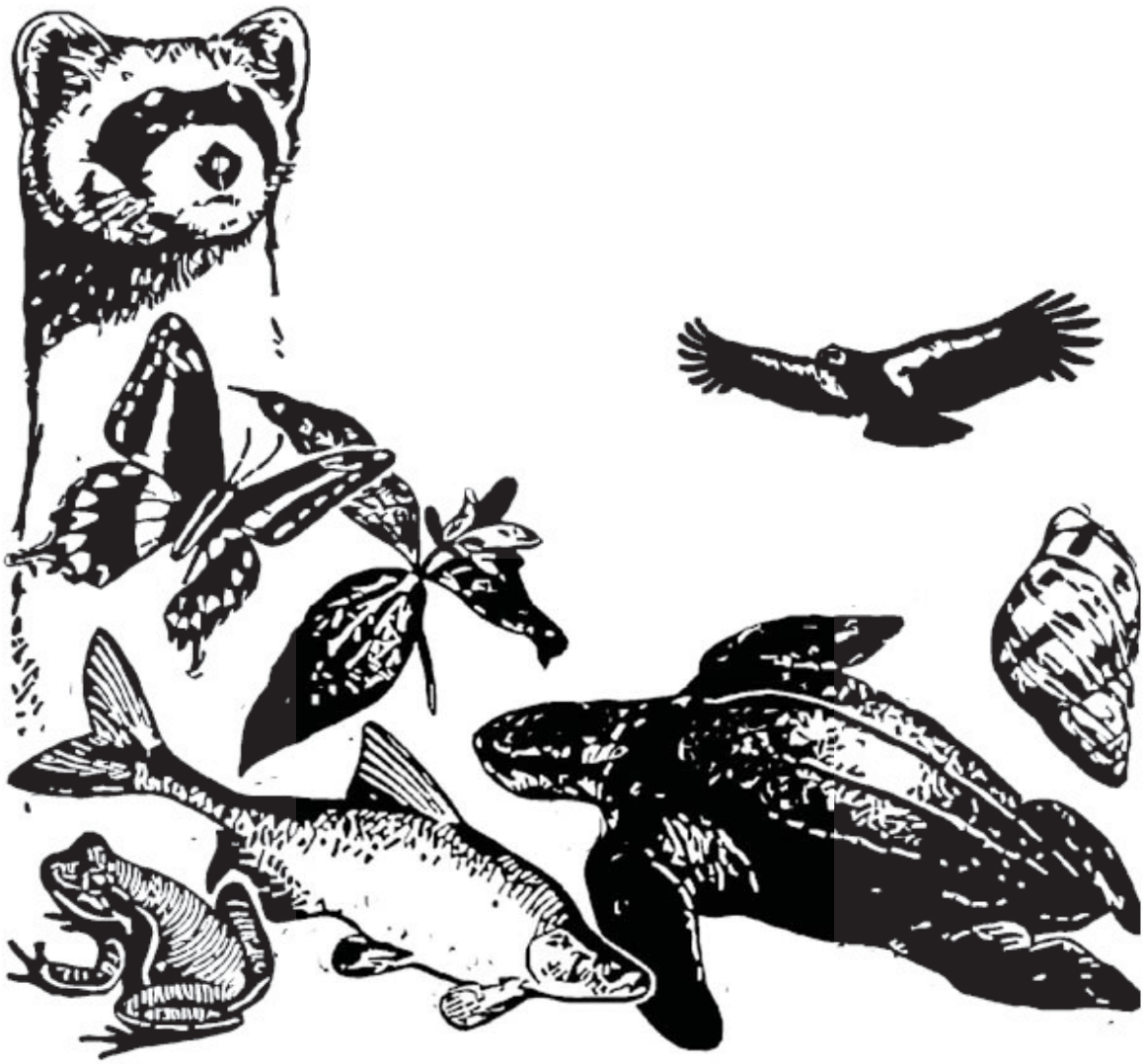
U.S. Fish & Wildlife Service

Copiague American Venice Bridges

IPaC Trust Resources Report

Generated July 21, 2016 12:49 PM MDT, IPaC v3.0.8

This report is for informational purposes only and should not be used for planning or analyzing project level impacts. For project reviews that require U.S. Fish & Wildlife Service review or concurrence, please return to the IPaC website and request an official species list from the Regulatory Documents page.



IPaC - Information for Planning and Conservation (https://ecos.fws.gov/ipac/): A project planning tool to help streamline the U.S. Fish & Wildlife Service environmental review process.

Table of Contents

IPaC Trust Resources Report 1
Project Description 1
Endangered Species 2
Migratory Birds 4
Refuges & Hatcheries 7
Wetlands 8

U.S. Fish & Wildlife Service

IPaC Trust Resources Report

NAME

Copiague American Venice Bridges

LOCATION

Suffolk County, New York

IPAC LINK

https://ecos.fws.gov/ipac/project/HTU7B-TA4NV-F67BJ-W4WEB-MERUEA

U.S. Fish & Wildlife Service Contact Information

Trust resources in this location are managed by:

Long Island Ecological Services Field Office
340 Smith Road
Shirley, NY 11967
(631) 286-0485

Endangered Species

Proposed, candidate, threatened, and endangered species are managed by the Endangered Species Program of the U.S. Fish & Wildlife Service.

This USFWS trust resource report is for informational purposes only and should not be used for planning or analyzing project level impacts.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list from the Regulatory Documents section.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency.

A letter from the local office and a species list which fulfills this requirement can only be obtained by requesting an official species list either from the Regulatory Documents section in IPaC or from the local field office directly.

The list of species below are those that may occur or could potentially be affected by activities in this location:

Birds

Piping Plover Charadrius melodus — Threatened

CRITICAL HABITAT
There is **final** critical habitat designated for this species.

http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B079

Red Knot Calidris canutus rufa — Threatened

CRITICAL HABITAT
No critical habitat has been designated for this species.

http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0DM

Roseate Tern Sterna dougallii dougallii — Endangered

CRITICAL HABITAT
No critical habitat has been designated for this species.

http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B07O

Flowering Plants

Sandplain Gerardia Agalinis acuta — Endangered

CRITICAL HABITAT
No critical habitat has been designated for this species.

http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=Q24K

Seabeach Amaranth Amaranthus pumilus — Threatened

CRITICAL HABITAT
No critical habitat has been designated for this species.

http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=Q2MZ

Mammals

Northern Long-eared Bat Myotis septentrionalis — Threatened

CRITICAL HABITAT
No critical habitat has been designated for this species.

http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=A0JE

Critical Habitats

There are no critical habitats in this location

Migratory Birds

Birds are protected by the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act.

Any activity that results in the take of migratory birds or eagles is prohibited unless authorized by the U.S. Fish & Wildlife Service.[1] There are no provisions for allowing the take of migratory birds that are unintentionally killed or injured.

Any person or organization who plans or conducts activities that may result in the take of migratory birds is responsible for complying with the appropriate regulations and implementing appropriate conservation measures.

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1. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

Additional information can be found using the following links:

- Birds of Conservation Concern
  http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php
- Conservation measures for birds
  http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php
- Year-round bird occurrence data
  http://www.birdscanada.org/birdmon/default/datasummaries.jsp

The following species of migratory birds could potentially be affected by activities in this location:

American Oystercatcher Haematopus palliatus — Bird of conservation concern
On Land Season: Year-round
http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0G8

American Bittern Botaurus lentiginosus — Bird of conservation concern
On Land Season: Breeding
http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0F3

Black Skimmer Rynchops niger — Bird of conservation concern
On Land Season: Breeding
http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0EO

Black-billed Cuckoo Coccyzus erythropthalmus — Bird of conservation concern
On Land Season: Breeding
http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0HI

Blue-winged Warbler Vermivora pinus — Bird of conservation concern
On Land Season: Breeding

Canada Warbler Wilsonia canadensis — Bird of conservation concern
On Land Season: Breeding

Fox Sparrow Passerella iliaca — Bird of conservation concern
On Land Season: Wintering

Gull-billed Tern Gelochelidon nilotica — Bird of conservation concern
On Land Season: Breeding
http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0JV

Hudsonian Godwit Limosa haemastica — Bird of conservation concern
At Sea Season: Migrating

Least Bittern Ixobrychus exilis
On Land Season: Breeding
http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B092

Least Tern Sterna antillarum — Bird of conservation concern
On Land Season: Breeding

Marbled Godwit Limosa fedoa — Bird of conservation concern
On Land Season: Wintering
http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0JL

Peregrine Falcon Falco peregrinus — Bird of conservation concern
On Land Season: Wintering
http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0FU

Pied-billed Grebe Podilymbus podiceps — Bird of conservation concern
On Land Season: Year-round

Prairie Warbler Dendroica discolor — Bird of conservation concern
On Land Season: Breeding

Purple Sandpiper Calidris maritima — Bird of conservation concern
On Land Season: Wintering

Red Knot Calidris canutus rufa — Bird of conservation concern
On Land Season: Wintering
http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0DM

Rusty Blackbird Euphagus carolinus — Bird of conservation concern
On Land Season: Wintering

Saltmarsh Sparrow Ammodramus caudacutus — Bird of conservation concern
On Land Season: Breeding

Seaside Sparrow Ammodramus maritimus — Bird of conservation concern
On Land Season: Year-round

Short-eared Owl Asio flammeus — Bird of conservation concern
On Land Season: Wintering
http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0HD

Snowy Egret Egretta thula — Bird of conservation concern

On Land Season: Breeding

Upland Sandpiper Bartramia longicauda — Bird of conservation concern

On Land Season: Breeding

http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0HC

Wood Thrush Hylocichla mustelina — Bird of conservation concern

On Land Season: Breeding

Worm Eating Warbler Helmitheros vermivorum — Bird of conservation concern

On Land Season: Breeding

Wildlife refuges and fish hatcheries

There are no refuges or fish hatcheries in this location

Wetlands in the National Wetlands Inventory

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

DATA LIMITATIONS

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

DATA EXCLUSIONS

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

DATA PRECAUTIONS

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

This location overlaps all or part of the following wetlands:

Estuarine And Marine Deepwater

E1UBLx

Riverine

R4SBC

R5UBH

A full description for each wetland code can be found at the National Wetlands Inventory website: http://107.20.228.18/decoders/wetlands.aspx

Attachment 5

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Long Island Ecological Services Field Office
340 SMITH ROAD
SHIRLEY, NY 11967
PHONE: (631)286-0485 FAX: (631)286-4003

Consultation Code: 05E1LI00-2016-SLI-0320 July 21, 2016
Event Code: 05E1LI00-2016-E-00311
Project Name: Copiague American Venice Bridges

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having

similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment

United States Department of Interior
Fish and Wildlife Service

Project name: Copiague American Venice Bridges

Official Species List

Provided by:

Long Island Ecological Services Field Office
340 SMITH ROAD
SHIRLEY, NY 11967
(631) 286-0485

Consultation Code: 05E1LI00-2016-SLI-0320
Event Code: 05E1LI00-2016-E-00311

Project Type: Federal Grant / Loan Related

Project Name: Copiague American Venice Bridges

Please Note: The FWS office may have modified the Project Name and/or Project Description, so it may be different from what was submitted in your previous request. If the Consultation Code matches, the FWS considers this to be the same project. Contact the office in the 'Provided by' section of your previous Official Species list if you have any questions or concerns.

Project Location Map:

Project Coordinates: MULTIPOLYGON (((-73.3808183670044 40.66722811557896, -73.38051795959473 40.666381768673766, -73.37923049926756 40.66667473612566, -73.37971866130829 40.66787100653067, -73.38096320629118 40.66766349177427, -73.3808183670044 40.66722811557896)))

Project Counties: Suffolk, NY

Endangered Species Act Species List

There are a total of 6 threatened or endangered species on your species list. Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. Critical habitats listed under the **Has Critical Habitat** column may or may not lie within your project area. See the **Critical habitats within your project area** section further below for critical habitat that lies within your project. Please contact the designated FWS office if you have questions.

Birds	**Status**	**Has Critical Habitat**	**Condition(s)**
Piping Plover *(Charadrius melodus)* Population: except Great Lakes watershed	Threatened	Final designated	
Red Knot *(Calidris canutus rufa)*	Threatened		
Roseate tern *(Sterna dougallii dougallii)* Population: northeast U.S. nesting pop.	Endangered		
Flowering Plants			
Sandplain gerardia *(Agalinis acuta)*	Endangered		
Seabeach amaranth *(Amaranthus pumilus)*	Threatened		
Mammals			
Northern long-eared Bat *(Myotis septentrionalis)*	Threatened		

Critical habitats that lie within your project area

There are no critical habitats within your project area.

Attachment 6

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
Division of Fish, Wildlife & Marine Resources
New York Natural Heritage Program
625 Broadway, 5th Floor, Albany, New York 12233-4757
Phone: (518) 402-8935 • **Fax:** (518) 402-8925
Website: www.dec.ny.gov

September 02, 2016

Chris Camacho
Tectonic Engineering
70 Pleasant Hill Road
Mountainville, NY 10953

Re: Copiague American Venice Bridges
Town/City: Babylon County: Suffolk

Dear Chris Camacho:

In response to your recent request, we have reviewed the New York Natural Heritage Program database with respect to the above project.

We have no records of rare or state-listed animals or plants, or significant natural communities at your site or in its immediate vicinity.

The absence of data does not necessarily mean that rare or state-listed species, significant natural communities, or other significant habitats do not exist on or adjacent to the proposed site. Rather, our files currently do not contain information that indicates their presence. For most sites, comprehensive field surveys have not been conducted. We cannot provide a definitive statement on the presence or absence of all rare or state-listed species or significant natural communities. Depending on the nature of the project and the conditions at the project site, further information from on-site surveys or other resources may be required to fully assess impacts on biological resources.

This response applies only to known occurrences of rare or state-listed animals and plants, significant natural communities, and other significant habitats maintained in the Natural Heritage database. Your project may require additional review or permits; for information regarding other permits that may be required under state law for regulated areas or activities (e.g., regulated wetlands), please contact the appropriate NYS DEC Regional Office, Division of Environmental Permits, as listed at www.dec.ny.gov/about/39381.html.

Sincerely,

Andrea Chaloux

Andrea Chaloux
Environmental Review Specialist
New York Natural Heritage Program

1002

Peoples, Dina

From: Papa, Steve <steve_papa@fws.gov>
Sent: Monday, October 3, 2016 1:07 PM
To: Accardi, Matt (STORMRECOVERY)
Cc: laurie_boullianne@fws.gov; Gievers, Andrea
Subject: Re: Copiague American Venice Bridges Project, Town of Babylon, New York

received

Steven T. Papa
U.S. Fish and Wildlife Service
Long Island Field office
340 Smith Rd
Shirley, NY 11967
(631) 286-0485 (tel)
631) 286-4003 (fax)
Steve_Papa@fws.gov

"I only wish that besides protecting the songsters...we also protect the birds of the seashore..."
- T. Roosevelt

On Mon, Oct 3, 2016 at 12:19 PM, Accardi, Matt (STORMRECOVERY) <Matt.Accardi@stormrecovery.ny.gov> wrote:

Dear Mr. Papa,

Please see the attached package and let me know whether you have any questions. We do request an acknowledgment that you have received this No Effect Determination.

Thank you for your time and consideration.

Sincerely,
Matt

Matt Accardi
Bureau of Environmental Review and Assessment
Governor's Office of Storm Recovery
25 Beaver Street, 5th Floor, New York, NY 10004
O: (212) 480-6265 | C: (646) 830-6902

Matt.accardi@stormrecovery.ny.gov | www.stormrecovery.ny.gov

Memorandum

DATE: October 24, 2016

TO: Thomas King, Director - Bureau of Environmental Review and Assessment
NY Governor's Office of Storm Recovery

FROM: Tara Stewart, Biologist
Louis Berger

SUBJECT: No Effect Determination - NOAA NMFS Section 7 Project Review

Copiague American Venice Bridges Improvement Project
Town of Babylon, Suffolk County, New York

The Governor's Office of Storm Recovery (GOSR), an office of the New York State Homes and Community Renewal's (NYSHCR) Housing Trust Fund Corporation, was established to aid the statewide recovery of disaster-affected communities in New York State. GOSR is administering a U.S. Department of Housing and Urban Development (HUD) Community Development Block Grant for Disaster Recovery (CDBG-DR), including the New York Rising Community Reconstruction (NYRCR) Program. The environmental review for projects funded under the NYRCR Program are processed on a case-by-case basis in accordance with the National Oceanic and Atmospheric Administration (NOAA) – National Marine Fisheries Service (NMFS) Greater Atlantic Region Section 7 Program Guidance and pursuant to Section 7 of the Endangered Species Act (ESA) of 1973 (87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.) and the Marine Mammal Protection Act (MMPA).

Louis Berger biologists have reviewed the above-referenced project, in accordance with NOAA Section 7 Program Guidance, to determine whether ESA species under NOAA jurisdiction may be present at the project site and/or adversely impacted by proposed project activities. This memorandum provides a summary of protected species that may occur within the vicinity of the project, an assessment of the potential for impacts to such species and/or their habitat, and a determination that the proposed project does not jeopardize the continued existence of ESA species or destroy or adversely modify their critical habitat.

1.0 Project Description

The Copiague American Venice Bridges Improvement Project (the Project) involves the replacement of two bridges located at East Riviera Drive and West Riviera Drive in the hamlet of Copiague, Town of Babylon, Suffolk County, New York. The two bridges, which span the Santa Barbara Canal, are the only means of vehicular access to the neighborhood and currently have a load rating of 12 tons which does

not permit use by certain heavy rescue and emergency vehicles. As a result, first responders could not access the neighborhood during Superstorm Sandy. The lack of emergency access also delayed post-storm assistance to the neighborhood. In order to decrease vulnerability of these neighborhoods to limited emergency access, the bridges are proposed to be replaced with higher capacity bridges so that emergency and rescue vehicles and construction equipment have unrestricted access to the neighborhoods in the event of an emergency. The location of the Project area is depicted on the USGS topographic map (Figure 1) and aerial maps (Figures 2 and 3) included as **Attachment 1**. Site plans are included in **Attachment 2**. The anticipated start date for the Project is April 2017 and it is estimated that it would take approximately eighteen (18) months to be completed.

The current bridges' roadways are 19.5 feet wide with an additional 4-foot wide sidewalk. The bridges span 38 feet from abutment to abutment. The new bridges would be approximately 35 feet, 2 inches wide, which would include two (2) 12-foot wide lanes, two (2) 10-inch wide shoulders, a new concrete curb and parapet on the east and west side of the bridge, and a 5-foot, 6-inch sidewalk. The new bridges would span approximately 56 feet from abutment to abutment. Guide rails would be installed where the existing roadway meets the bridge.

The current lower arch sections and bridge abutment sections supporting the existing bridge are located on the canal banks. The waterway opening would be expanded from 26 feet wide to 30 feet wide. The replacement bridge structure footings would be in the same location as the existing footings. New bulkheading would be installed to protect the structure from erosion. Minor dredging using a closed bucket or clam shell dredge would be necessary to remove footings and piles and to backfill new footings and piles, as well as the new bulkhead. A turbidity curtain would be installed in the water adjacent to the work area to minimize sediment transport from the area of disturbance.

The upper arch sections of the current bridges would be completely removed. The new bridge arch sections are currently proposed to be built on new bridge foundations located landward of the pre-existing lower arch sections. Concrete fill would be used to connect the existing foundation (lower arch sections) and the new foundations. The new bridge arch support would be at the same height as the current bridges in the center of the arch, with only very minor deviations from the current arch angles over the canal. The new bridges would be formed using pre-cast and cast-in-place concrete.

The demolition/construction of each bridge would be phased so that only one-half of the bridge is demolished and constructed at one time. This would allow for the use of a one-lane bridge for vehicular access to and from the neighborhoods while the demolition and construction is occurring. Temporary bridges would be approximately 13 feet wide and would be placed alongside the existing bridges on the canal side. They would be supported on two (2) temporary piers at the edge of Santa Barbara Canal and concrete pad abutments at the ends. The temporary piers would be supported on the temporary sheet piling bridge cofferdam on one end and a temporary pile on the other end. The piers would be located at the edge of the canal. The abutments would be a concrete block supported on a shallow foundation in the ground. The West Riviera Drive temporary bridge would also have 20 feet of temporary sheeting on each end to support the temporary embankment which would be placed to grade from the temporary bridge to the existing roadway.

Once the temporary bridge is installed, the existing bridge including the abutment, concrete arch and roadway embankment would be removed. Two cofferdams, one for each abutment, would then be

installed. The cofferdams would be composed of steel sheeting with wales, tie backs and braces and constructed to follow the outside perimeter of the new concrete abutments and wall foundations.

Dewatering would be accomplished by using surface pumps which would pump water into an outlet pipe with a filter sock at the end, which would be discharged behind the turbidity curtain between the two cofferdams. The sheeting and cofferdam would be installed using a vibratory hammer and/or a dynamic pile driver. Most of the sheeting would be left in place, with the exception of the backside of the cofferdam (on the roadway side). The sheeting left in place would be cut off below the proposed grade and buried.

2.0 NMFS Species Protected under the Endangered Species Act

NMFS Endangered Species Maps depicting the estimated range for ESA species in the Greater Atlantic Region, and critical habitat maps for Atlantic salmon and North Atlantic right whale, are included as **Attachment 3**. NMFS lists the following ESA species for the Greater Atlantic Region:

Fish Species:
Atlantic salmon (*Salmon salar*)
Shortnose sturgeon (*Acipenser brevirostrum*)
Atlantic sturgeon (*Acipenser oxyrinchus oxyrinchus*)

Sea Turtles:
Green sea turtle (*Chelonia mydas*)
Hawksbill turtle (*Eretmochelys imbricate*)
Kemp's Ridley turtle (*Lepidochelys kempii*)
Leatherback turtle (*Dermochelys coriacea*)
Loggerhead turtle (*Caretta caretta*)

Marine Mammals:
Blue whale (*Balaenoptera musculus musculus*)
Fin whale (*Balaenoptera physalus*)
Humpback whale (*Megaptera novaeangliae*)
North Atlantic right whale (*Eubalaena glacialis*)
Sei whale (*Balaenoptera borealis*)
Sperm whale (*Physeter microcephalus*)

3.0 Analysis

The Project area is located within the Santa Barbara Canal, a shallow tidal manmade channel located in an area of dense residential development. The two bridges span the Santa Barbara Canal on either side of its intersection with the Grande Canal, approximately 0.5 mile upstream of the Great South Bay. The shoreline within the vicinity of Project area is entirely bulkheaded and subject to existing water quality impairment. There is frequent boating activity along the length of the network of channels as evidenced by the high number of properties with boats docked along the bulkheads. As depicted on Figure 2, the Project area has no submerged aquatic vegetation (SAV) and limited benthic resources. The Project area

is located within underwater lands mapped as uncertified for shellfishing due to existing water quality impairment. The nearest underwater land designated as certified for shellfishing is approximately 0.7 mile from the Project area.

As shown on the NMFS critical habitat maps, there is no critical habitat for any ESA species within the Project area. Also, according to NMFS ESA Estimated Species Range maps, the Project area is not within the range of Atlantic salmon, shortnose sturgeon, or any of the listed marine mammal species. Hawksbill turtles rarely occur in New York as their preferred habitat consists of warm, coastal shoal waters with abundant SAV. Therefore, Atlantic salmon, shortnose sturgeon, hawksbill turtle, and marine mammals are not considered any further in this analysis.

As depicted on the Estimated Range of Sea Turtles, the Project area is within the estimated range for green, Kemp's ridley, leatherback, and loggerhead sea turtles. These sea turtles are not year-round residents in New York waters and there is no nesting activity in the region. They may occur seasonally in the coastal waters of Long Island; however, their presence in shallow waters of highly developed channelized areas such as the Project area is unlikely. Occurrence in these shallow waters would be rare and tied to the presence of suitable foraging habitat. Leatherback sea turtles feed almost exclusively on jellyfish in offshore marine environments, whereas green sea turtles tend to frequent seagrass beds. Loggerhead and Kemp's ridley sea turtles feed on mollusks and crustaceans. The Project area lacks suitable foraging habitat as it has limited benthic resources and no SAV. As depicted on Figure 2, the Project area is approximately 0.5 mile from the nearest isolated SAV bed, and approximately 0.75 miles from the nearest expansive SAV beds in the Great South Bay. Sea turtles are more likely to occur in the open waters of the Great South Bay. If a sea turtle were to enter a channel from the bay, it would be a transient presence with a limited temporal duration and the individual would not be expected to travel upstream to the Project area. Sea turtles are found in the northeast during the summer and fall months (May - November) with the highest concentrations of turtles occurring from June through October. The Santa Barbara Canal, the Grande Canal, and other connected waterways are narrow channels that lack foraging habitat and are subject to frequent boating and human activity during the time seasonal transients would be in the region. Additionally, based on the proposed construction timeline, including the plan to install cofferdams during the early stages of the construction, it is anticipated that much of the in-water work would occur outside of the May – November time frame that sea turtles may present in the coastal waters of Long Island.

As depicted on the Estimated Range of Atlantic Sturgeon Distinct Population Segments, the Project area is within an area mapped as accessible habitat for Atlantic sturgeon, which is defined as in-water habitat located in marine or estuarine areas below the high tide line. Since the Project area is located in saline, tidally influenced waters, eggs, larvae, or juvenile Atlantic sturgeon would not be present. Sub-adult and adult Atlantic sturgeon are found seasonally in the coastal waters of Long Island, but are not likely to be present in the intertidal and shallow water depths within the Project area. Occurrence in these shallow waters would be tied to the presence of suitable benthic resources for foraging. As discussed above, the Project area has no SAV and limited benthic resources. Because of the lack of suitable forage habitat, use of the area by sturgeon would be limited to transient individuals that are passing through. The Project area does not contain any known overwintering areas; thus, sub-adult and adult Atlantic sturgeon are most likely to be present in the region from April through November. If a sturgeon were to enter a channel from the bay, the individual would not be expected to travel upstream to the Project area. The

Santa Barbara Canal, the Grande Canal, and other connected waterways are narrow channels that lack foraging habitat and are subject to frequent boating and human activity during the time seasonal transients would occur in the region. If present in Santa Barbara Canal, seasonal transients are highly mobile and could easily avoid the Project area during construction activity. Additionally, based on the proposed construction timeline, including the plan to install cofferdams during the early stages of the construction, it is anticipated that much of the in-water work would occur outside time frame that seasonal transients may present in the coastal waters of Long Island.

The Project would replace existing bridge structures, so there would be no loss of potential habitat for ESA species or their prey. The existing bridge structures would be removed and new structural components would be installed in approximately the same locations. Minor dredging would be conducted with a closed-bucket or clamshell dredge and no material would be side cast. Pile driving activities would be localized and temporary, and piles would be installed using a vibratory hammer and/or a dynamic pile driver. It is assumed that construction materials would be delivered by land, and any barges used temporarily during construction would have to move at a very slow speed in order to navigate within the narrow channels. There would not be a significant increase in vessel traffic as the shoreline is populated with docked watercraft that would be frequently used for recreation. Any noise or sediment disturbance during construction would be negligible relative to existing water quality impairment within the Project area and frequent disturbance from boating activity.

Project implementation is conditioned upon issuance of applicable federal and state permits and would be constructed in accordance with federal and state permit conditions. Best Management Practices (BMPs), such as the use of cofferdams, turbidity curtains, closed-bucket or clamshell dredge, and vibratory hammer, would minimize sediment disturbance and reduce potential impacts from noise or turbidity during construction. The Project would repair existing public infrastructure and does not involve siting a facility that would generate hazardous waste that could cause pollution to the waterway.

4.0 Conclusion

The Project area is located within the Santa Barbara Canal, a shallow tidal channel in the Town of Babylon. The shoreline within the Project area is bulkheaded and highly developed. There is no critical habitat for Atlantic salmon, North Atlantic right whale, or any other species within the Project area. The Project area is not within the range of Atlantic salmon, shortnose sturgeon, hawksbill turtle, or marine mammals.

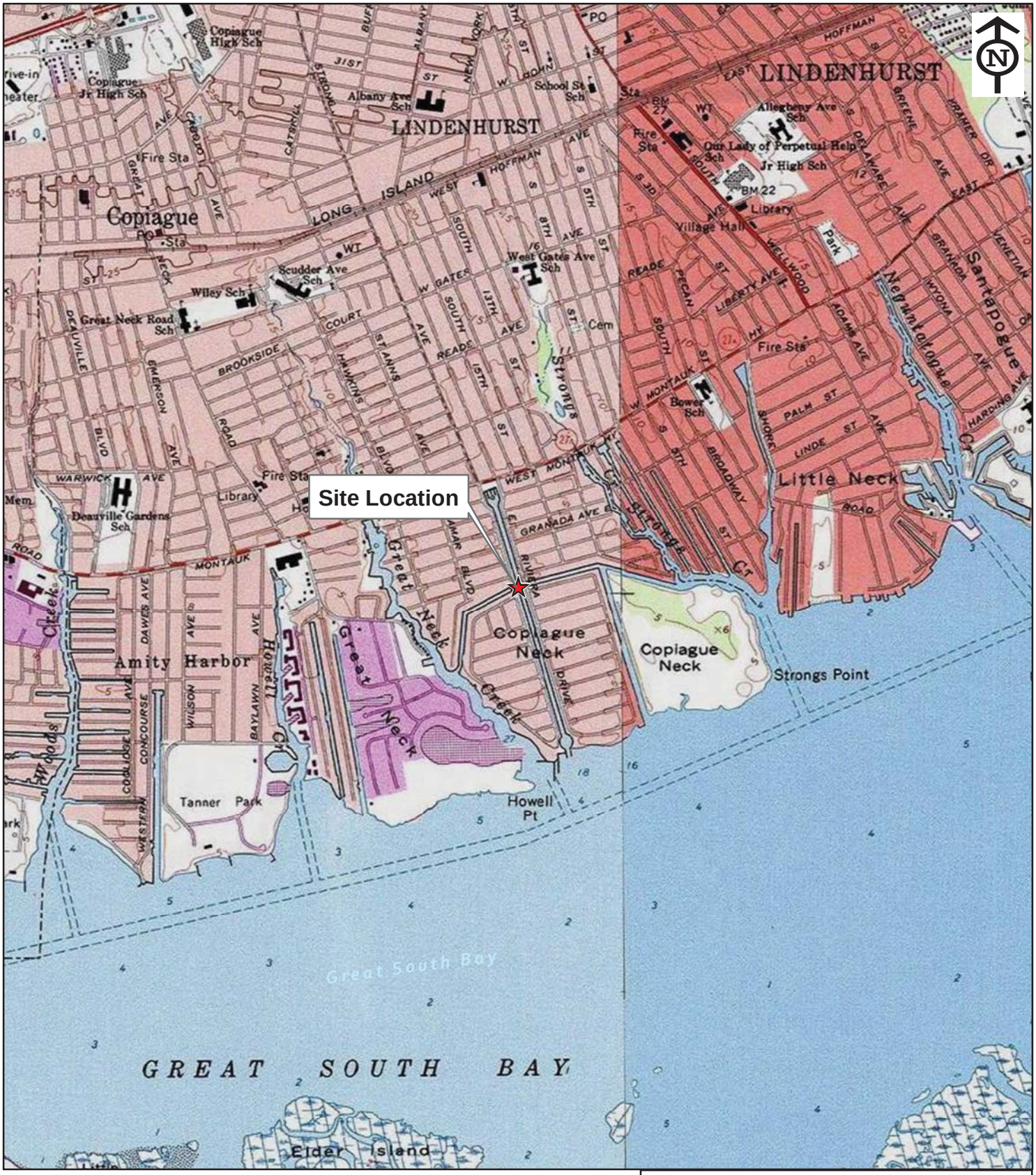
Atlantic sturgeon and sea turtles are found seasonally in the coastal waters of Long Island, including the Great South Bay. However, their presence in shallow waters of highly developed channelized areas such as the Project area is unlikely. The Santa Barbara Canal, the Grande Canal, and other connected waterways are narrow channels with existing water quality impairment that lack foraging habitat and are subject to frequent boating and human activity during the time seasonal transients would occur in the region. Therefore, sea turtles and sturgeon would not be expected to travel upstream to the Project area. If such a species was present, it would be a transient presence with a limited temporal duration, and these highly mobile life stages could easily relocate to avoid temporary construction disturbance. Additionally, Atlantic sturgeon and sea turtles are not year round residents and are only expected to occur within the coastal waters of Long Island from May to November. Based on the proposed construction timeline, including the plan to install cofferdams during the early stages of the construction, it is anticipated that much of

the in-water work would occur outside time frame that seasonal transients may present in the region.

The Project would replace existing bridge structures, so there would be no loss of potential habitat for ESA species or their prey. Project implementation is conditioned upon issuance of applicable federal and state permits and would be constructed in accordance with federal and state permit conditions. Mitigative measures and BMPs would be employed during construction, such as the use of turbidity curtains, cofferdams, vibratory hammer, and a closed bucket or clam shell dredge. Cofferdams would exclude aquatic life, including ESA species, from the Project area to avoid direct impacts from construction activity. Any noise or sediment disturbance during construction would be negligible relative to existing water quality impairment and frequent disturbance from boating activity within the Project area, and permit specified BMP's would minimize the potential for such impacts.

Based on this analysis, Project activities would not directly or indirectly affect any ESA species under NMFS jurisdiction. The Project would not introduce stressors on listed species, such as: sound disturbance; changes in water depth or substrate characteristics; dredging; exposure to pollutants or changes in water quality; changes in the abundance, availability, accessibility or quality of prey; loss of submerged aquatic vegetation (SAV) or shellfish beds; or changes to in-water structures. Pursuant to the NMFS Greater Atlantic Region Endangered Species Act Section 7 Program, a No Effect Determination has been made for the proposed Project.

Attachment 1



Source: Base Map - ESRI USA Topo Map Service.

Governor's Office of Storm Recovery (GOSR)

Site Location Map

Copiague American Venice Bridges Improvement Project
Copiague, NY

Louis Berger

Figure 1

Legend

- Project Site
- Submerged Aquatic Vegetation (SAV) - Rooted Vascular Plants
- Seasonally Uncertified for Shellfishing
- Uncertified for Shellfishing

Governor's Office of Storm Recovery (GOSR)

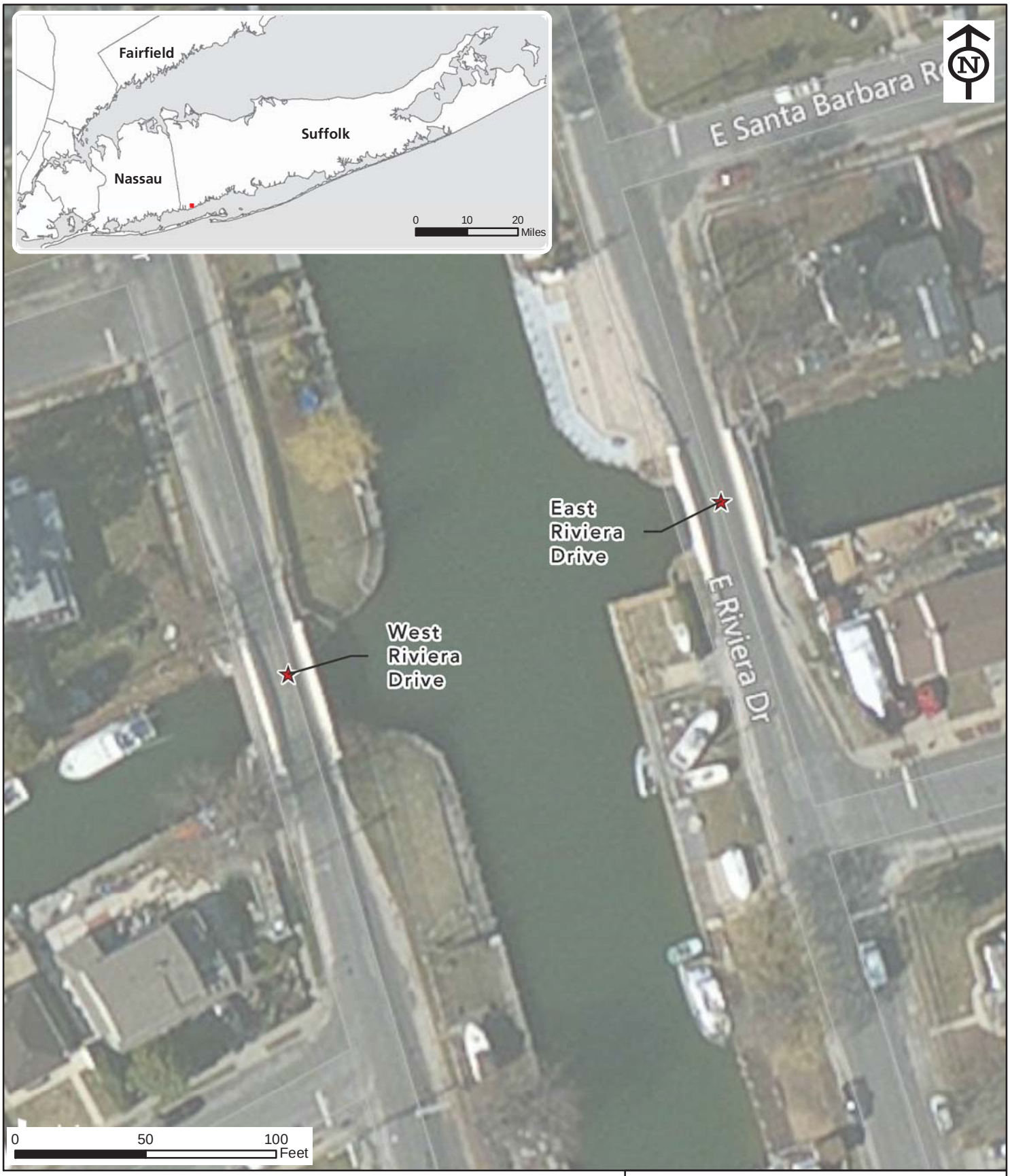
Aerial View

Copiague American Venice Bridges Improvement Project
Copiague, NY

Louis Berger

Figure 2

Sources:
Base Map - ESRI BING Map Service, 2015; SAV data - NOAA Office for Coastal Management, 2002; Shellfish Closure Areas - NYSDEC, obtained 2015; NYSDEC, 2015.



Legend

★ Project Site

Governor's Office of
Storm Recovery (GOSR)

Aerial View

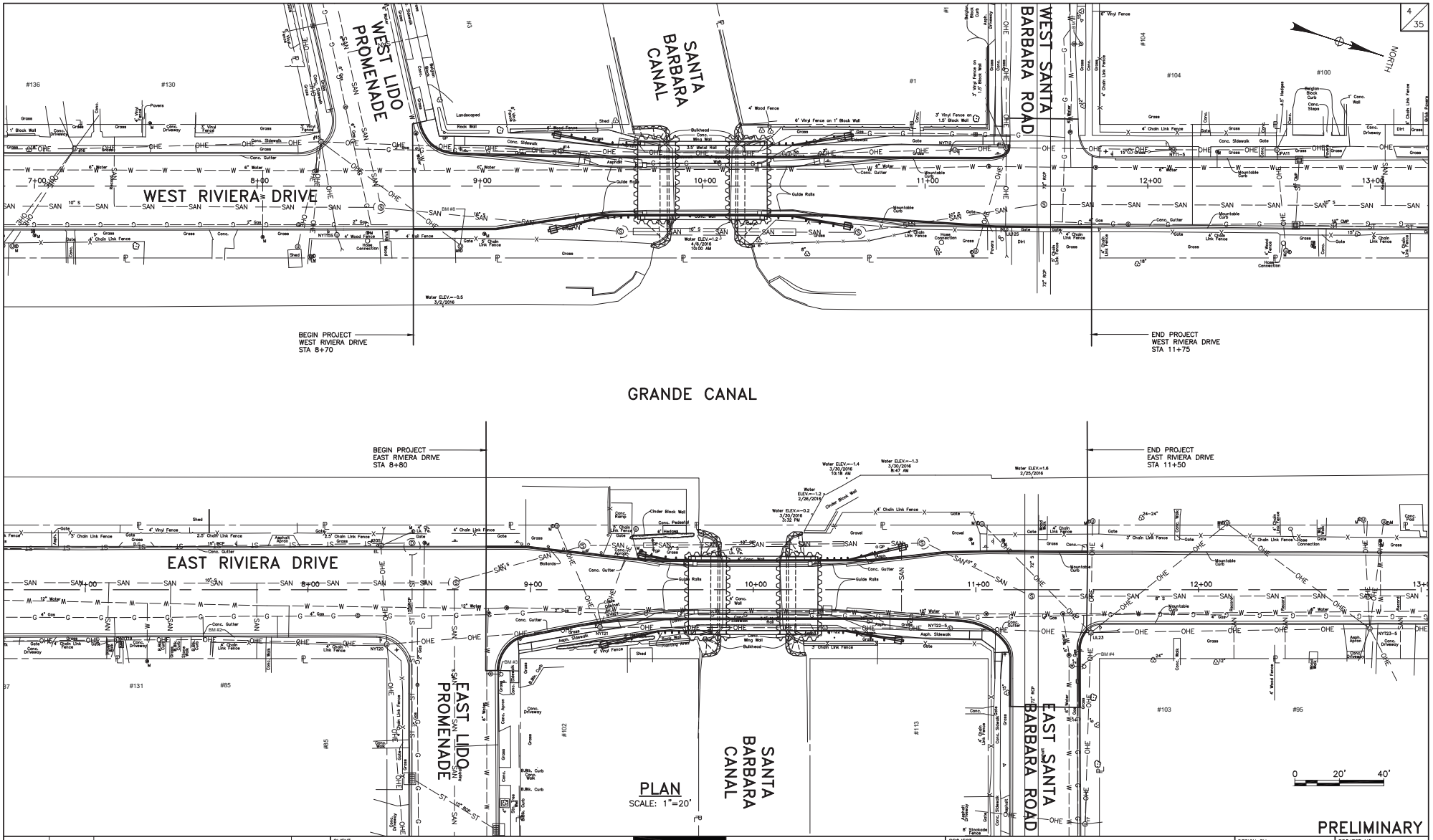
Copiague American Venice Bridges
Improvement Project
Copiague, NY

Louis Berger

Figure 3

Sources:
Base Map - ESRI BING Map Service, 2016.

Attachment 2



PLAN
SCALE: 1"=20'

PRELIMINARY

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CLIENT

TOWN OF BABYLON
LINDENHURST, NY

LK8 CONSULTING ENGINEERS

LOCKWOOD, KESSLER & BARTLETT, INC.
CONSULTING ENGINEERS SINCE 1889 SYOSSET, NEW YORK

PROJECT NAME: AMERICAN VENICE BRIDGES

GENERAL PROJECT PLAN

DESIGN BY:	DMM
DRAWN BY:	DMM
CHECKED BY:	WTC
DATE:	6/2016
SCALE:	1:20

PROJECT NO. 5423-01

DRAWING NO. GPP-1

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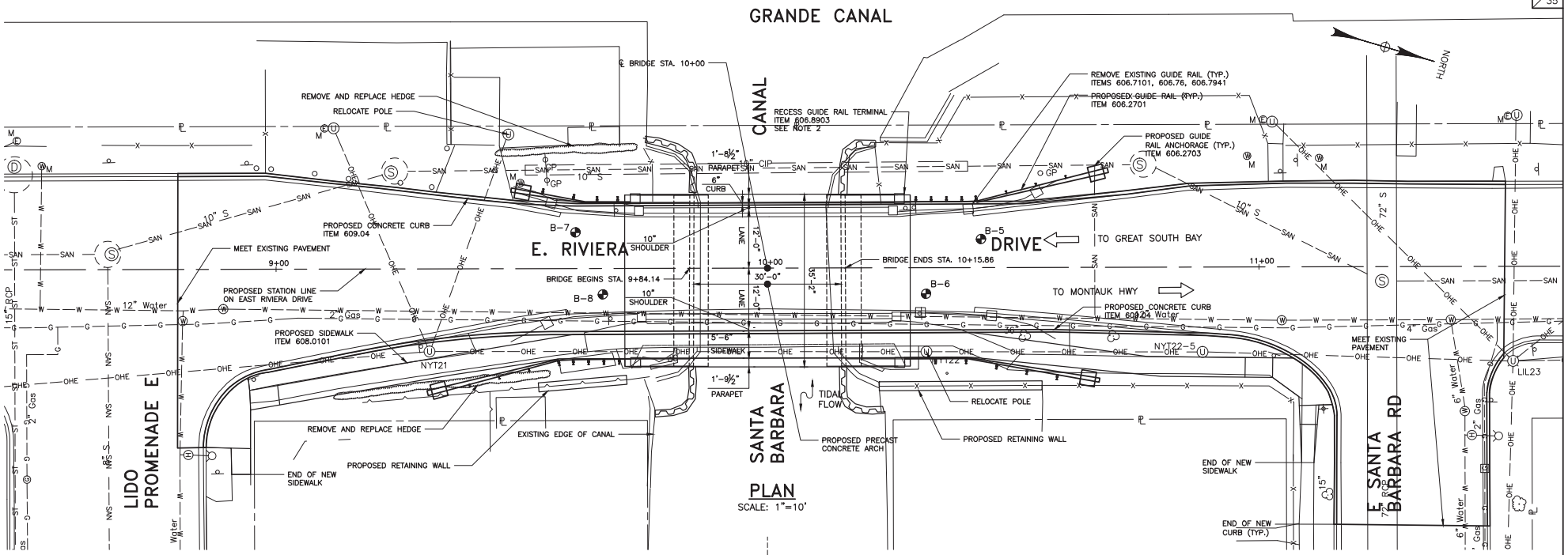
Plot Date: 6/17/2016 3:25 PM
Plotted By: Margolin, Daniel



PLAN

SCALE: 1"=10'

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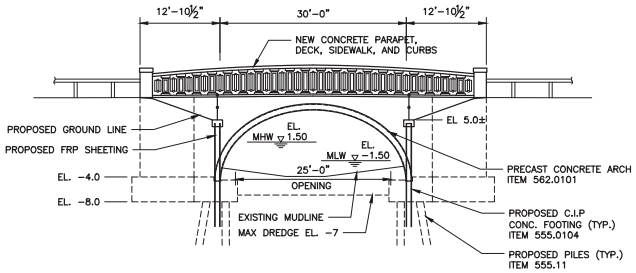

ELEVATION

SCALE: 1"=10'

NOTES:

1. FOR SOIL BORINGS, SEE PROJECT MANUAL.
2. GUIDE RAIL TERMINAL ELEMENT (ITEM 606.8903) SHALL BE RECESSED FLUSH WITH FACE OF PARAPET ON THE APPROACH CORNERS (SOUTHEAST AND NORTHWEST).

LEGEND:

⇦ DIRECTION OF TRAFFIC

SOIL BORING

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PRELIMINARY

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CLIENT: TOWN OF BABYLON, LINDENHURST, NY

LKB CONSULTING ENGINEERS — LOCKWOOD, KESSLER & BARTLETT, INC. CONSULTING ENGINEERS SINCE 1889 SYOSSET, NEW YORK

PROJECT NAME: AMERICAN VENICE BRIDGES

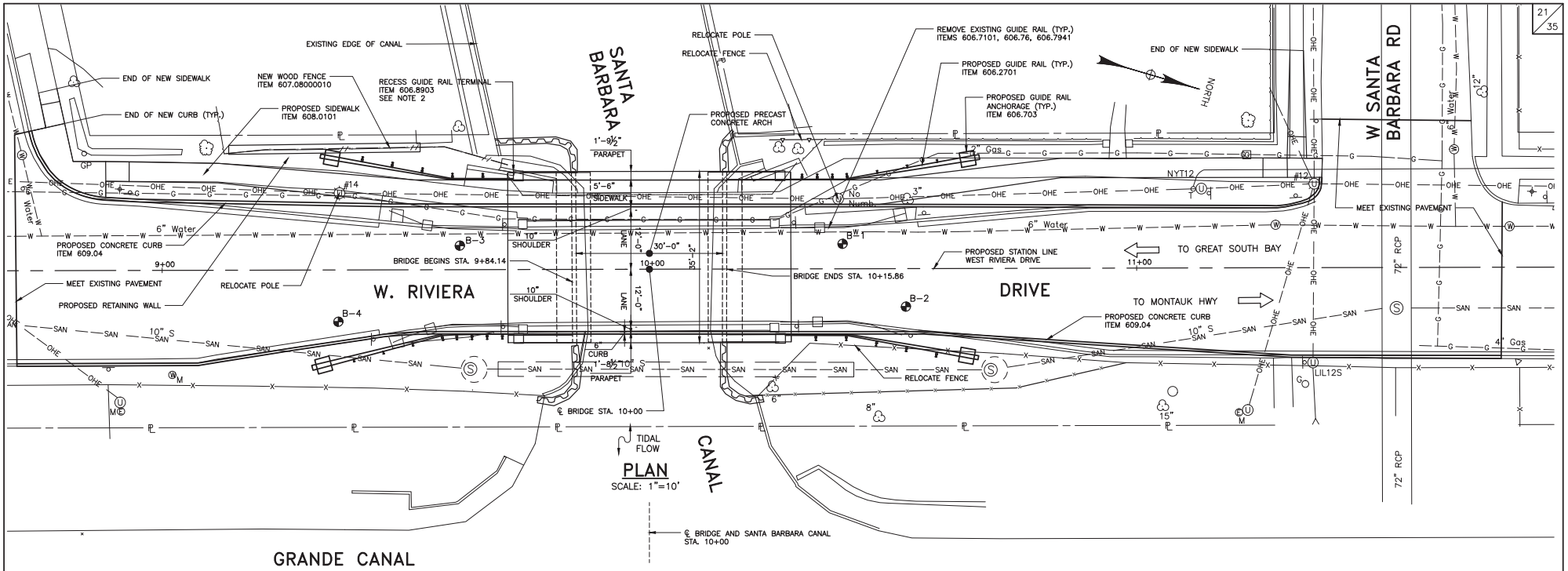
BRIDGE PLAN AND ELEVATION EAST RIVIERA DRIVE

DESIGN BY: DMM
DRAWN BY: DMM
CHECKED BY: WTC
DATE: 6/2016
SCALE: 1:10

PROJECT NO. 5423-01

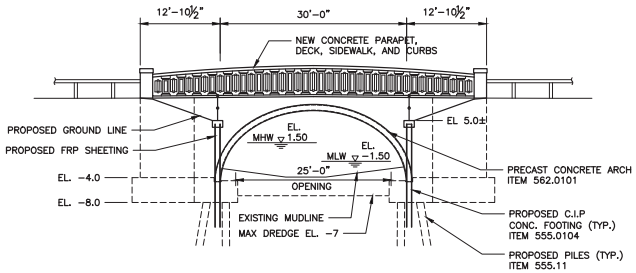
DRAWING NO. BPE-E1

File Name: I:\projects\5423 00 american venice bridges\cadd\sheets\structural\bridge plan, elevation and section.dwg
Plot Date: 6/17/2016 3:26 PM
Plotted By: Margolin, Daniel



PLAN

SCALE: 1"=10'



ELEVATION

SCALE: 1"=10'

NOTES:

1. FOR SOIL BORINGS, SEE PROJECT MANUAL.
2. GUIDE RAIL TERMINAL ELEMENT (ITEM 606.8903) SHALL BE RECESSED FLUSH WITH FACE OF PARAPET ON THE APPROACH CORNERS (SOUTHEAST AND NORTHWEST).

LEGEND:

DIRECTION OF TRAFFIC

SOIL BORING

0 10' 20'

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CLIENT

TOWN OF BABYLON
LINDENHURST, NY

LKB CONSULTING ENGINEERS

LOCKWOOD, KESSLER & BARTLETT, INC.
CONSULTING ENGINEERS SINCE 1889 SYOSSET, NEW YORK

PROJECT NAME: AMERICAN VENICE BRIDGES

BRIDGE PLAN AND ELEVATION
WEST RIVIERA DRIVE

DESIGN BY: DMM
DRAWN BY: DMM
CHECKED BY: WTC
DATE: 6/2016
SCALE: 1:10

PROJECT NO. 5423-01

DRAWING NO. BPE-W1

File Name: I:\projects\5423 00 american venice bridges\cadd\sheets\structural\bridge plan, elevation and section.dwg
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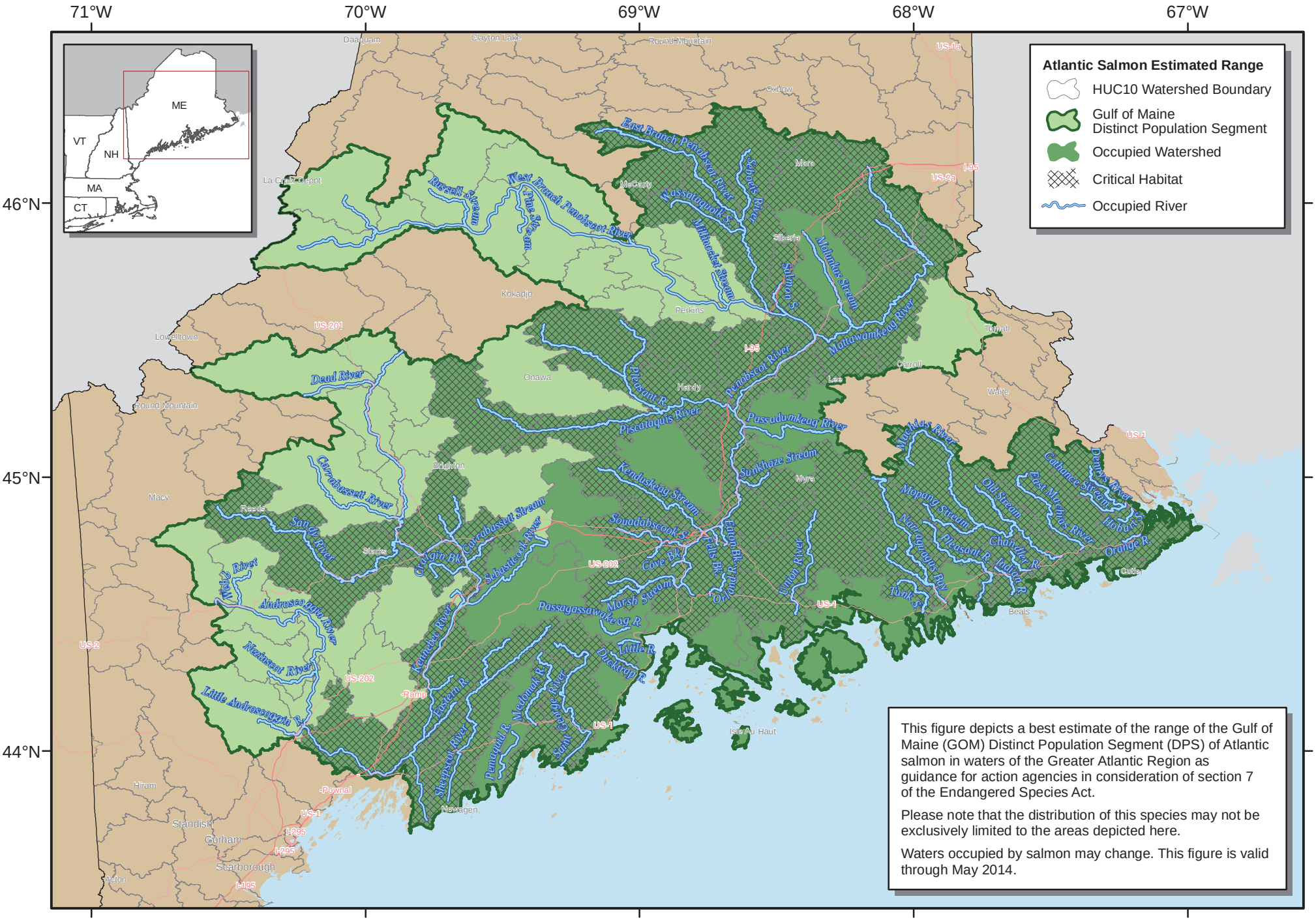
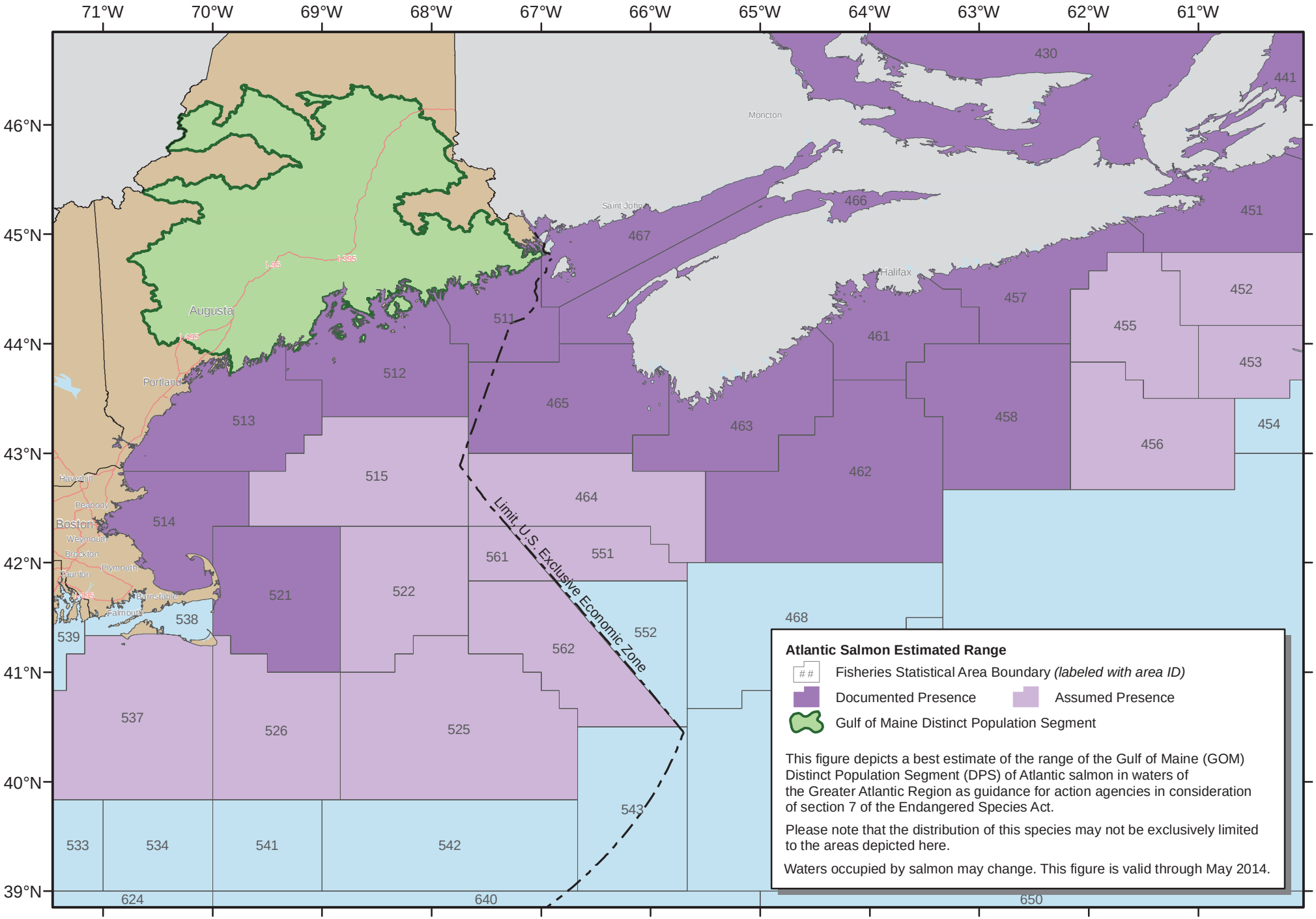
Plotted By: Margolin, Daniel

Attachment 3

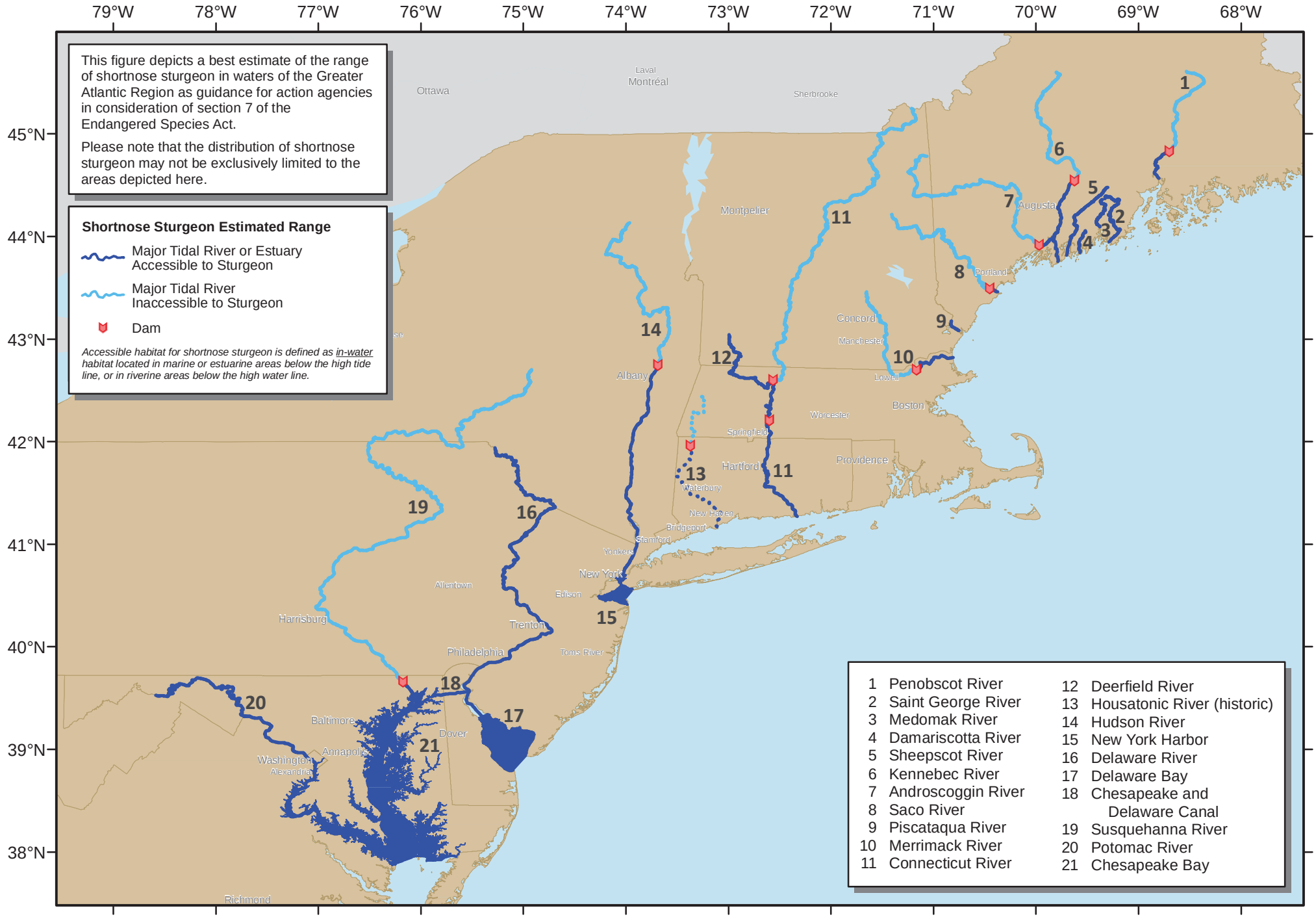
Estimated Inland Range of Atlantic Salmon



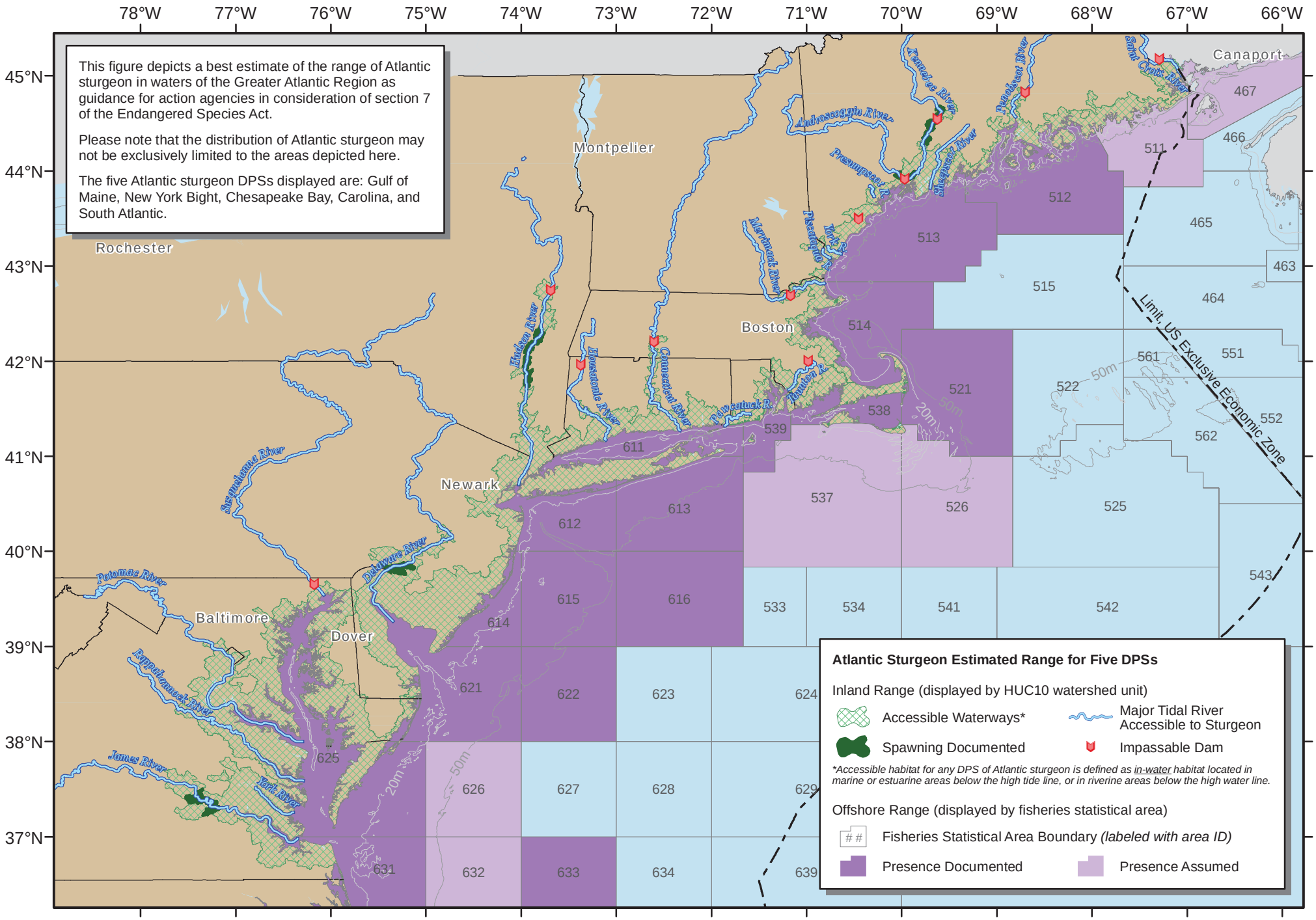
Estimated Offshore Range of Atlantic Salmon



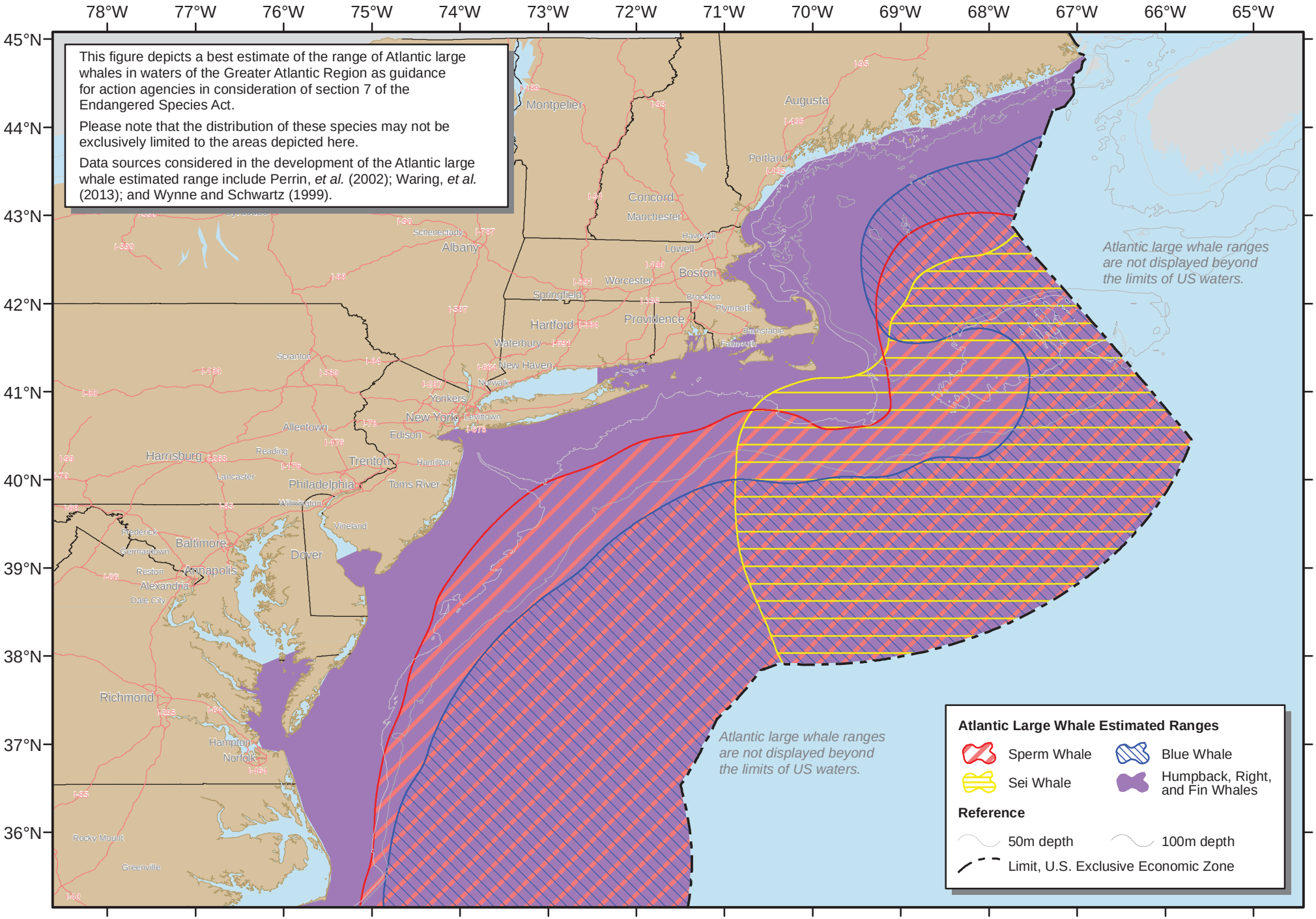
Estimated Range of Shortnose Sturgeon



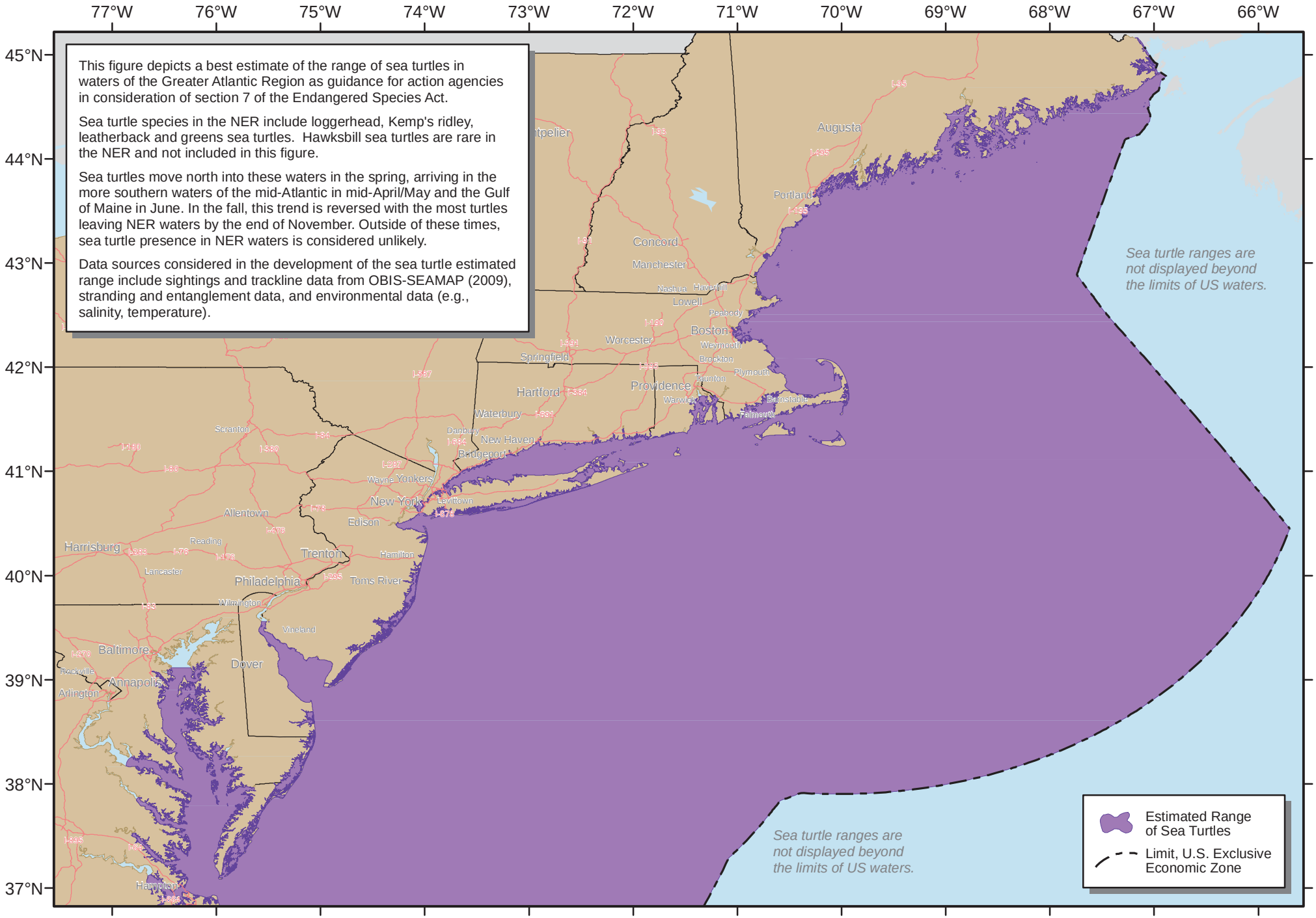
Estimated Range of Atlantic Sturgeon Distinct Population Segments (DPSs)



Estimated Range of Atlantic Large Whales



Estimated Range of Sea Turtles



This figure depicts a best estimate of the range of sea turtles in waters of the Greater Atlantic Region as guidance for action agencies in consideration of section 7 of the Endangered Species Act.

Sea turtle species in the NER include loggerhead, Kemp's ridley, leatherback and greens sea turtles. Hawksbill sea turtles are rare in the NER and not included in this figure.

Sea turtles move north into these waters in the spring, arriving in the more southern waters of the mid-Atlantic in mid-April/May and the Gulf of Maine in June. In the fall, this trend is reversed with the most turtles leaving NER waters by the end of November. Outside of these times, sea turtle presence in NER waters is considered unlikely.

Data sources considered in the development of the sea turtle estimated range include sightings and trackline data from OBIS-SEAMAP (2009), stranding and entanglement data, and environmental data (e.g., salinity, temperature).

Attachment 7

USDA NRCS Soil Resource Map,
USDA Soil Properties Rating Report,
& USDA NRCS Farmland Classification Map

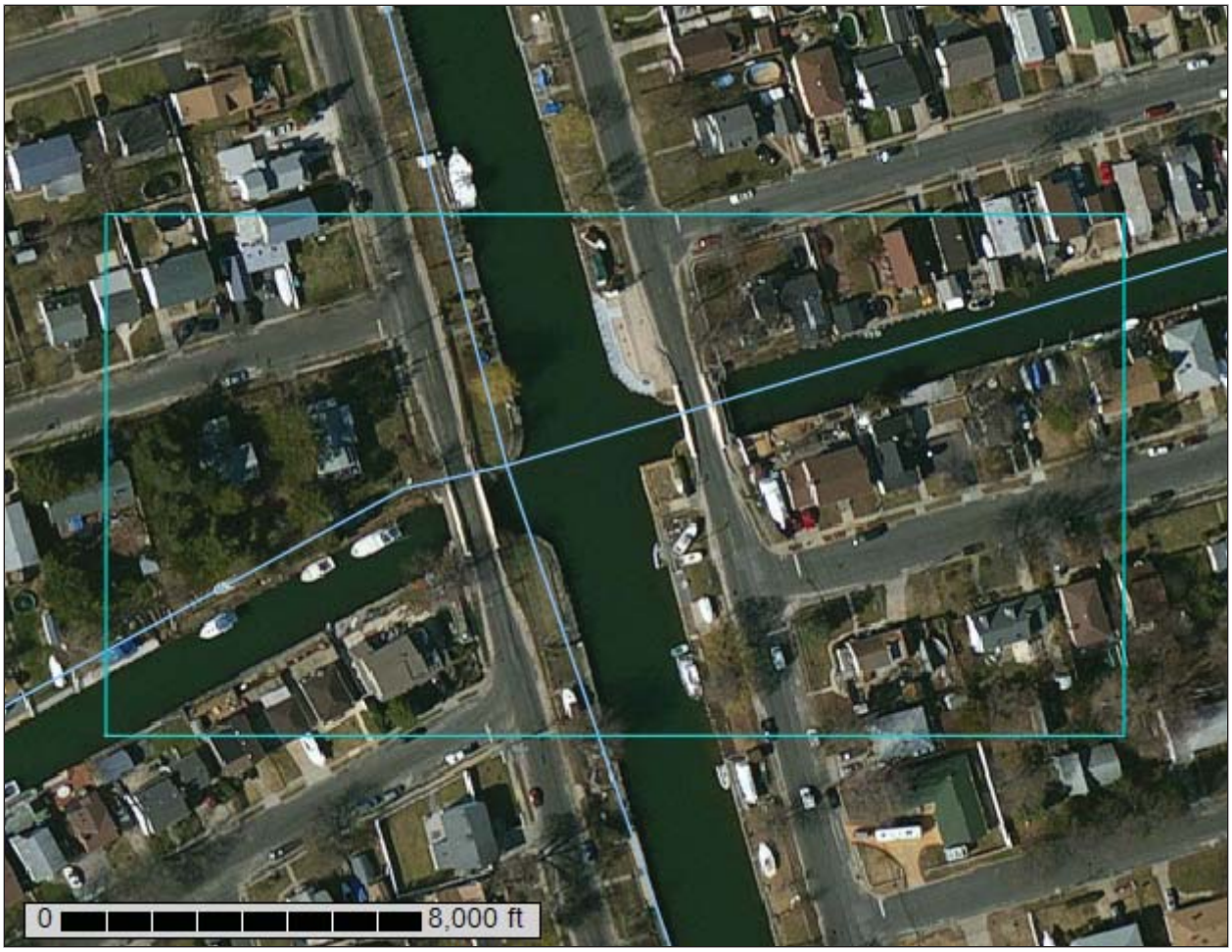
United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Suffolk County, New York



September 15, 2016

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (http://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means

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How Soil Surveys Are Made.....5
Soil Map.....7
Soil Map.....8
Legend.....9
Map Unit Legend.....10
Map Unit Descriptions.....10
Suffolk County, New York.....12
Fs—Fill land, sandy.....12
RhB—Riverhead and Haven soils, graded, 0 to 8 percent slopes.....13
W—Water.....14
Soil Information for All Uses.....15
Suitabilities and Limitations for Use.....15
Land Classifications.....15
Soil Taxonomy Classification.....15
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How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil scientists classified and named the soils in the survey area, they compared the

individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

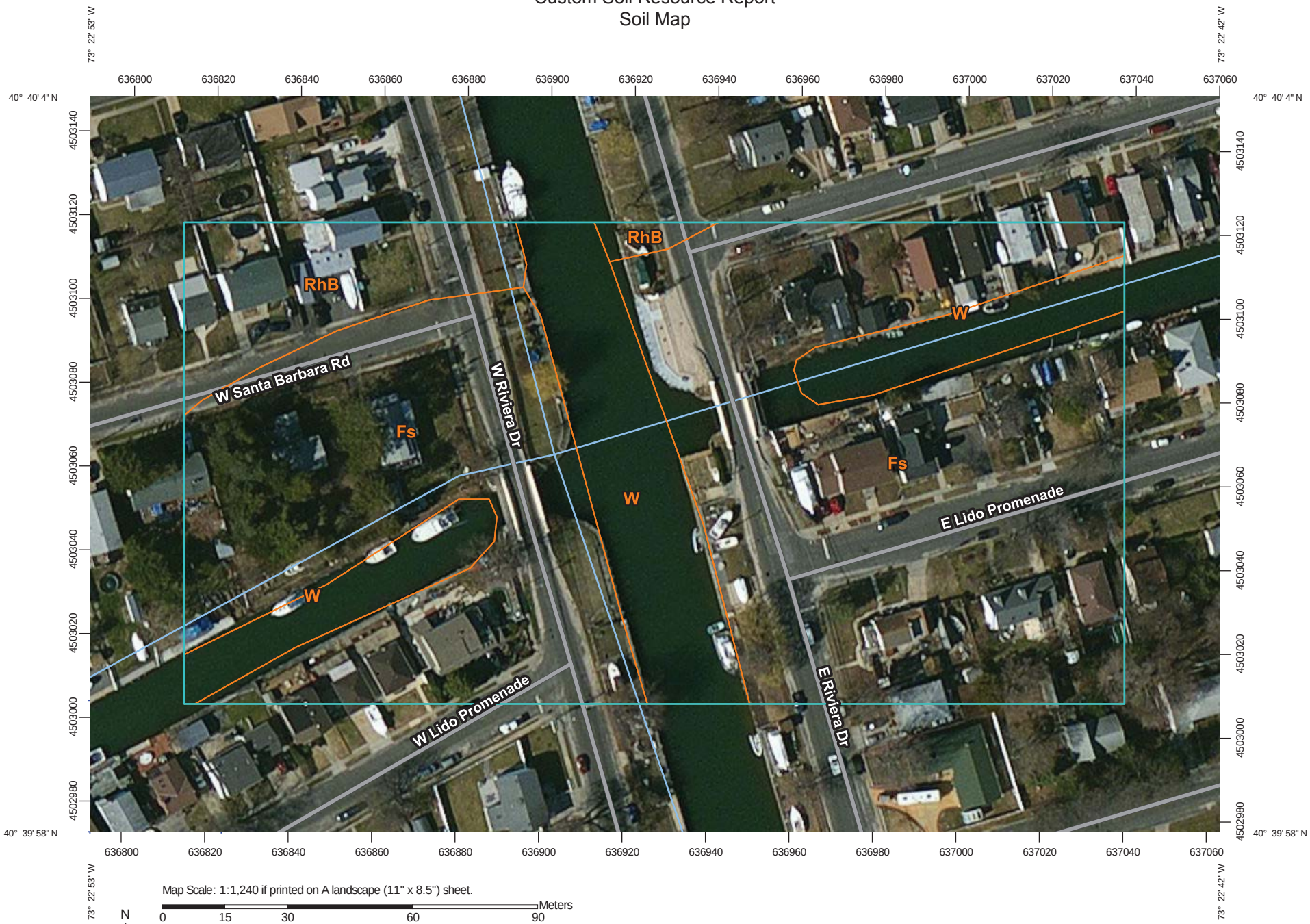
Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map



Map Scale: 1:1,240 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 15 30 60 90

Feet: 0 50 100 200 300

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 18N WGS84

MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features

- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features

- Streams and Canals

Transportation

- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background

- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Suffolk County, New York
Survey Area Data: Version 13, Sep 24, 2015

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Data not available.

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Suffolk County, New York (NY103)			
Map Unit Symbol	**Map Unit Name**	**Acres in AOI**	**Percent of AOI**
Fs	Fill land, sandy	4.7	72.7%
RhB	Riverhead and Haven soils, graded, 0 to 8 percent slopes	0.6	9.0%
W	Water	1.2	18.4%
Totals for Area of Interest		**6.4**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If

intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Suffolk County, New York

Fs—Fill land, sandy

Map Unit Setting

National map unit symbol: 9x6s
Mean annual precipitation: 45 to 50 inches
Mean annual air temperature: 50 to 54 degrees F
Frost-free period: 150 to 225 days
Farmland classification: Not prime farmland

Map Unit Composition

Fill land, sandy: 75 percent
Minor components: 25 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Fill Land, Sandy

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydric soil rating: No

Minor Components

Atsion

Percent of map unit: 5 percent
Landform: Depressions
Hydric soil rating: Yes

Walpole

Percent of map unit: 5 percent
Hydric soil rating: No

Muck

Percent of map unit: 5 percent
Landform: Marshes, swamps
Hydric soil rating: Yes

Wareham

Percent of map unit: 5 percent
Landform: Depressions
Hydric soil rating: Yes

Berryland

Percent of map unit: 5 percent
Landform: Depressions
Hydric soil rating: Yes

RhB—Riverhead and Haven soils, graded, 0 to 8 percent slopes

Map Unit Setting

National map unit symbol: 9x7w
Mean annual precipitation: 45 to 50 inches
Mean annual air temperature: 50 to 54 degrees F
Frost-free period: 150 to 225 days
Farmland classification: Not prime farmland

Map Unit Composition

Riverhead, graded, and similar soils: 45 percent
Haven, graded, and similar soils: 35 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Riverhead, Graded

Setting

Landform: Outwash plains, moraines
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Tread
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Loamy glaciofluvial deposits overlying stratified sand and gravel

Typical profile

H1 - 0 to 12 inches: sandy loam
H2 - 12 to 27 inches: sandy loam
H3 - 27 to 35 inches: gravelly loamy sand
H4 - 35 to 65 inches: stratified coarse sand to gravelly sand

Properties and qualities

Slope: 0 to 8 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Low (about 5.1 inches)

Description of Haven, Graded

Setting

Landform: Outwash plains
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Tread
Down-slope shape: Convex
Across-slope shape: Convex

Parent material: Loamy glaciofluvial deposits over sandy and gravelly glaciofluvial deposits

Typical profile

H1 - 0 to 12 inches: loam
H2 - 12 to 19 inches: loam
BC - 19 to 28 inches: gravelly loam
C - 28 to 60 inches: stratified gravelly sand

Properties and qualities

Slope: 0 to 8 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Low (about 4.6 inches)

Minor Components

Unnamed soils, loamy surface

Percent of map unit: 10 percent
Hydric soil rating: No

Cut and fill

Percent of map unit: 5 percent
Hydric soil rating: Unranked

Montauk, graded

Percent of map unit: 5 percent
Hydric soil rating: No

W—Water

Map Unit Setting

National map unit symbol: 9x85
Mean annual precipitation: 45 to 50 inches
Mean annual air temperature: 50 to 54 degrees F
Frost-free period: 150 to 225 days
Farmland classification: Not prime farmland

Map Unit Composition

Water: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Soil Information for All Uses

Suitabilities and Limitations for Use

The Suitabilities and Limitations for Use section includes various soil interpretations displayed as thematic maps with a summary table for the soil map units in the selected area of interest. A single value or rating for each map unit is generated by aggregating the interpretive ratings of individual map unit components. This aggregation process is defined for each interpretation.

Land Classifications

Land Classifications are specified land use and management groupings that are assigned to soil areas because combinations of soil have similar behavior for specified practices. Most are based on soil properties and other factors that directly influence the specific use of the soil. Example classifications include ecological site classification, farmland classification, irrigated and nonirrigated land capability classification, and hydric rating.

Soil Taxonomy Classification

This rating presents the taxonomic classification based on Soil Taxonomy.

The system of soil classification used by the National Cooperative Soil Survey has six categories (Soil Survey Staff, 1999 and 2003). Beginning with the broadest, these categories are the order, suborder, great group, subgroup, family, and series. Classification is based on soil properties observed in the field or inferred from those observations or from laboratory measurements. This table shows the classification of the soils in the survey area. The categories are defined in the following paragraphs.

ORDER. Twelve soil orders are recognized. The differences among orders reflect the dominant soil-forming processes and the degree of soil formation. Each order is identified by a word ending in sol. An example is Alfisols.

SUBORDER. Each order is divided into suborders primarily on the basis of properties that influence soil genesis and are important to plant growth or properties that reflect the most important variables within the orders. The last syllable in the name of a

suborder indicates the order. An example is Udalfs (Ud, meaning humid, plus alfs, from Alfisols).

GREAT GROUP. Each suborder is divided into great groups on the basis of close similarities in kind, arrangement, and degree of development of pedogenic horizons; soil moisture and temperature regimes; type of saturation; and base status. Each great group is identified by the name of a suborder and by a prefix that indicates a property of the soil. An example is Hapludalfs (Hapl, meaning minimal horizonation, plus udalfs, the suborder of the Alfisols that has a udic moisture regime).

SUBGROUP. Each great group has a typic subgroup. Other subgroups are intergrades or extragrades. The typic subgroup is the central concept of the great group; it is not necessarily the most extensive. Intergrades are transitions to other orders, suborders, or great groups. Extragrades have some properties that are not representative of the great group but do not indicate transitions to any other taxonomic class. Each subgroup is identified by one or more adjectives preceding the name of the great group. The adjective Typic identifies the subgroup that typifies the great group. An example is Typic Hapludalfs.

FAMILY. Families are established within a subgroup on the basis of physical and chemical properties and other characteristics that affect management. Generally, the properties are those of horizons below plow depth where there is much biological activity. Among the properties and characteristics considered are particle-size class, mineralogy class, cation-exchange activity class, soil temperature regime, soil depth, and reaction class. A family name consists of the name of a subgroup preceded by terms that indicate soil properties. An example is fine-loamy, mixed, active, mesic Typic Hapludalfs.

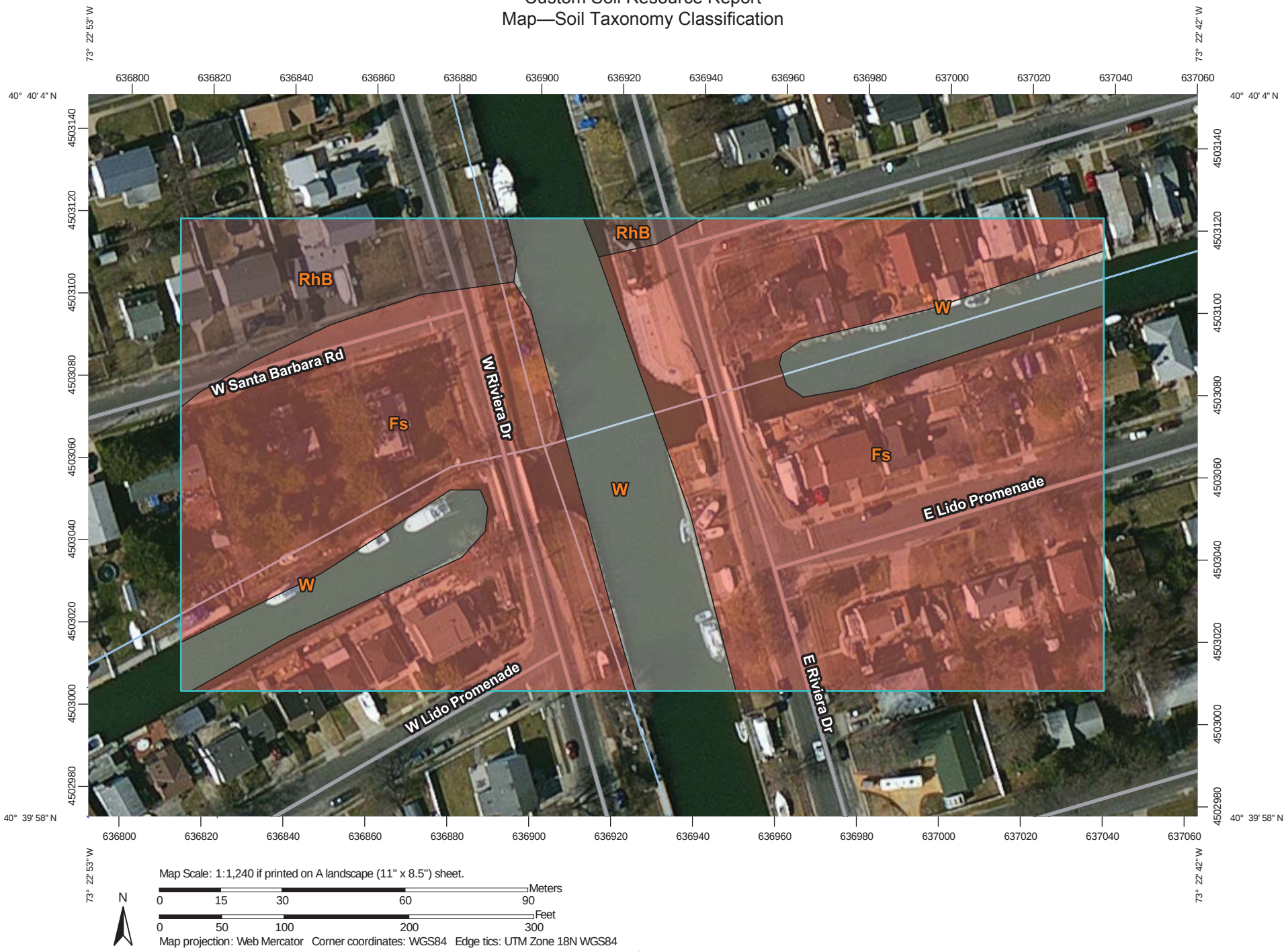
SERIES. The series consists of soils within a family that have horizons similar in color, texture, structure, reaction, consistence, mineral and chemical composition, and arrangement in the profile.

References:

Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service. U.S. Department of Agriculture Handbook 436.

Soil Survey Staff. 2006. Keys to soil taxonomy. 10th edition. U.S. Department of Agriculture, Natural Resources Conservation Service. (The soils in a given survey area may have been classified according to earlier editions of this publication.)

Custom Soil Resource Report
Map—Soil Taxonomy Classification



Map Scale: 1:1,240 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 15 30 60 90

Feet: 0 50 100 200 300

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 18N WGS84

MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Rating Polygons

Coarse-loamy, mixed, mesic Typic Dystrochrepts

Mixed, mesic Udipsamments

Not rated or not available

Soil Rating Lines

Coarse-loamy, mixed, mesic Typic Dystrochrepts

Mixed, mesic Udipsamments

Not rated or not available

Soil Rating Points

Coarse-loamy, mixed, mesic Typic Dystrochrepts

Mixed, mesic Udipsamments

Not rated or not available

Water Features

Streams and Canals

Transportation

Rails

Interstate Highways

US Routes

Major Roads

Local Roads

Background

Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Suffolk County, New York
Survey Area Data: Version 13, Sep 24, 2015

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Data not available.

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Table—Soil Taxonomy Classification

Soil Taxonomy Classification— Summary by Map Unit — Suffolk County, New York (NY103)				
Map unit symbol	**Map unit name**	**Rating**	**Acres in AOI**	**Percent of AOI**
Fs	Fill land, sandy	Mixed, mesic Udipsamments	4.7	72.7%
RhB	Riverhead and Haven soils, graded, 0 to 8 percent slopes	Coarse-loamy, mixed, mesic Typic Dystrochrepts	0.6	9.0%
W	Water		1.2	18.4%
Totals for Area of Interest			**6.4**	**100.0%**

Rating Options—Soil Taxonomy Classification

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Lower

References

American Association of State Highway and Transportation Officials (AASHTO). 2004. Standard specifications for transportation materials and methods of sampling and testing. 24th edition.

American Society for Testing and Materials (ASTM). 2005. Standard classification of soils for engineering purposes. ASTM Standard D2487-00.

Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of wetlands and deep-water habitats of the United States. U.S. Fish and Wildlife Service FWS/OBS-79/31.

Federal Register. July 13, 1994. Changes in hydric soils of the United States.

Federal Register. September 18, 2002. Hydric soils of the United States.

Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.

National Research Council. 1995. Wetlands: Characteristics and boundaries.

Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_054262

Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service, U.S. Department of Agriculture Handbook 436. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053577

Soil Survey Staff. 2010. Keys to soil taxonomy. 11th edition. U.S. Department of Agriculture, Natural Resources Conservation Service. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053580

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United States Army Corps of Engineers, Environmental Laboratory. 1987. Corps of Engineers wetlands delineation manual. Waterways Experiment Station Technical Report Y-87-1.

United States Department of Agriculture, Natural Resources Conservation Service. National forestry manual. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/home/?cid=nrcs142p2_053374

United States Department of Agriculture, Natural Resources Conservation Service. National range and pasture handbook. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/landuse/rangepasture/?cid=stelprdb1043084

United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/scientists/?cid=nrcs142p2_054242

United States Department of Agriculture, Natural Resources Conservation Service. 2006. Land resource regions and major land resource areas of the United States, the Caribbean, and the Pacific Basin. U.S. Department of Agriculture Handbook 296. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053624

United States Department of Agriculture, Soil Conservation Service. 1961. Land capability classification. U.S. Department of Agriculture Handbook 210. http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_052290.pdf

Roads and Streets, Shallow Excavations, and Lawns and Landscaping

Soil properties influence the development of building sites, including the selection of the site, the design of the structure, construction, performance after construction, and maintenance. This table shows the degree and kind of soil limitations that affect local roads and streets, shallow excavations, and lawns and landscaping.

The ratings in the table are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect building site development. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the table indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

Local roads and streets have an all-weather surface and carry automobile and light truck traffic all year. They have a subgrade of cut or fill soil material; a base of gravel, crushed rock, or soil material stabilized by lime or cement; and a surface of flexible material (asphalt), rigid material (concrete), or gravel with a binder. The ratings are based on the soil properties that affect the ease of excavation and grading and the traffic-supporting capacity. The properties that affect the ease of excavation and grading are depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, depth to a water table, ponding, flooding, the amount of large stones, and slope. The properties that affect the traffic-supporting capacity are soil strength (as inferred from the AASHTO group index number), subsidence, linear extensibility (shrink-swell potential), the potential for frost action, depth to a water table, and ponding.

Shallow excavations are trenches or holes dug to a maximum depth of 5 or 6 feet for graves, utility lines, open ditches, or other purposes. The ratings are based on the soil properties that influence the ease of digging and the resistance to sloughing. Depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, the amount of large stones, and dense layers influence the ease of digging, filling, and compacting. Depth to the seasonal high water table, flooding, and ponding may restrict the period when excavations can be made. Slope influences the ease of using machinery. Soil texture, depth to the water table, and linear extensibility (shrink-swell potential) influence the resistance to sloughing.

Lawns and landscaping require soils on which turf and ornamental trees and shrubs can be established and maintained. Irrigation is not considered in the ratings. The ratings are based on the soil properties that affect plant growth and trafficability after vegetation is established. The properties that affect plant growth are reaction; depth to a water table; ponding; depth to bedrock or a cemented pan; the available water capacity in the upper 40 inches; the content of salts, sodium, or calcium carbonate; and sulfidic materials. The properties that affect trafficability are flooding, depth to a water table, ponding, slope, stoniness, and the amount of sand, clay, or organic matter in the surface layer.

Information in this table is intended for land use planning, for evaluating land use alternatives, and for planning site investigations prior to design and construction. The information, however, has limitations. For example, estimates and other data generally apply only to that part of the soil between the surface and a depth of 5 to 7 feet. Because of the map scale, small areas of different soils may be included within the mapped areas of a specific soil.

The information is not site specific and does not eliminate the need for onsite investigation of the soils or for testing and analysis by personnel experienced in the design and construction of engineering works.

Government ordinances and regulations that restrict certain land uses or impose specific design criteria were not considered in preparing the information in this table. Local ordinances and regulations should be considered in planning, in site selection, and in design.

Report—Roads and Streets, Shallow Excavations, and Lawns and Landscaping

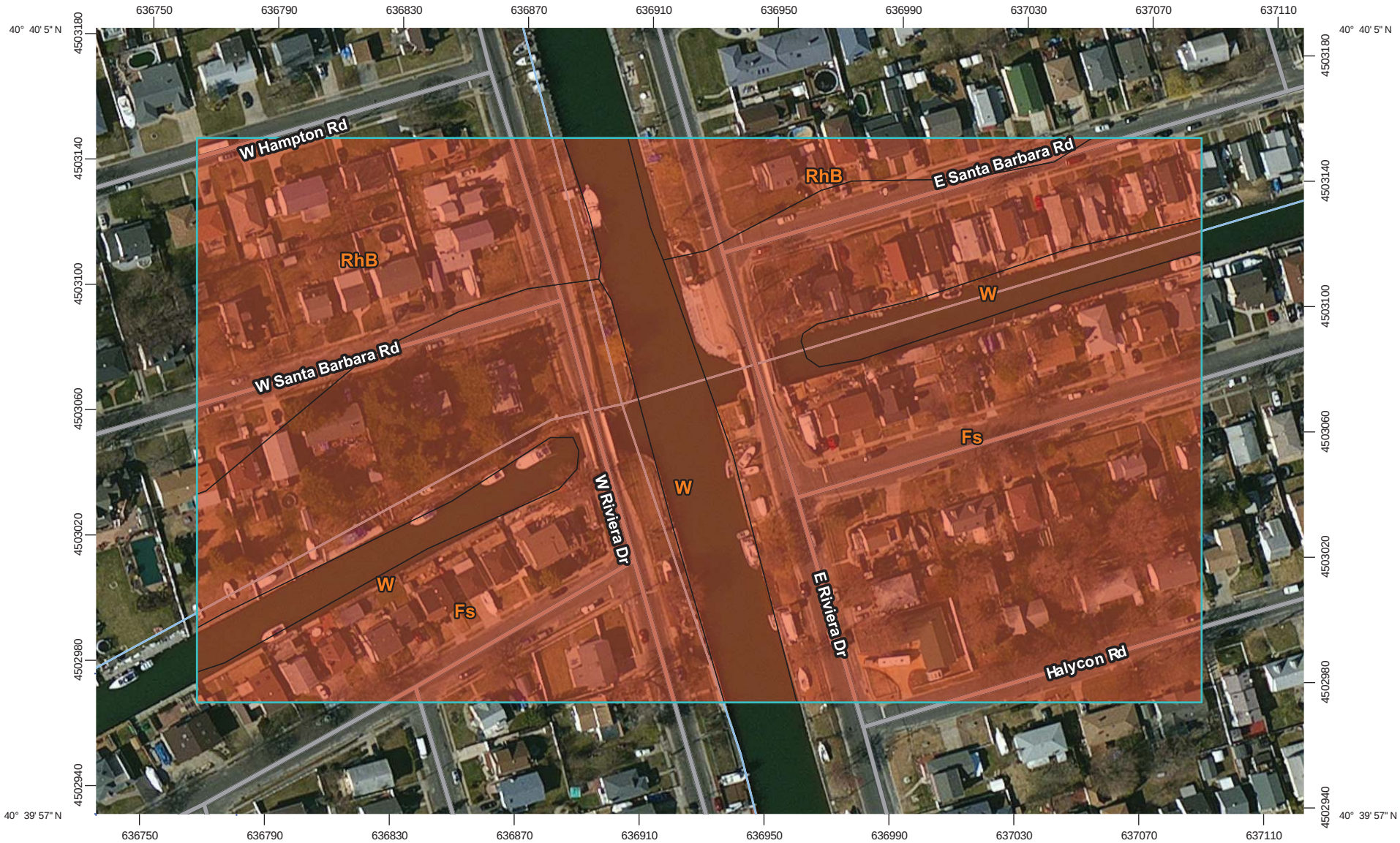
[Onsite investigation may be needed to validate the interpretations in this table and to confirm the identity of the soil on a given site. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the potential limitation. The table shows only the top five limitations for any given soil. The soil may have additional limitations]

Roads and Streets, Shallow Excavations, and Lawns and Landscaping–Suffolk County, New York							
Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Fs—Fill land, sandy							
Fill land, sandy	75	Not rated		Not rated		Not rated	
W—Water							
Water	100	Not rated		Not rated		Not rated	

Data Source Information

Soil Survey Area: Suffolk County, New York
Survey Area Data: Version 12, Sep 16, 2014

Farmland Classification—Suffolk County, New York



Map Scale: 1:1,770 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 25 50 100 150

Feet: 0 50 100 200 300

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 18N WGS84

MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

Soil Rating Polygons

- Not prime farmland
- All areas are prime farmland
- Prime farmland if drained
- Prime farmland if protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated
- Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated and drained
- Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if subsoiled, completely removing the root inhibiting soil layer
- Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
- Prime farmland if irrigated and reclaimed of excess salts and sodium
- Farmland of statewide importance
- Farmland of local importance
- Farmland of unique importance
- Not rated or not available

Soil Rating Lines

- Not prime farmland
- All areas are prime farmland
- Prime farmland if drained
- Prime farmland if protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated
- Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated and drained
- Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if subsoiled, completely removing the root inhibiting soil layer
- Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
- Prime farmland if irrigated and reclaimed of excess salts and sodium
- Farmland of statewide importance
- Farmland of local importance
- Farmland of unique importance
- Not rated or not available

Soil Rating Points

- Not prime farmland
- All areas are prime farmland
- Prime farmland if drained
- Prime farmland if protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated
- Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated and drained
- Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if subsoiled, completely removing the root inhibiting soil layer
- Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
- Prime farmland if irrigated and reclaimed of excess salts and sodium
- Farmland of statewide importance
- Farmland of local importance
- Farmland of unique importance
- Not rated or not available

Water Features

MAP INFORMATION

Streams and Canals

Transportation

Rails

Interstate Highways

US Routes

Major Roads

Local Roads

Background

Aerial Photography

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Suffolk County, New York
Survey Area Data: Version 13, Sep 24, 2015

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Data not available.

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Farmland Classification

Farmland Classification— Summary by Map Unit — Suffolk County, New York (NY103)				
Map unit symbol	**Map unit name**	**Rating**	**Acres in AOI**	**Percent of AOI**
Fs	Fill land, sandy	Not prime farmland	9.7	67.1%
RhB	Riverhead and Haven soils, graded, 0 to 8 percent slopes	Not prime farmland	2.9	20.0%
W	Water	Not prime farmland	1.9	12.9%
Totals for Area of Interest			**14.4**	**100.0%**

Description

Farmland classification identifies map units as prime farmland, farmland of statewide importance, farmland of local importance, or unique farmland. It identifies the location and extent of the soils that are best suited to food, feed, fiber, forage, and oilseed crops. NRCS policy and procedures on prime and unique farmlands are published in the "Federal Register," Vol. 43, No. 21, January 31, 1978.

Rating Options

Aggregation Method: No Aggregation Necessary

Tie-break Rule: Lower

Attachment 8

State Historic and
Tribal Historic Preservation Office
Documentation

Town of Babylon

Dept. of Environmental Control
281 Phelps Lane, Room 23
North Babylon, New York 11703-4045
(631) 957-3000
(631) 422-7640
Fax (631) 422-7686
Email: dec@townofbabylon.com

RICH SCHAFFER
SUPERVISOR

August 1, 2014

Mr. Eric Kuchar
Historic Preservation Technical Specialist
New York State Office of Parks, Recreation
And Historic Preservation
Division for Historic Preservation
Peebles Island
P. O. Box 189
Waterford, New York 12188-0189

Re: CDBG-DR Venetian Bridges – 14PR02568

Dear Mr. Kuchar:

Please find attached a scoping report prepared by Greenman-Pedersen, Inc. The report provides a description of the bridges, three alternatives and a recommended action. The bridges in question are the sole sources of ingress/egress for the residents of this community. The Town of Babylon has had an engineering firm prepare a report entitled "Scoping Report for the Rehabilitation or Reconstruction to Eliminate Load Postings for Riviera Drive (east and west) over Santa Barbara Canal". The report notes the load limits on the bridges. These limits prevent heavy trucks and equipment from entering the community, thus impacting residents trying to rebuild their homes after Sandy. The Town of Babylon Department of Public Works is also unable to rebuild/rehabilitate roads in this area as the trucks to perform this work also exceed the capacity of the bridges.

The Scoping Report presented an alternative whereby the bridges are rehabilitated. This option would increase the load capacity of the bridges by a maximum of 40%. This improvement would not be enough to remove load limits from the bridges and heavy trucks necessary to rebuild the community would remain unable to access the area. It is imperative that the load limit of the bridge be brought up to 36 tons so that emergency vehicles, equipment and trailers can access the community during emergency situations. The GPI report states that only a replacement would achieve this goal. The report recommends replacing the bridges with two new bridges that attempt to replicate the look of the existing bridges. The new bridges would

Antonio A. Martinez, *Councilman, Deputy Supervisor* | Thomas Donnelly, *Councilman* | Jacqueline A. Gordon, *Councilwoman* | Lindsay Patrick Henry, *Councilman* | Corinne DiSomma, *Receiver of Taxes* | Carol A. Quirk, *Town Clerk*

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eliminate all load restrictions and limitation of truck traffic into the community. It should be noted that each bridge serves a separate segment of the community, therefore it would not be possible to only replace one bridge.

Please review the attached and contact me with any further information required to help facilitate this project.

Thank you for your assistance with this project.

Very truly yours,

Joseph Guarino
Principal Environmental Analyst

JG:ch

Attach.

Cc: Ronald C. Kluesener, Chief of Staff
Victoria A. Russell, Commissioner, Environmental Control
Tom Stay, Commissioner, Department of Public Works
Mary Cascone, Historian, Town of Babylon

Andrew M. Cuomo
Governor

Rose Harvey
Commissioner

New York State Office of Parks, Recreation and Historic Preservation

Division for Historic Preservation
Peebles Island, PO Box 189, Waterford, New York 12188-0189
518-237-8643
www.nysparks.com

September 04, 2014

Joseph Guarino
Town of Babylon
Department of Environmental Control
281 Phelps Lane
North Babylon, New York 11703
(*via e-mail only*)

Re: CDBG-DR
Venetian Shores Historic Bridge Restoration
East Riviera Dr. - West Riviera Dr at Santa Barbara, Babylon, Suffolk County
14PR02568

Dear Mr. Guarino:

Thank you for continuing to consult with the State Historic Preservation Office (SHPO). We have reviewed the project in accordance with Section 106 of the National Historic Preservation Act of 1966. These comments are those of the SHPO and relate only to Historic/Cultural resources. They do not include potential environmental impacts to New York State Parkland that may be involved in or near your project. Such impacts must be considered as part of the environmental review of the project pursuant to the National Environmental Policy Act and/or the State Environmental Quality Review Act (New York Environmental Conservation Law Article 8).

Thank you for providing the "Scoping Report for the Rehabilitation or Reconstruction to Eliminate Load Posting dated July 2014. We have reviewed the document and the associated alternatives and offer the following comments.

The American Venice Bridges as noted in the report are in fair condition and are showing signs of deterioration. However, the bridges appear to be operating as designed with the exception of the originally designed 15 ton live loading being downgraded to 12 tons in 1957. Rehabilitation has occurred over the years and the character defining features including the moulded concrete railing and single arch of the original bridges are intact. The purpose for considering rehabilitation or replacement of the two bridges is to increase the live load rating for emergency and construction vehicle access for the rebuilding of the two residential neighborhoods following Superstorm Sandy.

Three alternatives were evaluated and submitted for our review. Alternative 1 consists of rehabilitating the existing bridge with Fiber Reinforced Polymer (FRP), thus increasing the capacity by 40%. Alternatives 2 and 3 consist of replacing the bridge in its entirety. The preliminary designs show a slightly larger span, change in arch radius, and change in the width as it relates to the integration of the sidewalk from that of the historic bridge. The replacement bridge calls for the replication of the historic railing.

The Riviera Drive East and Riviera Drive West bridges are eligible for listing on the National Register and are the only remaining features of the American Venice neighborhood. While much of the neighborhood has been altered, the bridges are the remaining symbols of the neighborhood and should be retained. With regards to the alternatives explored, we request the following information to continue our review:

1. What is the current weight of the fleet of emergency vehicles for the neighborhood? How do emergency vehicles access the neighborhood now and in the past?

2. Were secondary locations on the island considered for the construction of a new bridge while retaining the historic bridges? Please provide an analysis.

3. Were additional rehabilitation methods considered for the bridge that would increase its live load capacity while retaining the historic bridges? Please provide an analysis.

If you have any questions, I can be reached at (518) 237-8643, ext. 3260 or eric.kuchar@parks.ny.gov. Please refer to the SHPO Project Review (PR) number in any future correspondences regarding this project.

Sincerely,

Eric N. Kuchar
Historic Preservation Technical Specialist

CC: Therese J. Fretwell, HUD (*via e-mail only*)

Town of Babylon

Dept. of Environmental Control
281 Phelps Lane, Room 23
North Babylon, New York 11703-4045
(631) 957-3000
(631) 422-7640
Fax (631) 422-7686
Email: dec@townofbabylon.com

RICH SCHAFFER
SUPERVISOR

October 23, 2014

Mr. Eric N. Kuchar
Historic Preservation Technical Specialist
New York State Office of Parks, Recreation
and Historic Preservation
Division of Historic Preservation
Peebles Island
P. O. Box 189
Waterford, New York 12188-0189

Re: CDBG-DR Venetian Shores Bridges
14PR02568

Dear Mr. Kuchar:

The Town of Babylon Department of Environmental Control is in receipt of your comments associated with the above referenced project dated September 4, 2014. The purpose of this correspondence is to provide the information requested by your agency and provide additional detail with respect to the proposed project.

In fulfilling this endeavor, please be advised:

- In the third paragraph of your comments it is stated that "The bridges appear to be operating as designed". Please note that the scoping report prepared by Greenman-Pedersen, Inc. (GPI) in July 2014 (previously forwarded) states "Previous inspection reports that include load ratings, state that the bridges were not ratable because it is a concrete arch and as-builts are not available". GPI concurs with the 12 ton load rating assigned in the past but also states that "Previous reports indicate that the bridges experienced severe corrosion and were repaired in the 1950's", late 1960's and again in 1990. Our experience with concrete structures indicates that once corrosion has begun the process can be slowed but not stopped".

Considering the bridges' history, the above analysis and the fact that these bridges provide the

Antonio A. Martinez, *Councilman, Deputy Supervisor* | Thomas Donnelly, *Councilman* | Jacqueline A. Gordon, *Councilwoman* | Lindsay Patrick Henry, *Councilman* | Corinne DiSomma, *Receiver of Taxes* | Carol A. Quirk, *Town Clerk*

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sole means of ingress and egress into the communities east and west of Riviera Canal, the Amityville/Copiague New York Rising Community Reconstruction Plan (The Plan) identified improvements to the bridges whereby they possess a minimum 20 ton load rating to rectify their deficiency as a priority project. It is noted in the Plan that as a result of the bridges' 12 ton load rating "first responders could not access the neighborhood during Super Storm Sandy". (The weight of emergency and Town of Babylon Department of Public Works (TOBDPW) equipment is provided below). The Plan also found that the "lack of emergency access due to the 12 ton load ratings of the bridges also delayed post storm assistance to the neighborhood". This section of The Plan is attached. For these reasons, the Venetian Shores bridge project was identified by the Community Reconstruction Program (CRP) Committee as a project to improve resiliency to 600 residences in the American Venice area of Copiague by providing access bridges that are rated to accept emergency and DPW vehicles utilized during emergencies. This project has been designated a featured project by New York State due to its ability to "ensure access to critical facilities and evacuation routes for the residents of this community".

Please be advised that rehabilitation of the existing bridges was investigated to achieve the CRP Committee's objective. The GPI report found that the rehabilitation alternative would provide a maximum 40% increase in capacity to the original design and would not increase the bridges' load rating to 20 ton. This alternative would not eliminate load restrictions, or improve access of emergency and construction vehicles to the community during emergency situations. For this reason, replacement of the bridges was chosen as the preferred alternative.

- In the fifth paragraph of the New York State Office of Parks, Recreation and Historic Preservation (NYSOPRHP) comment it is stated that ..."the bridges are the remaining symbols of the neighborhood and should remain".

Please be advised that the original "winged lions, atop five story high pedestals located at the head of the canal that welcomed perspective buyers"[1] to the Venetian Shores development in the 1920's, also remain. If NYSOPRHP's objective is to preserve a portion of the original development, these stone structures could be targeted for preservation. Doing so would satisfy NYSOPRHP's objective of preserving a symbol of the original neighborhood without affecting a project that was targeted to improve resiliency for 600 homes that rely on these two bridges to access their community. To further maintain the character of the neighborhood, the replacement bridges would be specified to match the design of the existing structures. Input from NYSOPRHP in selecting a replacement bridge design would be welcome.

- Item 1 of the NYSOPRHP request for additional information requested:
    - The weight of the fleet of emergency vehicles for the neighborhood.
      From Copiague Fire Department, their pumper truck weight 53,000 lbs. (26.5 tons), their hook and ladder 75,500 lbs. (37 tons). Both vehicles far exceed the load rating for the bridges and the rating for bridge pursuant to the rehabilitation alternative.
    - How do emergency vehicles access the neighborhood now and in the past:

[1] Jacobs Engineering/Cameron Engineering & Associates, LLP and New York Rising Community Reconstruction Village of Amityville/Copiague Committee, New York Rising Community Reconstruction Plan, March 2014

- From the above list it is evident that most equipment of the Copiague Fire Department exceeds the load capacity of the bridges. During an emergency, the Fire District drives over the bridges despite the load limit. This action is understandable but dangerous, and could contribute to damaging the bridges and endanger access to the community. TOBDPW vehicles exceeding the load rating avoid traversing the bridges.

It should also be noted that the load limit on bridges also has affected the Venetian Shores community after the storm.

- Residents with substantially damaged or destroyed homes who found modular homes to be more affordable could not have these homes delivered due to load rating on bridges.

- Damage to the Venetian Shores road system from the storm and aging infrastructure cannot be addressed by Town of Babylon Department of Public Works. Modern road equipment cannot be not sent into this community due to the load rating of the bridges. Road improvements requested by the residents of the community cannot be performed for this reason. Barging equipment in was investigated and found to be too costly to consider proceeding. Rehabilitation of the bridges would not address this deficiency.

- Construction equipment for residential repair/rehabilitation work exceeds the load capacity of the bridges. These vehicles access the community despite exceeding the load rating of the bridges to deliver necessary lumber, concrete…. These deliveries can result in further damage to the structures.
  - Weight for TOBDPW construction equipment:
    6 wheeler, 46,000 pounds/23 tons
    10 wheeler, 60,000 pounds/30 tons
    Payloader, 54,000 pounds/27 tons
    Vac Truck, 72,000 pounds/36 tons
    Asphalt Truck 40-60 tons
    Milling Machine 45 tons
    Bomag Machine 35 tons
    Paving Machine 15 tons

As per GPI: "The new (replacement) bridge would be rated for the latest AASH to design vehicle loading, which is HL-93 using LPFD analysis. This is roughly 45 tons". This project would remove load restrictions to the communities.

- Item 2 from the NYSOPRHP comments inquired if secondary locations on the island were considered for the construction of a new bridge while retaining the historic bridge. Babylon contacted GPI for a response. GPI stated:

  "Secondary locations on the islands were considered for the construction of new bridges in order to retain the existing bridges. The canals are lined with private property along both

East and West Riviera Drive. Thus, new bridge construction in this area would require purchasing real estate from existing homeowners.

To build a bridge to the mainland via Indian Island, a bridge over the main canal would be required. To cross the main canal, the Coast Guard would require that vertical clearance regulations be met. This is estimated at about 15', but may be more. To achieve that vertical lift over the water, assuming a maximum roadway grade of 5%, the approach roadway would have to start raising from street level roughly 360 feet from the high point of the bridge. This would require taking four or five houses on both sides of the street and re-routing the remainder of the block to restore circulation around the viaduct. This would be true for the other side of the bridge onto the mainland as well. It is highly doubtful that this would ever get past environmental reviews and community opposition. The cost of this alternative are estimated to be at least $25 million plus significant ancillary costs including real estate acquisitions via eminent domain proceedings and environmental impact studies. This process would entail many years to implement."

Aside from the above, it must be noted that Indian Island serves as a valuable dredge spoil location for western Suffolk County. Few dredge spoil locations exist and new locations are difficult to create. Loss of this deposition site will complicate and significantly increase the cost and difficulty to dredge the creeks and canals of this area.

- Item 3 of the NYSOPRHP comments inquired if additional rehabilitation methods were considered for the bridges that would increase this live load capacity while retaining the existing bridges. Babylon contacted GPI to address this comment. GPI responded:

  "As-built bridges for the East and West Riviera Drives bridges are not available for review. Typically, bridges built in this era were designed for 15 ton live load. In addition to the 3 alternatives listed in the July 2014 report, GPI did consider other rehabilitation methods. However, these other rehabilitation methods would require destructive testing of the existing bridges in order to obtain material properties of the concrete arch structure. These destructive tests would include concrete cores of the arch rib from below and test pits on top of the bridge to check the condition of the top of the concrete arch as well as take cores of the arch.

  Based on the current condition and age of the bridges, GPI did not think it was prudent to perform these destructive tests of the bridges."

The above response to the NYSOPRHP comments provide additional clarity and details for this proposed project and hopefully assist your agency in understanding why replacement was chosen as the "preferred" alternative. It is imperative for the 600 affected homes to be certain they can maintain access to critical facilities and emergency routes during a severe storm. Load restrictions on bridges providing the sole means of access to a community create a difficult dilemma when emergency and rescue vehicles that exceed these limits must access the community. Further, these residents cannot be provided municipal services all other Babylon residents receive and expect on account of TOBDPW equipment exceeding the load capacity of the bridges. Lastly, deliveries of construction materials made to the community often exceed present load restriction. The rehabilitated bridges would not eliminate the load limit and the

problems these limits present to this community. To improve the resiliency of this neighborhood, the safety to its residents and permit access of necessary equipment to maintain and deliver construction items, the bridges in question have been found to require replacement as per the scoping document prepared by GPI. NYSOPRHP's input selecting a replacement bridge that meets the Committee's criteria would be welcome.

I hope this clarifies the questions your agency maintained with respect to this project, and should you have any further questions please contact me at your earliest convenience.

Very truly yours,

Joseph Guarino
Principal Environmental Analyst

JG:ch

Attach.

Cc: Rich Schaffer, Supervisor, Town of Babylon
Ronald C. Kluesener, Chief of Staff, Town of Babylon
Victoria A. Russell, Commissioner, Environmental Control, Town of Babylon
Tom Stay, Commissioner, Department of Public Works, Town of Babylon
Mary Cascone, Town Historian, Town of Babylon
Zach Richner, Director of New York Rising (email)
Vanessa Lockel, Suffolk County LEAD Community Reconstruction Program (email)

Andrew M. Cuomo
Governor

Rose Harvey
Commissioner

New York State Office of Parks, Recreation and Historic Preservation

Division for Historic Preservation
Peebles Island, PO Box 189, Waterford, New York 12188-0189
518-237-8643
www.nysparks.com

November 25, 2014

Mr. Joseph Guarino
Principal Environmental Analyst
Town of Babylon
Department of Environmental Control
281 Phelps Lane
North Babylon, NY 11703

Re: CDBG-DR
Venetian Shores Historic Bridge Restoration
East Rivera Dr. - West Riviera Dr. at Santa Barbara
14PR02568

Dear Mr. Guarino:

Thank you for continuing to consult with the New York State Historic Preservation Office (SHPO). We have reviewed the provided information in accordance with Section 106 of the National Historic Preservation Act of 1966. These comments are those of the SHPO and relate only to Historic/Cultural resources. They do not include other environmental impacts to New York State Parkland that may be involved in or near your project. Such impacts must be considered as part of the environmental review of the project pursuant to the National Environmental Policy Act and/or the State Environmental Quality Review Act (New York Environmental Conservation Law Article 8).

Thank you for providing the requested additional information regarding the weight of the current emergency vehicle fleet and construction vehicles, alternative bridge locations, and alternative rehabilitation methods. With regards to the current load rating of the bridges, your letter dated October 23, 2014 notes that GPI has concurred with the 12 ton load rating that was assigned in the past following three (3) previous repair projects (1950's, 1960's & 1990) that proposed to correct the severe corrosion of the concrete. We understand that the Copiague Fire Department trucks range from 26.5 tons to 37 tons and that Town of Babylon Department of Public Works construction equipment range from 15 tons to 60 tons. Furthermore, your letter states that rehabilitation was considered, but that this alternative would provide a maximum 40% increase in capacity and would not increase the bridges' load rating to a minimum of 20 tons as identified in the Amityville/Copiague New York Rising Community Reconstruction Plan that improves resiliency for 600 homes in the American Venice neighborhood. Further destructive testing was considered to provide potential rehabilitation alternatives, but was not undertaken at this time owing to the current conditions.

Your letter states that alternative sites were considered for the construction of new bridges, but that the canals are lined with private property and thus would require the purchase of real estate from existing homeowners and increased vertical design requirements per the USGC for clearance at the main canal.

As we noted in our initial July 15, 2014 letter, demolition of historic properties, eligible or listed on the National Register of Historic Places, is deemed an Adverse Effect. Based on the submitted correspondence, site constraints, and safety concerns to vehicular traffic, it is the SHPO's opinion the project will have an ***Adverse Effect*** upon properties in or eligible for inclusion in the National Register of Historic Places. As a result, our office concurs with the findings of the Scoping Report dated July 2014 and the subsequent additional information dated August 1, 2014 and October 23, 2014. The SHPO is willing to enter into an Agreement that recognizes the associated adverse effect and lists mitigation measures including the continued consultation with our office for the proposed bridge replacement design.

Per #6 of the Secretary of the Interior Standards for Rehabilitation, "*where the severity of deterioration requires replacement of a distinctive feature, the new feature shall match the old in design, color, texture, and other visual qualities and, where possible, materials*." Per drawings SK-1through SK-3(July 18, 2014) included in the Scoping Report, we understand that the design of the bridge will incorporate many of the character defining features of the existing bridge. We recommend that the radius of the arch and hand railing design closely match the existing bridge design.

Please provide this letter to the appropriate HUD project contact (Lead Agency, project Sponsor and our office will have to be signatories for the Agreement). We will also need to know if the Lead Agency or our office will develop the Agreement.

If further correspondence is required regarding this project, I can be reached at (518) 237-8643, ext. 3260 or at eric.kuchar@parks.ny.gov. Please be sure to refer to the Project Review (PR) number noted above.

Sincerely,

Eric N. Kuchar
Historic Preservation Technical Specialist via e-mail only

CC: Therese Fretwell, HUD (*via e-mail only*)
Tom King, Governor's Office of Storm Recovery (*via e-mail only*)
Jodi McDonald, USACE (*via e-mail only*)

Andrew M. Cuomo
Governor

Rose Harvey
Commissioner

New York State Office of Parks, Recreation and Historic Preservation

Division for Historic Preservation
Peebles Island, PO Box 189, Waterford, New York 12188-0189
518-237-8643
www.nysparks.com

February 04, 2015

Mr. Tom King
Assistant General Counsel
Governor's Office of Storm Recovery
99 Washington Avenue Suite 1224
Albany, NY 12231

Re: CDBG-DR
Venetian Shores Historic Bridge Restoration
East Riviera Dr. - West Riviera Dr. at Santa Barbara
14PR02568

Dear Mr. King:

Thank you for continuing to consult with the New York State Historic Preservation Office (SHPO). We have reviewed the provided information in accordance with Section 106 of the National Historic Preservation Act of 1966. These comments are those of the SHPO and relate only to Historic/Cultural resources.

We have reviewed the Area of Potential Effect (APE) as determined by the New York State Governor's Office of Storm Recovery (GOSR) in conjunction with the Town of Babylon as defined in Enclosure 1. We concur with your APE determination.

The SHPO concurs with the Town of Babylon Historian Mary Cascone's finding (letter dated January 20 2015) that there are no previously recorded archaeological resources within, or in the vicinity of the project's APE. The SHPO has no concerns regarding the projects potential impacts to archaeological resources.

We look forward to continued consultation with your office and receiving the draft MOA.

If further correspondence is required regarding this project, I can be reached at (518) 237-8643, ext. 3260 or at eric.kuchar@parks.ny.gov. Please be sure to refer to the Project Review (PR) number noted above.

Sincerely,

Eric N. Kuchar
Historic Preservation Technical Specialist via e-mail only

CC: Joseph Guarino, Town of Babylon

GOVERNOR'S OFFICE OF STORM RECOVERY

Andrew M. Cuomo
Governor

James Rubin
Executive Director

March 9, 2015

Daniel S. Collins Sr., Chairman
Shinnecock Indian Nation Tribal Office
PO Box 5006
Southampton, NY 11969

Re: Section 106 Discussion
CDBG-DR, NYRCR Funding Application for the Reconstruction of the American Venice Bridges
Hamlet of Copiague, Town of Babylon, Suffolk County, NY

Dear Mr. Collins,

Pursuant to the Disaster Relief Appropriations Act, 2013 (Public Law 113-2) and the Housing and Community Development Act (42 U.S.C. § 5301 et seq.), the Governor's Office of Storm Recovery (GOSR) is acting under the auspices of New York State Homes and Community Renewal's Housing Trust Fund Corporation as a recipient of Community Development Block Grant – Disaster Recovery ("CDBG-DR") funds from the United States Department of Housing and Urban Development ("HUD"). GOSR is the entity responsible for compliance with the HUD environmental review procedures set forth in 24 CFR Part 58. GOSR is acting on behalf of HUD in providing the enclosed project information and inviting this discussion with your Nation to respond with any concerns or comments.

GOSR processes environmental reviews for projects funded with HUD CDBG-DR on a case-by-case basis. This project described herein was reviewed in conjunction with Town of Babylon Historian, Mary Cascone. Upon review of the project, GOSR and the Town directly referred the project to the State Historic Preservation Office for review. In accordance with Section 101(d)(6)(B) of the National Historic Preservation Act (NHPA) of 1966, as amended (16 U.S.C. 470a), and its implementing regulations, 36 Code of Federal Regulations (CFR) Part 800, this letter serves as notification of the proposed action.

Area of Potential Effect: GOSR proposes to funding application to deconstruct and replace the two American Venice Bridges, on East/West Riviera Drive over the Santa Barbara Canal in the American Venice neighborhood of the Hamlet of Copiague, Suffolk County, New York and construct new replacement bridges in place. The two bridges provide the only vehicular access point to the neighborhoods south of each bridge. A map depicting the area of potential effect is enclosed with this letter.

Proposed Project Description: Due to the damage caused by flooding and erosion as a result of Superstorm Sandy, the Town of Babylon has applied to GOSR under the NYRCR Program to fund the deconstruction and replacement of the two American Venice Bridges. The current bridges have a load rating of 12 tons only, and the bridges do not support use by heavy emergency and rescue equipment or heavy equipment necessary to remove storm debris. In order to decrease vulnerability to these neighborhoods, the bridges will be replaced with 20-ton capacity bridges so that heavy emergency, rescue, and construction equipment and vehicles have unrestricted access to the neighborhoods in the event of an emergency.

Project activities will involve the removal of the two adjacent bridges and replacement with new bridges of

higher carrying capacity. The current bridges' roadways are 19.5 feet wide with an additional 4-foot wide sidewalk. The bridges span 38 feet from abutment to abutment. These two bridges will be removed. The new bridges' roadways will be 21 feet wide and each will have a 5.5-foot wide sidewalk. The bridges' edges will have a 1-foot and 2-inch Texas Aesthetic Barrier. The new bridges will include a replacement 8-inch water main in a 12-inch sleeve and a replacement 4-inch gas main in a 6-inch sleeve under the sidewalk decking. The demolition/construction of each bridge will be phased so that only one-half of the bridge is demolished and constructed at one time. This will allow for the use of a one-lane bridge for vehicular access to and from the neighborhoods whilst the demolition and construction is occurring.

The current lower arch sections and bridge abutment sections supporting the existing bridge are located in the canal banks. These concrete abutments which are in the canal banks/waterway are proposed to remain in place with only minor work to repair sheathing around the abutments. New abutments are proposed landward of the current abutments and will not impact the canals on site. However, final engineered designs for the new bridges are not yet completed and it is possible that the final scope of work will necessitate the removal and rebuilding of the abutments on the canal banks, or other intensive work to repair the abutments.

The upper arch sections of the current bridges will be completely removed. The new bridge arch sections are currently proposed to be built on new bridge foundations located landward of the preexisting lower arch sections. Concrete fill will be used to connect the preexisting foundation (lower arch sections) and the new foundations. The new bridge arch support will be at the same heights as the current bridges in the center of arch, with only very minor deviations from the current arch angles over the canal. The new bridges will be formed using precast and cast-in-place concrete.

GOSR has consulted with New York State Historic Preservation Office (NYS SHPO) in accordance with the NHPA, and SHPO has determined that the project will have an *Adverse Effect* upon properties in or eligible for inclusion in the National Register of Historic Places. Thus, GOSR, the Town of Babylon, and NYS SHPO will enter into an agreement by which mitigation measures, such as incorporating the character defining features of the bridges into the new bridge design, are identified which will take place in order for the project to occur (Per #6 of the Secretary of the Interior Standards for Rehabilitation "where the severity of deterioration requires replacement of a distinctive feature, the new feature shall match the old in design, color, texture, and other visual qualities and, where possible, materials").

SHPO has indicated in writing that it concurs with GOSR's and the Town of Babylon Historian, Mary Cascone's, Area of Potential Effect (APE) Determination. Moreover, the SHPO concurs that there are no previously recorded archaeological resources within, or in the vicinity of the project's (APE). This correspondence is included in the enclosures of this letter.

With this letter, GOSR respectfully submits for your review the attached documentation for the proposed project(s) described herein. If the Area of Potential Effect encompasses historic properties of religious or cultural significance to your Nation, please respond within 15 days or sooner. Additionally, please indicate if there are other sources of information or other parties, Nations, Tribes, or members of the public you believe should be included in the consultation process. Please respond by email or in writing to the address listed below.

Mr. Thomas King
Certifying Environmental Officer
Governor's Office of Storm Recovery
99 Washington Avenue
Suite 1224
Albany, New York 12231

I am available to answer any questions that you may have regarding this action. If you have any questions, please feel free to contact me at (646) 417-4660 or via email at Thomas.King@stormrecovery.ny.gov.

Sincerely,

Thomas J. King
Assistant General Counsel and Certifying Officer

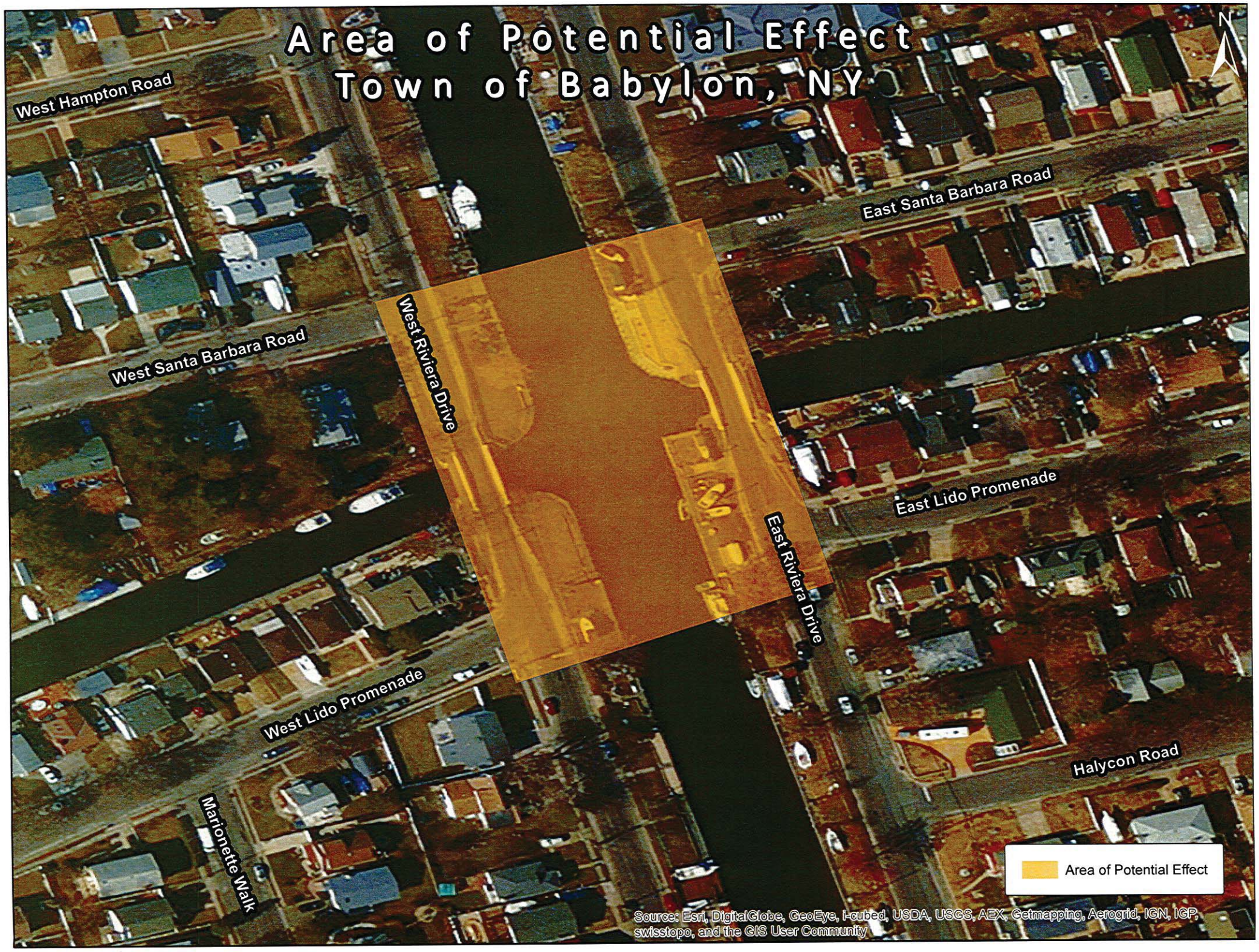
Enclosures:
Area of Potential Effect Map
American Venice Bridges History
Letters Documenting No Archaeological Resources
SHPO Concurrence of APE and No Archaeological Resources
Correspondence Regarding SHPO

Mailed letter sent to:
Daniel S. Collins Sr., Chairman
Shinnecock Indian Nation Tribal Office
PO Box 5006
Southampton, NY 11969

Electronic letter sent to:
Daniel S. Collins Sr., Chairman
Shinnecock Indian Nation Tribal Office
PO Box 5006
Southampton, NY 11969
sination@optonline.net

Tohanash Tarrant
Shinnecock Indian Nation Tribal Office
PO Box 5006
Southampton, NY 11969
tohanash.tarrant@shinnecock.org

Area of Potential Effect
Town of Babylon, NY



The two winged-lion columns on Montauk Highway, between Riviera Drives East and West are important historic landmarks in the American Venice community. However, the proposed restoration of the bridges on Riviera Drive East and Riviera Drive West will not impact the winged-lion columns, which are located on private property, about one-third of a mile north of the bridges.

Built around 1926, the columns flanked the administration buildings of the American Venice Corporation; the former administration plaza is now the private business property of RPM Marine, 711 W. Montauk Highway, Lindenhurst.[1] The administration plaza and winged-lion columns were designated in the American Venice Historic District by the Town of Babylon in 2007, and nominated to the 2011 Endangered Historic Properties list by the Society for the Preservation of Long Island Antiquities (SPLIA).

The bridges on Riviera Drive East and Riviera Drive West were built around 1926, linking the northern and southern residential quadrants of the American Venice community. The design of the bridges was reportedly inspired by the Della Paglia Bridge, in Venice, Italy. Additional community bridges were proposed by the developers, but were never constructed. In the late 1980's, there was some concern that the American Venice bridges were unsuitable for vehicular traffic, and a former Town of Babylon Superintendent of Highways proposed that they be replaced by flat-steel bridges. The American Venice Civic Association, as well as a number of other citizens and community groups, fought to save the bridges, which were successfully restored by the Town of Babylon in 1989. The basic structure of the bridges has remained the same since the 1920s; however, photographs reveal that column spires and railings at the bridge bases may have been removed in the 1950s when a pedestrian walkway was added to the vehicular roadway.

In 1989, the American Venice Civic Association (AVCA)[2] made an application to SHPO regarding the eligibility of the two bridges and two winged-lion columns for the National Register of Historic Places. The Building-Structure Inventory Form filed by the AVCA stated that the winged-lion columns are privately owned and the bridges are publicly owned.

In 2007, the Town of Babylon determined that the structure at RPM Marine, built around 1961, encapsulates the former administration buildings. The Town of Babylon made a proposal to acquire the RPM Marine property for restoration of the entire administration plaza, including the two administration buildings, two winged-lion columns, and the San Marco Lagoon. Unfortunately, the restoration plans proposed in 2007 have not come to fruition, but remain a viable project. A second island at the south end of the Grand Canal, known as the Rialto, has also being considered for restoration by the Town of Babylon and community residents.

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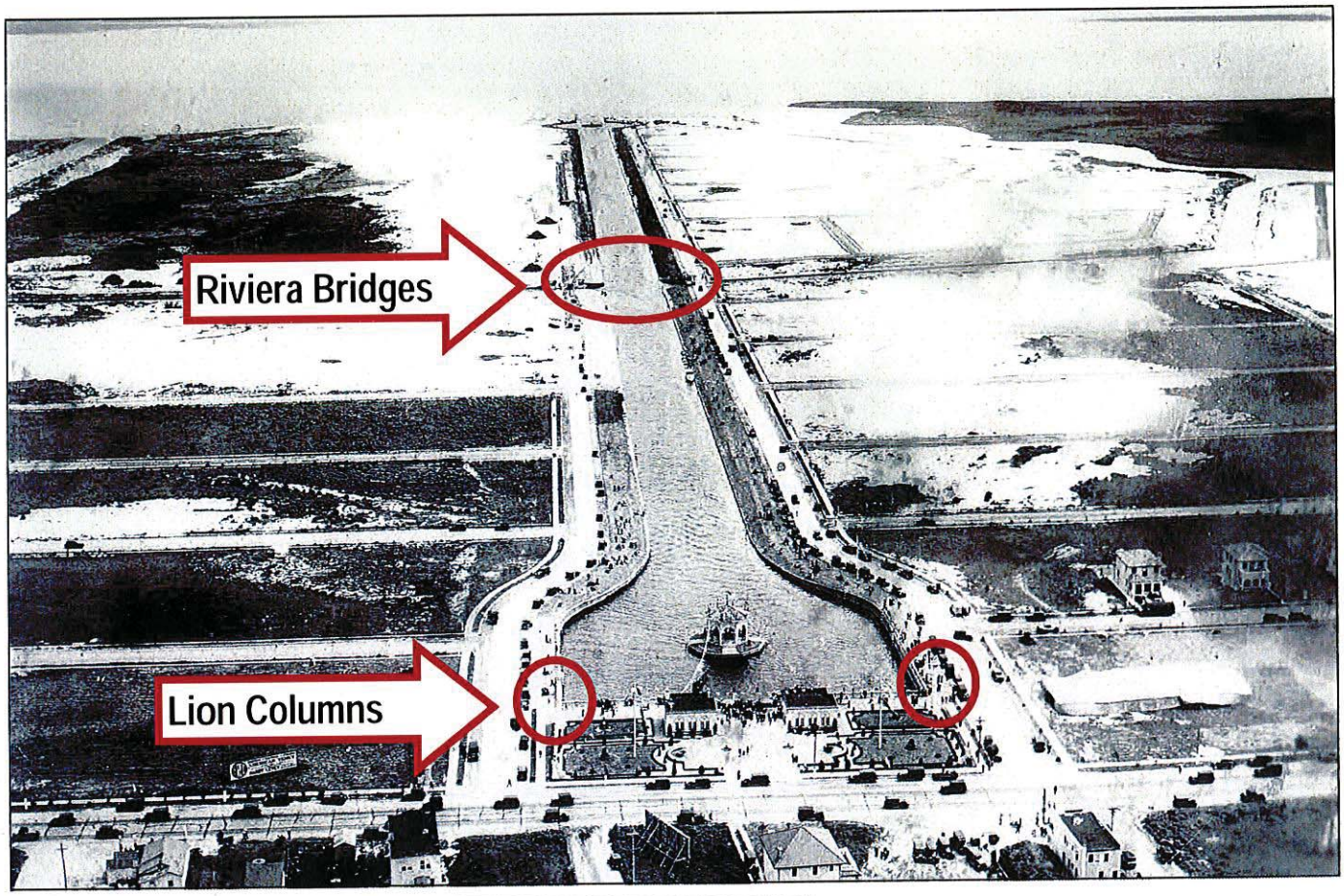
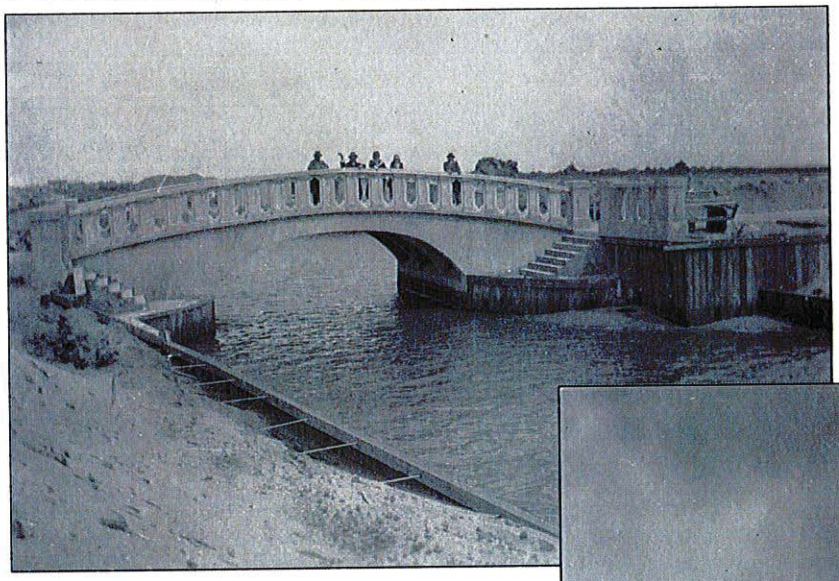
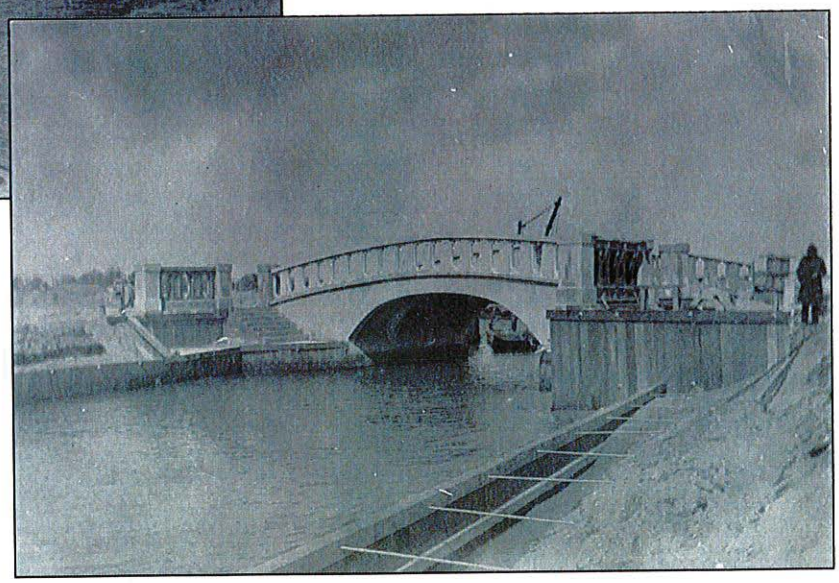
[1] Please note: (1) Although the American Venice is designated with Lindenhurst postal addresses, the community is located in the hamlet of Copiague. (2) The American Venice community is often confused with the South Shore community of Venetian Shores, which is also designated with Lindenhurst postal addresses, but is located in the hamlet of West Babylon.

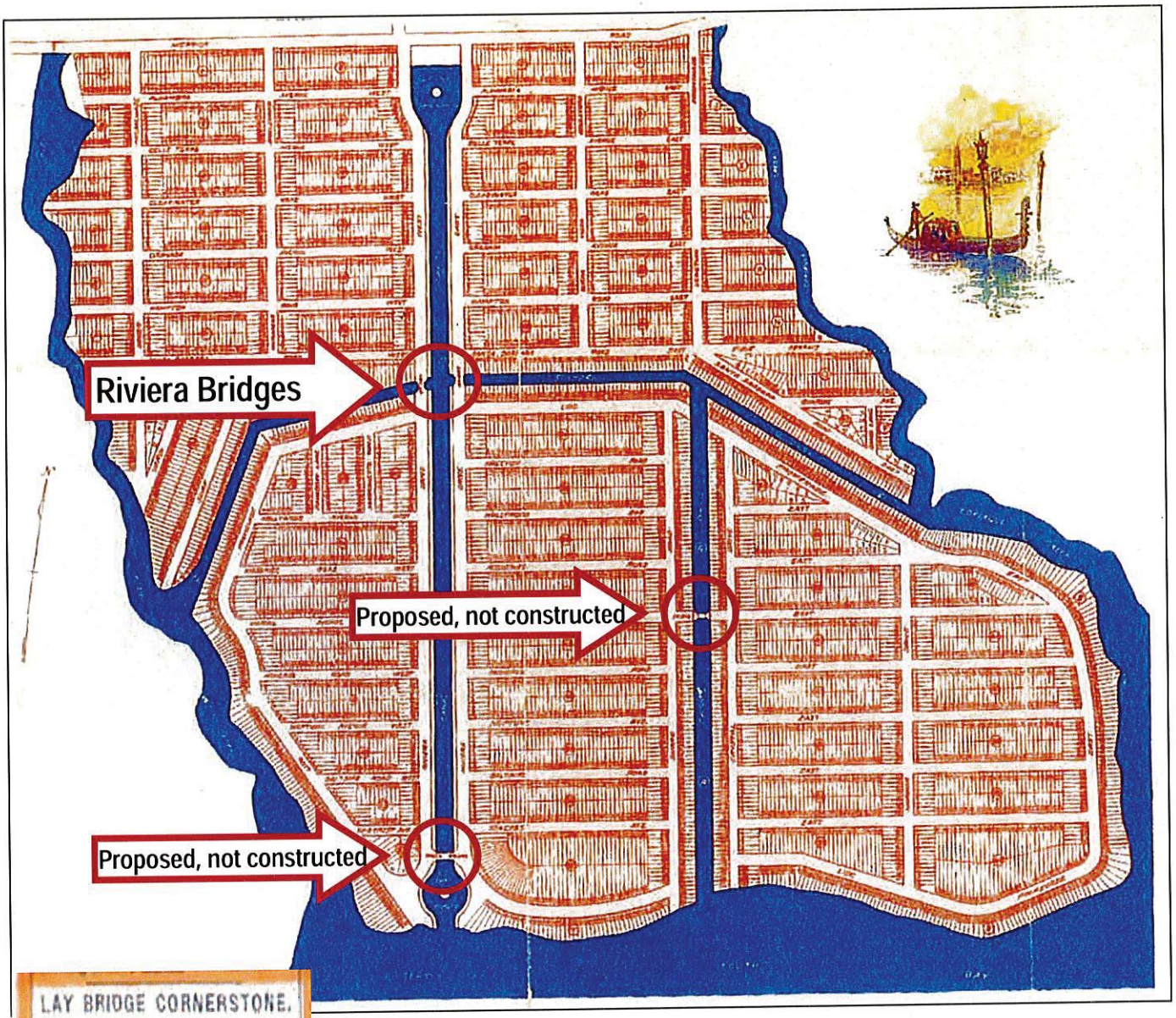
[2] The American Venice Civic Association is inactive.

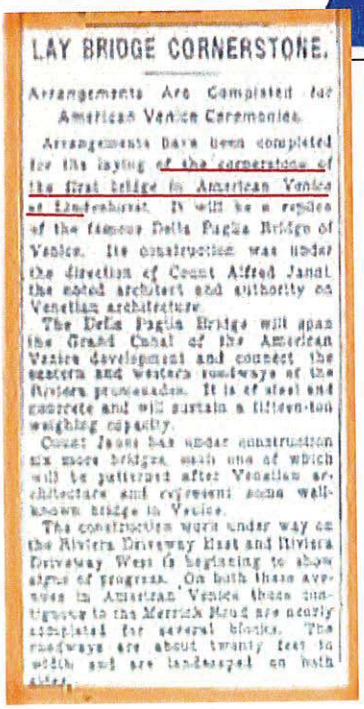


c. 1926









LAY BRIDGE CORNERSTONE.

Arrangements Are Completed for American Venice Ceremonies.

Arrangements have been completed for the laying of the cornerstone of the first bridge in American Venice at Lindenhurst. It will be a replica of the famous Della Paglia Bridge of Venice. Its construction was under the direction of Count Alfred Janni, the noted architect and authority on Venetian architecture.

The Della Paglia Bridge will span the Grand Canal of the American Venice development and connect the eastern and western roadways of the Riviera promenades. It is of steel and concrete and will sustain a fifteen-ton weighing capacity.

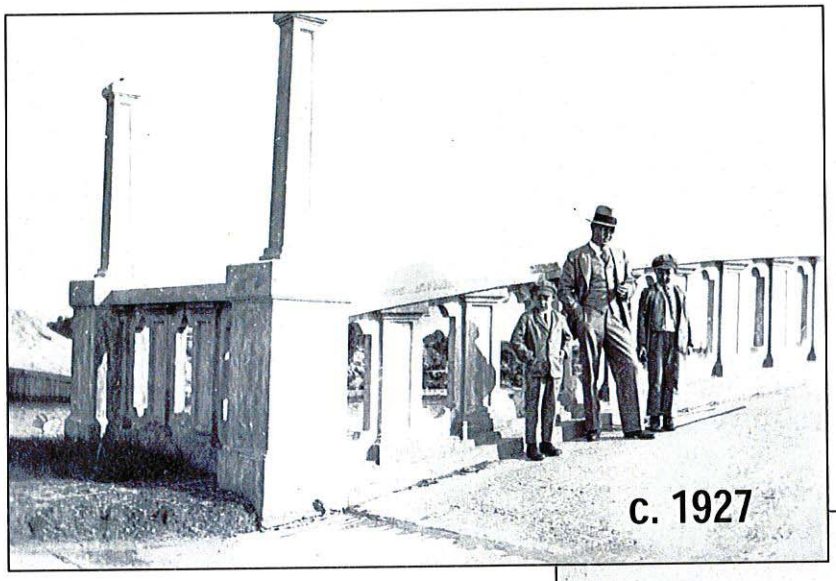
Count Janni has under construction six more bridges, each one of which will be patterned after Venetian architecture and represent some well-known bridge in Venice.

The constructive work under way on the Riviera Driveway East and Riviera Driveway West is beginning to show signs of progress. On both these avenues in American Venice these contiguous to the Merrick Road are nearly completed for several blocks. The roadways are about twenty feet in width and are landscaped on both sides.

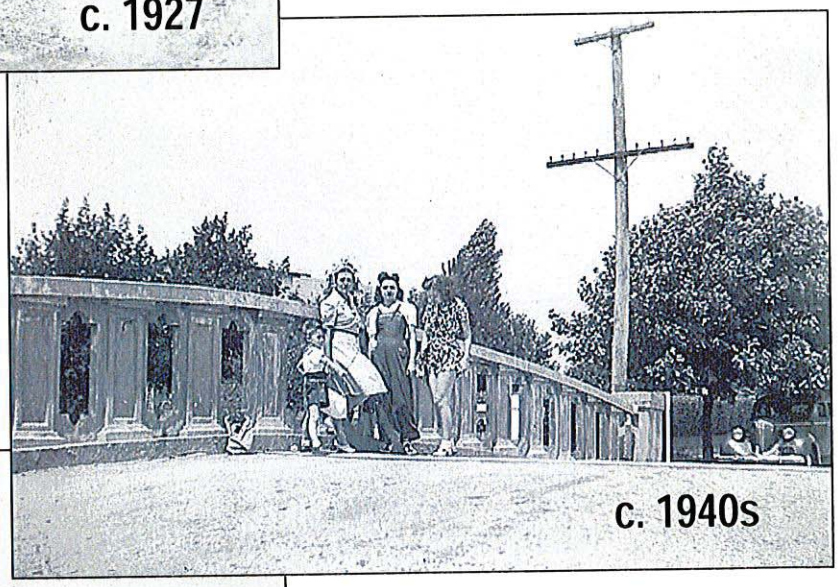
New York Times, Aug. 1, 1926.

Della Paglia Bridge, Venice Italy

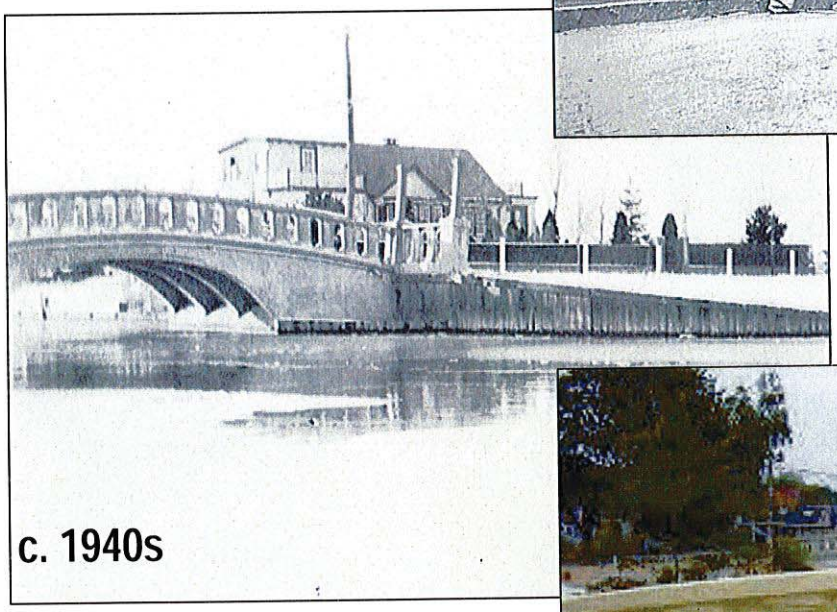
American Venice Bridges



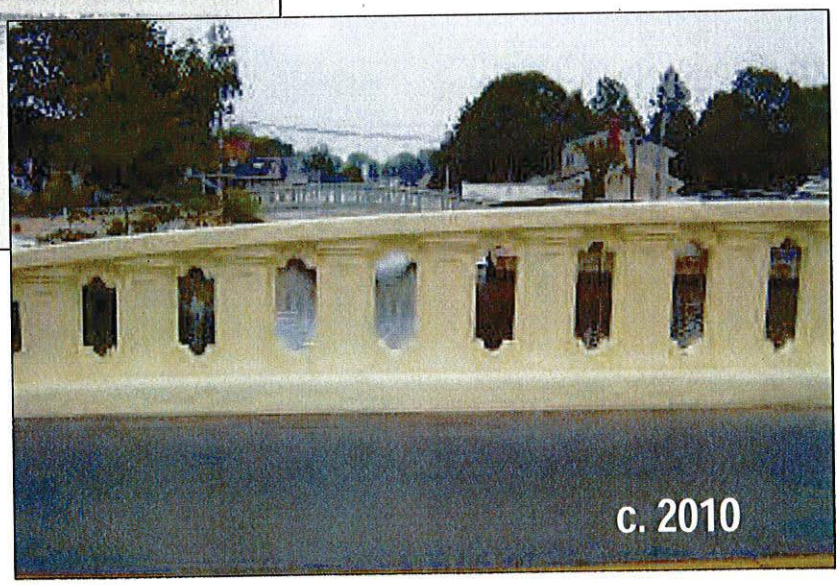
c. 1927



c. 1940s



c. 1940s

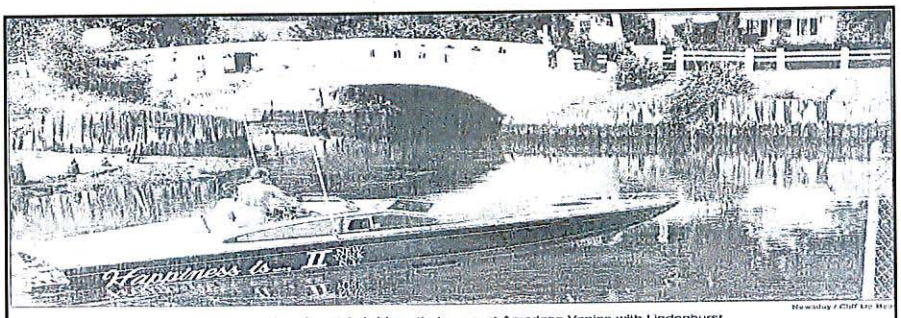


c. 2010

1989 RESTORATION: VENETIAN BRIDGES

In the late 1980's, there was some concern that the two Venetian-style bridges along East and West Rivera Drives were no longer suitable for vehicular traffic, and the Town of Babylon Superintendent of Highways proposed that they be replaced by flat-steel bridges.

The American Venice Civic Association, as well as a number of other citizens and community groups, fought to save these bridges, in their original style. The bridges were successfully restored by the Town of Babylon in 1989.



One of two Venetian-style bridges that connect American Venice with Lindenhurst

Fighting for a Touch of Italy

By Dele Olojede

Residents oppose replacing two Venetian-style bridges

NO GONDOLAS SAIL through the underpasses or along the seaweed-covered water-

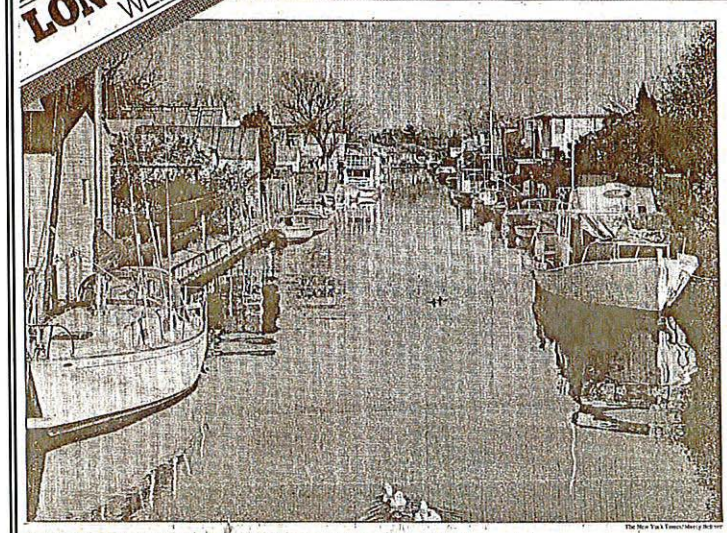
ice voted last month to preserve the bridges, and that it would seek to have them declared landmarks. This is possible under the town's historic preservation law, adopted

Newsday, August 10, 1988.

LONG ISLAND WEEKLY

The New York Times

SUNDAY, NOVEMBER 27, 1988



Boats docked along one of the canals of the "American Venice" community in Lindenhurst.

'American Venice': Awash in Past Glories

By JOAN REMINICK

WINGED lions, twin brothers of the ones guarding the entrance to the Piazza San Marco in Venice, stand atop two columns that soar five stories high over Merrick Road in Lindenhurst. The lions are easy to miss amid the highway clutter and the boat store that occupies the space between the columns.

But beyond the narrow canal that runs behind the marina, there are two streets that flank the canal, and oldway down each of them is a small, graceful reproduction of a Venetian bridge.

The streets have names evocative of the Adriatic: Dogea, Mirimar, Buena Vista, Lido and Venetian. The bridges, too, evoke Venice: the plaster is gone in spots, they have been patched with steel and graffiti splatter their sides.

When, a short time ago, the Town of Babylon contemplated tearing down the old spans and replacing them with newer, stronger, more modern structures, the residents along the canals joined forces in indignation.

To them, the lions and the bridges represent an age and a dream gone but not forgotten. Ask any of the people on either side of the canal where they live and they will proudly tell you that, although their mailing address says Lindenhurst and their children attend Copiague schools, they are residents of the "American Venice."

The lions and bridges were erected in 1925 as part of a real-estate developer's fantasy of a miniature Venice on the Great South Bay. Although that vision was cut short by the Depression, the community that evolved along the canals has maintained a sense of identity all its own.

It has only been recently, in response to the Town of Babylon's threat to auction the community's two beaches because of unpaid taxes, that the sense of identity was galvanized.

For one thing, the American Venice Civic Association was reactivated. The organization, an integral part of the community's life since the 30's, has been dormant for 15 years.

To Angelo Perilla, the association's president, who still lives in the same house in which he was reared, protection of the beaches was a vital issue.

"I learned to swim on these beaches at 3 years old," he said. "I didn't want to see them build houses on these beaches. We got the beaches back, it cost us over $10,000 and we started working on other issues, the bridges, neighborhood watches."

The civic association, which publishes a newsletter for the 1,500 homeowners in the area, also has brought back the community tradition of picnics, beach parties and social gatherings.

Both newcomers and oldtimers share in keeping community involvement alive.

Bill the old timers, though, who can still look back on the early dream days of the "American Venice."

Louis Steinbrecher, whose family bought property back in 1926, recalls that era.

According to Mr. Steinbrecher, Meister Bahlert, the real estate company that developed the land, distributed railroad tickets to residents of Brooklyn and Queens, many of them Italian-Americans, to entice them to buy and settle.

On weekends, the real-estate agents entertained prospective customers in the grand manner.

"On the corner next to where the Venice Marina is today," Mr. Steinbrecher said, "they had a really big tent and all the kids got sandwiches, soda and ice cream while their parents were being shown around."

On a manmade island at the head of the canal, he said, there was a bandstand with an orchestra that entertained the visitors. Between the two lion-topped columns was a parklike area with two small tales pavilions.

"There were statues, too, which disappeared," he said. "And there was a great round cement bowl with flowers in it.

"And they had gondolas here. I think they even imported some guy from Italy to take prospective property owners for a ride."

Mr. Steinbrecher's parents bought property in 1926. They built a garage in 1933, but not until 1946 did they construct a permanent dwelling.

"My father figured this was for the kids," Mr.

Continued on Page 22

One of winged lions guarding the entrance to "American Venice."

Letters to the Editor

Letters Must Contain Writers Full Name, Address & Phone. Addresses will not be Published Letters Must be 200 words or less.

12/7/88 Amer Venice

Dear Editor:

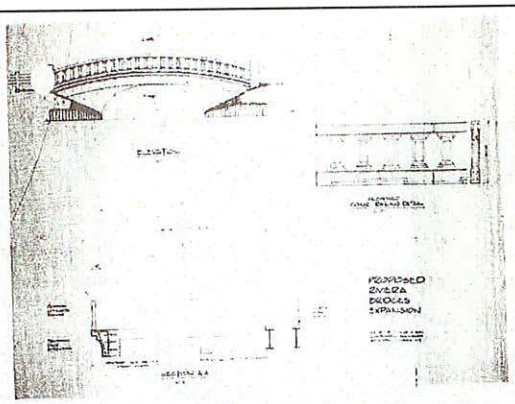
I was very happy to read in a recent issue of South Bay's Newspaper that Arthur Pitts, Supervisor of the Town of Babylon, came through for the people again. He went against the recommendations of his own Superintendent of Highways, James Harrington, and decided a complete halt was necessary concerning the plans to tear down the two American Venice Bridges and build new ones.

These bridges built in the year 1926 were the beginning of a modern American Venice. The architectural designs for the bridges were exact duplicates of those from Venice, Italy.

These bridges, to date, are two of the few remaining structures still in existence reminding us of this historic era in the bygone days of Copiague. The bridges, along with the American Venice Marina property, should definitely be designated as historic landmarks, and in turn, a memorial park should be built at that location commemorating the early settlers of Copiague.

A complete restoration of the American Venice Marina property would be necessary. Possibly sightseeing gondola tours of the area should be considered. It seems that every remaining old structure that could have been considered for historic landmark status has been destroyed by urbanization. I applaud the actions of our Supervisor. It's a good start. Keep up the good work, Mr. Pitts.

Steven Weinkselbaun
Lindenhurst



PLANS to restore two old Venetian bridges, located on Riviera Drive East and Riviera Drive West in Copiague, are expected to be approved by the town board within the next few weeks. According to James Harrington, highway superintendent, the project will cost about $1.3 million and will be financed by a $200,000 state grant and a bond paid by the highway department. The bridges, built in the early 1900's, are exact duplicates of those in Italy, and area residents were concerned that the bridges would be torn down after recent town engineering reports revealed that the structures did not meet present-day state and federal bridge codes. Photo by Greg Valero. (G U51F)

In Copiague

Two Venetian bridges saved

By Greg Valero

Members of the American Venice Civic Association and area residents breathed a collective sigh of relief last week after the town announced plans to restore two old Venetian bridges in Copiague.

The town has agreed to refurbish the two structures, located on Riviera Drive East and Riviera Drive West, at a cost of $1.3 million, according to James Harrington, highway superintendent. This figure is about $500,000 less than the original estimate to remodel the bridges, Harrington said. A state grant of $200,000 from the 1983 bridge bond act will help finance the cost, with remaining monies to be bonded and paid out of the highway department budget, pending town board ratification, Harrington said.

More than 50 people applauded their approval during a meeting of the civics last Thursday at The Loyal Order of Moose Lodge No. 21, Lindenhurst. Originally,

Cont. on page 9

Wednesday, March 1, 1989

SUFFOLK LIFE NEWSPAPERS

Bridge Plan Progessing

Babylon Town Highway Superintendent James J. Harrington and Chief Highway Engineer Charles Baiera met recently to study plans for the re-designing of the Riviera bridges in American Venice.

Many residents objected when they learned that the bridges might be rebuilt, changing their shape, which is a traditional part of the area's history.

Town officials have agreed to keep the existing bridges' appearance intact while strenthening and widening them and adding railings and new lighting.

Am. Venice

Pitts Halts Bridge Snafus

AMERICAN VENICE

By Alyce Barnett

Fifteen hundred voices were recently raised in a cry to save the bridges of American Venice over a planned bridge-saving project initiated by the Town of Babylon with the employment of a Smithtown engineering firm.

Last year when it was evident that something was going to be done to make the bridges of Venice "safer" the residents of American Venice grew suspicious that the whole charm and lore of the bridges, copied exactly in the mode of the originals in Venice, Italy, and their modernization would be their destruction.

Further, outlined a spokes person for the civic group of American Venice, "we found that the flatter paving the engineer had planned would encourage speeders, plus there would not be a waterway under the bridges anymore; there would be a change in the ecology, and there would be no passage for canoes and small pleasure boats, such as meander along the canal, and have done so for many, many moons." The speaker also added that the case was presented to anybody who would listen: to the local TV channel, radio stations, other joint civic groups, the joint council, newspapers and finally to Superintendent Pitts, who temporarily halted the project.

Now, the engineering project has been stopped. There is a plan underfoot to have the bridges memorialized as historic landmarks, which well they should. Writers to local newspapers point out the need to guard against vanquishings bits of the past which are held dear to so many residents who have settled in these parts, bringing a bit of their own heritage to these shores. [illegible] history? The ogre called 'urbanization' mustn't crush out things treasured from the past.

Landmark Bridges To Be Preserved

Page 3 — BEACON — Thursday, March 2, 1989

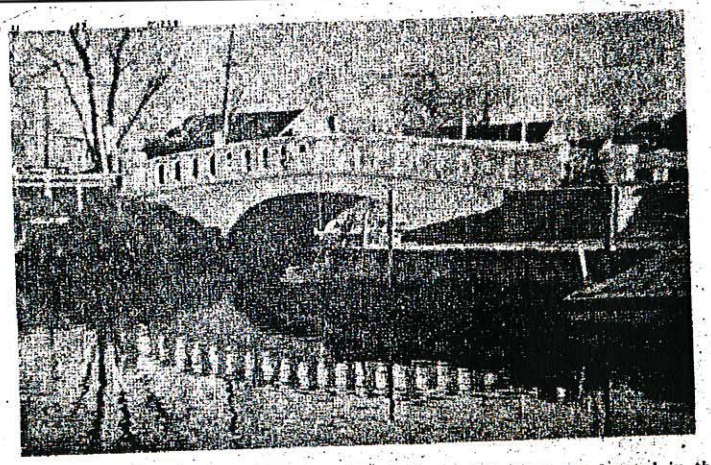
Town of Babylon Highway Superintendent James J. Harrington and Chief Highway Engineer Charles Baiera look over the plans for the redesigned Riviera Bridges with Consulting Engineer Bob Brown from the Sidney Bowne Engineering firm.

Superintendent Harrington's concern over the possible demolition of these historic bridges set him out on a massive search to find a reconstruction method which would meet with the State mandated safety requirements and preserve the bridges.

At a nationwide Highway Conference in Toronto this past September Superintendent Harrington met with a President of a firm that had the process which would allow the existing bridges to be strengthened structurally and then restored without essentially changing their appearance.

According to Superintendent Harrington "This process will allow the restoration of the bridges, each widened approximately four (4) feet on either side, railings replaced similar to the existing structure plus additional lighting. If the formal presentation goes as planned, restoration should start in the Spring. Residents are urged to exercise extreme caution during this restoration period as the bridges will remain open to Vehicular Traffic."

Mr. Harrington also noted that this solution will fall within the constraints of fiscal responsibility to all residents of the Town of Babylon.



SAVED?--There is a good chance this bridge and an identical one located in the Venetian Shores community in Copiague will be renovated sometime next year, according to town officials. Town residents and the town have been at odds over what to do with the two structures after the town had two engineering studies done on the bridges, which both concluded that neither met federal and state bridge codes. However, Highway Superintendent James Harrington said he has come across a solution that will satisfy both sides. Photo by Greg Valero. (G E47F)

Suffolk Life, November 23, 1988.

Note: Over the years, a number of newspaper articles and accounts have incorrectly referred to American Venice as Venetian Shores — a waterfront community located on the eastern side of Lindenhurst Village.

Town of Babylon

Office of Historic Services
47 W. Main Street, Suite 2
Babylon, NY 11702
(631) 587-3750

RICH SCHAFFER
SUPERVISOR

January 20, 2015

Tom King
Assistant General Counsel
Governor's Office of Storm Recovery
99 Washington Avenue Suite 1224
Albany, New York 12231

Re: American Venice, Copiague, NY -- bridges at East/West Riviera Drives

Dear Mr. King,

The history of the American Venice community has been an ongoing research project since 2006. Since that time, my office has published articles and book chapters about the history of American Venice, which included gather information from historic newspapers, books and interviews with community residents.

The residential development of the American Venice community, which comprises the peninsula known as Copiague Neck (approx. 363 acres), started in the fall of 1925. Prior to 1925, the area was considered marshland with few, if any, permanent structures.

From my review of historical information, I not found any references relating to the discovery of pre-20th century archaeological resources within the American Venice community.

Very truly yours,

MARY CASCONE
TOWN HISTORIAN

Antonio A. Martinez *Councilman* *Deputy Supervisor* | **Thomas Donnelly** *Councilman* | **Jacqueline A. Gordon** *Councilwoman* | **Lindsay Patrick Henry** *Councilman* | **Corinne DiSomma** *Receiver of Taxes* | **Carol A. Quirk** *Town Clerk*

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GOVERNOR'S OFFICE OF STORM RECOVERY

Andrew M. Cuomo
Governor

James Rubin
Executive Director

January 23, 2015

Mr. Eric Kuchar
Historic Preservation Technical Specialist
New York State Office of Parks, Recreation
and Historic Preservation
Division of Historic Preservation
Peebles Island
P.O. Box 189
Waterford, New York 12188-0189

RE: CDBG-DR Funding Application for the Reconstruction of the American Venice Bridges

Dear Mr. Kuchar:

On November 13, 2014, the New York State Governor's Office of Storm Recovery ("GOSR") received a funding application to deconstruct and replace the two American Venice Bridges, on East/West Riviera Drive over the Santa Barbara Canal in the American Venice neighborhood of the Hamlet of Copiague, Suffolk County, New York and construct new replacement bridges in place (the "Undertaking").

Pursuant to the Disaster Relief Appropriations Act, 2013 (Public Law 113-2) and the Housing and Community Development Act (42 U.S.C. § 5301 et seq.), GOSR is acting under the auspices of New York State Homes and Community Renewal's Housing Trust Fund Corporation as a recipient of Community Development Block Grant – Disaster Recovery ("CDBG-DR") funds from the United States Department of Housing and Urban Development ("HUD") and is the entity responsible for compliance with the HUD NEPA environmental review procedures set forth in 24 CFR Part 58 and Section 106 of the National Historic Preservation Act ("NHPA" 16 USC § 470f).

GOSR received a funding application for the Undertaking from the Town of Babylon with documentation of previous coordination between the Town of Babylon and your office in which your office reached an Adverse Effect determination. In evaluating the applicant's request for funding, GOSR defers to SHPO with respect to the Adverse Effect determination.

After reviewing the project information in conjunction with the Town of Babylon, GOSR hereby proposes to define the Area of Potential Effect ("APE") of the Undertaking, as that term is defined at 36 CFR, Part 800.16(d), as the two American Venice Bridges, on East/West Riviera Drive over the Santa Barbara Canal in the Hamlet of Copiague, Suffolk County, New York, North to East/West Santa Barbara Road and South to East/West Lido Promenade. Please see Enclosure 1.

As requested by your office, the Town of Babylon historian, Mary Cascone, has prepared and provided additional information about the history of the two American Venice Bridges and Lion Columns. Please see Enclosure 2. Additionally, Ms. Cascone has indicated that the APE and the surrounding American Venice community, which comprises the peninsula known as the Copiague Neck (Approx. 363 acres), was originally marshland, first developed circa 1925. Furthermore, Ms. Cascone notes that from her review of historic information, there are no known references relating to the discovery of pre-20th century archaeological resources within the APE or American Venice community.

We would greatly appreciate if your office would review our APE determination and Ms. Cascone's findings regarding the lack of archaeological resources in this area. If you agree, we would greatly appreciate your concurrence in this matter.

If any questions should arise concerning this matter, please contact me (518) 473-0015 or at Thomas.King@stormrecovery.ny.gov. Thank you.

Sincerely,

Thomas J. King
Assistant General Counsel

Enclosures

Andrew M. Cuomo
Governor

Rose Harvey
Commissioner

New York State Office of Parks, Recreation and Historic Preservation

Division for Historic Preservation
Peebles Island, PO Box 189, Waterford, New York 12188-0189
518-237-8643
www.nysparks.com

February 04, 2015

Mr. Tom King
Assistant General Counsel
Governor's Office of Storm Recovery
99 Washington Avenue Suite 1224
Albany, NY 12231

Re: CDBG-DR
Venetian Shores Historic Bridge Restoration
East Riviera Dr. - West Riviera Dr. at Santa Barbara
14PR02568

Dear Mr. King:

Thank you for continuing to consult with the New York State Historic Preservation Office (SHPO). We have reviewed the provided information in accordance with Section 106 of the National Historic Preservation Act of 1966. These comments are those of the SHPO and relate only to Historic/Cultural resources.

We have reviewed the Area of Potential Effect (APE) as determined by the New York State Governor's Office of Storm Recovery (GOSR) in conjunction with the Town of Babylon as defined in Enclosure 1. We concur with your APE determination.

The SHPO concurs with the Town of Babylon Historian Mary Cascone's finding (letter dated January 20 2015) that there are no previously recorded archaeological resources within, or in the vicinity of the project's APE. The SHPO has no concerns regarding the projects potential impacts to archaeological resources.

We look forward to continued consultation with your office and receiving the draft MOA.

If further correspondence is required regarding this project, I can be reached at (518) 237-8643, ext. 3260 or at eric.kuchar@parks.ny.gov. Please be sure to refer to the Project Review (PR) number noted above.

Sincerely,

Eric N. Kuchar
Historic Preservation Technical Specialist

via e-mail only

CC: Joseph Guarino, Town of Babylon

Preserving America's Heritage

March 10, 2016

Mr. Thomas J. King
Assistant General Counsel
Governor's Office of Storm Recovery
25 Beaver Street
New York, NY 10004

Ref: *Proposed American Venice Bridges Replacement*
Town of Babylon, Suffolk County, New York

Dear Mr. King:

The Advisory Council on Historic Preservation (ACHP) has received the Memorandum of Agreement (MOA) for the above referenced project. In accordance with Section 800.6(b)(1)(iv) of the ACHP's regulations, the ACHP acknowledges receipt of the MOA. The filing of the MOA, and execution of its terms, completes the requirements of Section 106 of the National Historic Preservation Act and the ACHP's regulations.

We appreciate you providing us with a copy of the MOA and will retain it for inclusion in our records regarding this project. Should you have any questions or require additional assistance, please contact Ms. Jaime Loichinger at (202) 517-0219 or via e-mail at jloichinger@achp.gov.

Sincerely,

LaShavio Johnson

LaShavio Johnson
Historic Preservation Technician
Office of Federal Agency Programs

ADVISORY COUNCIL ON HISTORIC PRESERVATION
401 F Street NW, Suite 308 • Washington, DC 20001-2637
Phone: 202-517-0200 • Fax: 202-517-6381 • achp@achp.gov • www.achp.gov

Governor's Office of Storm Recovery

Andrew M. Cuomo
Governor

Lisa Bova-Hiatt
Executive Director

August 19, 2016

Ms. Jaime Loichinger
Advisory Council on Historic Preservation
Office of Federal Agency Programs
401 F Street NW, Suite 308
Washington, D.C. 20001

RE: Memorandum of Agreement for Bridge Replacement Project in Babylon, New York

Dear Ms. Lochinger:

The Governor's Office of Storm Recovery (GOSR) is pleased to forward the fully-executed Memorandum of Agreement (MOA) regarding the Bridge Replacement Project in Babylon, New York to the Advisory Council on Historic Preservation (ACHP) for filing. GOSR appreciates the assistance of the ACHP, represented by you, Ms. Jaime Loichinger, in the consultations to develop and finalize this MOA.

This MOA, being hereby filed with the ACHP, will enable GOSR to implement the undertaking in compliance with Section 106 of the National Historic Preservation Act (NHPA) (Section 110(l) and 36 CFR § 800.6(c)). GOSR shall ensure that the undertaking is carried out in accordance with the terms of the MOA until it expires or is terminated.

If you have any questions or require additional information please do not hesitate to contact me at (518) 473-0015 or Thomas.King@stormrecovery.ny.gov. Thank you kindly.

Sincerely,

Thomas J. King
Assistant General Counsel

CC: Ms. Ruth Pierpont, SHPO (copy)
Mr. Richard Schaffer, Town of Babylon (copy)
Jodi Mcdonald, United States Army Core of Engineers

MEMORANDUM OF AGREEMENT
AMONG THE NEW YORK STATE HOUSING TRUST FUND CORPORATION AS RESPONSIBLE ENTITY FOR THE UNITED STATES DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT,
THE NEW YORK STATE HISTORIC PRESERVATION OFFICE, AND
THE TOWN OF BABYLON, NEW YORK
REGARDING TREATMENT OF HISTORIC PROPERTIES IN CONNECTION WITH AMERICAN VENICE BRIDGES REPLACEMENT
TOWN OF BABYLON, SUFFOLK COUNTY, NEW YORK

WHEREAS, the Town of Babylon proposes a project to deconstruct and replace the two American Venice Bridges, on East/West Riviera Drive Bridges over the Santa Barbara Canal in the American Venice neighborhood of the Hamlet of Copiague, Suffolk County, New York and construct new replacement bridges in place (the "Undertaking"); and

WHEREAS, Pursuant to the Disaster Relief Appropriations Act, 2013 (Public Law 113-2) and the Housing and Community Development Act (42 U.S.C. § 5301 et seq.), The Governor's Office of Storm Recovery ("GOSR") is acting under the auspices of New York State Homes and Community Renewal's Housing Trust Fund Corporation as a recipient of Community Development Block Grant – Disaster Recovery ("CDBG-DR") funds from the United States Department of Housing and Urban Development ("HUD") and is the entity responsible for compliance with the HUD environmental review procedures set forth in 24 CFR Part 58 and Section 106 of the National Historic Preservation Act ("NHPA" 16 USC § 470f);

WHEREAS, The Town of Babylon has applied to GOSR for funding associated with the Undertaking;

WHEREAS, the Undertaking will require a permit pursuant to Section 404 of the Clean Water Act (33 USC § 1344), to be issued by the United States Army Corps of Engineers New York District ("USACE"), authorizing removal of sediment and fill within waters of the United States in order to effectuate the replacement of bridge abutments, replacement of bridge components, installation of bulkhead protection, and dewatering of sediment, all as components of the Undertaking; and

WHEREAS, the Undertaking proposed by the Town of Babylon in its GOSR funding application, and to be described in its USACE permit application, is identified as "the Undertaking" below; and

WHEREAS, The Town of Babylon, GOSR and the New York State Historic Preservation Office (SHPO) have consulted in accordance with Section 106 of the NHPA; implementing regulations at 33 CFR Part 325 Appendix C and 36 CFR Part 800; and agency guidance; and

WHEREAS, The Town of Babylon and SHPO have determined, and GOSR has concurred, that the American Venice Bridges are eligible for listing on the State and National Registers of Historic Places; and

WHEREAS, GOSR has determined that funding the Undertaking would have an Adverse Effect on the American Venice Bridges and be subject to NHPA and its implementing regulations; and

WHEREAS, GOSR and the Town of Babylon have consulted with SHPO and determined that the Area of Potential Effects ("APE") of the Undertaking, as that term is defined at 36 CFR, Part 800.16(d) is, in this case, the two American Venice Bridges, on East/West Riviera Drive over the Santa Barbara Canal in the Hamlet of Copiague, Suffolk County, New York, North to East/West Santa Barbara Road and South to East/West Lido Promenade; and

WHEREAS, in accordance with 36 C.F.R. Section 800.6(a)(1), on January 14, 2015, GOSR notified the Advisory Council on Historic Preservation (ACHP) of its Adverse Effect determination with specified documentation, supplemented on January 26, 2015, and the ACHP notified GOSR on January 28, 2015, of its decision to not participate in the consultation pursuant to 36 C.F.R. Section 800.6(a)(1)(iii); and

WHEREAS, in accordance with Section 101(d)(6)(B) of the NHPA, on March 9, 2015, GOSR notified the Shinnecock Indian Nation ("Nation") of the Undertaking and requested that the Nation inform GOSR if the APE encompasses any historic properties of religious or cultural significance, and the Nation has not responded; and

WHEREAS, after public notice and response thereto, the public has been made aware of the proposed undertaking; and

WHEREAS, after consultation, the Town of Babylon has concluded and SHPO has concurred that there are no archeological concerns for the undertaking.

NOW, THEREFORE, in accordance with the NHPA, GOSR, the Town of Babylon, and SHPO agree that implementation of the Undertaking covered by this Agreement shall take into account effects on historic properties, and that completion of the steps set forth in the Stipulations below will serve to mitigate the adverse effects of the Undertaking.

STIPULATIONS

1. GOSR and USACE Authorization. GOSR shall condition any grant of funding issued regarding the Undertaking to ensure implementation of the stipulations of this Agreement. Should USACE choose to utilize this agreement to demonstrate compliance with Section 106 of the NHPA in accordance with Stipulation 9 of this Agreement, USACE shall condition any approval issued regarding the Undertaking to ensure implementation of the stipulations of this Agreement.

2. Recordation. The Town of Babylon will prepare drawing and photographic documentation of the existing American Venice Bridges and submit such documentation to GOSR and SHPO for approval within six months of the date of the approval of funding by GOSR. Records of the existing American Venice Bridges shall depict the current conditions of the American Venice Bridges through measured drawings, digital photography and a brief narrative history of the site and American Venice Bridges. All digital images and prints shall meet the criteria and standards specified by the NY SHPO approved standards for documenting historic resources listed in the National Register Photo Policy Fact Sheet. Photographs should depict all sides of the American

Venice Bridges and contextual views showing the American Venice Bridges and their surroundings. All digital photographs submitted will be identified by name of photographer, date of photograph, and direction of view. Copies of the approved documentation will be submitted for retention by the Babylon Town Historian, New York State Archives, and the NYSHPO within thirty days after approval by GOSR and SHPO. A Final Report consisting of one (1) hard copy and one (1) electronic copy on CD-ROM shall be provided.

3. Final Design Features. The final design of the replacement bridges shall include the following elements: The replacement bridges will incorporate the character defining features of the existing bridges to the maximum extent practicable, including the radius of the arch and the handrail design of each bridge. A reduced copy of the current design conceptualization is attached to this Agreement as Exhibit "B".

The Town of Babylon shall provide SHPO with the opportunity to review and comment on the replacement bridge design. Review will occur at 50% and 90% Structural and Site Design in order to solicit comments from SHPO. SHPO comments must be addressed to the satisfaction of all signatories to this Agreement. Review documents are to consist of half sized, hard copies mailed to the SHPO office: C/O Larry Moss, New York State Office of Parks, Recreation, and Historic Preservation, Division For Historic Preservation, Peebles Island State Park, PO Box 189, Waterford, NY 12188-0189.

4. Treatment of Unanticipated Human Remains or Associated Artifacts. In the event that human remains are encountered during construction or archeological investigations, The Town of Babylon shall implement the following protocol:

a. At all times human remains shall be treated with the utmost dignity and respect. Should human remains be encountered, work in the vicinity of the discovery will stop immediately and the location will be immediately secured and protected from damage and disturbance.

b. Human remains or associated artifacts will be left in place and not disturbed. No skeletal remains or materials associated with the remains will be collected or removed until appropriate consultation has taken place and a plan of action has been developed.

c. The county coroner and local law enforcement as well as GOSR and SHPO will be notified immediately. The coroner and local law enforcement will make the official ruling on the nature of the remains, being either forensic or archeological. If the remains are archeological in nature, a bioarchaeologist will confirm the identification as human.

d. If human remains are determined to be Native American, the remains will be left in place and protected from further disturbance until a plan for their protection or removal can be generated. Consultation with GOSR, SHPO and appropriate Native American groups will be required, to determine a plan of action that is consistent with the Native American Graves Protection and Repatriation Act (NAGPRA) guidance.

e. If human remains are determined to be Euro-American, the remains will be left in place and protected from further disturbance until a plan for their avoidance or removal can be generated. Consultation with GOSR, SHPO and other appropriate parties will be required to determine a plan of action.

f. If human remains are encountered, consultation among GOSR, SHPO and the Town of Babylon will be undertaken regarding the adjustment of the level of effort for archeological investigation.

5. **Modification.** Modification or amendment of this Agreement as necessary shall be accomplished by the signatories in the same manner as the original agreement. Notwithstanding any other provision in this Agreement, any signatory to this Agreement may request that it be amended, whereupon the signatories will consult to consider such amendment. Any amendment shall be in writing and signed by all signatories.

6. **Disputes.** The signatories shall look to resolve disputes regarding the completion of the terms of this Agreement among themselves. If the signatories cannot agree regarding a dispute, the Town of Babylon, GOSR, or SHPO may request the participation of the ACHP to assist in resolving the dispute.

7. **Termination.** Unless extended by written agreement between GOSR, the Town of Babylon and SHPO, the signatories' obligations under this Agreement shall terminate upon completion or abandonment of the project.

8. **GOSR and HUD Compliance.** The signatories agree that by execution and implementation of this Agreement, GOSR, and therefore by operation of law HUD, have satisfied their requirements for compliance with Section 106 of the National Historic Preservation Act of 1966 as amended (16 U.S.C. 470f), with regard to funding the Undertaking.

9. **USACE Compliance.** The signatories agree that USACE may rely on this Agreement to demonstrate compliance with Section 106 of the National Historic Preservation Act of 1966 as amended (16 U.S.C. 470f), with regard to permitting the Undertaking.

10. **Execution.** This Agreement may be executed in counterparts.

MEMORANDUM OF AGREEMENT
AMONG THE NEW YORK STATE HOUSING TRUST FUND CORPORATION AS RESPONSIBLE ENTITY FOR THE UNITED STATES DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT,
THE NEW YORK STATE HISTORIC PRESERVATION OFFICE, AND
THE TOWN OF BABYLON, NEW YORK
REGARDING TREATMENT OF HISTORIC PROPERTIES IN CONNECTION WITH AMERICAN VENICE BRIDGES REPLACEMENT
TOWN OF BABYLON, SUFFOLK COUNTY, NEW YORK

IN WITNESS WHEREOF, this Agreement has been executed by a duly authorized representative of the following signatories:

Signatory 1 of 3

Housing Trust Fund Corporation

By: _____
Date: ***2-3-16***
Name: Lisa Bova-Hiatt
Title: Executive Director of Storm Recovery

MEMORANDUM OF AGREEMENT
AMONG THE NEW YORK STATE HOUSING TRUST FUND CORPORATION AS RESPONSIBLE ENTITY FOR THE UNITED STATES DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT,
THE NEW YORK STATE HISTORIC PRESERVATION OFFICE, AND
THE TOWN OF BABYLON, NEW YORK
REGARDING TREATMENT OF HISTORIC PROPERTIES IN CONNECTION WITH AMERICAN VENICE BRIDGES REPLACEMENT
TOWN OF BABYLON, SUFFOLK COUNTY, NEW YORK

IN WITNESS WHEREOF, this Agreement has been executed by a duly authorized representative of the following signatories:

Signatory 2 of 3

New York State Historic Preservation Officer

By: Ruth Pierpont
Date: 12/22/15
Name: Ruth Pierpont
Title: Deputy Commissioner, and
Deputy State Historic Preservation Officer

MEMORANDUM OF AGREEMENT
AMONG THE NEW YORK STATE HOUSING TRUST FUND CORPORATION AS RESPONSIBLE ENTITY FOR THE UNITED STATES DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT,
THE NEW YORK STATE HISTORIC PRESERVATION OFFICE, AND
THE TOWN OF BABYLON, NEW YORK
REGARDING TREATMENT OF HISTORIC PROPERTIES IN CONNECTION WITH AMERICAN VENICE BRIDGES REPLACEMENT
TOWN OF BABYLON, SUFFOLK COUNTY, NEW YORK

IN WITNESS WHEREOF, this Agreement has been executed by a duly authorized representative of the following signatories:

Signatory 3 of 3

Town of Babylon

By: _____
Date: 12/2/15
Name: Richard Schaffer
Title: Town Supervisor

MEMORANDUM OF AGREEMENT
AMONG THE NEW YORK STATE HOUSING TRUST FUND CORPORATION AS RESPONSIBLE ENTITY FOR THE UNITED STATES DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT,
THE NEW YORK STATE HISTORIC PRESERVATION OFFICE, AND
THE TOWN OF BABYLON, NEW YORK
REGARDING TREATMENT OF HISTORIC PROPERTIES IN CONNECTION WITH AMERICAN VENICE BRIDGES REPLACEMENT
TOWN OF BABYLON, SUFFOLK COUNTY, NEW YORK

IN WITNESS WHEREOF, this Agreement has been executed by a duly authorized representative of the following signatories:

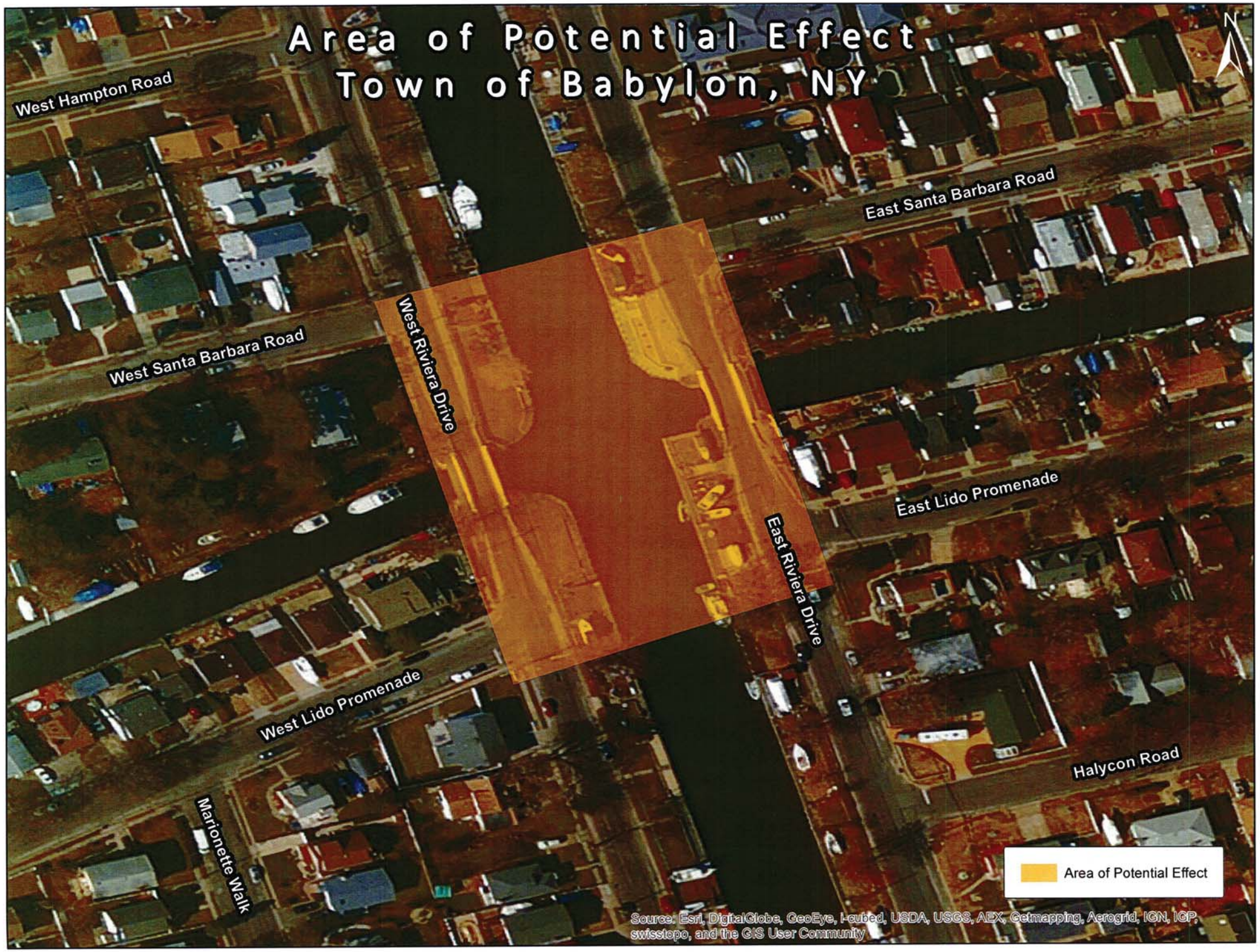
Optional Signatory

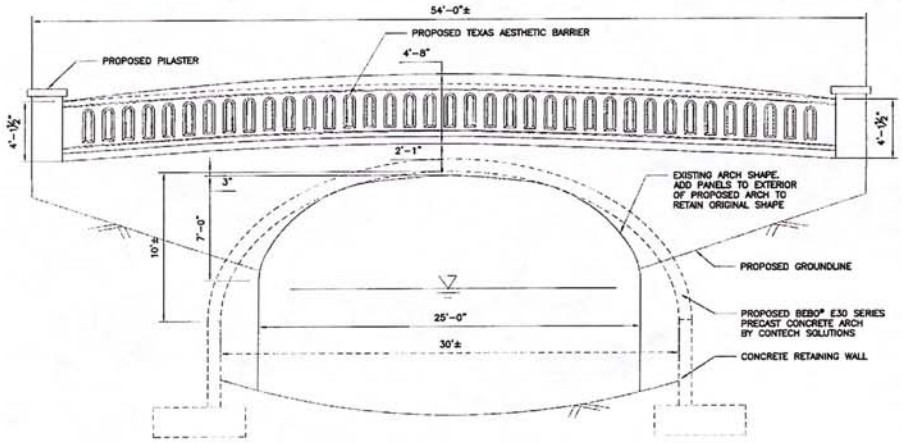
United States Army Corps of Engineers

By:_____
Date: _____
Name:
Title:

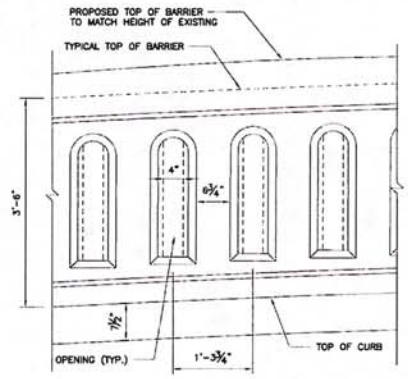
Attachments:

Appendix A – Area of Potential Effect
Appendix B – General Plan Drawing


Area of Potential Effect
Town of Babylon, NY
N
West Hampton Road
East Santa Barbara Road
West Santa Barbara Road
West Riviera Drive
East Riviera Drive
East Lido Promenade
West Lido Promenade
Halycon Road
Marionette Walk
Area of Potential Effect
Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community



PROPOSED BRIDGE ELEVATION VIEW
SCALE: ¼"=1'-0"



PROPOSED TEXAS AESTHETIC BARRIER ELEVATION
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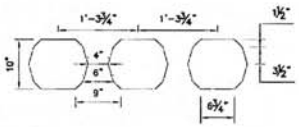
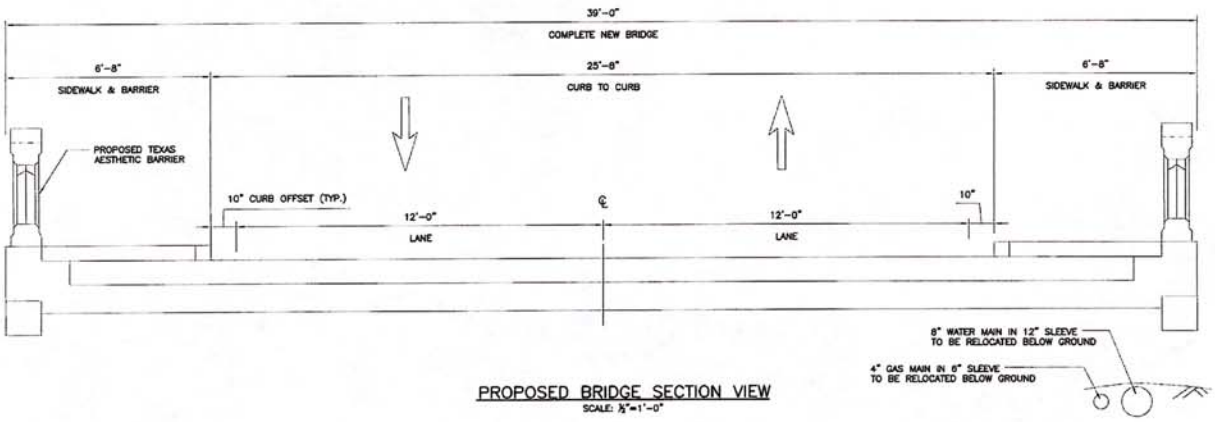
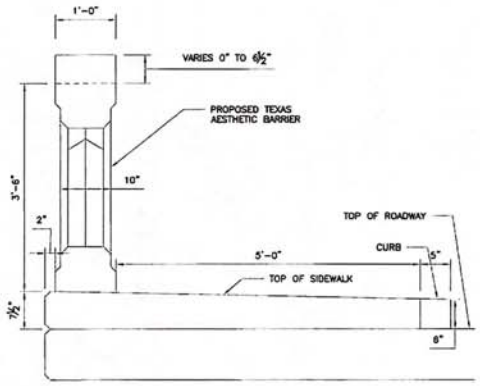


PROPOSED BARRIER HORIZONTAL SECTION PLAN VIEWS
SCALE: 1"=1'-0"



PROPOSED BRIDGE SECTION VIEW
SCALE: ½"=1'-0"



PROPOSED BARRIER SECTION VIEW
SCALE: 1"=1'-0"

PRELIMINARY

REV	DATE	REMARKS	BY

CLIENT: TOWN OF BABYLON, LINDENHURST, NY

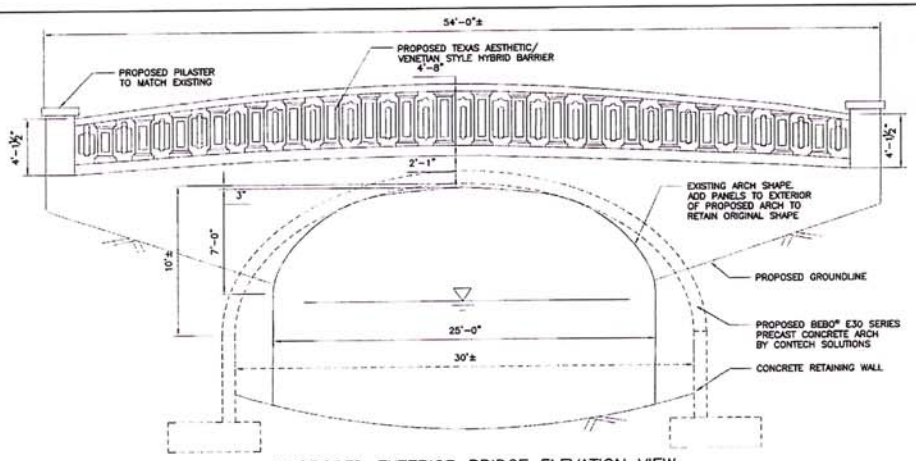
LKB CONSULTING ENGINEERS — LOCKWOOD, KESSLER & BARTLETT, INC. CONSULTING ENGINEERS SINCE 1869 SYOSSET NEW YORK

PROJECT NAME: AMERICAN VENICE BRIDGES

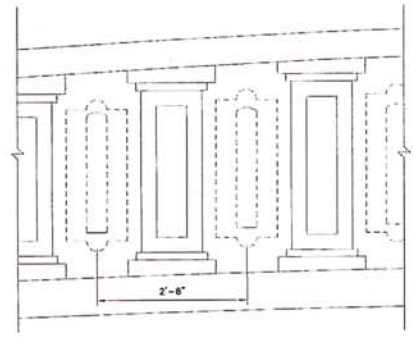
ALTERNATIVE 1 – TEXAS AESTHETIC BARRIER

DESIGN BY: GC
DRAWN BY: DMM
CHECKED BY: WTC
DATE: 12/2015
SCALE: AS SHOWN

PROJECT NO. 5423-01
DRAWING NO. ALT-1



PROPOSED EXTERIOR BRIDGE ELEVATION VIEW
SCALE: ½"=1'-0"



PROPOSED VENETIAN STYLE BARRIER ELEVATION
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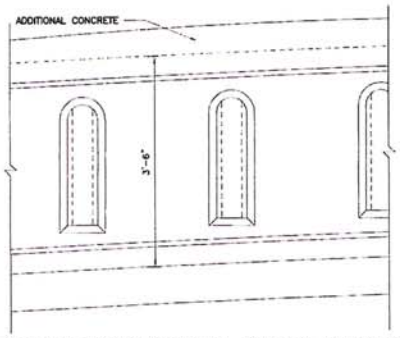

PROPOSED TEXAS AESTHETIC BARRIER ELEVATION
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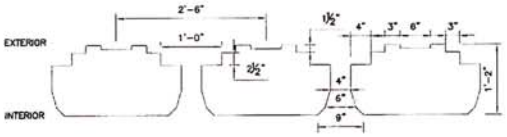
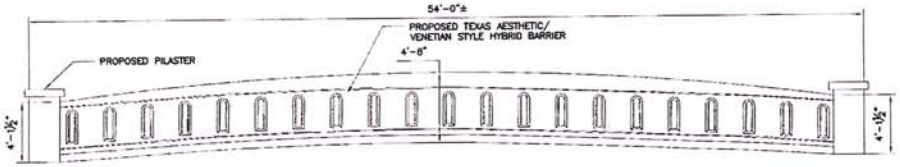


PROPOSED BARRIER HORIZONTAL SECTION PLAN VIEWS
SCALE: 1"=1'-0"



PROPOSED INTERIOR BRIDGE ELEVATION VIEW
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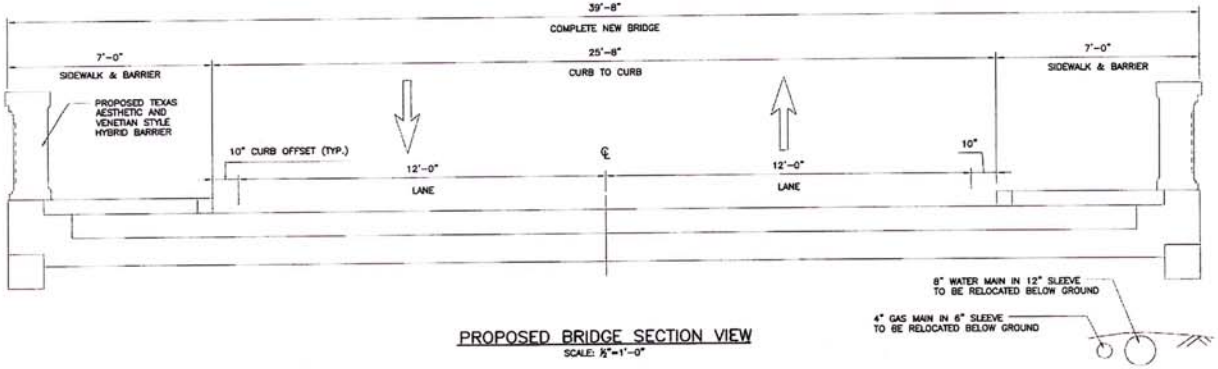

PROPOSED BRIDGE SECTION VIEW
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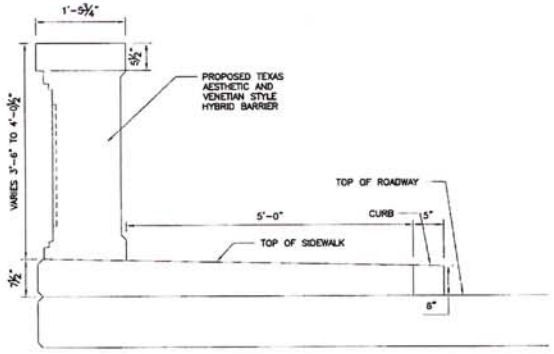

PROPOSED BARRIER SECTION VIEW
SCALE: 1"=1'-0"

PRELIMINARY

REV	DATE	REMARKS	BY

CLIENT: TOWN OF BABYLON, LINDENHURST, NY

LKB CONSULTING ENGINEERS
LOCKWOOD, KESSLER & BARTLETT, INC.
CONSULTING ENGINEERS SINCE 1889 — SYOSSET, NEW YORK

PROJECT NAME: AMERICAN VENICE BRIDGES

ALTERNATIVE 2 – TEXAS AND VENETIAN HYBRID BARRIER

DESIGN BY:	GG
DRAWN BY:	DMM
CHECKED BY:	WTC
DATE:	12/2015
SCALE:	AS SHOWN
PROJECT NO.	5423-01
DRAWING NO.	ALT-2

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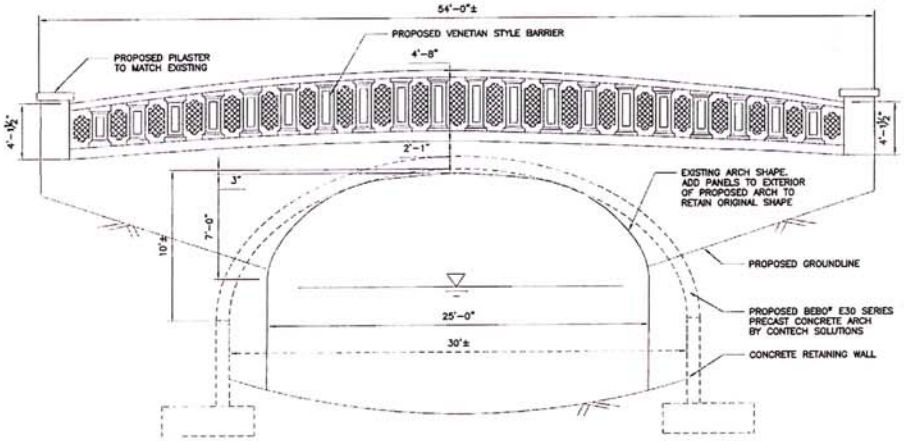
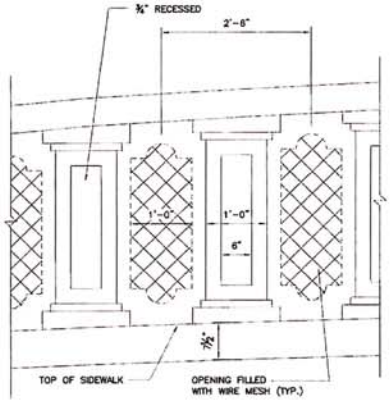
Plot Date: 12/11/2015 10:53 AM
Plotted By: Vaughn, David



PROPOSED BRIDGE ELEVATION VIEW
SCALE: ⅛"=1'-0"



PROPOSED VENETIAN STYLE BARRIER ELEVATION
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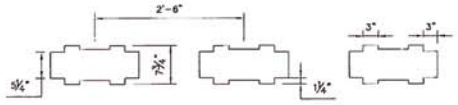

PROPOSED BARRIER HORIZONTAL SECTION PLAN VIEWS
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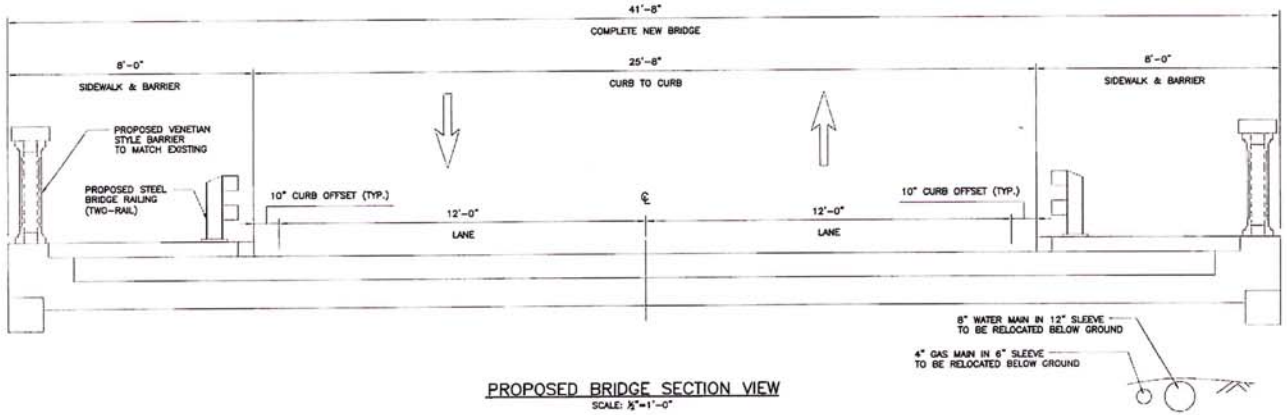
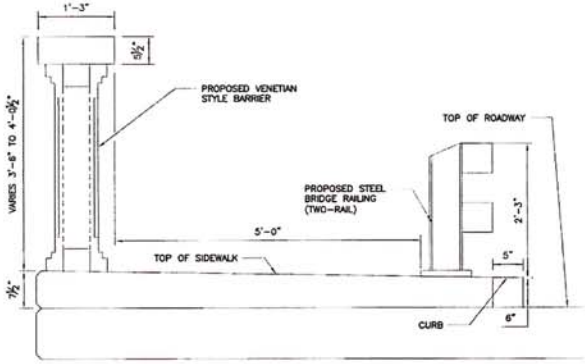


PROPOSED BRIDGE SECTION VIEW
SCALE: ⅛"=1'-0"



PROPOSED BARRIER SECTION VIEW
SCALE: 1"=1'-0"

PRELIMINARY

REV	DATE	REMARKS	BY

CLIENT: TOWN OF BABYLON, LINDENHURST, NY

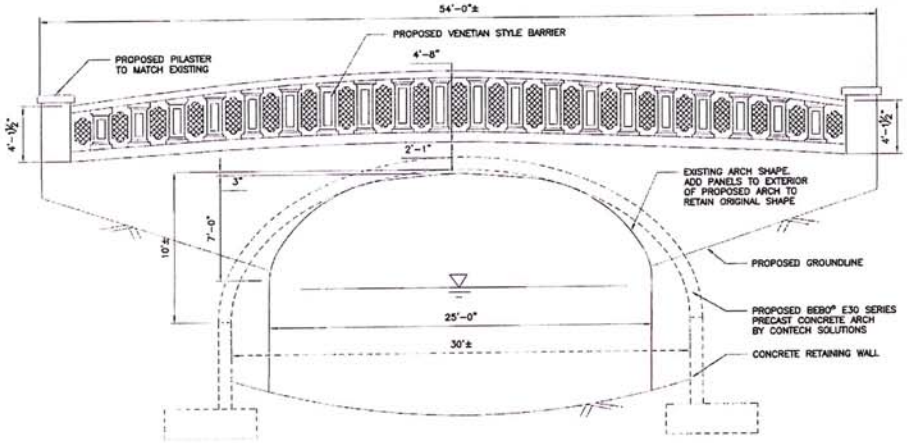
LKB CONSULTING ENGINEERS
LOCKWOOD, KESSLER & BARTLETT, INC.
CONSULTING ENGINEERS SINCE 1889 — SYOSSET NEW YORK

PROJECT NAME: AMERICAN VENICE BRIDGES

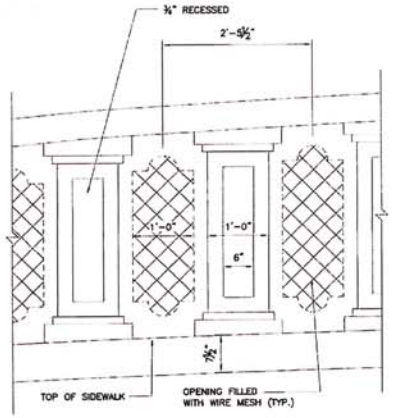
ALTERNATIVE 3 – VENETIAN BARRIER WITH STEEL RAILING AT CURB

DESIGN BY:	GG
DRAWN BY:	DMM
CHECKED BY:	WTC
DATE:	12/2015
SCALE:	AS SHOWN
PROJECT NO.	5423-01
DRAWING NO.	ALT-3

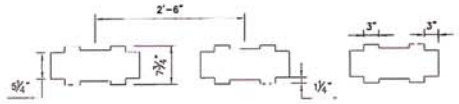
File Name: \\lkbgroup\5423 00 american venice bridges\5423\proj\dwgs\alternative alternative.dwg
Plot Date: 12/11/2015 9:43 AM
Plotted By: Vergara Ryan



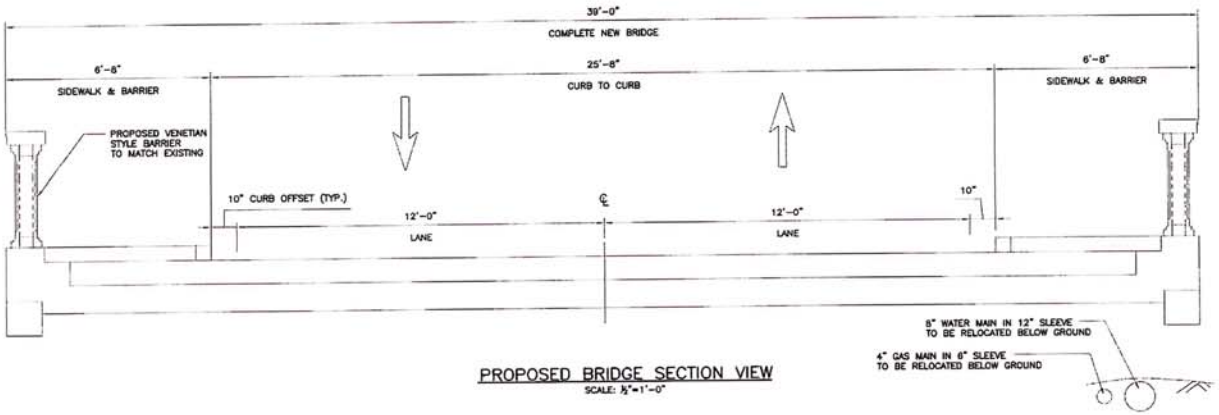
PROPOSED BRIDGE ELEVATION VIEW
SCALE: ¼"=1'-0"



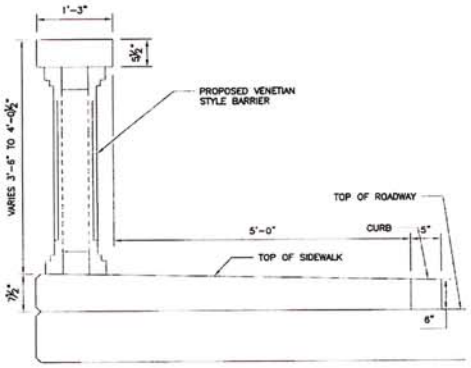
PROPOSED VENETIAN STYLE BARRIER ELEVATION
SCALE: 1"=1'-0"



PROPOSED BARRIER HORIZONTAL SECTION PLAN VIEWS
SCALE: 1"=1'-0"



PROPOSED BRIDGE SECTION VIEW
SCALE: ⅛"=1'-0"



PROPOSED BARRIER SECTION VIEW
SCALE: 1"=1'-0"

PRELIMINARY

REV	DATE	REMARKS	BY

OWNER: TOWN OF BABYLON, LINDENHURST, NY

LKB CONSULTING ENGINEERS — LOCKWOOD, KESSLER & BARTLETT, INC. CONSULTING ENGINEERS SINCE 1899 SYOSSET, NEW YORK

PROJECT NAME: AMERICAN VENICE BRIDGES

ALTERNATIVE 4 – VENETIAN STYLE BARRIER

DESIGN BY: GG
DRAWN BY: DMM
CHECKED BY: WIC
DATE: 12/2015
SCALE: AS SHOWN

PROJECT NO: 5423-01
DRAWING NO: ALT-4

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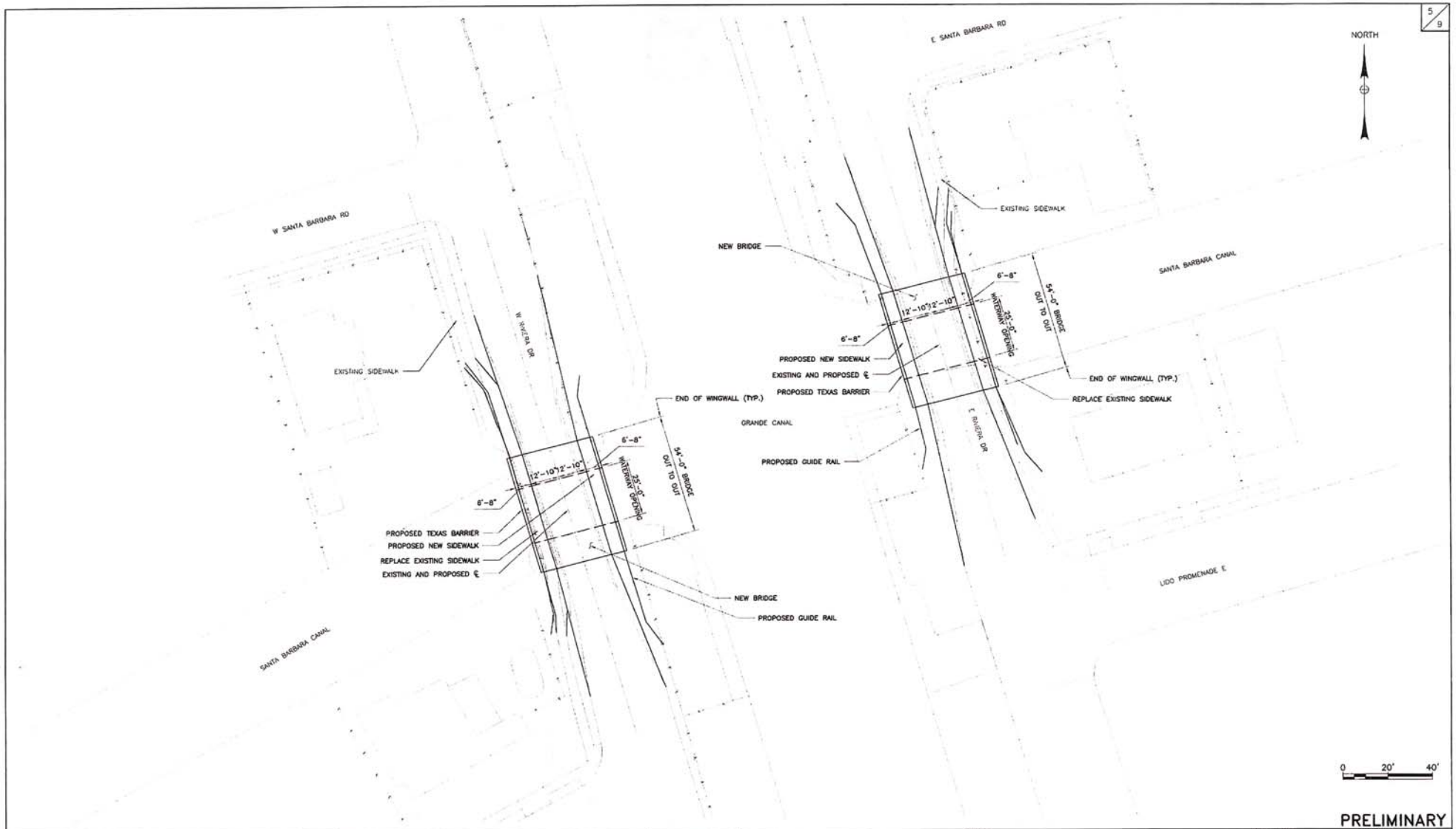
Plot Date: 12/11/2015 9:42 AM
Plotted By: Vaughn, David



PRELIMINARY

REV	DATE	REMARKS	BY

CLIENT: TOWN OF BABYLON, LINDENHURST, NY

LKB CONSULTING ENGINEERS — LOCKWOOD, KESSLER & BARTLETT, INC. CONSULTING ENGINEERS SINCE 1889 SYOSSET, NEW YORK

PROJECT NAME: AMERICAN VENICE BRIDGES

BRIDGE PLAN ALTERNATIVE 1
TEXAS AESTHETIC BARRIER

DESIGN BY:	CC
DRAWN BY:	DMM
CHECKED BY:	WTC
DATE:	12/2015
SCALE:	1"=20'
PROJECT NO	5423-01
DRAWING NO	BP-1

File Name: J:\5423\5423-01 american venice bridges\sheets\preliminary\plan.dwg
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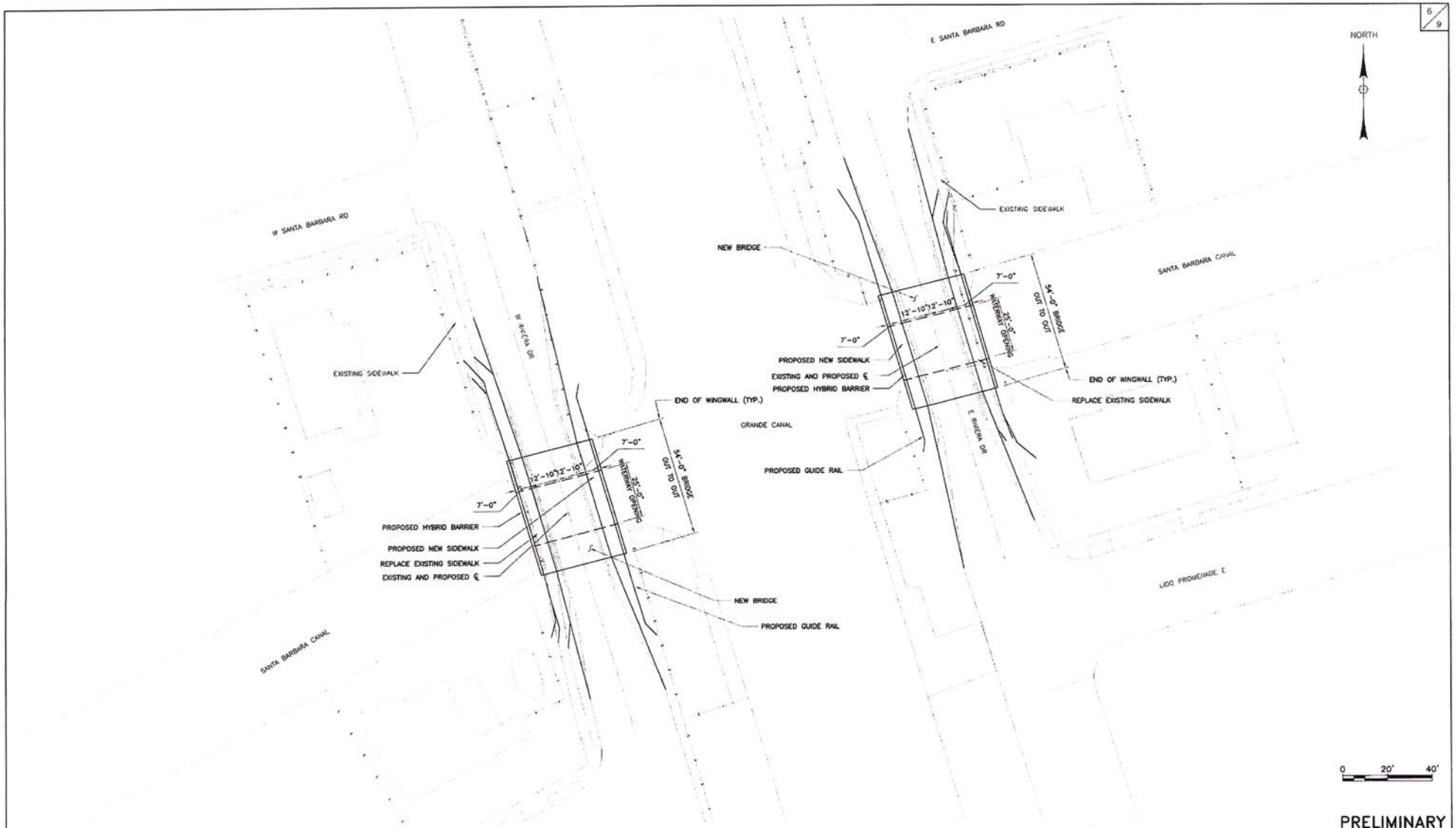
Plotted By: Mangala, Dave



PRELIMINARY

REV	DATE	REMARKS	BY

CLIENT: TOWN OF BABYLON, LINDENHURST, NY

LKB CONSULTING ENGINEERS — LOCKWOOD, KESSLER & BARTLETT, INC. CONSULTING ENGINEERS SINCE 1895 — SYOSSET, NEW YORK

PROJECT NAME: AMERICAN VENICE BRIDGES

BRIDGE PLAN ALTERNATIVE 2
TEXAS AND VENETIAN HYBRID

DESIGN BY:	CC
DRAWN BY:	DMM
CHECKED BY:	WTC
DATE	12/2015
SCALE:	1"=20'
PROJECT NO	5423-01
DRAWING NO	BP-2

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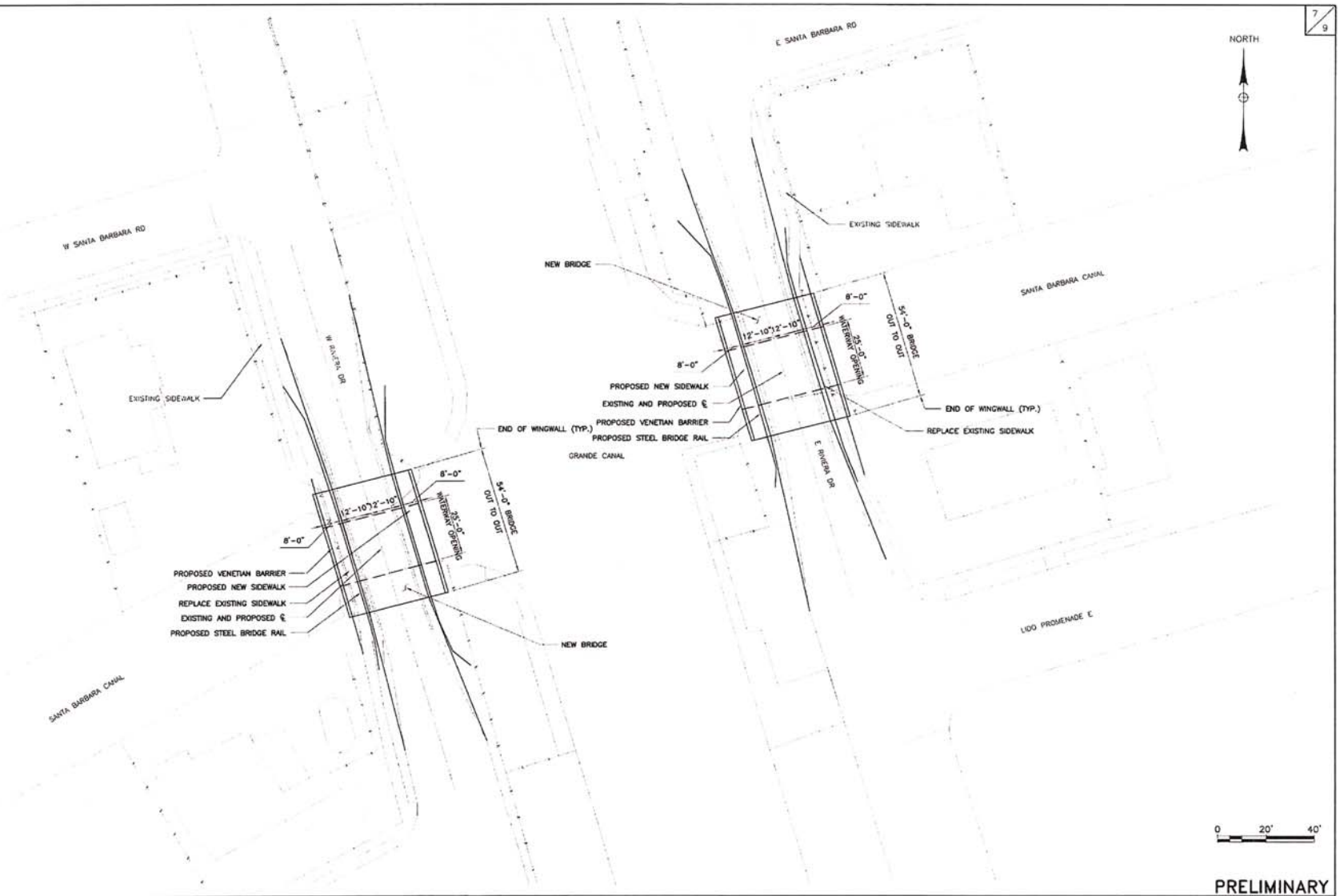
Plot Date: 2/11/2015 9:40 AM
Plotted By: Margolis, Darryl



PRELIMINARY

REV	DATE	REMARKS	BY

CLIENT: TOWN OF BABYLON, LINDENHURST, NY

LKB CONSULTING ENGINEERS — LOCKWOOD, KESSLER & BARTLETT, INC. — CONSULTING ENGINEERS SINCE 1889 — SYOSSET, NEW YORK

PROJECT NAME: AMERICAN VENICE BRIDGES

BRIDGE PLAN ALTERNATIVE 3 VENETIAN WITH STEEL RAILING AT CURB

DESIGN BY:	GG
DRAWN BY:	DMM
CHECKED BY:	WTC
DATE:	12/2015
SCALE:	1"=20'
PROJECT NO	5423-01
DRAWING NO	BP-3

File name: c:\projects\5423.00 american venice bridges\cad\sheets\structural\site plan.dwg
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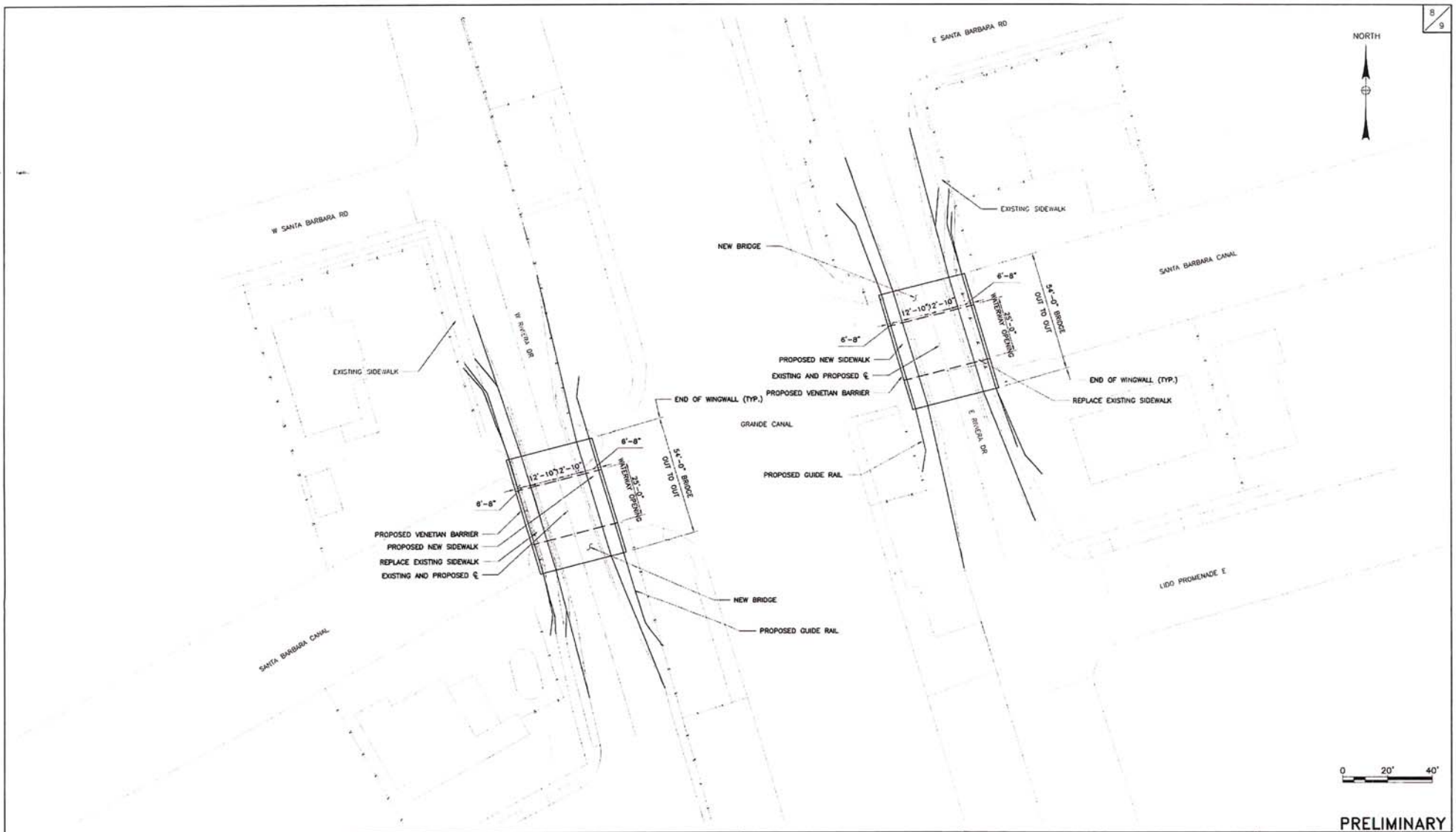
Plotted By: Margaret Sawyer



PRELIMINARY

REV	DATE	REMARKS	BY

CLIENT: TOWN OF BABYLON, LINDENHURST, NY

LKB CONSULTING ENGINEERS — LOCKWOOD, KESSLER & BARTLETT, INC. CONSULTING ENGINEERS SINCE 1889 SYOSSET, NEW YORK

PROJECT NAME: AMERICAN VENICE BRIDGES

BRIDGE PLAN ALTERNATIVE 4
VENETIAN STYLE BARRIER

DESIGN BY: GG
DRAWN BY: DMM
CHECKED BY: WTC
DATE: 12/2015
SCALE: 1"=20'

PROJECT NO: 5423-01
DRAWING NO: BP-4

File Name: c:\projects\5423 00 american venice bridges\cadd\sheets\structural\site plan.dwg
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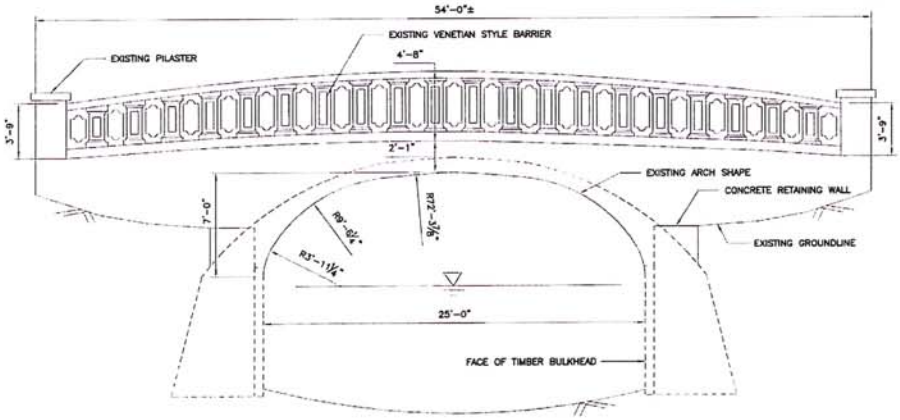
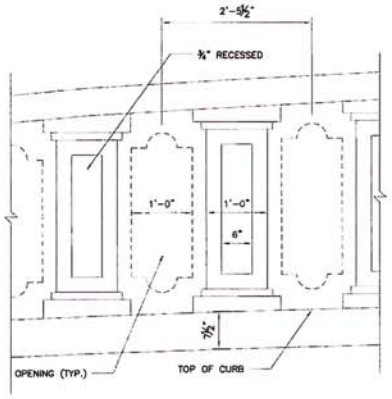
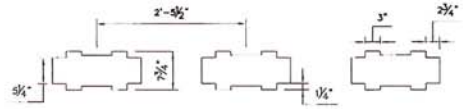
Plotted By: Vorgan Daniel



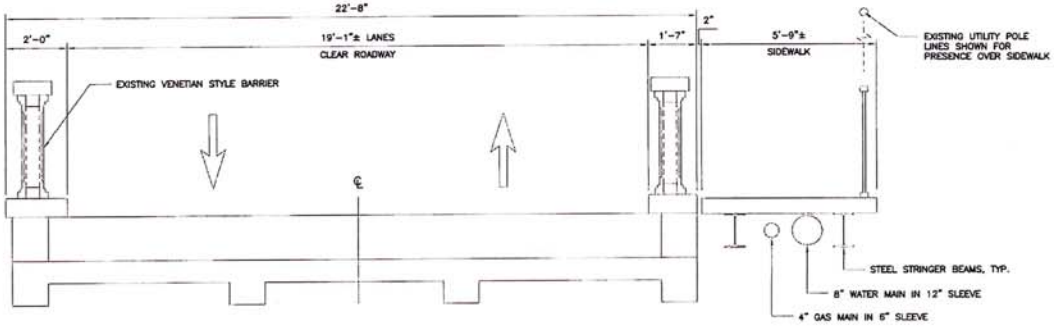
EXISTING BRIDGE ELEVATION VIEW
SCALE: 1/4"=1'-0"



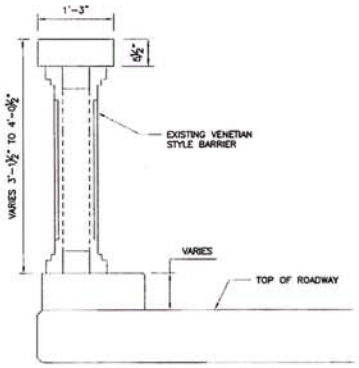
EXISTING VENETIAN STYLE BARRIER ELEVATION
SCALE: 1"=1'-0"



EXISTING BARRIER HORIZONTAL SECTION PLAN VIEWS
SCALE: 1"=1'-0"



EXISTING BRIDGE SECTION VIEW
SCALE: 1/8"=1'-0"



EXISTING BARRIER SECTION VIEW
SCALE: 1"=1'-0"

PRELIMINARY

REV.	DATE	REMARKS	BY

CLIENT: TOWN OF BABYLON, LINDENHURST, NY

LKB CONSULTING ENGINEERS — LOCKWOOD, KESSLER & BARTLETT, INC. — CONSULTING ENGINEERS SINCE 1889 — SYOSSET, NEW YORK

PROJECT NAME: AMERICAN VENICE BRIDGES

EXISTING BRIDGE BARRIER VENETIAN STYLE

DESIGN BY: GG
DRAWN BY: DMM
CHECKED BY: WTC
DATE: 12/2015
SCALE: AS SHOWN

PROJECT NO. 5423-01
DRAWING NO. EB-1

File Name: I:\projects\5423.00 american venice bridges\dwgs\eccd\prelim\ch-b\barrier elevations.dwg
Plot Date: 12/11/2015 9:41 AM
Plotted By: Margolin, Denise

NEW YORK STATE OF OPPORTUNITY. | Parks, Recreation, and Historic Preservation

ANDREW M. CUOMO
Governor

ROSE HARVEY
Commissioner

October 31, 2016

Thomas King
Governor's Office of Storm Recovery
99 Washington Ave, Suite 1224
Albany, NY 12231

Re: GOSR/ CDBG-DR
Venetian Shores Historic Bridge Restoration
East Rivera Dr. and West Riviera Dr. at Santa Barbara
14PR02568

Dear Mr. King :

Thank you for requesting the comments of the New York State Historic Preservation Office (SHPO). We have reviewed the submitted materials in accordance with Title 54, Section 306108 of the National Historic Preservation Act of 1966 and the MOA in place for this project.

Based on this review, it is the opinion of SHPO that the recordations are acceptable at this point and all stipulations have been met. No further submissions are required unless something changes.

If I can be of further assistance, please contact me at (518) 268-2187 or Larry.moss@parks.ny.gov

Sincerely,

L Moss

Larry K Moss, Historic Preservation Technical Specialist

CC: Mary Barthelme
Joseph Guarino, Town of Babylon

GOVERNOR'S OFFICE OF STORM RECOVERY

Andrew M. Cuomo
Governor

James Rubin
Executive Director

March 9, 2015

Daniel S. Collins Sr., Chairman
Shinnecock Indian Nation Tribal Office
PO Box 5006
Southampton, NY 11969

Re: Section 106 Discussion
CDBG-DR, NYRCR Funding Application for the Reconstruction of the American Venice Bridges
Hamlet of Copiague, Town of Babylon, Suffolk County, NY

Dear Mr. Collins,

Pursuant to the Disaster Relief Appropriations Act, 2013 (Public Law 113-2) and the Housing and Community Development Act (42 U.S.C. § 5301 et seq.), the Governor's Office of Storm Recovery (GOSR) is acting under the auspices of New York State Homes and Community Renewal's Housing Trust Fund Corporation as a recipient of Community Development Block Grant – Disaster Recovery ("CDBG-DR") funds from the United States Department of Housing and Urban Development ("HUD"). GOSR is the entity responsible for compliance with the HUD environmental review procedures set forth in 24 CFR Part 58. GOSR is acting on behalf of HUD in providing the enclosed project information and inviting this discussion with your Nation to respond with any concerns or comments.

GOSR processes environmental reviews for projects funded with HUD CDBG-DR on a case-by-case basis. This project described herein was reviewed in conjunction with Town of Babylon Historian, Mary Cascone. Upon review of the project, GOSR and the Town directly referred the project to the State Historic Preservation Office for review. In accordance with Section 101(d)(6)(B) of the National Historic Preservation Act (NHPA) of 1966, as amended (16 U.S.C. 470a), and its implementing regulations, 36 Code of Federal Regulations (CFR) Part 800, this letter serves as notification of the proposed action.

Area of Potential Effect: GOSR proposes to funding application to deconstruct and replace the two American Venice Bridges, on East/West Riviera Drive over the Santa Barbara Canal in the American Venice neighborhood of the Hamlet of Copiague, Suffolk County, New York and construct new replacement bridges in place. The two bridges provide the only vehicular access point to the neighborhoods south of each bridge. A map depicting the area of potential effect is enclosed with this letter.

Proposed Project Description: Due to the damage caused by flooding and erosion as a result of Superstorm Sandy, the Town of Babylon has applied to GOSR under the NYRCR Program to fund the deconstruction and replacement of the two American Venice Bridges. The current bridges have a load rating of 12 tons only, and the bridges do not support use by heavy emergency and rescue equipment or heavy equipment necessary to remove storm debris. In order to decrease vulnerability to these neighborhoods, the bridges will be replaced with 20-ton capacity bridges so that heavy emergency, rescue, and construction equipment and vehicles have unrestricted access to the neighborhoods in the event of an emergency.

Project activities will involve the removal of the two adjacent bridges and replacement with new bridges of

higher carrying capacity. The current bridges' roadways are 19.5 feet wide with an additional 4-foot wide sidewalk. The bridges span 38 feet from abutment to abutment. These two bridges will be removed. The new bridges' roadways will be 21 feet wide and each will have a 5.5-foot wide sidewalk. The bridges' edges will have a 1-foot and 2-inch Texas Aesthetic Barrier. The new bridges will include a replacement 8-inch water main in a 12-inch sleeve and a replacement 4-inch gas main in a 6-inch sleeve under the sidewalk decking. The demolition/construction of each bridge will be phased so that only one-half of the bridge is demolished and constructed at one time. This will allow for the use of a one-lane bridge for vehicular access to and from the neighborhoods whilst the demolition and construction is occurring.

The current lower arch sections and bridge abutment sections supporting the existing bridge are located in the canal banks. These concrete abutments which are in the canal banks/waterway are proposed to remain in place with only minor work to repair sheathing around the abutments. New abutments are proposed landward of the current abutments and will not impact the canals on site. However, final engineered designs for the new bridges are not yet completed and it is possible that the final scope of work will necessitate the removal and rebuilding of the abutments on the canal banks, or other intensive work to repair the abutments.

The upper arch sections of the current bridges will be completely removed. The new bridge arch sections are currently proposed to be built on new bridge foundations located landward of the preexisting lower arch sections. Concrete fill will be used to connect the preexisting foundation (lower arch sections) and the new foundations. The new bridge arch support will be at the same heights as the current bridges in the center of arch, with only very minor deviations from the current arch angles over the canal. The new bridges will be formed using precast and cast-in-place concrete.

GOSR has consulted with New York State Historic Preservation Office (NYS SHPO) in accordance with the NHPA, and SHPO has determined that the project will have an *Adverse Effect* upon properties in or eligible for inclusion in the National Register of Historic Places. Thus, GOSR, the Town of Babylon, and NYS SHPO will enter into an agreement by which mitigation measures, such as incorporating the character defining features of the bridges into the new bridge design, are identified which will take place in order for the project to occur (Per #6 of the Secretary of the Interior Standards for Rehabilitation "where the severity of deterioration requires replacement of a distinctive feature, the new feature shall match the old in design, color, texture, and other visual qualities and, where possible, materials").

SHPO has indicated in writing that it concurs with GOSR's and the Town of Babylon Historian, Mary Cascone's, Area of Potential Effect (APE) Determination. Moreover, the SHPO concurs that there are no previously recorded archaeological resources within, or in the vicinity of the project's (APE). This correspondence is included in the enclosures of this letter.

With this letter, GOSR respectfully submits for your review the attached documentation for the proposed project(s) described herein. If the Area of Potential Effect encompasses historic properties of religious or cultural significance to your Nation, please respond within 15 days or sooner. Additionally, please indicate if there are other sources of information or other parties, Nations, Tribes, or members of the public you believe should be included in the consultation process. Please respond by email or in writing to the address listed below.

Mr. Thomas King
Certifying Environmental Officer
Governor's Office of Storm Recovery
99 Washington Avenue
Suite 1224
Albany, New York 12231

I am available to answer any questions that you may have regarding this action. If you have any questions, please feel free to contact me at (646) 417-4660 or via email at Thomas.King@stormrecovery.ny.gov.

Sincerely,

Thomas J. King
Assistant General Counsel and Certifying Officer

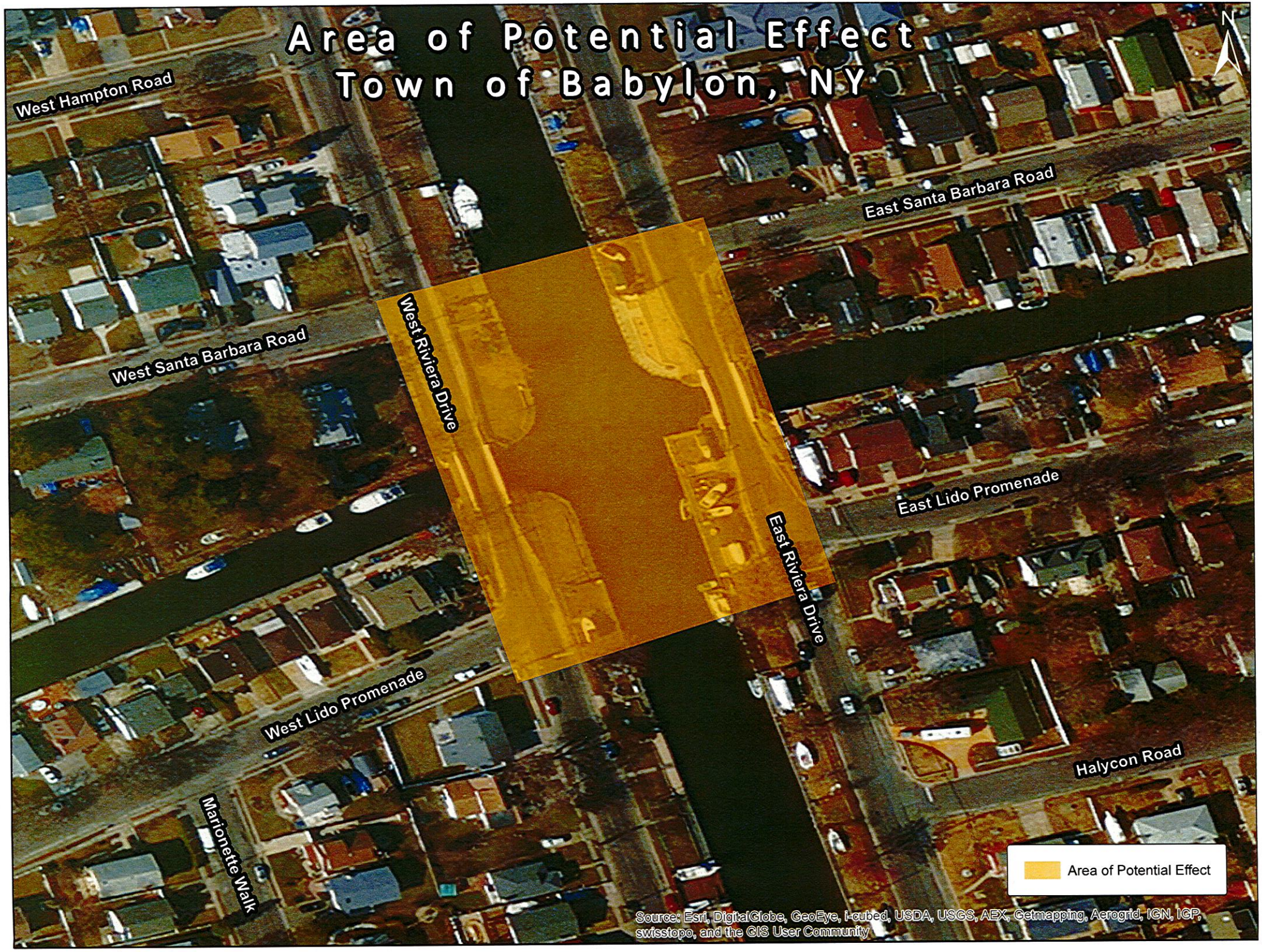
Enclosures:
Area of Potential Effect Map
American Venice Bridges History
Letters Documenting No Archaeological Resources
SHPO Concurrence of APE and No Archaeological Resources
Correspondence Regarding SHPO

Mailed letter sent to:
Daniel S. Collins Sr., Chairman
Shinnecock Indian Nation Tribal Office
PO Box 5006
Southampton, NY 11969

Electronic letter sent to:
Daniel S. Collins Sr., Chairman
Shinnecock Indian Nation Tribal Office
PO Box 5006
Southampton, NY 11969
sination@optonline.net

Tohanash Tarrant
Shinnecock Indian Nation Tribal Office
PO Box 5006
Southampton, NY 11969
tohanash.tarrant@shinnecock.org

Area of Potential Effect
Town of Babylon, NY



The two winged-lion columns on Montauk Highway, between Riviera Drives East and West are important historic landmarks in the American Venice community. However, the proposed restoration of the bridges on Riviera Drive East and Riviera Drive West will not impact the winged-lion columns, which are located on private property, about one-third of a mile north of the bridges.

Built around 1926, the columns flanked the administration buildings of the American Venice Corporation; the former administration plaza is now the private business property of RPM Marine, 711 W. Montauk Highway, Lindenhurst.[1] The administration plaza and winged-lion columns were designated in the American Venice Historic District by the Town of Babylon in 2007, and nominated to the 2011 Endangered Historic Properties list by the Society for the Preservation of Long Island Antiquities (SPLIA).

The bridges on Riviera Drive East and Riviera Drive West were built around 1926, linking the northern and southern residential quadrants of the American Venice community. The design of the bridges was reportedly inspired by the Della Paglia Bridge, in Venice, Italy. Additional community bridges were proposed by the developers, but were never constructed. In the late 1980's, there was some concern that the American Venice bridges were unsuitable for vehicular traffic, and a former Town of Babylon Superintendent of Highways proposed that they be replaced by flat-steel bridges. The American Venice Civic Association, as well as a number of other citizens and community groups, fought to save the bridges, which were successfully restored by the Town of Babylon in 1989. The basic structure of the bridges has remained the same since the 1920s; however, photographs reveal that column spires and railings at the bridge bases may have been removed in the 1950s when a pedestrian walkway was added to the vehicular roadway.

In 1989, the American Venice Civic Association (AVCA)[2] made an application to SHPO regarding the eligibility of the two bridges and two winged-lion columns for the National Register of Historic Places. The Building-Structure Inventory Form filed by the AVCA stated that the winged-lion columns are privately owned and the bridges are publicly owned.

In 2007, the Town of Babylon determined that the structure at RPM Marine, built around 1961, encapsulates the former administration buildings. The Town of Babylon made a proposal to acquire the RPM Marine property for restoration of the entire administration plaza, including the two administration buildings, two winged-lion columns, and the San Marco Lagoon. Unfortunately, the restoration plans proposed in 2007 have not come to fruition, but remain a viable project. A second island at the south end of the Grand Canal, known as the Rialto, has also being considered for restoration by the Town of Babylon and community residents.

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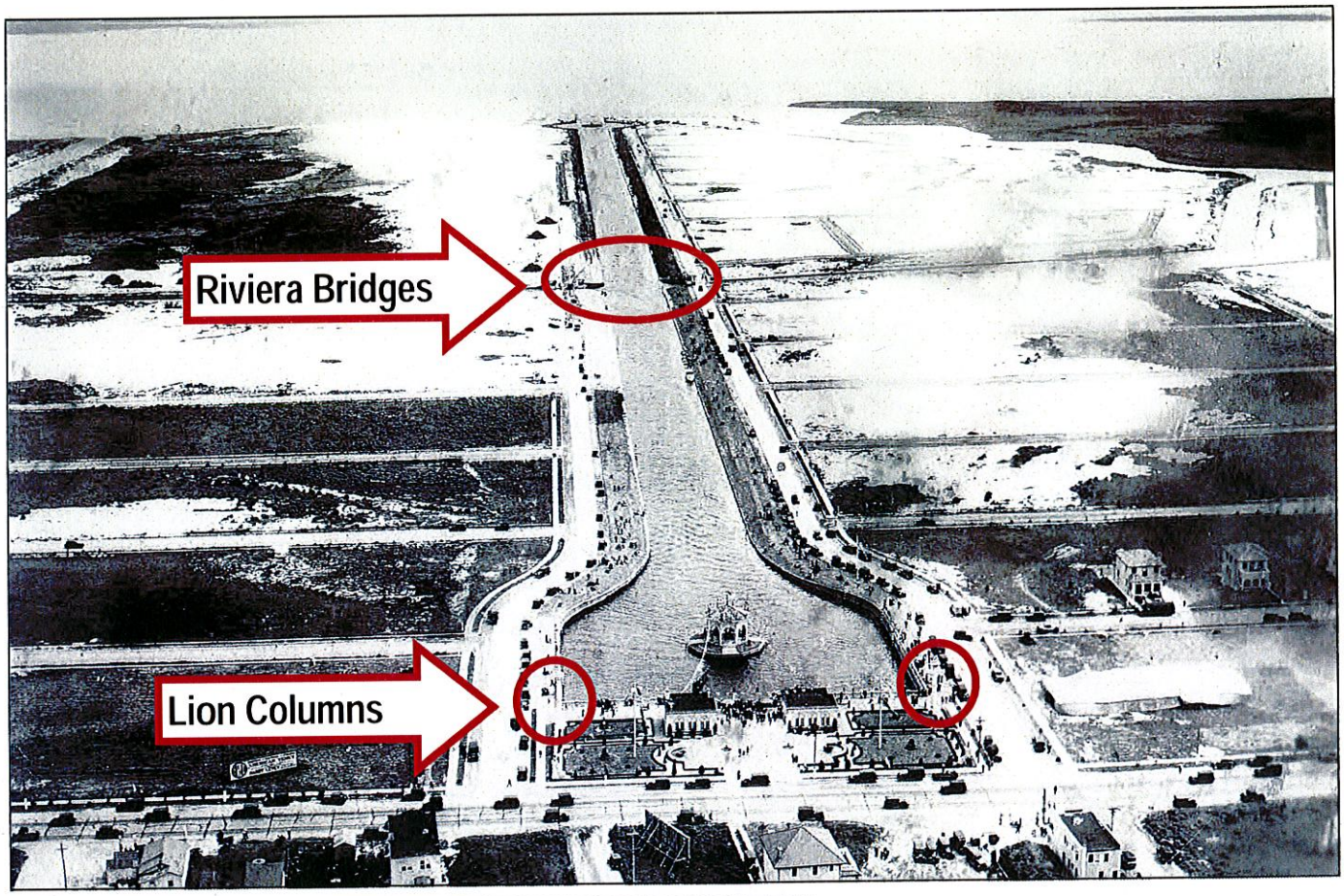
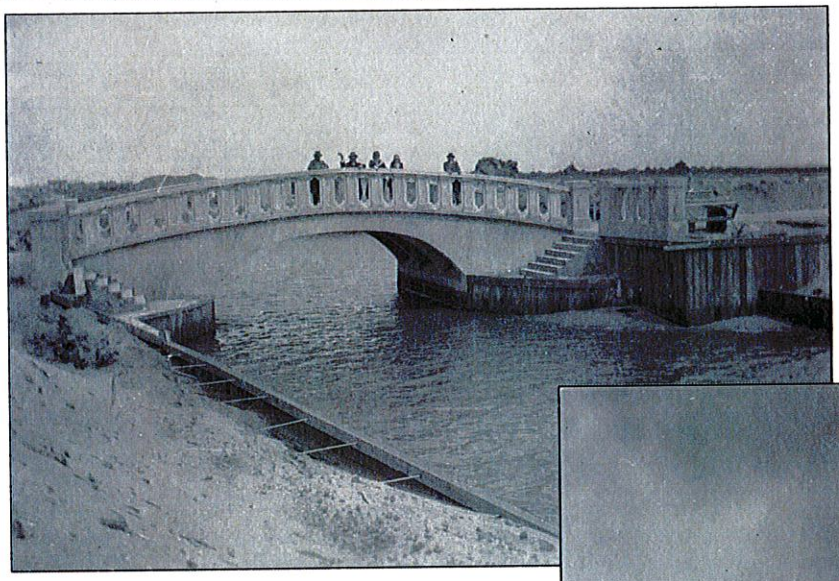
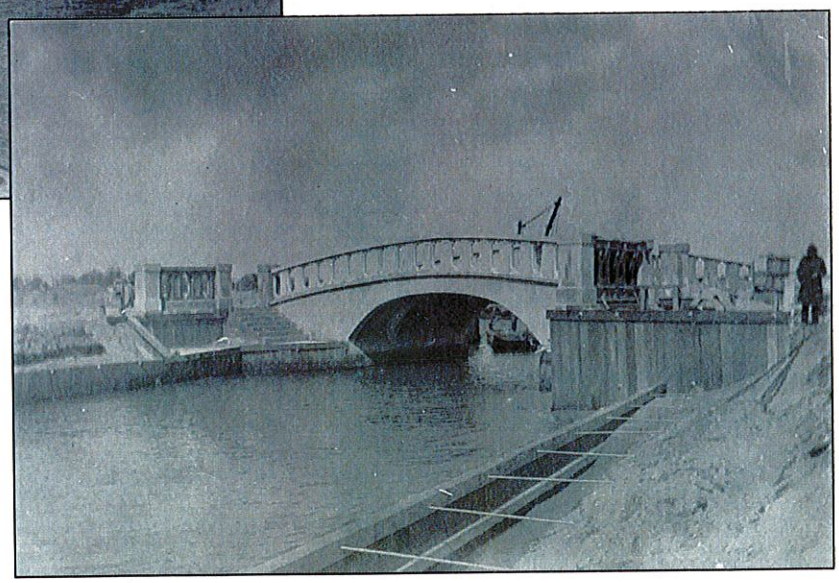
[1] Please note: (1) Although the American Venice is designated with Lindenhurst postal addresses, the community is located in the hamlet of Copiague. (2) The American Venice community is often confused with the South Shore community of Venetian Shores, which is also designated with Lindenhurst postal addresses, but is located in the hamlet of West Babylon.

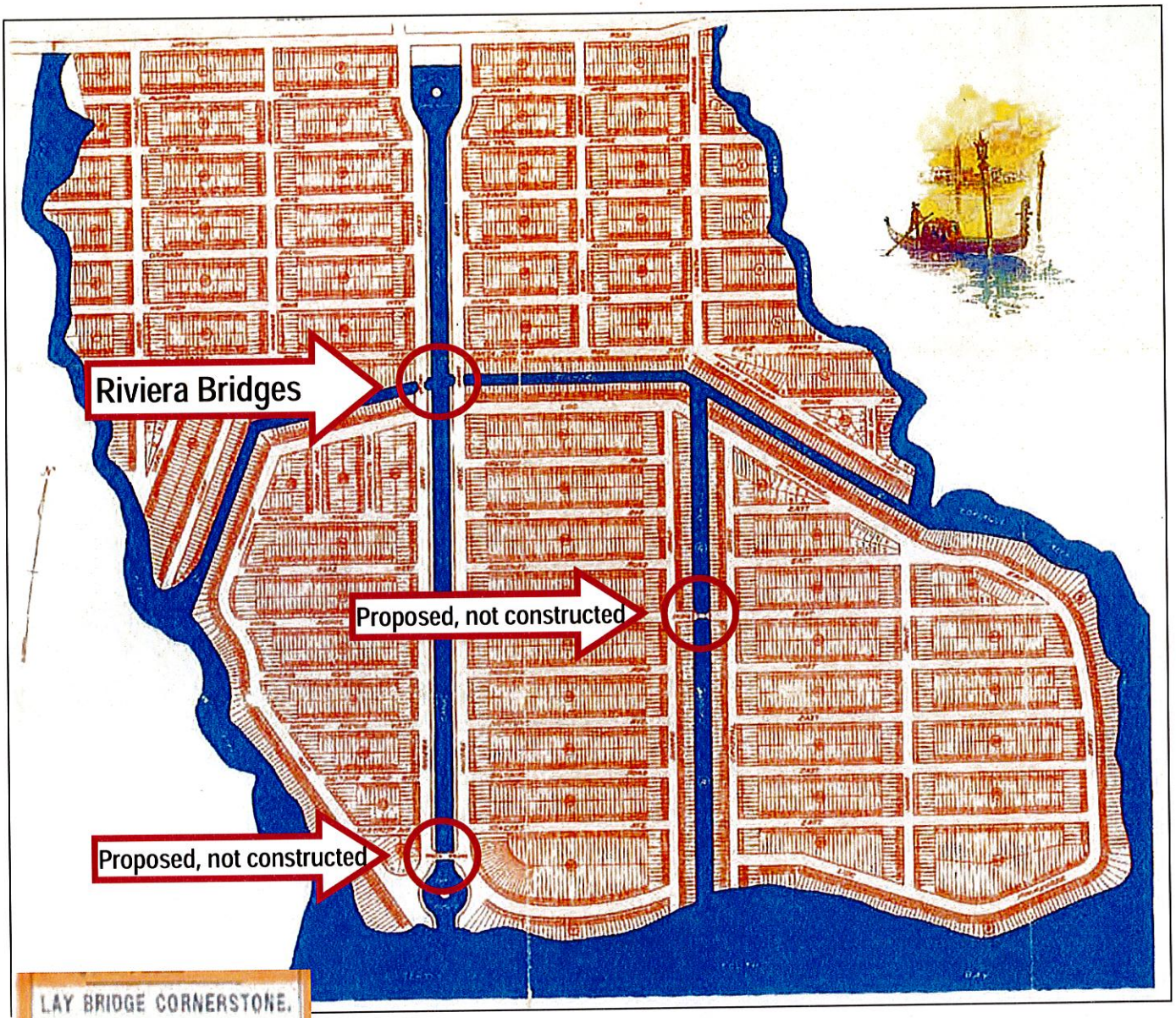
[2] The American Venice Civic Association is inactive.

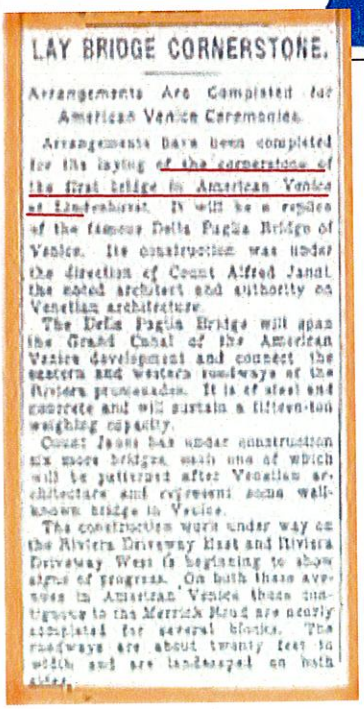


c. 1926









LAY BRIDGE CORNERSTONE.

Arrangements Are Completed for American Venice Ceremonies.

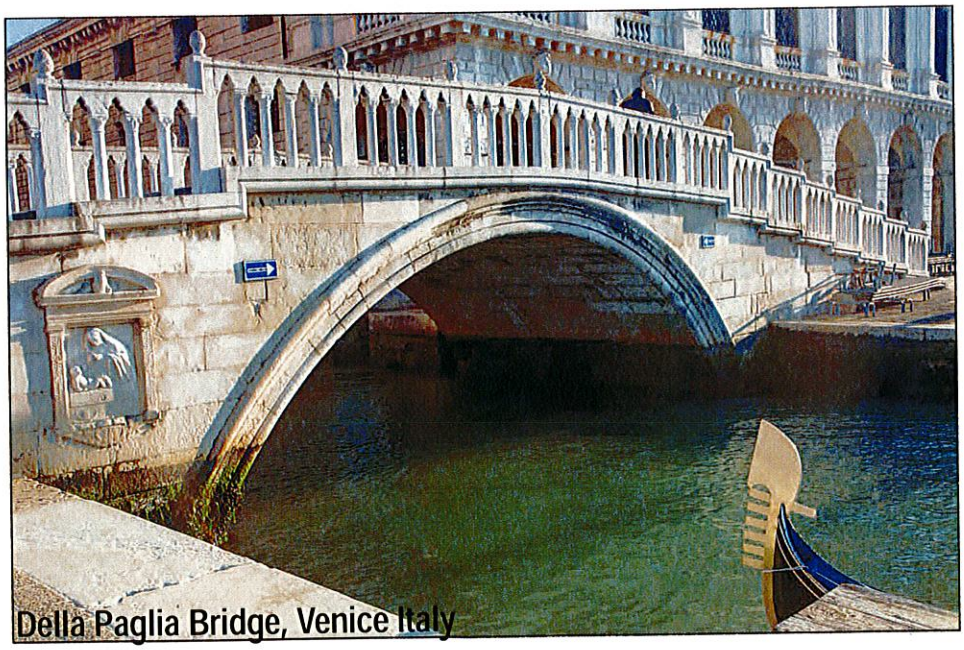
Arrangements have been completed for the laying of the cornerstone of the first bridge in American Venice at Lindenhurst. It will be a replica of the famous Della Paglia Bridge of Venice. Its construction was under the direction of Count Alfred Janni, the noted architect and authority on Venetian architecture.

The Della Paglia Bridge will span the Grand Canal of the American Venice development and connect the eastern and western roadways of the Riviera promenades. It is of steel and concrete and will sustain a fifteen-ton weighing capacity.

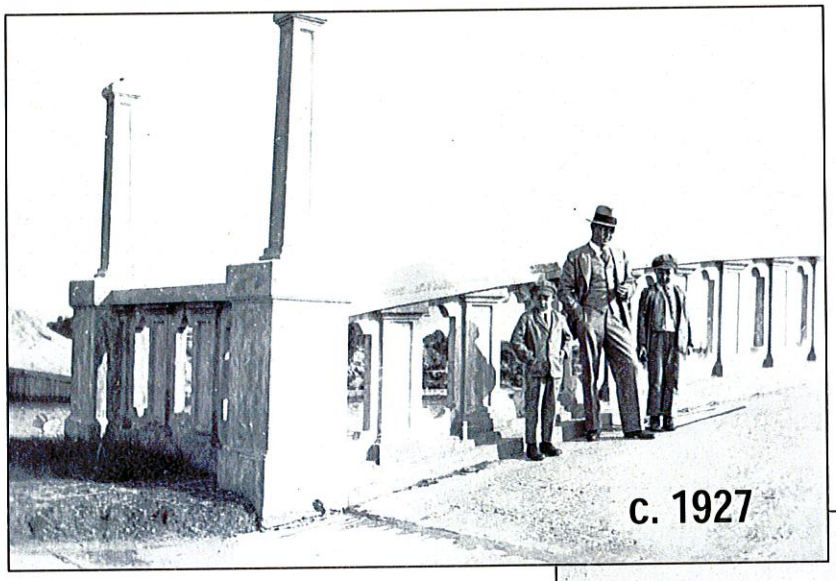
Count Janni has under construction six more bridges, each one of which will be patterned after Venetian architecture and represent some well-known bridge in Venice.

The constructions work under way on the Riviera Driveway East and Riviera Driveway West is beginning to show signs of progress. On both these avenues in American Venice these contiguous to the Merrick Road are nearly completed for several blocks. The roadways are about twenty feet in width and are landscaped on both sides.

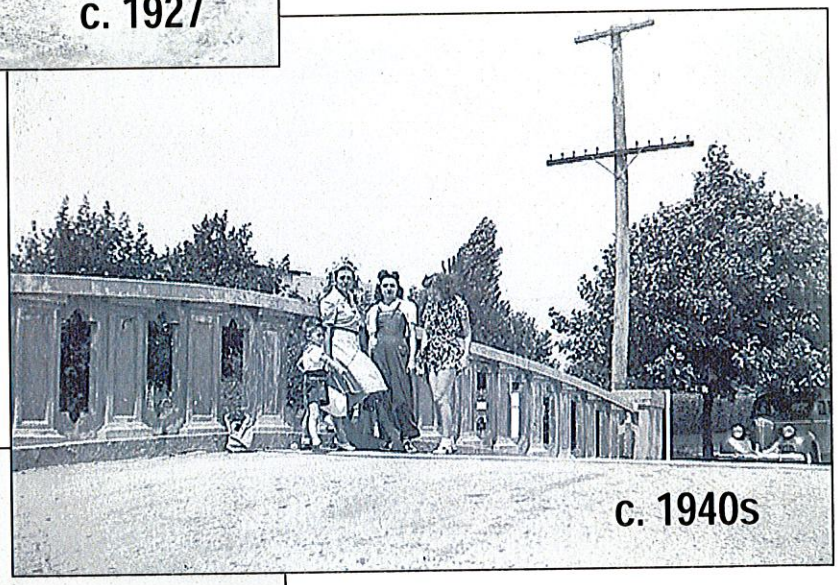
New York Times, Aug. 1, 1926.



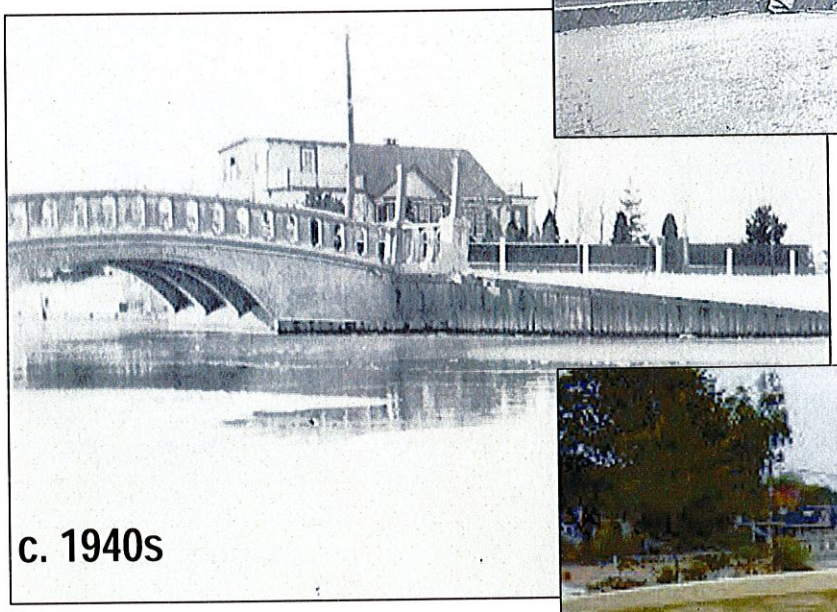
American Venice Bridges



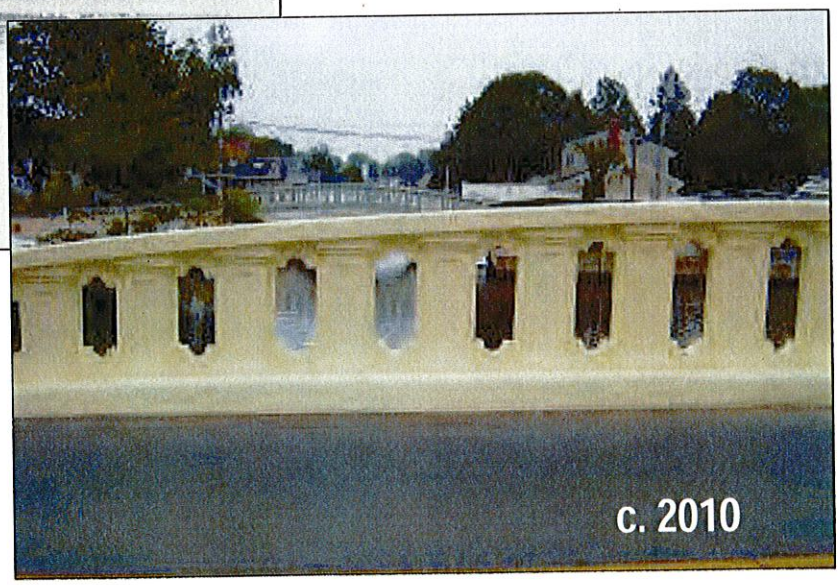
c. 1927



c. 1940s



c. 1940s

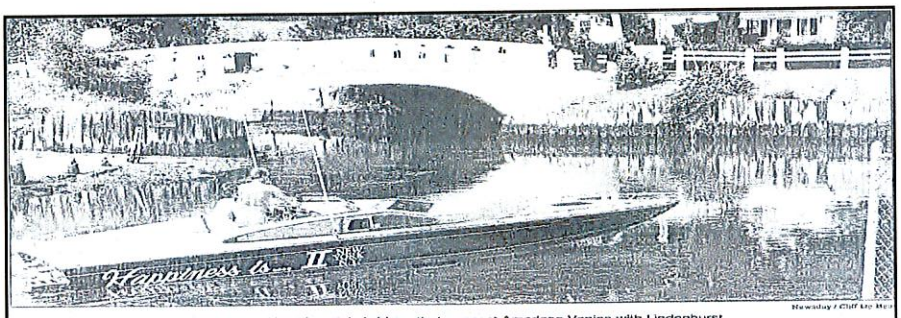


c. 2010

1989 RESTORATION: VENETIAN BRIDGES

In the late 1980's, there was some concern that the two Venetian-style bridges along East and West Rivera Drives were no longer suitable for vehicular traffic, and the Town of Babylon Superintendent of Highways proposed that they be replaced by flat-steel bridges.

The American Venice Civic Association, as well as a number of other citizens and community groups, fought to save these bridges, in their original style. The bridges were successfully restored by the Town of Babylon in 1989.



One of two Venetian-style bridges that connect American Venice with Lindenhurst

Newsday, August 10, 1988.

Fighting for a Touch of Italy

By Dele Olojede

Residents oppose replacing two Venetian-style bridges

NO GONDOLAS SAIL through the underpasses or along the seaweed-covered water-

ice voted last month to preserve the bridges, and that it would seek to have them declared landmarks. This is possible under the town's historic preservation law, adopted

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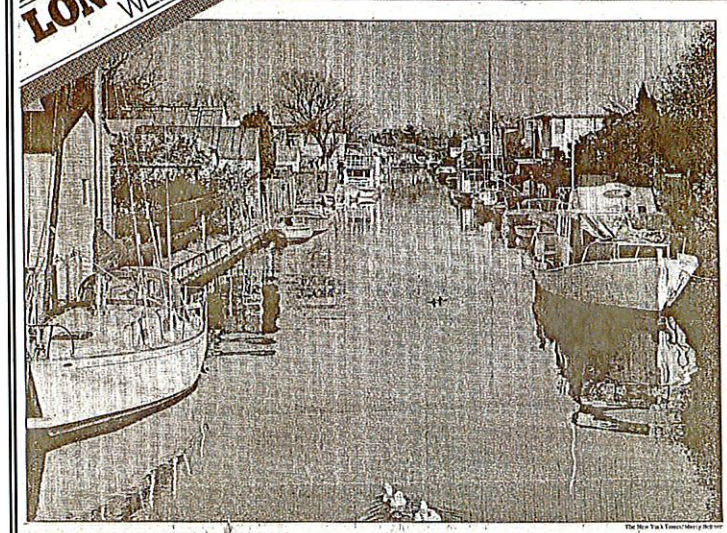
LONG ISLAND WEEKLY

The New York Times

SUNDAY, NOVEMBER 27, 1988



Boats docked along one of the canals of the "American Venice" community in Lindenhurst.

'American Venice': Awash in Past Glories

By JOAN REMINICK

WINGED lions, twin brothers of the ones guarding the entrance to the Piazza San Marco in Venice, stand atop two columns that soar five stories high over Merrick Road in Lindenhurst. The lions are easy to miss amid the highway clutter and the boat store that occupies the space between the columns.

But beyond the narrow canal that runs behind the marina, there are two streets that flank the canal, and midway down each of them is a small, graceful reproduction of a Venetian bridge.

The streets have names evocative of the Adriatic: Doges, Mirimar, Buena Vista, Lido and Venetian. The bridges, too, evoke Venice: the plaster is gone in spots, they have been patched with steel and graffiti splatter their sides.

When, a short time ago, the Town of Babylon contemplated tearing down the old spans and replacing them with newer, stronger, more modern structures, the residents along the canals joined forces in indignation.

To them, the lions and the bridges represent an age and a dream gone but not forgotten. Ask any of the people on either side of the canal where they live and they will proudly tell you that, although their mailing address says Lindenhurst and their children attend Copiague schools, they are residents of the "American Venice."

The lions and bridges were erected in 1925 as part of a real-estate developer's fantasy of a miniature Venice on the Great South Bay. Although that vision was cut short by the Depression, the community that evolved along the canals has maintained a sense of identity all its own.

It has only been recently, in response to the Town of Babylon's threat to auction the community's two beaches because of unpaid taxes, that the sense of identity was galvanized.

One of winged lions guarding the entrance to "American Venice."

For one thing, the American Venice Civic Association was reactivated. The organization, an integral part of the community's life since the 30's, has been dormant for 15 years.

To Angelo Fertito, the association's president, who still lives in the same house in which he was reared, protection of the beaches was a vital issue.

"I learned to swim on these beaches at 3 years old," he said. "I didn't want to see them build houses on these beaches. We got the beaches back. It cost us over $10,000 and we started working on other issues, the bridges, neighborhood watches."

The civic association, which publishes a newsletter for the 1,500 homeowners in the area, also has brought back the community tradition of picnics, beach parties and social gatherings.

Both newcomers and oldtimers share in keeping community involvement alive.

Its the old timers, though, who can still look back on the early dream days of the "American Venice."

Louis Steinbrecher, whose family bought property back in 1926, recalls that era.

According to Mr. Steinbrecher, Meister Builders, the real estate company that developed the land, distributed railroad tickets to residents of Brooklyn and Queens, many of them Italian-Americans, to entice them to buy and settle.

On weekends, the real-estate agents entertained prospective customers in the grand manner.

"On the corner next to where the Venice Marina is today," Mr. Steinbrecher said, "they had a really big tent and all the kids got sandwiches, soda and ice cream while their parents were being shown around."

On a manmade island at the head of the canal, he said, there was a bandstand with an orchestra that entertained the visitors. Between the two lion-topped columns was a parklike area with two small tales pavilions.

"There were statues, too, which disappeared," he said. "And there was a great round cement bowl with flowers in it."

"And they had gondolas here. I think they even imported some guy from Italy to take prospective property owners for a ride."

Mr. Steinbrecher's parents bought property in 1926. They built a garage in 1933, but not until 1946 did they construct a permanent dwelling.

"My father figured this was for the kids," Mr.

Continued on Page 22

Letters to the Editor

Letters Must Contain Writers Full Name, Address & Phone. Addresses will not be Published Letters Must be 200 words or less.

12/7/88 Amer Venice

Dear Editor:

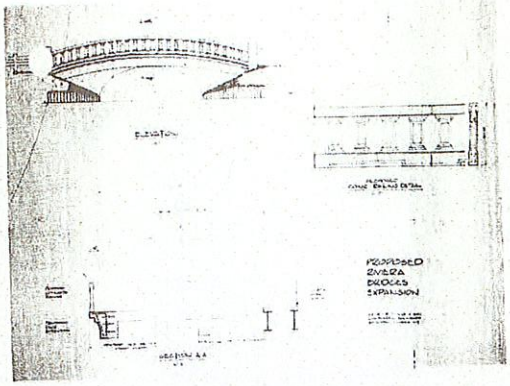
I was very happy to read in a recent issue of South Bay's Newspaper that Arthur Pitts, Supervisor of the Town of Babylon, came through for the people again. He went against the recommendations of his own Superintendent of Highways, James Harrington, and decided a complete halt was necessary concerning the plans to tear down the two American Venice Bridges and build new ones.

These bridges built in the year 1926 were the beginning of a modern American Venice. The architectural designs for the bridges were exact duplicates of those from Venice, Italy.

These bridges, to date, are two of the few remaining structures still in existence reminding us of this historic era in the bygone days of Copiague. The bridges, along with the American Venice Marina property, should definitely be designated as historic landmarks, and in turn, a memorial park should be built at that location commemorating the early settlers of Copiague.

A complete restoration of the American Venice Marina property would be necessary. Possibly sightseeing gondola tours of the area should be considered. It seems that every remaining old structure that could have been considered for historic landmark status has been destroyed by urbanization. I applaud the actions of our Supervisor. It's a good start. Keep up the good work, Mr. Pitts.

Steven Weinkselbaun
Lindenhurst



PLANS to restore two old Venetian bridges, located on Riviera Drive East and Riviera Drive West in Copiague, are expected to be approved by the town board within the next few weeks. According to James Harrington, highway superintendent, the project will cost about $1.3 million and will be financed by a $200,000 state grant and a bond paid by the highway department. The bridges, built in the early 1900's, are exact duplicates of those in Italy, and area residents were concerned that the bridges would be torn down after recent town engineering reports revealed that the structures did not meet present-day state and federal bridge codes. Photo by Greg Valero. (G U51F)

In Copiague

Two Venetian bridges saved

By Greg Valero

Members of the American Venice Civic Association and area residents breathed a collective sigh of relief last week after the town announced plans to restore two old Venetian bridges in Copiague.

The town has agreed to refurbish the two structures, located on Riviera Drive East and Riviera Drive West, at a cost of $1.3 million, according to James Harrington, highway superintendent. This figure is about $500,000 less than the original estimate to remodel the bridges, Harrington said. A state grant of $200,000 from the 1983 bridge bond act will help finance the cost, with remaining monies to be bonded and paid out of the highway department budget, pending town board ratification, Harrington said.

More than 50 people applauded their approval during a meeting of the civics last Thursday at The Loyal Order of Moose Lodge No. 21, Lindenhurst. Originally,

Cont. on page 9

Wednesday, March 1, 1989

SUFFOLK LIFE NEWSPAPERS

Bridge Plan Progessing

Babylon Town Highway Superintendent James J. Harrington and Chief Highway Engineer Charles Baiera met recently to study plans for the re-designing of the Riviera bridges in American Venice.

Many residents objected when they learned that the bridges might be rebuilt, changing their shape, which is a traditional part of the area's history.

Town officials have agreed to keep the existing bridges' appearance intact while strenthening and widening them and adding railings and new lighting.

Am. Venice

Pitts Halts Bridge Snafus

AMERICAN VENICE

By Alyce Barnett

Fifteen hundred voices were recently raised in a cry to save the bridges of American Venice over a planned bridge-saving project initiated by the Town of Babylon with the employment of a Smithtown engineering firm.

Last year when it was evident that something was going to be done to make the bridges of Venice "safer" the residents of American Venice grew suspicious that the whole charm and lore of the bridges, copied exactly in the mode of the originals in Venice, Italy, and their modernization would be their destruction.

Further, outlined a spokes person for the civic group of American Venice, "we found that the flatter paving the engineer had planned would encourage speeders, plus there would not be a waterway under the bridges anymore; there would be a change in the ecology, and there would be no passage for canoes and small pleasure boats, such as meander along the canal, and have done so for many, many moons." The speaker also added that the case was presented to anybody who would listen: to the local TV channel, radio stations, other joint civic groups, the joint council, newspapers and finally to Superintendent Pitts, who temporarily halted the project.

Now, the engineering project has been stopped. There is a plan underfoot to have the bridges memorialized as historic landmarks, which well they should. Writers to local newspapers point out the need to guard against vanquishings bits of the past which are held dear to so many residents who have settled in these parts, bringing a bit of their own heritage to these shores. [illegible] history? The ogre called 'urbanization' mustn't crush out things treasured from the past.

Landmark Bridges To Be Preserved

Page 3 — BEACON — Thursday, March 2, 1989

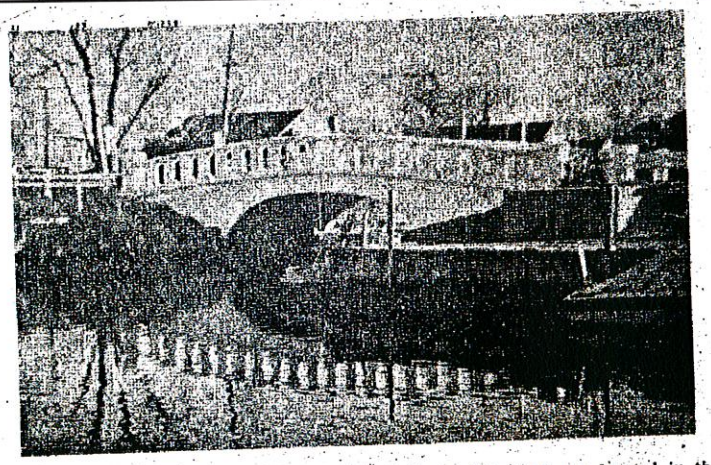
Town of Babylon Highway Superintendent James J. Harrington and Chief Highway Engineer Charles Baiera look over the plans for the redesigned Riviera Bridges with Consulting Engineer Bob Brown from the Sidney Bowne Engineering firm.

Superintendent Harrington's concern over the possible demolition of these historic bridges set him out on a massive search to find a reconstruction method which would meet with the State mandated safety requirements and preserve the bridges.

At a nationwide Highway Conference in Toronto this past September Superintendent Harrington met with a President of a firm that had the process which would allow the existing bridges to be strengthened structurally and then restored without essentially changing their appearance.

According to Superintendent Harrington "This process will allow the restoration of the bridges, each widened approximately four (4) feet on either side, railings replaced similar to the existing structure plus additional lighting. If the formal presentation goes as planned, restoration should start in the Spring. Residents are urged to exercise extreme caution during this restoration period as the bridges will remain open to Vehicular Traffic."

Mr. Harrington also noted that this solution will fall within the constraints of fiscal responsibility to all residents of the Town of Babylon.



SAVED?--There is a good chance this bridge and an identical one located in the Venetian Shores community in Copiague will be renovated sometime next year, according to town officials. Town residents and the town have been at odds over what to do with the two structures after the town had two engineering studies done on the bridges, which both concluded that neither met federal and state bridge codes. However, Highway Superintendent James Harrington said he has come across a solution that will satisfy both sides. Photo by Greg Valero. (G E47F)

Suffolk Life, November 23, 1988.

Note: Over the years, a number of newspaper articles and accounts have incorrectly referred to American Venice as Venetian Shores — a waterfront community located on the eastern side of Lindenhurst Village.

Town of Babylon

Office of Historic Services
47 W. Main Street, Suite 2
Babylon, NY 11702
(631) 587-3750

RICH SCHAFFER
SUPERVISOR

January 20, 2015

Tom King
Assistant General Counsel
Governor's Office of Storm Recovery
99 Washington Avenue Suite 1224
Albany, New York 12231

Re: American Venice, Copiague, NY -- bridges at East/West Riviera Drives

Dear Mr. King,

The history of the American Venice community has been an ongoing research project since 2006. Since that time, my office has published articles and book chapters about the history of American Venice, which included gather information from historic newspapers, books and interviews with community residents.

The residential development of the American Venice community, which comprises the peninsula known as Copiague Neck (approx. 363 acres), started in the fall of 1925. Prior to 1925, the area was considered marshland with few, if any, permanent structures.

From my review of historical information, I not found any references relating to the discovery of pre-20th century archaeological resources within the American Venice community.

Very truly yours,

MARY CASCONE
TOWN HISTORIAN

Antonio A. Martinez *Councilman* *Deputy Supervisor* | **Thomas Donnelly** *Councilman* | **Jacqueline A. Gordon** *Councilwoman* | **Lindsay Patrick Henry** *Councilman* | **Corinne DiSomma** *Receiver of Taxes* | **Carol A. Quirk** *Town Clerk*

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GOVERNOR'S OFFICE OF STORM RECOVERY

Andrew M. Cuomo
Governor

James Rubin
Executive Director

January 23, 2015

Mr. Eric Kuchar
Historic Preservation Technical Specialist
New York State Office of Parks, Recreation
and Historic Preservation
Division of Historic Preservation
Peebles Island
P.O. Box 189
Waterford, New York 12188-0189

RE: CDBG-DR Funding Application for the Reconstruction of the American Venice Bridges

Dear Mr. Kuchar:

On November 13, 2014, the New York State Governor's Office of Storm Recovery ("GOSR") received a funding application to deconstruct and replace the two American Venice Bridges, on East/West Riviera Drive over the Santa Barbara Canal in the American Venice neighborhood of the Hamlet of Copiague, Suffolk County, New York and construct new replacement bridges in place (the "Undertaking").

Pursuant to the Disaster Relief Appropriations Act, 2013 (Public Law 113-2) and the Housing and Community Development Act (42 U.S.C. § 5301 et seq.), GOSR is acting under the auspices of New York State Homes and Community Renewal's Housing Trust Fund Corporation as a recipient of Community Development Block Grant – Disaster Recovery ("CDBG-DR") funds from the United States Department of Housing and Urban Development ("HUD") and is the entity responsible for compliance with the HUD NEPA environmental review procedures set forth in 24 CFR Part 58 and Section 106 of the National Historic Preservation Act ("NHPA" 16 USC § 470f).

GOSR received a funding application for the Undertaking from the Town of Babylon with documentation of previous coordination between the Town of Babylon and your office in which your office reached an Adverse Effect determination. In evaluating the applicant's request for funding, GOSR defers to SHPO with respect to the Adverse Effect determination.

After reviewing the project information in conjunction with the Town of Babylon, GOSR hereby proposes to define the Area of Potential Effect ("APE") of the Undertaking, as that term is defined at 36 CFR, Part 800.16(d), as the two American Venice Bridges, on East/West Riviera Drive over the Santa Barbara Canal in the Hamlet of Copiague, Suffolk County, New York, North to East/West Santa Barbara Road and South to East/West Lido Promenade. Please see Enclosure 1.

As requested by your office, the Town of Babylon historian, Mary Cascone, has prepared and provided additional information about the history of the two American Venice Bridges and Lion Columns. Please see Enclosure 2. Additionally, Ms. Cascone has indicated that the APE and the surrounding American Venice community, which comprises the peninsula known as the Copiague Neck (Approx. 363 acres), was originally marshland, first developed circa 1925. Furthermore, Ms. Cascone notes that from her review of historic information, there are no known references relating to the discovery of pre-20th century archaeological resources within the APE or American Venice community.

We would greatly appreciate if your office would review our APE determination and Ms. Cascone's findings regarding the lack of archaeological resources in this area. If you agree, we would greatly appreciate your concurrence in this matter.

If any questions should arise concerning this matter, please contact me (518) 473-0015 or at Thomas.King@stormrecovery.ny.gov. Thank you.

Sincerely,

Thomas J. King
Assistant General Counsel

Enclosures

Attachment 9

Sole Source Aquifer Review

October 3, 2016

Ms. Grace Musumeci
U.S. Environmental Protection Agency
Region II Main Regional Office
290 Broadway, 25th Floor
New York, NY 10007

Re: Sole Source Aquifer Analysis – CDBG-DR NY Rising Community Reconstruction Program – Copiague American Venice Bridges Improvements (Town of Babylon, Suffolk County, NY)

Dear Ms. Musumeci:

The Governor's Office of Storm Recovery (GOSR), operating under the auspices of the New York State Homes and Community Renewal's (NYSHCR) Housing Trust Fund Corporation, was established to aid the statewide recovery of disaster-affected communities in New York State. GOSR is administering a U.S. Department of Housing and Urban Development (HUD) Community Development Block Grant for Disaster Recovery (CDBG-DR). 24 C.F.R. Part 58 requires GOSR to review projects for conformance with the Safe Drinking Water Act of 1974 (42 U.S.C. 201, 300(f) *et seq.*, and 21 U.S.C. 349) as amended, and Environmental Protection Agency (EPA) regulations pertaining to Sole Source Aquifers found at 40 C.F.R. Part 149. On behalf of GOSR, please find enclosed the sole source aquifer review information for one such project.

The Town of Babylon has applied for CDBG-DR funding to replace two bridges located at East Riviera Drive and West Riviera Drive in the hamlet of Copiague, Town of Babylon, Suffolk County, New York (Proposed Project). The two bridges are the only means of vehicular access to their respective neighborhoods, and the bridges currently have a load rating of 12 tons which does not permit use by certain heavy rescue and emergency vehicles. As a result, first responders could not access the neighborhood during Superstorm Sandy. The lack of access also delayed post-storm assistance to the neighborhood. In order to decrease vulnerability of these neighborhoods to limited emergency access, the Proposed Project would replace the existing bridges with higher capacity bridges so that emergency and rescue vehicles, and construction equipment, would have unrestricted access to the neighborhoods in the event of an emergency. A detailed project summary and project location maps are included in the annexed Attachments. All project activities would be performed in accordance with any and all federal, state and local permit requirements and conditions, all of which would be obtained prior to commencing work.

In accordance with the Memorandum of Understanding (MOU) between EPA and HUD dated August 24, 1990, GOSR hereby requests an Initial Screen/Preliminary Review for the project. Please review the attached documentation, including Attachment 2.A and 3 to the MOU.

Responses can be sent to me via email at Alicia.shultz@nyshcr.org. In accordance with the MOU, a non-response within fifteen days shall constitute a favorable review of the project/activity. If you have any questions, please feel free to contact me at (518) 474-0647. Thank you for your consideration and cooperation.

Sincerely,

Alicia Shultz
Community Developer – Environmental Services
New York State Homes and Community Renewal
38-40 State Street, Hampton Plaza
Albany, NY 12207

Enclosures:

2.A Non-housing/Project Activity Initial Screen Criteria
3 SSA Preliminary Review Information Requirements

Attachments:

A. Street Map, Aerial Photograph, and Topographic Map (showing project location)
B. Project Summary; Sole Source Aquifer Map; Drinking Water Well Map

Enclosure 2a

ATTACHMENT 2.A

NON-HOUSING/PROJECT ACTIVITY INITIAL SCREEN CRITERIA

The following list of criteria questions are to be used as an initial screen to determine which non-housing projects/ activities should be forwarded to the Environmental Protection Agency (EPA) for Preliminary Sole Source Aquifer (SSA) Review. (For housing projects/ activities, see Attachment 2.B) If any of the questions are answered affirmatively, then Attachment 3, SSA Preliminary Review Requirements, should also be completed. The application/ final statement, this Attachment, Attachment 3, and any other pertinent information should then be forwarded to EPA at the address below.

Any project/activity not meeting the criteria in this Attachment, but suspected of having a potential adverse effect on the Sole Source Aquifer should also be forwarded.

CRITERIA QUESTIONS	YES	NO	N/A
1. Is the project/ activity located within a currently designated or proposed groundwater sensitive area such as a special Ground Water Protection Area, Critical Supply Area, Wellhead Protection Area, etc.? (Information confirmed by NYS Department of Environmental Conservation.)	☐	☒	☐
2. Is the project/activity located within a one half mile radius (2640 feet) of a current or proposed public water supply well or wellfield? (No, see ½ Mile Buffer and Source Water Assessment Program [SWAP] Analysis Map in **Attachment B**.)	☐	☒	☐

3. Will the project/ activity include or directly cause (check appropriate items):

	YES	NO	N/A
construction or expansion of solid waste disposal, recycling or conversion facilities	☐	☒	☐
construction or expansion or closure of landfills	☐	☒	☐
construction or expansion of water supply facilities	☐	☒	☐
construction or expansion of on-site wastewater treatment plants or sewage trunk lines	☐	☒	☐
construction or expansion of gas or petroleum trunk lines greater than 1320 feet	☐	☒	☐
construction or expansion of railroad spurs or similar extensions	☐	☒	☐
construction or expansion of municipal sewage treatment plants	☐	☒	☐

4. Will the project/ activity include storage or handling of any hazardous constituents as listed in Attachment 4, Hazardous Constituents? (The 4” gas main in a 6” sleeve currently located under the existing sidewalks on both bridges will be relocated to under the sidewalks of the new bridges. During construction, the existing utilities, water mains, and gas mains will be temporarily relocated to utility poles. See Project Summary in **Attachment B**.)	☒	☐	☐
5. Will the project/ activity include bulk storage of petroleum in underground or above ground tanks in excess of 1100 gallons? (Please give what assurance they are done in a proper manner.)	☐	☒	☐

6. Will the project/ activity require a federal or state discharge elimination permit or modification of an existing permit?	☐	☒	☐

This attachment was completed by:

Name:	Dina Peoples
Title:	Project Specialist
Address:	Tectonic Engineering & Surveying Consultants, P.C. PO Box 37, 70 Pleasant Hill Road Mountainville, NY 10953
Telephone number:	(845) 534-5959
Date:	September 30, 2016

Enclosure 3

ATTACHMENT 3

SSA PRELIMINARY REVIEW INFORMATION REQUIREMENTS

Where currently available, the information in this Attachment should be provided to the Environmental Protection Agency (see address below) along with the application/final statement; Attachment 2.A, Non-Housing Initial Screen Criteria or Attachment 2.B, Housing Initial Screen Criteria; and any other information which may be pertinent to a Sole Source Aquifer review. Where applicable, indicate the source of your information.

I. Project/ Activity Location	**Enclosed?**	
	Yes	No
1. Provide the geographic location and total acreage of the project/activity site. Include a site map which identifies the site in relation to the surrounding area. (See project location maps in **Attachment A**; the project area is approximately 0.50 acres.)	☒	☐
2. If applicable, identify which groundwater sensitive areas (Special Ground Water Protection Area, Critical Supply Area, Wellhead Protection Area, etc.) the project/activity is located within or adjacent to. (None, see ½ Mile Buffer and Source Water Assessment Program [SWAP] Analysis Map in **Attachment B**.)	☐	☒

II. Nature of Project/ Activity	**Enclosed?**	
	Yes	No
3. Provide a general narrative describing the project/ activity including but not limited to: type of facility; type of activities to be conducted; number and type of units; number of residents, etc. Provide the general layout of the project/activity site and site-plan if available. (See Project Summary in **Attachment B**.)	☒	☐

III. Public Water Supply	**Enclosed?**	
	Yes	No
4. Provide a description of plans to provide water supply.	☐	☒

(Water supply is not necessary for this project.)		
5. Provide the location of nearby existing or proposed public water supply wells or wellfields within one half mile radius (2640 feet) of the project/activity. Provide the name of the supplier(s) of those wells or wellfields. This information should be available from the local health department, State health department or the State environmental agency. (See ½ Mile Buffer and SWAP Analysis map in **Attachment B**.)	☒	☐

IV. Wastewater and Sewage Disposal	**Enclosed?**	
	Yes	No
6. Provide a description of plans to handle wastewater and sewage disposal. If the project/ activity is to be served by existing public sanitary sewers provide the name of the sewer district. (Project will not generate wastewater or sewage.)	☐	☒
7. Provide a description of plans to handle storm water runoff. (Project will not change stormwater runoff conditions on-site.)	☐	☒
8. Identify the location, design, size of any on-site recharge basins, dry wells, leaching fields, retention ponds, etc. (None on site.)	☐	☒

V. Use, Storage, Transport of Hazardous or Toxic Materials *(Applies only to non-housing projects/activities)*	**Enclosed?**	
	Yes	No
9. Identify any products listed in Attachment 4, Hazardous Constituents, of the Housing and Urban Development-Environmental Protection Agency Memorandum of Understanding which may be used, stored, transported, or released as a result of the project not related to construction (The 4" gas main in a 6" sleeve currently located under the existing sidewalks on both bridges will be relocated to under the sidewalks of the new bridges. During construction, the existing utilities, water mains, and gas mains will be temporarily relocated to utility poles. See Project Summary in **Attachment B**.)	☒	☐
10. Identify the number and capacity of underground storage tanks at the project/activity site. Identify the products and volume to be stored, and the location on the site. (There are no underground storage tanks at the project site.)	☐	☒
11. Identify the number and capacity of above ground storage tanks at the project/activity site. Identify the products and volume to be stored, and the location on the site (There are no above ground storage tanks at the project site.)	☐	☒

This form was completed by:

Name:	Dina Peoples
Title:	Project Specialist
Address:	Tectonic Engineering & Surveying Consultants, P.C. PO Box 37, 70 Pleasant Hill Road Mountainville, NY 10953
Telephone number:	(845) 534-5959
Date:	September 30, 2016

Attachment A

TECTONIC
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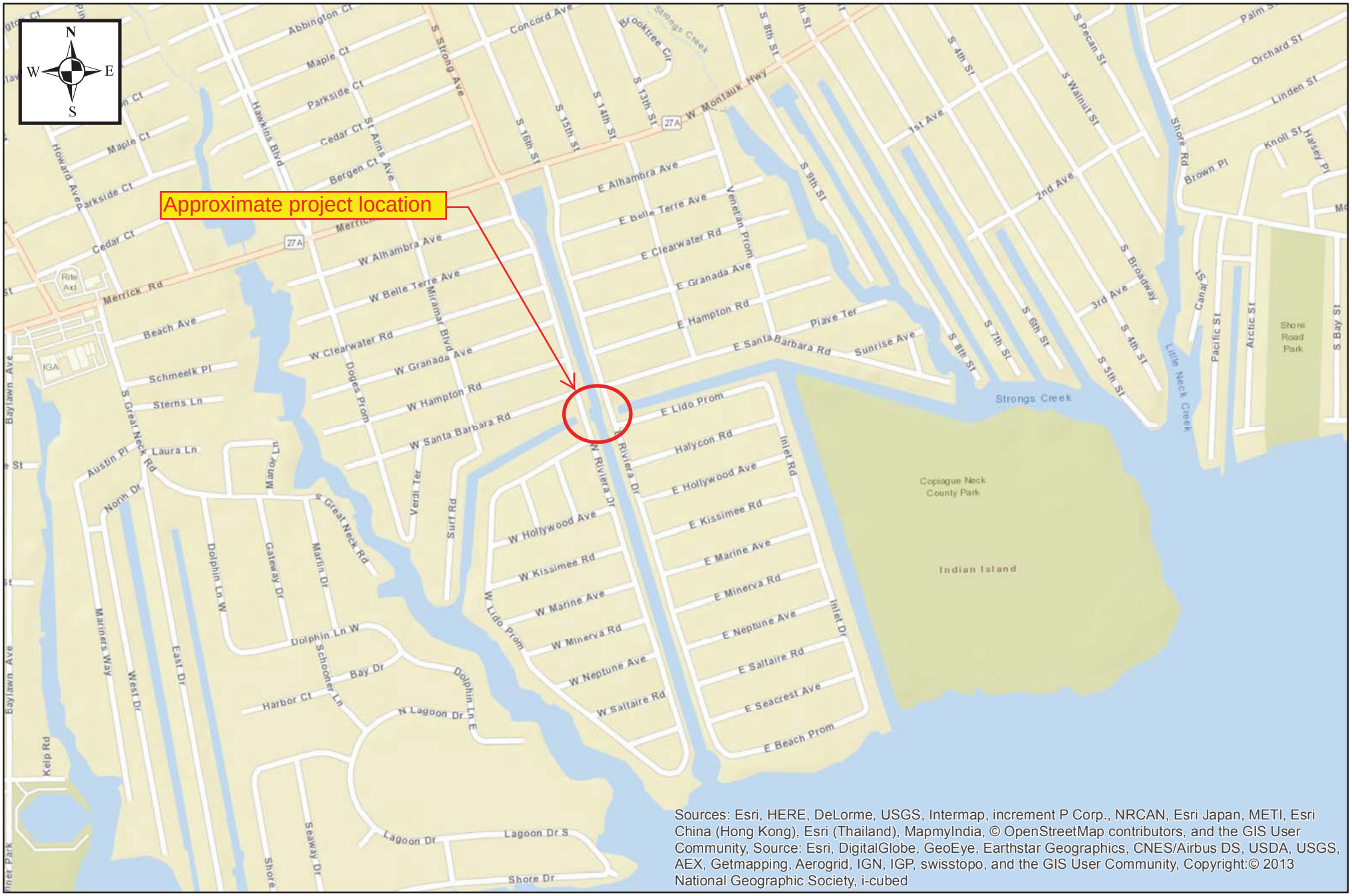
Tectonic
70 Pleasant Hill Road
Mountainville, N.Y. 10953
845.534.5959 voice
845.534.5999 fax
www.tectonicengineering.com

Aerial Map
Copiague American Venice Bridges Improvements
Copiague, NY
Suffolk County

0 250 500 1,000 Feet

1:10,000



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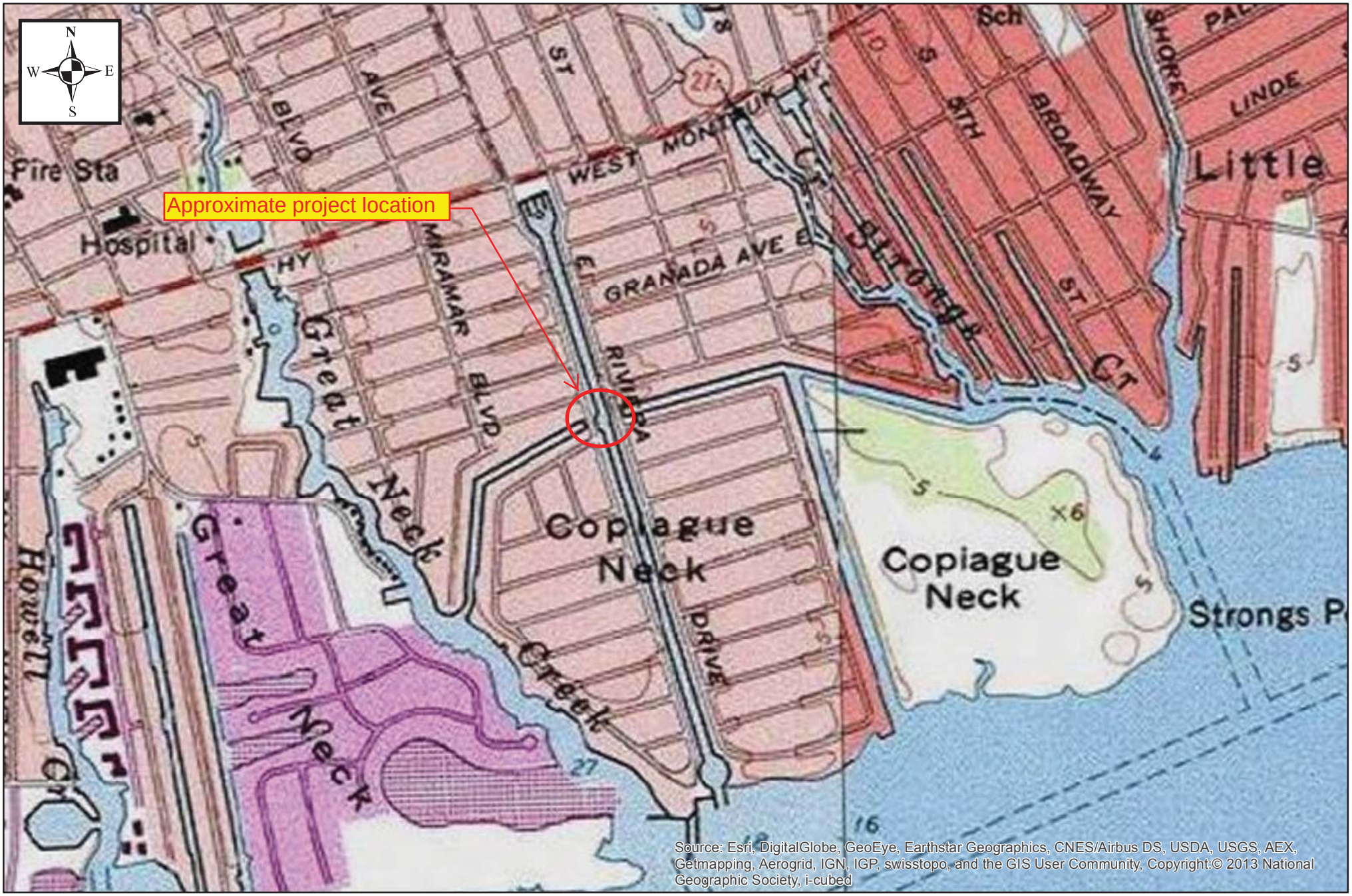
845.534.5999 fax
www.tectonicengineering.com

Street Map
Copiague American Venice Bridges Improvements
Copiague, NY
Suffolk County

0 250 500 1,000 Feet

1:10,000



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845.534.5999 fax
www.tectonicengineering.com

Topographic Map
Copiague American Venice Bridges Improvements
Copiague, NY
Suffolk County

0 250 500 1,000 Feet

1:10,000

Attachment B

Copiague American Venice Bridges Improvements-Town of Babylon
PROJECT SUMMARY

Purpose and Need

After Superstorm Sandy, it became apparent that the load capacity of the Copiague American Venice Bridges (Bridges) must be improved in order to provide long-term access to the communities on both sides of the bridges for residents and emergency services. The two bridges provide the only vehicular access point to the neighborhoods south of the Santa Barbara Canal. The current bridges have a load rating of 12 tons, and the bridges do not support use by heavy emergency and rescue equipment. In order to decrease vulnerability to the neighborhoods, the bridges will be replaced with 20-ton capacity bridges so that emergency equipment and vehicles have unconstrained access to the neighborhoods in the event of an emergency.

Project Description

The Proposed Project would consist of removing two adjacent Bridges, installation of two temporary bridges, and construction of two new bridges of higher carrying capacity over the Santa Barbara Canal. The current bridge roadways are 19.5 feet wide with an additional 4-foot wide sidewalk. The Bridges span 38 feet from abutment to abutment. The new bridges would be approximately 35 feet wide and would include two 12-foot wide traffic lanes, two 10-inch wide shoulders, concrete curbs and parapets, and sidewalks approximately 5-feet wide. The new bridges will span approximately 56 feet from abutment to abutment. Guide rails will be installed where the existing roadway meets the bridge.

On the new West Riviera Drive Bridge, a 6-foot high vinyl fence and a 6-foot-high wood fence would be installed on land southwest of the bridge. A 4-foot-high wood fence would be relocated on land northwest of the bridge, and a chain link fence would be installed on land northwest of the bridge. Additionally, two utility poles along West Riviera Drive would be relocated.

On the new East Riviera Drive Bridge, two retaining walls would be constructed on land east of the bridge, one utility pole would be relocated along East Riviera Drive, and hedges south of the bridge would be removed and replaced.

The current lower arch sections and bridge abutment sections supporting the existing bridge are located on the canal banks. The new bridges would expand the waterway opening from 26 feet to 30 feet wide. The existing abutment footings would be replaced with footings for the new bridges; new bulkheads would be installed to protect the structure from erosion. Minor dredging would be necessary to remove the existing footing and to backfill new the footings, as well as the new bulkhead. A turbidity curtain will be installed in the water adjacent to the work area to minimize sediment transportation in the water from the area of disturbance.

The new bridge arch sections would be built on new bridge foundations located landward of the existing Bridges' lower arch sections. Concrete fill would be used to connect the

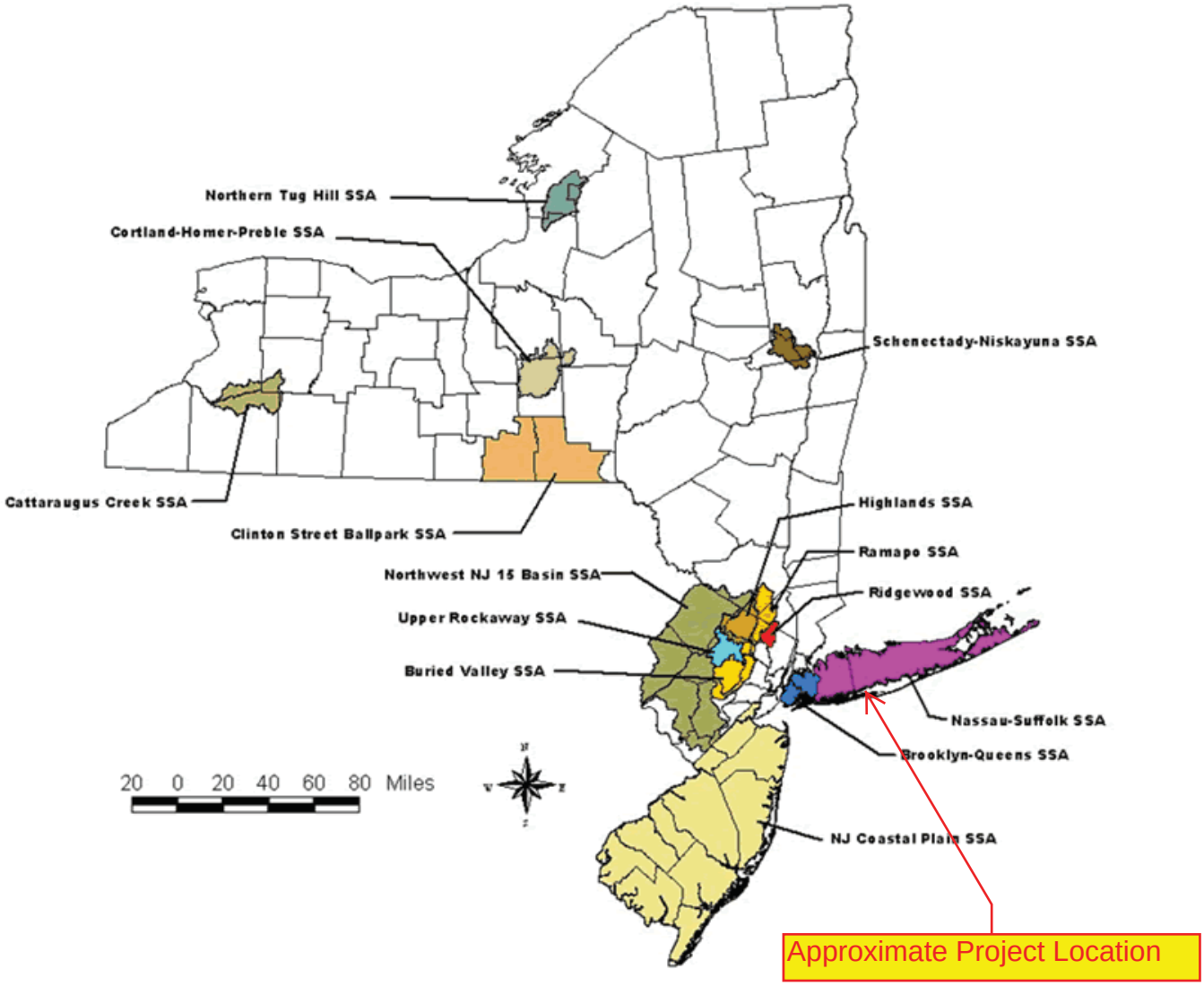
existing foundations (lower arch sections) and the new foundations. The new bridge arch support would be at the same height as the existing Bridges in the center of the arch, with slight deviations from the current arch angles over the canal. The new bridges would be formed using pre-cast and cast-in-place concrete.

During construction, temporary bridges, approximately 13 feet wide, would be installed along the existing Bridges. The East Riviera Drive temporary bridge would be approximately 120 feet long and the West Riviera Drive temporary bridge would be approximately 60 feet long. Both would be supported by temporary piers with concrete pads at the edge of the Santa Barbara Canal. The temporary piers would be supported on the temporary sheet piling bridge cofferdam on one end and a temporary pile on the other end. The abutments will be a concrete block supported on a shallow foundation in the ground. The West Riviera Drive temporary bridge will also have 20 feet of temporary sheeting on each end to support the temporary embankment, which will be placed to grade from the temporary bridge to the existing roadway.

Once the temporary bridge is installed, the existing bridge including the abutment, concrete arch and roadway embankment would be removed. Then, two cofferdams would be installed, one for each abutment. The cofferdams will be composed of steel sheeting with wales, tie backs and braces and constructed to follow the outside perimeter of the new concrete abutments and wall foundations.

Dewatering would be accomplished by using surface pumps, which would pump water into an outlet pipe with a filter sock at the end and discharge behind the turbidity curtain between the two cofferdams. The sheeting and cofferdam would be installed using a vibratory hammer and/or a dynamic pile driver. Most of the sheeting would be left in place except for the roadway side of the cofferdam. The sheeting left in place would be cut off below the proposed grade and buried.

Sole Source Aquifer Map



http://www.epa.gov/region02/water/aquifer/

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 2
290 BROADWAY
NEW YORK, NY 10007-1866

OCT 28 2016

Ms. Alicia Shultz
Community Developer – Environmental Services
New York State Homes & Community Renewal
38-40 State Street
Hampton Plaza, 4th Floor
Albany, NY 12207-2804

Dear Ms. Shultz:

This is in response to your October 3, 2016 letter to the U.S. Environmental Protection Agency (EPA) requesting a Sole Source Aquifer review of the proposed "Copiague American Venice Bridges Replacement" project located in the Hamlet of Copiague, Town of Babylon, Suffolk County, New York. The project is to receive funding from the U.S. Department of Housing and Urban Development's Community Development Block Grant – Disaster Recovery program (CDBG-DR). The proposed project is located in the Long Island Nassau/Suffolk Aquifer System, designated by the Environmental Protection Agency (EPA) as a Sole Source Aquifer on June 21, 1978 (citation 43 FR 26611). Therefore, our review has been conducted in accordance with Section 1424(e) of the Safe Drinking Water Act (SDWA).

The proposed project involves the replacement of two bridges over the Santa Barbara Canal. The new bridges will have about twice the load capacity, providing access to heavier emergency vehicles. Two temporary bridges will be built alongside the existing bridges, on the sides closer to the Grande Canal; the existing bridges will be demolished, and the two new bridges will be built in their place; finally, the temporary bridges will be taken down.

We understand that the roadbed of each of the new bridges will be supported by a pre-cast concrete arch, the flat ends of which will rest on cast-in-place concrete abutments. The abutments, in turn, will be supported by concrete-filled, steel-cylinder, and 20- to 30-feet long pilings. We note that the abutments will also support concrete retaining walls and the structural fill contained within the walls. Since the pilings are to be installed below the water level of the canals, cofferdams will be built and dewatered prior to the introduction of the pilings. The pilings will either be driven in by a pile driver or inserted in holes drilled by an auger. We further note that if the latter method is used, grout will be used as a sealant around the cylinders. The information provided indicates that there will essentially be no new intrusions into the subsurface that are not present in the bridges to be replaced. The new bridges will gain strength largely through additional structural concrete.

It is our understanding that new fencing – vinyl, wood or chain-link – will replace the existing fencing meant to provide privacy for adjacent neighborhoods. The new fencing will be bolted onto a 1.5-feet thick concrete cap running along a sheet of fiber-reinforced plastic (FRP). The FRP sheeting will be driven deep into the subsurface by a vibratory hammer. A cast-iron sewer line, enclosed in a steel tube, runs beneath the canal bed and alongside one of the bridges, passing through one of the FRP sheets.

Based on the information provided, the project satisfies the requirements of Section 1424(e) of the SDWA. Please be advised that meeting the requirements of 1424(e) does not preclude the need to meet National Environmental Policy Act (NEPA) requirements to address direct, indirect, and cumulative impacts. This review does not constitute a review under Section 309 of the Clean Air Act; EPA therefore reserves the right to review additional environmental documents on this project.

EPA offers the following for your consideration to reduce environmental impacts and to create a more sustainable project.

Clean Diesel:
Implement diesel controls, cleaner fuel, and cleaner construction practices for on-road and off-road equipment used for transportation, soil movement, or other construction activities, including:

- Strategies and technologies that reduce unnecessary idling, including auxiliary power units, the use of electric equipment, and strict enforcement of idling limits; and
- Use of clean diesel through add-on control technologies like diesel particulate filters and diesel oxidation catalysts, repowers, or newer, cleaner equipment.

For more information on diesel emission controls in construction projects, please see:
http://www.northeastdiesel.org/pdf/NEDC-Construction-Contract-Spec.pdf

Stormwater:
We emphasize the importance of Low Impact Development (LID) principles such as minimizing effective imperviousness to create site drainage, and the planting of native and non-invasive vegetation on the project site for stormwater management purposes. Other LID practices can include bioretention facilities, rain gardens, vegetated rooftops, rain barrels, and permeable pavements. For further information, please see the following website:
http://water.epa.gov/polwaste/green/

Encourage cost-efficient, environmentally friendly landscaping:
There are many benefits to making greener landscaping choices. For additional information, please see the following website:
http://www2.epa.gov/greenerproducts/identifying-greener-landscaping-choices

Energy-Efficiency:
Energy-efficient technologies should be incorporated into all aspects of the project. Please see the following website: http://www.energystar.gov

If you have any questions concerning this matter or would like additional information, please feel free to contact Rajini Ramakrishnan of my staff at (212) 637-3731.

Sincerely yours,

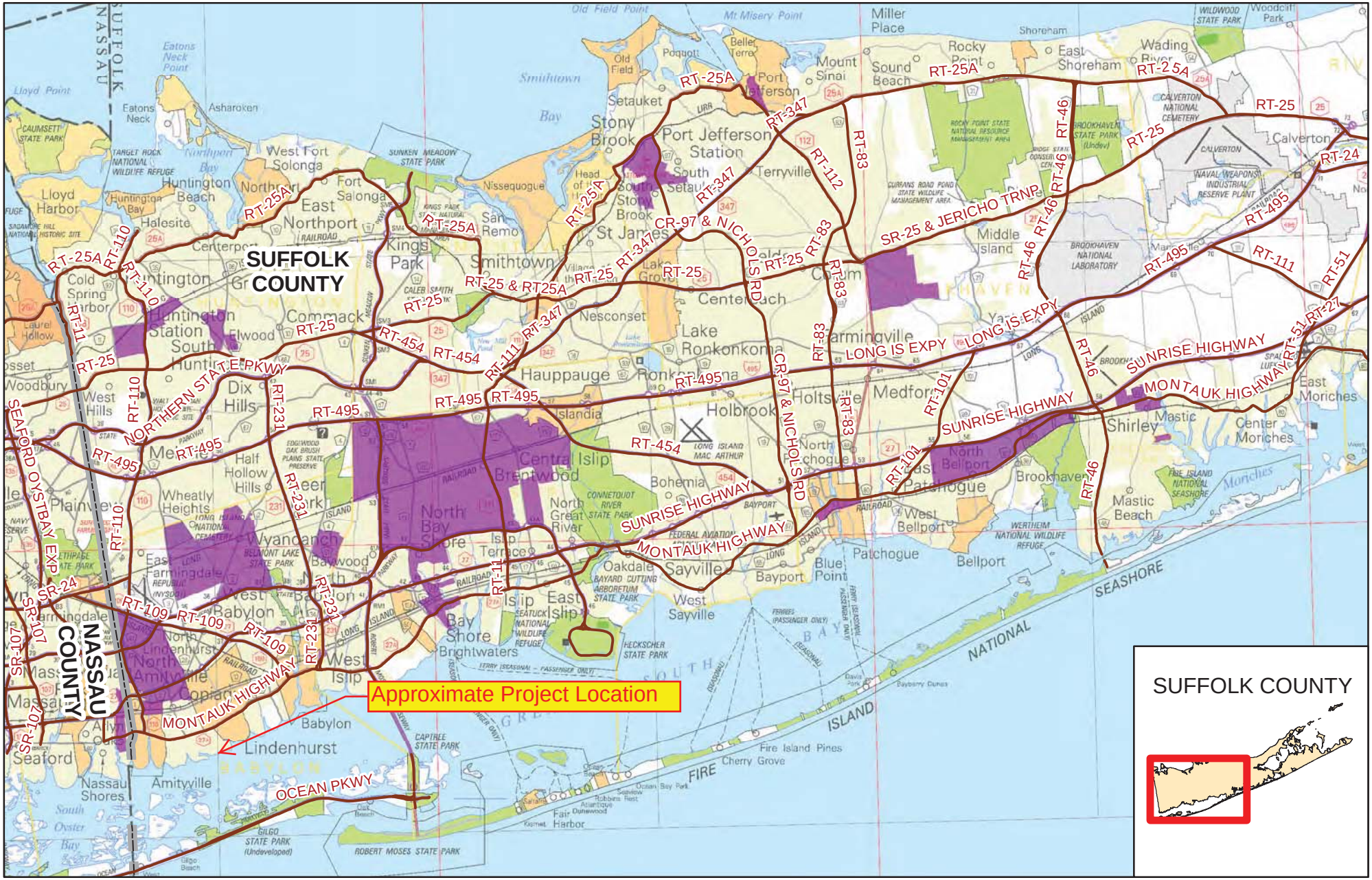
Grace Musumeci, Chief
Environmental Review Section

Attachment 10

Potential Environmental Justice Areas Map

Potential Environmental Justice Areas in Western Suffolk County, New York

Click on any Potential EJ Area outlined in blue for a detailed map



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This computer representation has been compiled from supplied data or information that has not been verified by EPA or NYSDEC. The data is offered here as a general representation only and is not to be used for commercial purposes without verification by an independent professional qualified to verify such data or information.

Neither EPA nor NYSDEC guarantee the accuracy, completeness, or timeliness of the information shown and shall not be liable for any loss or injury resulting from reliance.

Data Source for Potential Environmental Justice Areas:
U.S. Census Bureau, 2000 U.S. Census

Legend

Potential EJ Area

County Boundary

0 1 2 3 4 5 Miles

SCALE: 1:250,000

For questions about this map contact:
New York State Department of Environmental Conservation
Office of Environmental Justice
625 Broadway, 14th Floor
Albany, New York 12233-1500
(518) 402-8556
ej@gw.dec.state.ny.us

Potential Environmental Justice Areas in the Town of Huntington
Suffolk County, New York

This computer representation has been compiled from supplied data or information that has not been verified by EPA or NYSDEC. The data is offered here as a general representation only and is not to be used for commercial purposes without verification by an independent professional qualified to verify such data or information.

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Data Source for Potential Environmental Justice Areas:
U.S. Census Bureau, 2000 U.S. Census

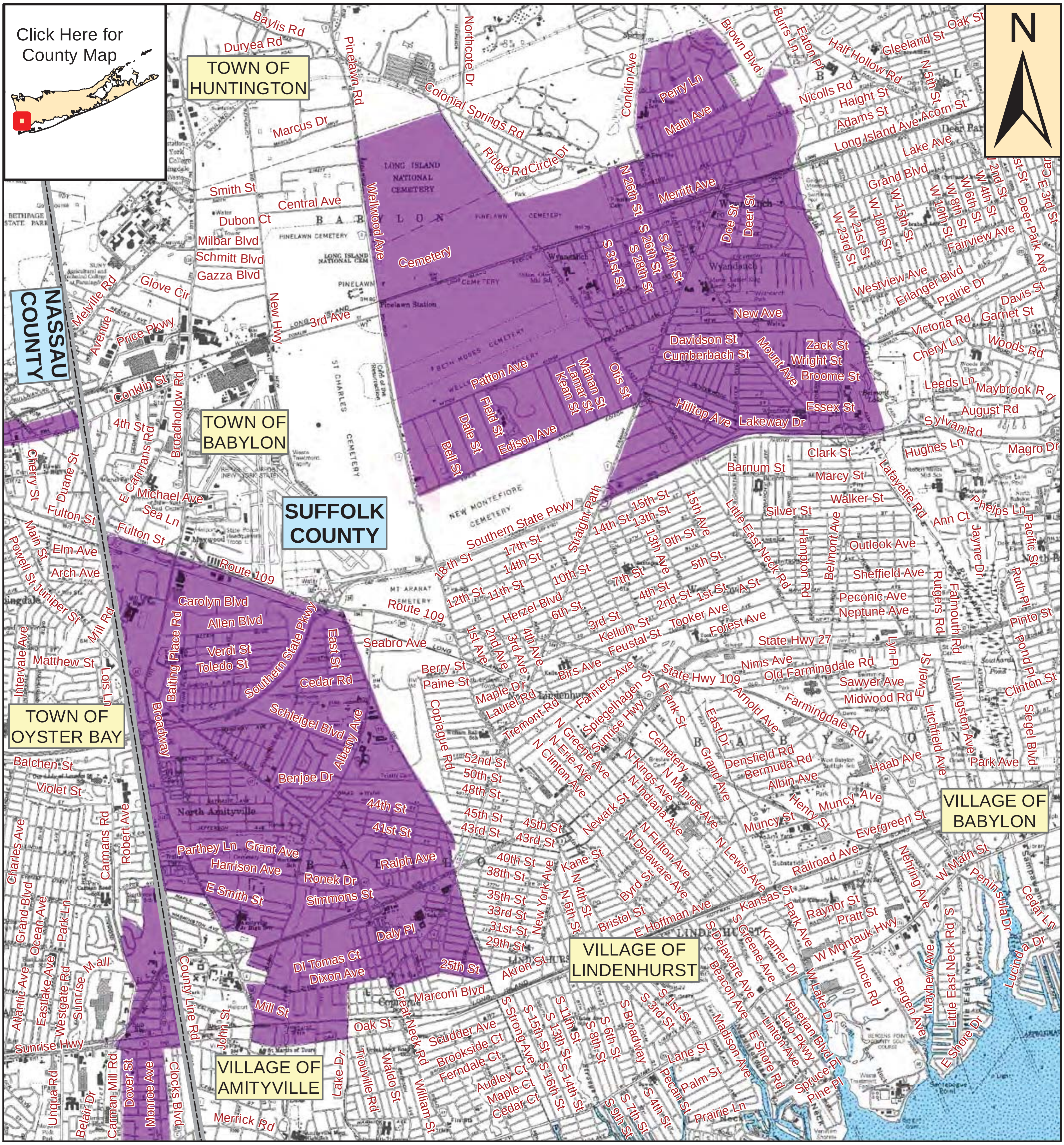
Legend

- Potential EJ Area
- County Boundary
- Waterbodies

Miles
0 0.2 0.4 0.6 0.8 1
SCALE: 1:40,000

For questions about this map contact:
New York State Department of Environmental Conservation
Office of Environmental Justice
625 Broadway, 14th Floor
Albany, New York 12233-1500
(518) 402-8556
ej@gw.dec.state.ny.us

Potential Environmental Justice Areas in the Town of Babylon
Suffolk County, New York



Legend

Potential EJ Area

County Boundary

Waterways

Miles

0 0.2 0.4 0.6 0.8 1

SCALE: 1:50,000

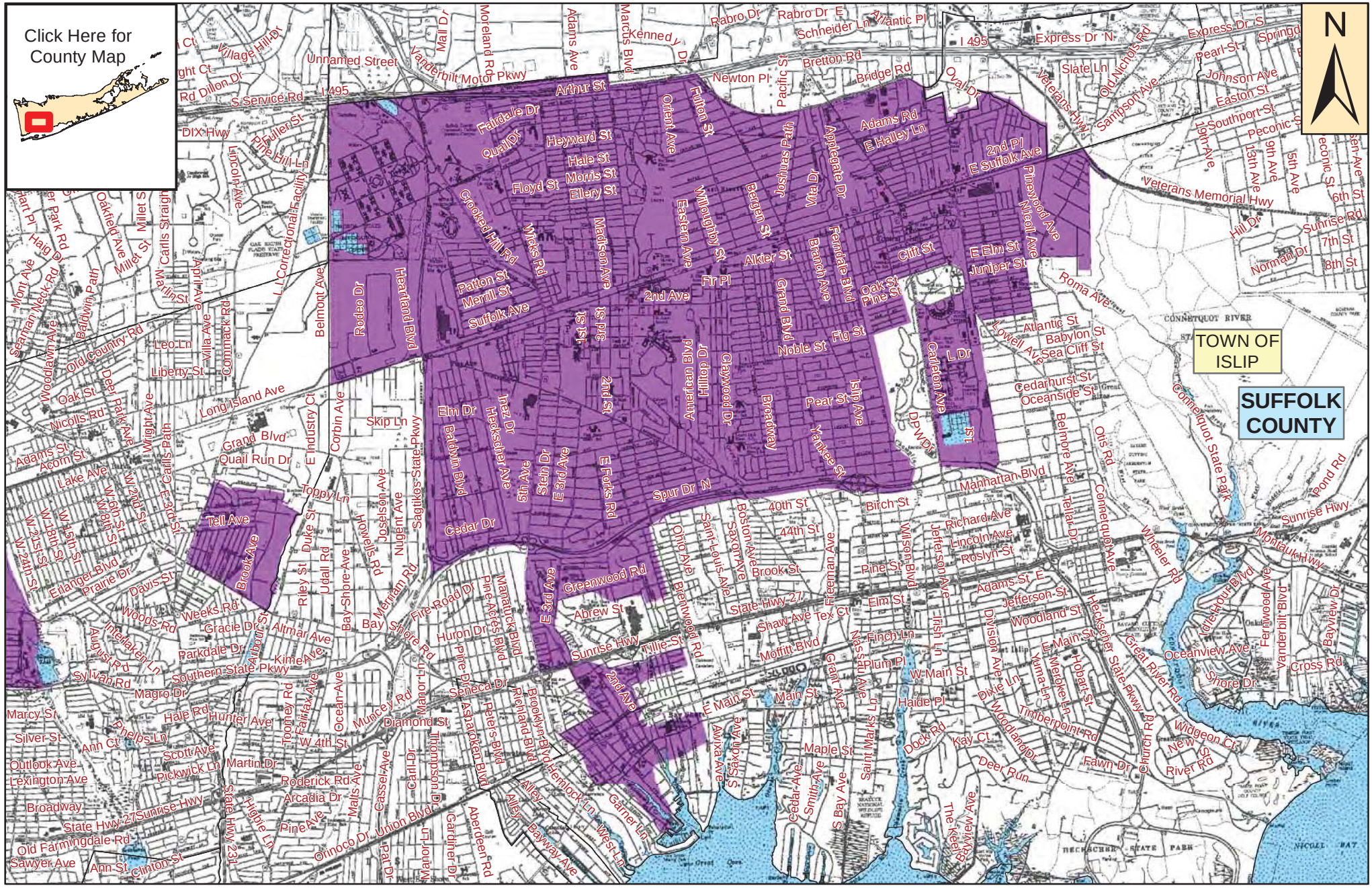
This computer representation has been compiled from supplied data or information that has not been verified by EPA or NYSDEC. The data is offered here as a general representation only and is not to be used for commercial purposes without verification by an independent professional qualified to verify such data or information.

Neither EPA nor NYSDEC guarantee the accuracy, completeness, or timeliness of the information shown and shall not be liable for any loss or injury resulting from reliance.

Data Source for Potential Environmental Justice Areas:
U.S. Census Bureau, 2000 U.S. Census

For questions about this map contact:
New York State Department of
Environmental Conservation
Office of Environmental Justice
625 Broadway, 14th Floor
Albany, New York 12233-1500
(518) 402-8556
ej@gw.dec.state.ny.us

Potential Environmental Justice Areas in the Town of Islip, Suffolk County, New York



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Data Source for Potential Environmental Justice Areas:
U.S. Census Bureau, 2000 U.S. Census

Legend

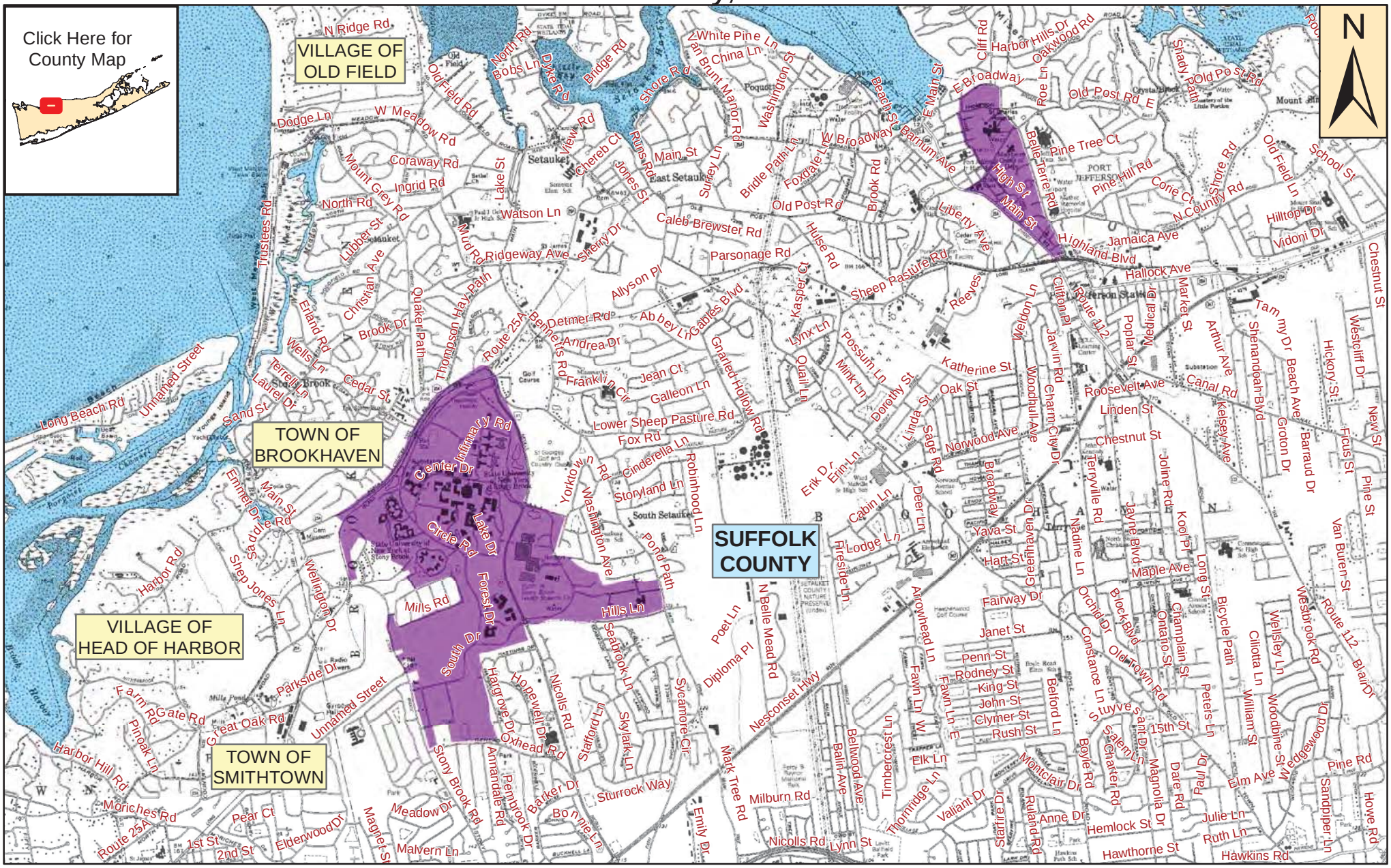
- Potential EJ Area
- County Boundary
- Waterbodies

0 0.5 1 1.5 2 Miles

SCALE: 1:70,000

For questions about this map contact:
New York State Department of Environmental Conservation
Office of Environmental Justice
625 Broadway, 14th Floor
Albany, New York 12233-1500
(518) 402-8556
ej@gw.dec.state.ny.us

Potential Environmental Justice Areas in the Town of Brookhaven (north detail)
Suffolk County, New York



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Data Source for Potential Environmental Justice Areas:
U.S. Census Bureau, 2000 U.S. Census

Legend

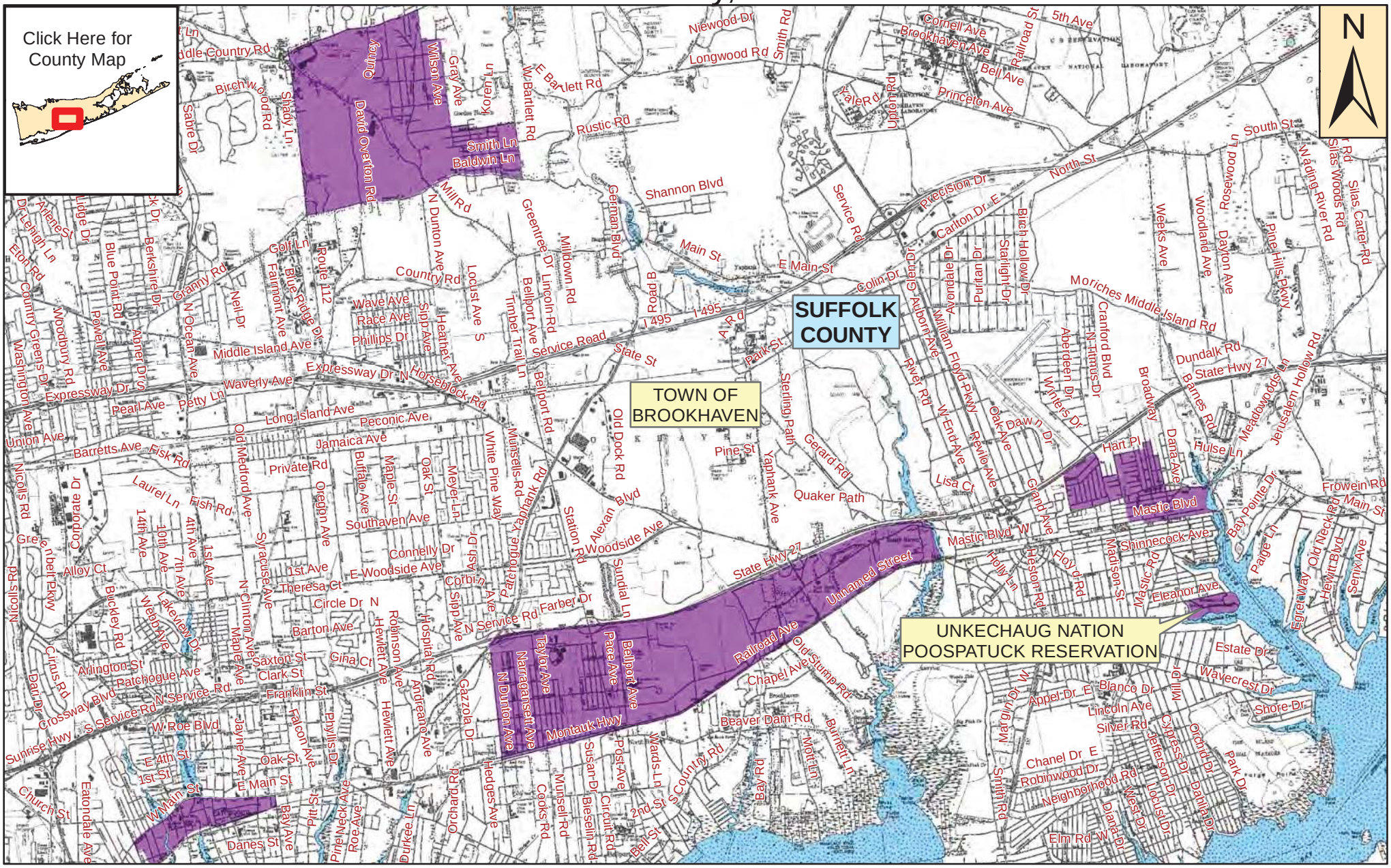
- Potential EJ Area
- County Boundary
- Waterbodies

0 0.5 1 1.5 2 Miles

SCALE: 1:50,000

For questions about this map contact:
New York State Department of Environmental Conservation
Office of Environmental Justice
625 Broadway, 14th Floor
Albany, New York 12233-1500
(518) 402-8556
ej@gw.dec.state.ny.us

Potential Environmental Justice Areas in the Town of Brookhaven (south detail)
Suffolk County, New York



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Data Source for Potential Environmental Justice Areas:
U.S. Census Bureau, 2000 U.S. Census

Legend

- Potential EJ Area
- County Boundary
- Waterbodies

0 0.5 1 1.5 2 Miles

SCALE: 1:80,000

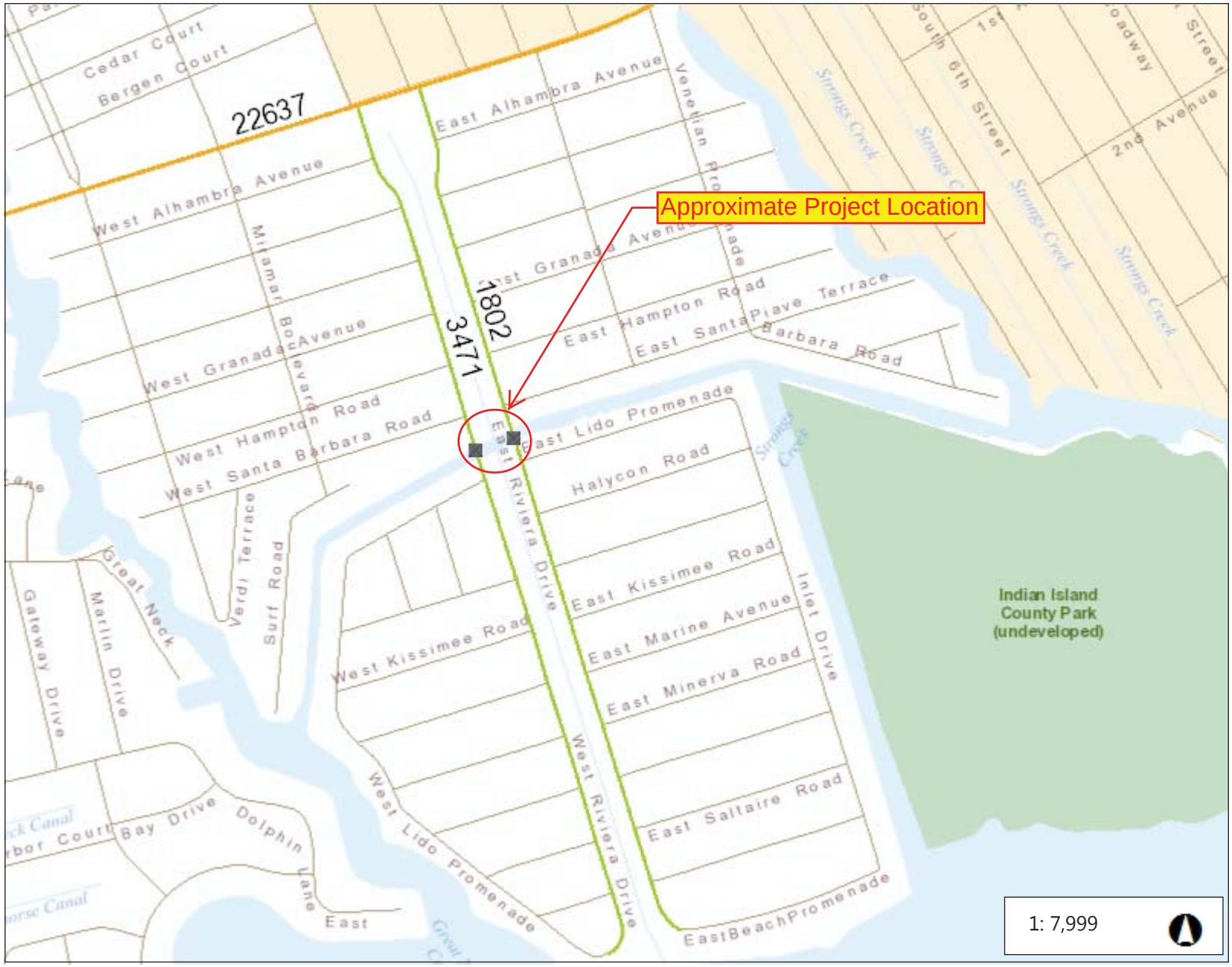
For questions about this map contact:
New York State Department of Environmental Conservation
Office of Environmental Justice
625 Broadway, 14th Floor
Albany, New York 12233-1500
(518) 402-8556
ej@gw.dec.state.ny.us

Attachment 11

Department of Transportation
Traffic Data

New York State Department of Transportation

Copiague American Venice Bridges Improvements



Legend

- Bridges
- Average Daily Traffic, 2014
  - 1 - 1500
  - 1501 - 4000
  - 4001 - 10000
  - 10001 - 25000
  - 25001 - 75000
  - 75001 - 300000
  - No Data
  - Interstate
  - 900 Route
  - US Highway
  - State Highway
  - County Touring
  - County Highway

Notes

0.3 0 0.13 0.3 Miles

NAD_1983_UTM_Zone_18N

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This map is a user generated static output from an Internet mapping site and is for reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable.

THIS MAP IS NOT TO BE USED FOR NAVIGATION

STATION: **076136**

American Traffic Information

Traffic Count Hourly Report

ROAD #: **AM40** ROAD NAME: **RIVIERA DR E**
DIRECTION: Northbound FACTOR GROUP: 30
STATE DIR CODE: 1 WK OF YR: 18
DATE OF COUNT: 05/04/2011
NOTES LANE 1: WW 19 North

COUNT TAKEN BY: ORG CODE: TTG INITIALS: DKS

FROM: **E BEACH PROMENADE**
REC. SERIAL #: 1763
PLACEMENT: 100' North of Hampton Rd
@ REF MARKER:
ADDL DATA: Class Speed
COUNT TYPE: VEHICLES

PROCESSED BY: ORG CODE: ATI INITIALS: MLA

TO: **W MONTAUK**
FUNC. CLASS: 17
NHS: no
JURIS: Town
CC Stn:
BATCH ID: ATI-R10WW19

COUNTY: **Suffolk**
TOWN: **BABYLON**
LION#:
BIN: 2261360
RR CROSSING:
HPMS SAMPLE:

DATE	DAY	12 TO 1	1 TO 2	2 TO 3	3 TO 4	4 TO 5	5 TO 6	6 TO 7	7 TO 8	8 TO 9	9 TO 10	10 TO 11	11 TO 12	12 TO 1	1 TO 2	2 TO 3	3 TO 4	4 TO 5	5 TO 6	6 TO 7	7 TO 8	8 TO 9	9 TO 10	10 TO 11	11 TO 12	DAILY TOTAL	DAILY HIGH COUNT	DAILY HIGH HOUR
		AM												PM														
1	S																											
2	M																											
3	T																											
4	W																	**82**	**114**	**99**	**98**	**61**	**49**	**26**	**21**			
5	T	**10**	**7**	**0**	**8**	**15**	**43**	**113**	**179**	**171**	**116**	**106**	**114**	**97**	**101**	**104**	**106**	**105**	**128**	**124**	**106**	**78**	**65**	**35**	**20**	1951	179	7
6	F	**12**	**8**	**7**	**11**	**8**	**41**	**103**	**171**	**189**	**122**	**115**	**94**	**91**	**95**	**113**	**125**	**113**	**134**	**127**	**126**	**103**	**67**	**52**	**31**	2058	189	8
7	S	**19**	**18**	**13**	**12**	**14**	**18**	**39**	**98**	**121**	**157**	**139**	**182**	**171**	**152**	**141**	**134**	**156**	**130**	**143**	**106**	**104**	**84**	**56**	**32**	2239	182	11
8	S	**28**	**36**	**5**	**9**	**8**	**7**	**20**	**57**	**81**	**124**	**166**	**123**	**141**	**146**	**138**	**123**	**115**	**91**	**99**	**106**	**79**	**57**	**38**	**18**	1815	166	10
9	M	**10**	**3**	**2**	**7**	**15**	**45**	**91**	**167**	**173**	**120**	**117**	**101**	**94**	**97**	**121**	**118**	**115**	**121**	**131**	**105**	**81**	**54**	**40**	**9**	1937	173	8
10	T	**12**	**9**	**1**	**9**	**13**	**36**	**104**	**176**	**178**	**121**	**102**	**98**	**97**	**89**	**108**	**137**	**117**	**141**	**112**	**99**	**84**	**55**	**30**	**15**	1943	178	8
11	W	**18**	**7**	**12**	**9**	**13**	**44**	**103**	**184**	**182**	**109**	**90**	**106**	**84**	**102**	**90**	**112**	**110**	**124**	**120**	**112**	**100**	**62**	**36**	**24**	1953	184	7
12	T	**9**	**4**	**2**	**6**	**12**	**40**	**113**	**190**	**163**	**128**	**99**	**110**	**91**														
13	F																											
14	S																											
15	S																											
16	M																											
17	T																											
18	W																											
19	T																											
20	F																											
21	S																											
22	S																											
23	M																											
24	T																											
25	W																											
26	T																											
27	F																											
28	S																											
29	S																											
30	M																											
31	T																											

AVERAGE WEEKDAY HOURS (Axle Factored, Mon 6AM to Fri Noon)

12	7	4	9	12	41	104	178	176	119	105	104	93	97	106	118	106	126	117	104	81	57	33	18	ADT 1927

DAYS Counted	HOURS Counted	WEEKDAYS Counted	WEEKDAY Hours	AVERAGE WEEKDAY High Hour	AVERAGE WEEKDAY % of day	Axle Adj. Factor	Seasonal/Weekday Adjustment Factor	ESTIMATED (one way)
9	189	6	123	178	9%	1.000	1.082	**AADT 1781**

American Traffic Information

Traffic Count Hourly Report

ROAD #: **AM40** ROAD NAME: **RIVIERA DR E**
DIRECTION: Southbound FACTOR GROUP: 30
STATE DIR CODE: 2 WK OF YR: 18
DATE OF COUNT: 05/04/2011
NOTES LANE 1: WW 19 South

COUNT TAKEN BY: ORG CODE: TTG INITIALS: DKS

FROM: **E BEACH PROMENADE**
REC. SERIAL #: 1763
PLACEMENT: 100' North of Hampton Rd
@ REF MARKER:
ADDL DATA: Class Speed
COUNT TYPE: VEHICLES

PROCESSED BY: ORG CODE: ATI INITIALS: MLA

TO: **W MONTAUK**
FUNC. CLASS: 17
NHS: no
JURIS: Town
CC Stn:
BATCH ID: ATI-R10WW19

COUNTY: **Suffolk**
TOWN: **BABYLON**
LION#:
BIN: 2261360
RR CROSSING:
HPMS SAMPLE:

DATE	DAY	12 TO 1	1 TO 2	2 TO 3	3 TO 4	4 TO 5	5 TO 6	6 TO 7	7 TO 8	8 TO 9	9 TO 10	10 TO 11	11 TO 12	12 TO 1	1 TO 2	2 TO 3	3 TO 4	4 TO 5	5 TO 6	6 TO 7	7 TO 8	8 TO 9	9 TO 10	10 TO 11	11 TO 12	DAILY TOTAL	DAILY HIGH COUNT	DAILY HIGH HOUR
		AM												PM														
1	S																											
2	M																											
3	T																											
4	W																	**140**	**189**	**172**	**148**	**109**	**76**	**52**	**40**			
5	T	**27**	**11**	**8**	**7**	**4**	**5**	**27**	**61**	**47**	**74**	**69**	**88**	**111**	**100**	**106**	**149**	**149**	**198**	**169**	**152**	**144**	**111**	**64**	**44**	1925	198	17
6	F	**25**	**12**	**11**	**5**	**5**	**12**	**31**	**58**	**57**	**72**	**65**	**82**	**99**	**99**	**122**	**142**	**167**	**203**	**195**	**143**	**145**	**108**	**83**	**59**	2000	203	17
7	S	**40**	**24**	**17**	**19**	**5**	**5**	**11**	**33**	**63**	**94**	**114**	**158**	**142**	**177**	**154**	**169**	**142**	**156**	**156**	**145**	**122**	**98**	**73**	**60**	2177	177	13
8	S	**38**	**42**	**13**	**11**	**7**	**3**	**10**	**21**	**53**	**70**	**122**	**125**	**125**	**157**	**138**	**142**	**116**	**111**	**114**	**123**	**108**	**83**	**49**	**24**	1805	157	13
9	M	**13**	**9**	**3**	**5**	**2**	**5**	**27**	**58**	**53**	**67**	**63**	**84**	**111**	**96**	**114**	**154**	**169**	**177**	**202**	**152**	**143**	**90**	**47**	**35**	1879	202	18
10	T	**14**	**12**	**4**	**8**	**3**	**3**	**30**	**52**	**56**	**76**	**69**	**82**	**87**	**112**	**117**	**150**	**167**	**200**	**166**	**135**	**157**	**102**	**51**	**31**	1884	200	17
11	W	**26**	**14**	**12**	**4**	**4**	**6**	**22**	**57**	**59**	**56**	**49**	**81**	**84**	**101**	**104**	**148**	**155**	**199**	**173**	**170**	**128**	**107**	**54**	**47**	1860	199	17
12	T	**19**	**8**	**7**	**4**	**1**	**12**	**30**	**60**	**42**	**73**	**75**	**87**	**97**														
13	F																											
14	S																											
15	S																											
16	M																											
17	T																											
18	W																											
19	T																											
20	F																											
21	S																											
22	S																											
23	M																											
24	T																											
25	W																											
26	T																											
27	F																											
28	S																											
29	S																											
30	M																											
31	T																											

AVERAGE WEEKDAY HOURS (Axle Factored, Mon 6AM to Fri Noon)

12 TO 1	1 TO 2	2 TO 3	3 TO 4	4 TO 5	5 TO 6	6 TO 7	7 TO 8	8 TO 9	9 TO 10	10 TO 11	11 TO 12	12 TO 1	1 TO 2	2 TO 3	3 TO 4	4 TO 5	5 TO 6	6 TO 7	7 TO 8	8 TO 9	9 TO 10	10 TO 11	11 TO 12	ADT
22	**11**	**8**	**6**	**3**	**8**	**28**	**58**	**52**	**70**	**65**	**84**	**98**	**102**	**110**	**150**	**156**	**193**	**176**	**151**	**136**	**97**	**54**	**39**	**1877**

DAYS Counted	HOURS Counted	WEEKDAYS Counted	WEEKDAY Hours	AVERAGE WEEKDAY High Hour	AVERAGE WEEKDAY % of day	Axle Adj. Factor	Seasonal/Weekday Adjustment Factor	ESTIMATED (one way)
9	189	6	123	193	10%	1.000	1.082	**AADT 1735**

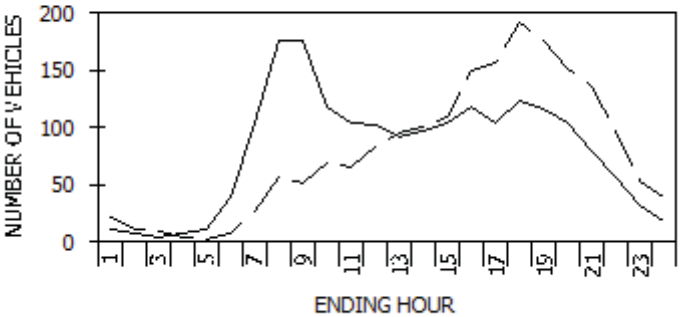
American Traffic Information
Classification Count Average Weekday Data Report

ROAD #: AM40 ROAD NAME: RIVIERA DR E YEAR: 2011 STATION: 076136
COUNTY NAME: Suffolk MONTH: May
REGION CODE: 0
FROM: E BEACH PROMENADE
TO: W MONTAUK
REF-MARKER:
END MILEPOINT: 0110077 NO. OF LANES: 2
FUNC-CLASS: 17 HPMS NO:
STATION NO: 6136 LION#:
COUNT TAKEN BY: ORG CODE: TTG INITIALS: DKS
PROCESSED BY: ORG CODE: ATI INITIALS: MLA BATCH ID: ATI-R10WW19

DIRECTION	North	South	TOTAL
NUMBER OF VEHICLES	**1916**	**1867**	**3783**
NUMBER OF AXLES	**3846**	**3744**	**7590**
% HEAVY VEHICLES (F4-F13)	**2.51%**	**2.84%**	**2.67%**
% TRUCKS AND BUSES (F3-F13)	**14.35%**	**15.59%**	**14.96%**
AXLE CORRECTION FACTOR	**1.00**	**1.00**	**1.00**

VEHICLE CLASS		F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	TOTAL
NO. OF AXLES		2	2	2	2.5	2	3	4	3.5	5	6	5	6	8.75	
ENDING HOUR	1:00	0	11	1	0	0	0	0	0	0	0	0	0	0	**12**
	2:00	0	6	1	0	0	0	0	0	0	0	0	0	0	**7**
	3:00	0	4	0	0	0	0	0	0	0	0	0	0	0	**4**
	4:00	0	8	0	0	0	0	0	0	0	0	0	0	0	**8**
	5:00	0	10	2	0	0	0	0	0	0	0	0	0	0	**12**
	6:00	0	35	5	0	0	0	0	0	0	0	0	0	0	**40**
	7:00	1	86	17	0	1	0	0	0	0	0	0	0	0	**105**
	8:00	0	144	24	4	5	0	0	0	0	0	0	0	0	**177**
	9:00	1	150	20	1	4	0	0	0	0	0	0	0	0	**176**
	10:00	0	99	16	1	2	0	0	1	0	0	0	0	0	**119**
DIRECTION	11:00	1	88	12	1	2	0	0	1	0	0	0	0	0	**105**
North	12:00	0	88	11	0	2	1	0	0	0	0	0	0	0	**102**
	13:00	0	80	11	0	1	0	0	0	0	0	0	0	0	**92**
	14:00	1	81	14	0	1	0	0	0	0	0	0	0	0	**97**
	15:00	0	86	14	1	4	0	0	0	0	0	0	0	0	**105**
	16:00	1	94	17	3	3	0	0	0	0	0	0	0	0	**118**
	17:00	0	87	14	2	1	0	0	1	0	0	0	0	0	**105**
	18:00	0	107	14	2	1	0	0	0	0	0	0	0	0	**124**
	19:00	1	102	13	0	0	1	0	0	0	0	0	0	0	**117**
	20:00	0	94	9	0	1	0	0	0	0	0	0	0	0	**104**
	21:00	1	75	4	0	0	0	0	0	0	0	0	0	0	**80**
	22:00	0	52	4	0	0	0	0	0	0	0	0	0	0	**56**
	23:00	0	30	3	0	0	0	0	0	0	0	0	0	0	**33**
	24:00	0	17	1	0	0	0	0	0	0	0	0	0	0	**18**
TOTAL VEHICLES		**7**	**1634**	**227**	**15**	**28**	**2**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**1916**
TOTAL AXLES		14	3268	454	38	56	6	0	10	0	0	0	0	0	3846
ENDING HOUR	1:00	0	19	3	0	0	0	0	0	0	0	0	0	0	**22**
	2:00	0	10	1	0	0	0	0	0	0	0	0	0	0	**11**
	3:00	1	7	1	0	0	0	0	0	0	0	0	0	0	**9**
	4:00	0	5	0	0	0	0	0	0	0	0	0	0	0	**5**
	5:00	0	3	0	0	0	0	0	0	0	0	0	0	0	**3**
	6:00	0	6	1	0	0	0	0	0	0	0	0	0	0	**7**
	7:00	0	20	3	1	3	0	0	0	0	0	0	0	0	**27**
	8:00	0	38	12	3	4	0	0	0	0	0	0	0	0	**57**
	9:00	0	38	10	0	3	0	0	0	0	0	0	0	0	**51**
	10:00	0	53	12	1	2	0	0	1	0	0	0	0	0	**69**
	11:00	1	50	11	0	2	0	0	1	0	0	0	0	0	**65**
DIRECTION	12:00	0	70	11	0	2	0	0	0	0	0	0	0	0	**83**
South	13:00	0	82	12	0	2	0	0	0	0	0	0	0	0	**96**
	14:00	0	84	16	0	1	0	0	0	0	0	0	0	0	**101**
	15:00	0	92	13	1	4	0	0	0	0	0	0	0	0	**110**
	16:00	1	121	22	1	4	0	0	0	0	0	0	0	0	**149**
	17:00	1	131	20	1	2	1	0	1	0	0	0	0	0	**157**
	18:00	0	164	24	2	2	0	0	0	0	0	0	0	0	**192**
	19:00	1	150	22	0	3	0	0	0	0	0	0	0	0	**176**
	20:00	0	134	14	0	3	0	0	0	0	0	0	0	0	**151**
	21:00	1	122	12	0	1	0	0	0	0	0	0	0	0	**136**
	22:00	1	88	8	0	1	0	0	0	0	0	0	0	0	**98**
	23:00	0	47	6	0	0	0	0	0	0	0	0	0	0	**53**
	24:00	0	35	4	0	0	0	0	0	0	0	0	0	0	**39**
TOTAL VEHICLES		**7**	**1569**	**238**	**10**	**39**	**1**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**1867**
TOTAL AXLES		14	3138	476	25	78	3	0	10	0	0	0	0	0	3744
GRAND TOTAL VEHICLES		**14**	**3203**	**465**	**25**	**67**	**3**	**0**	**6**	**0**	**0**	**0**	**0**	**0**	**3783**
GRAND TOTAL AXLES		28	6406	930	62	134	9	0	21	0	0	0	0	0	7590

TRAFFIC FLOW BY DIRECTION



--- North - -South

PEAK HOUR DATA

DIRECTION	HOUR	COUNT	2-WAY	HOUR	COUNT
North	**8**	**177**	**A.M.**	**8**	**234**
South	**18**	**192**	**P.M.**	**18**	**316**

VEHICLE CLASSIFICATION CODES:

F1. Motorcycles
F2. Autos*
F3. 2 Axle, 4-Tire Pickups, Vans, Motorhomes*
F4. Buses
F5. 2 Axle, 6-Tire Single Unit Trucks
F6. 3 Axle Single Unit Trucks
F7. 4 or More Axle Single Unit Trucks
F8. 4 or Less Axle Vehicles, One Unit is a Truck
F9. 5 Axle Double Unit Vehicles, One Unit is a Truck
F10. 6 or More Double Unit Vehicles, One Unit is a Truck
F11. 5 or Less Axle Multi-Unit Trucks
F12. 6 Axle Multi-Unit Trucks
F13. 7 or More Axle Multi-Unit Trucks

* INCLUDING THOSE HAULING TRAILERS

FUNCTIONAL CLASS CODES:

RURAL	URBAN	SYSTEM
01	11	PRINCIPAL ARTERIAL-INTERSTATE
02	12	PRINCIPAL ARTERIAL-EXPRESSWAY
02	14	PRINCIPAL ARTERIAL-OTHER
06	16	MINOR ARTERIAL
07	17	MAJOR COLLECTOR
08	17	MINOR COLLECTOR
09	19	LOCAL SYSTEM

SOURCE: NYSDOT DATA SERVICES BUREAU

American Traffic Information
Speed Count Average Weekday Report

Date: 12/07/2011

Station:	076136	Start date:	Wed 05/04/2011 16:00	Count duration:	189 hours
Road #:	AM40 Road name: RIVIERA DR E	End date:	Thu 05/12/2011 12:45	Functional class:	17
From:	E BEACH PROMENADE	County:	Suffolk	Factor group:	30
To:	W MONTAUK	Town:	BABYLON	Batch ID:	ATI-R10WW19
Direction:	North	Speed limit:	35	Count taken by:	Org: TTG Init: DKS
		LION#:		Processed by:	Org: ATI Init: MLA

Counts have been summarized into NYSDOT EI standard bins

Speeds, mph

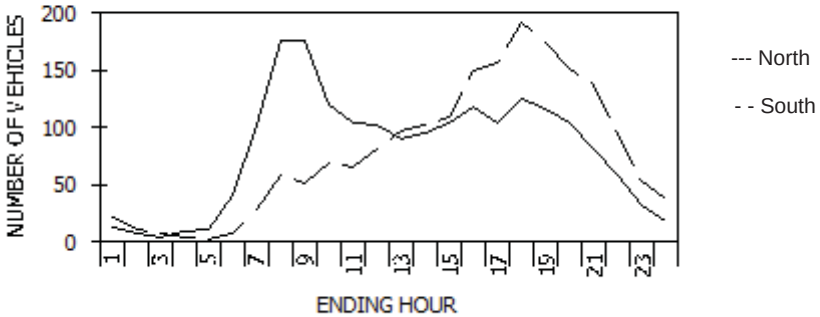
Hour	0.0-20.0	20.1-25.0	25.1-30.0	30.1-35.0	35.1-40.0	40.1-45.0	45.1-50.0	50.1-55.0	55.1-60.0	60.1-65.0	65.1-70.0	70.1-75.0	75.1-95.0	% Exc 45.0	% Exc 50.0	% Exc 55.0	% Exc 60.0	% Exc 65.0	Avg	50th%	85th%	Total
1:00	0	1	4	4	3	1	0	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	31.2	31.9	38.5	13
2:00	0	0	2	2	2	1	0	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	33.2	33.8	39.9	7
3:00	0	0	1	2	1	0	0	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	32.1	32.6	37.0	4
4:00	0	1	1	2	4	1	0	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	33.0	35.7	39.6	9
5:00	1	1	1	4	3	0	1	0	0	0	0	0	0	9.1	0.0	0.0	0.0	0.0	29.0	33.2	39.0	11
6:00	1	2	5	9	16	5	3	0	0	0	0	0	0	7.3	0.0	0.0	0.0	0.0	33.3	36.1	41.9	41
7:00	2	6	18	34	30	10	3	0	0	0	0	0	0	2.9	0.0	0.0	0.0	0.0	32.0	33.8	39.6	103
8:00	4	10	23	64	53	19	4	0	0	0	0	0	0	2.3	0.0	0.0	0.0	0.0	32.2	34.1	39.7	177
9:00	7	9	26	58	51	22	3	0	0	0	0	0	0	1.7	0.0	0.0	0.0	0.0	31.5	34.0	39.9	176
10:00	3	8	21	39	32	14	2	1	0	0	0	0	0	2.5	0.8	0.0	0.0	0.0	31.7	33.6	39.9	120
11:00	3	8	23	35	24	10	2	0	0	0	0	0	0	1.9	0.0	0.0	0.0	0.0	30.8	32.7	39.3	105
12:00	4	7	20	35	26	10	1	0	0	0	0	0	0	1.0	0.0	0.0	0.0	0.0	30.6	33.0	39.2	103
13:00	3	7	20	29	24	7	1	0	0	0	0	0	0	1.1	0.0	0.0	0.0	0.0	30.5	32.7	38.9	91
14:00	2	9	18	33	26	6	2	0	0	0	0	0	0	2.1	0.0	0.0	0.0	0.0	31.0	32.9	38.8	96
15:00	2	8	20	36	27	10	2	0	0	0	0	0	0	1.9	0.0	0.0	0.0	0.0	31.5	33.2	39.4	105
16:00	2	11	26	38	30	10	1	0	0	0	0	0	0	0.8	0.0	0.0	0.0	0.0	31.0	32.7	38.9	118
17:00	5	11	21	33	24	8	3	0	0	0	0	0	0	2.9	0.0	0.0	0.0	0.0	29.7	32.4	39.1	105
18:00	2	8	25	43	33	12	2	1	0	0	0	0	0	2.4	0.8	0.0	0.0	0.0	31.8	33.3	39.5	126
19:00	3	9	22	40	33	9	1	0	0	0	0	0	0	0.9	0.0	0.0	0.0	0.0	31.0	33.1	38.9	117
20:00	2	8	24	35	27	6	2	0	0	0	0	0	0	1.9	0.0	0.0	0.0	0.0	31.0	32.6	38.6	104
21:00	2	11	19	28	15	6	1	0	0	0	0	0	0	1.2	0.0	0.0	0.0	0.0	29.8	31.7	38.3	82
22:00	2	4	14	16	13	7	1	1	0	0	0	0	0	3.4	1.7	0.0	0.0	0.0	30.8	32.9	40.3	58
23:00	0	3	7	10	7	4	1	0	0	0	0	0	0	3.1	0.0	0.0	0.0	0.0	32.1	33.0	40.3	32
24:00	0	2	3	6	5	1	1	0	0	0	0	0	0	5.6	0.0	0.0	0.0	0.0	32.1	33.4	39.4	18
Avg. Daily Total	50	144	364	635	509	179	37	3	0	0	0	0	0	2.1	0.2	0.0	0.0	0.0	31.2	33.2	39.4	1921
Percent	2.6%	7.5%	18.9%	33.1%	26.5%	9.3%	1.9%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%									
Cum. Percent	2.6%	10.1%	29.0%	62.1%	88.6%	97.9%	99.8%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%									
Average hour	2	6	15	26	21	7	2	0	0	0	0	0	0									80

	Avg. Speed	50th% Speed	85th% Speed
North	31.2	33.2	39.4
South	31.3	33.0	39.1

Peak Hour Data

Direction	Hour	Count	2-way	Hour	Count
North	8	177	A.M.	8	235
South	18	192	P.M.	18	318

TRAFFIC FLOW BY DIRECTION



American Traffic Information
Speed Count Average Weekday Report

Station:	076136	Start date:	Wed 05/04/2011 16:00	Count duration:	189 hours
Road #:	AM40 Road name: RIVIERA DR E	End date:	Thu 05/12/2011 12:45	Functional class:	17
From:	E BEACH PROMENADE	County:	Suffolk	Factor group:	30
To:	W MONTAUK	Town:	BABYLON	Batch ID:	ATI-R10WW19
Direction:	South	Speed limit:	35	Count taken by:	Org: TTG Init: DKS
		LION#:		Processed by:	Org: ATI Init: MLA

Counts have been summarized into NYSDOT EI standard bins

Speeds, mph

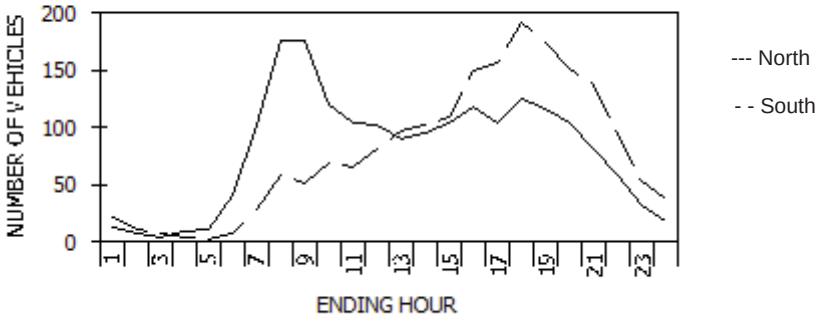
Hour	0.0-20.0	20.1-25.0	25.1-30.0	30.1-35.0	35.1-40.0	40.1-45.0	45.1-50.0	50.1-55.0	55.1-60.0	60.1-65.0	65.1-70.0	70.1-75.0	75.1-95.0	% Exc 45.0	% Exc 50.0	% Exc 55.0	% Exc 60.0	% Exc 65.0	Avg	50th%	85th%	Total
1:00	0	1	3	7	6	3	1	0	0	0	0	0	0	4.8	0.0	0.0	0.0	0.0	33.8	34.7	41.5	21
2:00	0	1	1	4	3	1	1	0	0	0	0	0	0	9.1	0.0	0.0	0.0	0.0	33.5	34.4	41.8	11
3:00	0	1	1	2	3	1	0	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	32.5	35.0	39.7	8
4:00	0	0	1	1	2	1	0	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	34.7	36.3	41.3	5
5:00	0	0	1	1	1	0	0	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	32.0	32.6	37.8	3
6:00	2	0	0	2	2	1	0	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	24.3	33.8	39.9	7
7:00	1	3	5	6	7	5	1	0	0	0	0	0	0	3.6	0.0	0.0	0.0	0.0	31.1	34.2	41.8	28
8:00	3	5	12	17	15	3	3	0	0	0	0	0	0	5.2	0.0	0.0	0.0	0.0	29.9	32.7	39.2	58
9:00	1	6	8	15	15	5	2	0	0	0	0	0	0	3.8	0.0	0.0	0.0	0.0	31.4	33.7	39.8	52
10:00	1	4	11	24	20	9	1	0	0	0	0	0	0	1.4	0.0	0.0	0.0	0.0	32.4	34.0	39.9	70
11:00	1	4	14	22	15	7	2	0	0	0	0	0	0	3.1	0.0	0.0	0.0	0.0	31.8	33.1	39.8	65
12:00	1	5	17	32	20	6	1	0	0	0	0	0	0	1.2	0.0	0.0	0.0	0.0	31.6	32.9	38.7	82
13:00	2	8	21	32	26	8	1	0	0	0	0	0	0	1.0	0.0	0.0	0.0	0.0	31.0	32.9	39.0	98
14:00	2	4	20	37	26	12	2	0	0	0	0	0	0	1.9	0.0	0.0	0.0	0.0	32.1	33.5	39.8	103
15:00	2	6	20	35	32	10	4	1	0	0	0	0	0	4.5	0.9	0.0	0.0	0.0	32.2	33.9	39.8	110
16:00	3	10	34	53	37	11	2	0	0	0	0	0	0	1.3	0.0	0.0	0.0	0.0	31.1	32.7	38.8	150
17:00	4	10	31	56	37	15	3	0	0	0	0	0	0	1.9	0.0	0.0	0.0	0.0	31.2	33.0	39.3	156
18:00	2	10	38	78	46	16	2	0	0	0	0	0	0	1.0	0.0	0.0	0.0	0.0	31.9	33.0	38.9	192
19:00	6	14	37	65	37	13	2	1	0	0	0	0	0	1.7	0.6	0.0	0.0	0.0	30.3	32.4	38.7	175
20:00	4	10	40	54	34	8	1	0	1	0	0	0	0	1.3	0.7	0.7	0.0	0.0	30.4	32.1	38.2	152
21:00	3	10	33	51	30	8	2	0	0	0	0	0	0	1.5	0.0	0.0	0.0	0.0	30.7	32.3	38.3	137
22:00	1	6	23	36	21	8	1	0	0	0	0	0	0	1.0	0.0	0.0	0.0	0.0	31.4	32.6	38.8	96
23:00	1	2	10	20	14	4	2	0	0	0	0	0	0	3.8	0.0	0.0	0.0	0.0	32.1	33.4	39.4	53
24:00	0	1	6	15	13	3	0	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	33.3	34.0	39.0	38
Avg. Daily Total	40	121	387	665	462	158	34	2	1	0	0	0	0	2.0	0.2	0.1	0.0	0.0	31.3	33.0	39.1	1870
Percent	2.1%	6.5%	20.7%	35.6%	24.7%	8.4%	1.8%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%									
Cum. Percent	2.1%	8.6%	29.3%	64.9%	89.6%	98.0%	99.8%	99.9%	100.0%	100.0%	100.0%	100.0%	100.0%									
Average hour	2	5	16	28	19	7	1	0	0	0	0	0	0									78

	Avg. Speed	50th% Speed	85th% Speed
North	31.2	33.2	39.4
South	31.3	33.0	39.1

Peak Hour Data

Direction	Hour	Count	2-way	Hour	Count
North	8	177	A.M.	8	235
South	18	192	P.M.	18	318

TRAFFIC FLOW BY DIRECTION



STATION: 071204

New York State Department of Transportation
Roadway Traffic Count Hourly Report

ROUTE/ROAD:	RIVERA DR W	FROM:	MONTAUK HWY	TO:	LIDO PROMENADE W	REGION-COUNTY:	10-SUFFOLK
FED DIR CODE:	1, 5	REF. MARKER:		FUNC. CLASS:	17 - U Major Collector	MUNI:	Babylon-Town-0046
ST DIR CODE:	1, 2	END MILEPOST:	.77	FACTOR GROUP:	30	BIN:	2261360
DOT ID:	236458	LANES BY DIR:	1 North 1 South	CC STN:		RR CROSSING:	
BEGIN DATE:	9/30/2013	WEEK OF YEAR:	39	ADDL DATA:		HPMS SAMPLE:	
NOTES 1:		PLACEMENT:	205 FT. N OF W HOLLYWOOD A	JURISDICTION:	03-Town	1 WAY CODE:	
NOTES 2:						COUNT TYPE:	Vehicle
TAKEN BY:	VEC-GO	PROCESSED BY:	R10-afa	BATCH ID:	DOT-R10R10WW4	SPEED LIMIT:	

DATE	00-01	01-02	02-03	03-04	04-05	05-06	06-07	07-08	08-09	09-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	DAILY TOTAL	HIGH COUNT	HIGH HOUR
9/30, Mon					7	32	79	147	112	102	101	114	117	105	103	141	159	147	128	104	100	42	37	27	1904		
10/01, Tue	18	10	7	2	13	36	81	123	96	107	91	112	105	109	116	139	140	167	157	107	78	72	40	27	1953	167	17-18
10/02, Wed	13	17	6	4	9	37	85	148	96	106	84	116	109	98	116	138	152	171	149	132	81	66	36	37	2006	171	17-18
10/03, Thu	14	7	4	5	9	43	85	122	98	110	73	78	84	99	114	143	122	148	150	113	97	58	51	35	1862	150	18-19
10/04, Fri	16	11	4	5	8	28	91	133	94	90	97	94	118	111	104	165	146	158	142	105	73	78	51	51	1973	165	15-16
10/05, Sat	23	16	12	8	12	22	16	57	84	89	135	136	136	165	119	133	134	139	139	97	92	77	85	51	1977	165	13-14
10/06, Sun	29	26	12	9	7	3	16	42	78	107	107	118	140	157	125	140	118	123	110	87	80	58	34	39	1765	157	13-14
10/07, Mon	18	14	6	11	7	18	49	87	74	76	93	86	123	106	106	123	151	197	158	130	73	42	37	34	1819	197	17-18
10/08, Tue	27	3	3	6	14	39	83	137	93	112	90	93	96	93	123	126	131	167	164	118	84	58	32	28	1920	167	17-18
AVERAGE WEEKDAY HOURS (Axle Factored, Mon 6 AM to Fri Noon)																									**AWDT**		
	18	10	5	4	11	37	79	128	95	100	90	99	106	102	113	135	143	166	151	117	86	56	39	31	1919		

DAYS Counted	HOURS Counted	WEEKDAYS Counted	WEEKDAY Hours	AVERAGE WEEKDAY Roadway High Hour	Roadway % of day	North High Hour	North % of day	South High Hour	South % of day	ESTIMATED AADT Roadway	North	South
9	212	6	144	166	8.7	94	9.8	101	10.6	1860	934	926

FACTOR

Month	Seasonal	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Axl
9	1.03		1.00						1.00
10	1.03	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

STATION: 071204

New York State Department of Transportation
NB Traffic Count Hourly Report

ROUTE/ROAD:	RIVERA DR W	FROM:	MONTAUK HWY	TO:	LIDO PROMENADE W	REGION-COUNTY:	10-SUFFOLK
FED DIR CODE:	1	REF. MARKER:		FUNC. CLASS:	17 - U Major Collector	MUNI:	Babylon-Town-0046
ST DIR CODE:	1, 2	END MILEPOST:	.77	FACTOR GROUP:	30	BIN:	2261360
DOT ID:	236458	LANES BY DIR:	1 North	CC STN:		RR CROSSING:	
BEGIN DATE:	9/30/2013	WEEK OF YEAR:	39	ADDL DATA:		HPMS SAMPLE:	
NOTES 1:		PLACEMENT:	205 FT. N OF W HOLLYWOOD A	JURISDICTION:	03-Town	1 WAY CODE:	
NOTES 2:						COUNT TYPE:	Vehicle
TAKEN BY:	VEC-GO	PROCESSED BY:	R10-afa	BATCH ID:	DOT-R10R10WW4	SPEED LIMIT:	

DATE	00-01	01-02	02-03	03-04	04-05	05-06	06-07	07-08	08-09	09-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	DAILY TOTAL	HIGH COUNT	HIGH HOUR
9/30, Mon					5	30	64	105	80	64	56	62	53	52	51	63	54	49	49	42	39	16	14	12	960		
10/01, Tue	6	2	3	1	10	34	65	96	57	70	60	63	51	56	50	58	55	64	56	45	24	26	18	7	977	96	07-08
10/02, Wed	4	9	2	1	8	34	69	103	69	68	48	58	59	45	51	69	60	67	48	57	28	24	11	16	1008	103	07-08
10/03, Thu	5	3	2	2	7	39	65	88	69	72	48	40	45	42	59	62	45	55	63	45	31	18	18	13	936	88	07-08
10/04, Fri	5	4	1	2	5	27	71	100	71	54	60	46	59	57	47	71	50	65	65	45	26	26	18	19	994	100	07-08
10/05, Sat	7	5	5	3	7	15	13	39	59	52	84	73	66	76	57	65	59	66	62	46	37	39	32	20	987	84	10-11
10/06, Sun	12	15	4	4	2	2	12	24	56	61	62	69	66	69	60	54	61	52	46	46	40	25	17	18	877	69	13-14
10/07, Mon	8	10	3	5	6	16	37	68	55	56	53	49	60	55	50	52	58	75	66	62	26	19	13	17	919	75	17-18
10/08, Tue	7	1	0	3	12	35	65	97	71	63	62	42	48	51	57	53	42	81	52	49	30	20	6	10	957	97	07-08
AVERAGE WEEKDAY HOURS (Axle Factored, Mon 6 AM to Fri Noon)																									**AWDT**		
	5	4	2	2	8	34	62	94	67	64	55	51	53	50	53	60	52	65	56	50	30	21	13	13	963		

DAYS Counted	HOURS Counted	WEEKDAYS Counted	WEEKDAY Hours	AVERAGE WEEKDAY Roadway High Hour	Roadway % of day	North High Hour	North % of day	South High Hour	South % of day
9	212	6	144	166	8.7	94	9.8	101	10.6

ESTIMATED AADT Roadway	North	South
1860	934	926

FACTOR

Month	Seasonal	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Axl
9	1.03		1.00						1.00
10	1.03	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

STATION: 071204

New York State Department of Transportation
SB Traffic Count Hourly Report

ROUTE/ROAD:	RIVERA DR W	FROM:	MONTAUK HWY	TO:	LIDO PROMENADE W	REGION-COUNTY:	10-SUFFOLK
FED DIR CODE:	5	REF. MARKER:		FUNC. CLASS:	17 - U Major Collector	MUNI:	Babylon-Town-0046
ST DIR CODE:	1, 2	END MILEPOST:	.77	FACTOR GROUP:	30	BIN:	2261360
DOT ID:	236458	LANES BY DIR:	1 South	CC STN:		RR CROSSING:	
BEGIN DATE:	9/30/2013	WEEK OF YEAR:	39	ADDL DATA:		HPMS SAMPLE:	
NOTES 1:		PLACEMENT:	205 FT. N OF W HOLLYWOOD A	JURISDICTION:	03-Town	1 WAY CODE:	
NOTES 2:						COUNT TYPE:	Vehicle
TAKEN BY:	VEC-GO	PROCESSED BY:	R10-afa	BATCH ID:	DOT-R10R10WW4	SPEED LIMIT:	

DATE	00-01	01-02	02-03	03-04	04-05	05-06	06-07	07-08	08-09	09-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	DAILY TOTAL	HIGH COUNT	HIGH HOUR
9/30, Mon					2	2	15	42	32	38	45	52	64	53	52	78	105	98	79	62	61	26	23	15	944		
10/01, Tue	12	8	4	1	3	2	16	27	39	37	31	49	54	53	66	81	85	103	101	62	54	46	22	20	976	103	17-18
10/02, Wed	9	8	4	3	1	3	16	45	27	38	36	58	50	53	65	69	92	104	101	75	53	42	25	21	998	104	17-18
10/03, Thu	9	4	2	3	2	4	20	34	29	38	25	38	39	57	55	81	77	93	87	68	66	40	33	22	926	93	17-18
10/04, Fri	11	7	3	3	3	1	20	33	23	36	37	48	59	54	57	94	96	93	77	60	47	52	33	32	979	96	16-17
10/05, Sat	16	11	7	5	5	7	3	18	25	37	51	63	70	89	62	68	75	73	77	51	55	38	53	31	990	89	13-14
10/06, Sun	17	11	8	5	5	1	4	18	22	46	45	49	74	88	65	86	57	71	64	41	40	33	17	21	888	88	13-14
10/07, Mon	10	4	3	6	1	2	12	19	19	20	40	37	63	51	56	71	93	122	92	68	47	23	24	17	900	122	17-18
10/08, Tue	20	2	3	3	2	4	18	40	22	49	28	51	48	42	66	73	89	86	112	69	54	38	26	18	963	112	18-19
AVERAGE WEEKDAY HOURS (Axle Factored, Mon 6 AM to Fri Noon)																									**AWDT**		
	12	6	3	3	2	3	17	34	27	37	35	48	53	52	60	76	90	101	95	67	56	36	26	19	956		

DAYS Counted	HOURS Counted	WEEKDAYS Counted	WEEKDAY Hours	AVERAGE WEEKDAY Roadway High Hour	Roadway % of day	North High Hour	North % of day	South High Hour	South % of day	ESTIMATED AADT Roadway	North	South
9	212	6	144	166	8.7	94	9.8	101	10.6	1860	934	926

FACTOR

Month	Seasonal	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Axl
9	1.03		1.00						1.00
10	1.03	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Attachment 12

United States Coast
Guard

U.S. Department of Homeland Security

United States Coast Guard

Commander
First Coast Guard District

One South Street
Battery Park Building
New York, NY 10004-1466
Staff Symbol: D1 (dpb)
Phone: (212) 514-4331
Fax: (212) 514-4337

16591/NV-926
Santa Barbara Canal//NY

April 8, 2015

Mr. Joseph Guarino
Town of Babylon
Department of Environmental Control
281 Phelps Lane, Room 23
North Babylon, New York 11703-4045

RE: Santa Barbara Canal – Copiague American Venice Bridges

Dear Mr. Guarino:

This responds to your correspondence of March 12, 2015 regarding the referenced project. Based on the documentation provided it is determined that no formal Coast Guard bridge permit will be required.

The project is placed in the Advance Approval category in accordance with 33 CFR 115.70. Future bridge projects along the same waterway will have to be independently evaluated before they may be considered for Advance Approval. This Advance Approval determination is valid for three years from the date of this letter. If construction does not commence within this time period, you must contact this office for reaffirmation of this authorization. Our approval also does not relieve the applicant, the Town of Babylon, of the responsibility to ensure compliance with any applicable federal, state or local requirements for the proposed action.

Although this project will not require a bridge permit, other areas of Coast Guard jurisdiction apply and the following stipulations must be met:

a) The lowest portion of the superstructure of the bridge across the waterway should clear the 100-year flood height elevation if feasible.

b) The requirement to display permanent navigation lights at this bridge is waived. This waiver may be rescinded at any time in the future should nighttime navigation through the bridge be increased to a level determined by the District Commander to warrant lighting (generally four or more passages per week between the hours of sunset and sunrise).

c) At no time during the bridge work will the waterway be closed to navigation without prior notification and approval of the Coast Guard.

d) This office shall be notified as soon as possible referencing commencement and completion of bridge work so appropriate announcements may be prepared for our Local Notice to Mariners publication.

e) Upon completion of construction, the bridge owner shall submit "as built" drawings showing navigational clearances through the bridge and sufficient data to allow this

office to prepare a completion report. This report is used for Coast Guard and other mariner publications.

f) Any spillage of oil or oil-based products during construction must be reported promptly to the Coast Guard by calling 1-800-424-8802.

If you have any questions please call this office at the telephone number noted above.

Sincerely,

C. J. BISIGNANO
Supervisory Bridge Management Specialist
By direction

E-copy: U.S. Coast Guard Sector Long Island Sound
U.S. Army Corps of Engineers – New York District

Attachment 13

NYS Department of State
Coastal Consistency

STATE OF NEW YORK
DEPARTMENT OF STATE
ONE COMMERCE PLAZA
99 WASHINGTON AVENUE
ALBANY, NY 12231-0001
WWW.DOS.NY.GOV

ANDREW M. CUOMO
GOVERNOR

ROSSANA ROSADO
SECRETARY OF STATE

October 17, 2016

Matt Accardi
Bureau of Environmental Review and Assessment
Assistant General Counsel
Governor's Office of Storm Recovery
25 Beaver Street, 5th Floor
New York, New York 10004

Re: F-2016-0891(FA)
GOSR - Town of Babylon
Copiague American Venice Bridges Improvements.
Town of Babylon, Suffolk County
General Concurrence - No Objection To Funding

Dear Mr. Accardi:

The Department of State received the information you submitted regarding the above matter on 9/23/2016.

The Department of State has determined that this proposal meets the Department's general consistency concurrence criteria. Therefore, the Department of State has no objection to the use of U. S. Housing and Urban Development funds for this financial assistance activity. This concurrence pertains to the financial assistance activity for this project only. If federal permits or other form of federal agency authorization is required for this activity, the Department of State will conduct a separate review for those permit activities. In such a case, please forward a copy of the federal application for authorization, a completed Federal Consistency Assessment Form, and all supporting information to the Department at the same time it is submitted to the federal agency from which the necessary authorization is requested.

When communicating with us regarding this matter, please contact Jeffrey Zappieri at (518) 474-6000 and refer to our file #F-2016-0891(FA).

Sincerely,

Jeffrey Zappieri
Supervisor, Consistency Review Unit
Office of Planning and Development

JZ/dc

NEW YORK STATE OF OPPORTUNITY | Department of State

Attachment 14

Permit Documentation

Note: Any permits received for this project will be appended to the environmental review record at a later date.