Sunrise Wind New York Cable Project

Appendix 4-G

Benthic Resources Characterization Report – New York State Waters

Prepared for:

Sunrise Wind | Powered by Ørsted & Eversource

December 9, 2020

This page intentionally left blank.

Benthic Resources Characterization Report – New York State Waters

Sunrise Wind Farm Project

Prepared for:

Stantec

Stantec Consulting Services Inc.
400 Crown Colony Drive
Quincy, MA 02169

and

Sunrise Wind | Powered by Ørsted & Eversource

Sunrise Wind LLC

Prepared by:

INSPIRE ENVIRONMENTAL

INSPIRE Environmental
513 Broadway, Suite 314
Newport, Rhode Island 02840

December 2020

TABLE OF CONTENTS

Page

ATTACHMENTS

TABLES

FIGURES

LIST OF ACRONYMS

BCA	benthic community analysis
BOEM	Bureau of Ocean Energy Management
CMECS	Coastal and Marine Ecological Classification Standard
COP	Construction and Operations Plan
DC	direct current
DSLR	Digital single-lens reflex
Eversource	Eversource Investment LLC
FGDC	Federal Geographic Data Committee
G&G	geophysical and geotechnical
HDD	horizontal directional drill
IAC	Inter-Array Cable
ICW	Intracoastal Waterway
ICW HDD	Onshore Transmission Cable HDD Route – Intracoastal Waterway
INSPIRE	INSPIRE Environmental, LLC
Lease Area	BOEM-designated Renewable Energy Lease Area OCS-A 0487
LIPA	Long Island Power Authority
LPIL	lowest practical identification level
MACZM	Massachusetts Office of Coastal Zone Management
MADMF	Massachusetts Division of Marine Fisheries\
NEF	Nikon Electronic Format
NOAA	National Oceanic and Atmospheric Association
NYS	New York State
NYSDEC	New York State Department of Environmental Conservation
NYSDOS	New York Department of State
NYSERDA	New York State Energy Research and Development Authority
OCS	Outer Continental Shelf
OCS–DC	Offshore Converter Station
OnCS–DC	Onshore Converter Station
OREC	Offshore Wind Renewable Energy Certificate
PSD	Photoshop Document
PV	Plan View
RICRMC	Rhode Island Coastal Resources Management Council
RIDEM	Rhode Island Department of Environmental Management
SAV	submerged aquatic vegetation
SOD	Sediment oxygen demand
SPI	Sediment Profile Imaging
SRWEC–NYS	Sunrise Wind Export Cable – New York State Waters
SRWEC–OCS	Sunrise Wind Export Cable – Outer Continental Shelf

SRWF	Sunrise Wind Farm
Sunrise Wind	Sunrise Wind LLC
TJB	transition joint bay
WEA	Wind Energy Area
WTG	wind turbine generator

EXECUTIVE SUMMARY

The objective of these benthic assessment surveys was to provide data characterizing the physical and biological components of the benthic environment associated with the Sunrise Wind export cable route in New York State waters (SRWEC–NYS) and the Onshore Transmission Cable horizontal directional drilling (HDD) Route through the intracoastal waterway north of Fire Island, NY (ICW HDD). This study carefully considered all BOEM regulations and guidelines (BOEM 2019, 2020a, 2020b), NOAA Habitat's recommendations (NOAA Habitat 2020), NYS Seagrass Task Force Report (STF 2009), and NYSERDA's Offshore Wind Master Plan (NYSERDA 2017). The data from this study were collected and interpreted in consideration of these regulations and guidelines, as well as in consultation with state agencies, to assist Sunrise Wind in providing the best available information for review by state and federal regulators. Specifically, the physical sediment composition and the biological benthic components were assessed through Sediment Profile and Plan View Imaging (SPI/PV) analysis using the Coastal and Marine Ecological Classification Standard (CMECS) classifications in addition to other variables that aid in describing baseline conditions. Additionally, sediment grab samples were collected at a subset of stations and analyzed for benthic community composition and grain size. A total of 43 stations were surveyed, which included 35 SPI/PV stations along the SRWEC–NYS and 8 PV stations at the ICW HDD. Sediment grab samples were collected in triplicate at 18 of the stations along the SRWEC–NYS and 2 of the stations at the ICW HDD. Additionally, a video survey was conducted to document the presence and extent of any submerged aquatic vegetation (SAV) beds within 100 m of the ICW HDD route.

The benthic environment at all the stations along the SRWEC–NYS was characterized by soft-sediment. Specifically, three macrohabitat types were observed along the SRWEC–NYS as informed by the sediment composition (CMECS Substrate Subgroup) and inferred small-scale mobility (i.e., bedforms): *sand with ripples*, *sand*, and *sand and mud*. Although considered distinct, these three macrohabitats are similar in characteristics; specifically, all three consist of sandy sediments ranging from Very Fine Sand to Medium Sand (CMECS Substrate Subgroup) with no gravel. All three macrohabitats were characterized by the Biotic Subclass of Soft Sediment Fauna. The sediment grab samples collected along the SRWEC–NYS were overwhelmingly dominated by sand (>90%) with minor silt/clay and gravel. Small-scale mobility, as inferred from the presence of sand ripples in PV images, was more prevalent at the stations closer to shore. The soft sediment fauna communities along the SRWEC–NYS were generally inferred by the presence of small burrows, tubes, and tracks. Sand dollars, burrowing anemones (cerianthids), and tube-building polychaetes (*Diopatra* sp.) were frequently observed in the SPI and PV images along the SRWEC–NYS. Benthic community analysis of the sediment grab samples showed three taxa made up the majority of individuals observed across all replicates along the SRWEC–NYS: (1) the polychaete, *Polygordiidae* (Family) *Polygordius* (Genus, LPIL), (2) the polychaete *Capitellidae (*Family) *Mediomastus* (Genus, LPIL), and (3) the amphipod *Haustoriidae* (Family) *Protohaustorius wigleyi.* No sensitive taxa, species of concern, or non-native species were observed at any of the stations along the SRWEC–NYS.

The physical seabed and sediment composition at stations sampled in the ICW HDD were more variable than along the SRWEC–NYS. Three ICW HDD stations contained more than 5% cover of gravel and were classified with the CMECS Substrate Group of either Gravel Mixes or Gravelly. The remaining five ICW HDD stations were classified as Sand or Finer. No boulders or cobbles were observed in any replicate image in the ICW HDD. The sediment grab grain size analysis corroborated the Substrate Subgroup classifications of Sandy Gravel at the stations where grabs were collected (Stations 802 and 805); sediment grab replicates were composed mainly of sand mixed with approximately 20% gravel and a minor fraction of silt/clay. The variability in physical features across stations corresponded with the variability in Biotic Subclass designations. The Biotic Subclass of Attached Fauna occurred at stations composed of gravel (Stations 802, 805, and 808), and the mobile sand present at the other stations in the ICW HDD were classified with the Biotic Subclass of Soft Sediment Fauna. The benthic community analysis of the sediment grab replicates collected at Stations 802 and

805 revealed similar community composition between the two sites. Five taxa accounted for just over 60% of the total benthic infaunal abundance across all replicates at the ICW–HDD: (1) an oligochaete, *Naididae* (Family, LPIL), (2) the amphipod *Eobrolgus spinosus*, (3) the polychaete *Exogone dispar*, (4) the amphipod *Elasmopus levis,* and (5) the amphipod *Gammaropsis* (Genus, LPIL). No sensitive taxa, species of concern, or non-native species were observed at any of the stations in the ICW HDD.

The video survey aimed to document the presence and extent of SAV beds within 100 m of the ICW HDD. There were six observations of SAV, and specifically eelgrass (*Zostera marina*), all located on the north side of the channel. The density of the eelgrass was very low: a maximum of one to three shoots were observed within a single video frame. All eelgrass observations were within dense macroalgal beds and often the eelgrass shoots appeared to be uprooted and deposited within the macroalgal bed. SAV was not observed on the south side of the channel, despite an SAV bed being documented in this area previously (NYDOS 2020).

This benthic assessment resulted in sufficient information on the physical and biological properties of the benthic habitats along SRWEC–NYS and at the ICW HDD to fully characterize the baseline conditions of the benthic environment. Further, this baseline characterization approach meets the requirements associated with the development of offshore wind as outlined in the BOEM guidelines, NOAA Habitat's recommendations, NYS Seagrass Task Force, and NYSERDA's Offshore Wind Master Plan and was developed in consultation with NYS agencies.

1.0 INTRODUCTION

1.1 DESCRIPTION OF PROPOSED ACTION

Sunrise Wind LLC (Sunrise Wind), a 50/50 joint venture between Orsted North America Inc. (Orsted NA) and Eversource Investment LLC (Eversource), proposes to construct, own, and operate the Sunrise Wind Farm Project (the Project). The wind farm portion of the Project (i.e., the Sunrise Wind Farm [SRWF]) will be located on the Outer Continental Shelf (OCS). The SRWF is approximately 18.9 statute miles (mi) (16.4 nautical miles [nm], 30.4 kilometers [km]) south of Martha's Vineyard, Massachusetts, and approximately 30.5 mi (26.5 nm, 48.1 km) east of Montauk, New York (NY) (Figure 1.1-1).

Other components of the Project will be located on the OCS, in state waters of New York, and onshore in the Town of Brookhaven, Long Island, New York. The proposed interconnection location for the Project is the Holbrook Substation, which is owned and operated by Long Island Power Authority (LIPA).

Project components within New York State include the following:

- Onshore Facilities:
    - Onshore Transmission Cable, Transition Joint Bays (TJBs) and concrete and/or direct buried joint bays and associated components;
    - Onshore Interconnection Cable;
    - Fiber Optic Cable co-located with the Onshore Transmission and Onshore Interconnection Cables; and
    - One Onshore Converter Station (OnCS–DC).
    - one direct current (DC) submarine export cable bundle comprised of two cables located within a 6.2-mi (10-km)-long corridor in New York State (NYS) waters (Sunrise Wind Export Cable [SRWEC–NYS]).

The Landfall for the SRWEC–NYS will occur at Smith Point County Park, and three potential approaches for the associated horizontal directional drill (HDD) are being considered due to the presence of an existing telecommunications cable in proximity to the landfall location. The Onshore Transmission Cable crosses the Long Island Intracoastal Waterway (ICW) (i.e., the inlet between Bellport Bay and Narrow Bay) from Smith Point County Park to Smith Point Marina and will also be installed via HDD. This is referenced in this report as the "ICW HDD".

This technical report provides a detailed assessment of benthic resources within state waters of New York that may be affected by implementation of the Project. Specifically, the data reported here were collected at stations along the cable corridor for the SRWEC–NYS (6.2-mi [10 km]) located within state waters of New York and along areas adjacent to the ICW HDD (2,660 ft (811 m).

1.2 BENTHIC ASSESSMENT BACKGROUND

INSPIRE Environmental (INSPIRE) was subcontracted by Stantec to conduct Sediment Profile and Plan View Imaging (SPI/PV) surveys to characterize the benthic environment associated with the proposed Project. These surveys provide Sunrise Wind with data to address the Bureau of Ocean Energy Management (BOEM's) regulations and guidelines for the proposed development of all offshore wind projects in US federal waters (BOEM 2019, 2020a, 2020b), and the National Oceanic and Atmospheric Association (NOAA) Habitat's recommendations for mapping fish habitat (NOAA Habitat 2020), while also considering the NYS Seagrass Task Force (STF) Report (STF, 2009), and the New York State Energy Research and Development Authority (NYSERDA)'s Offshore Wind Master Plan (NYSERDA 2017).

During initial Project planning, a Benthic Survey Protocol document was prepared and submitted to federal and state agencies for review in November 2019. Two meetings were held in December 2019 with representatives from BOEM, the National Oceanic and Atmospheric Association (NOAA), National Parks Service, New York State Department of Environmental Conservation (NYSDEC), New York State Energy Research and Development Authority (NYSERDA), New York Department of State (NYSDOS), Massachusetts Division of Marine Fisheries (MADMF), Massachusetts Office of Coastal Zone Management (MACZM), Rhode Island Department of Environmental Management (RIDEM), and Rhode Island Coastal Resources Management Council (RICRMC) to discuss survey logistics, field techniques and equipment, data acquisition systems, parameters to be measured, data processing, analysis and interpretation, and report format. Comments and discussion points generated from that meeting were incorporated into a revised version of the Benthic Survey Protocol and provided to agencies in January 2020. Additional written comments received in January and February 2020 from NYSDEC, NOAA, MADMF, and NYSDOS were incorporated into the Benthic Survey Protocol and an additional revised version was provided to agencies in April 2020.

During April and May 2020, INSPIRE collected SPI and PV images offshore within the SRWF, along the portion of the SRWEC located on the OCS (SRWEC–OCS), as well as at reference areas. These data were provided in a separate report (INSPIRE 2020) and preliminary results were shared with federal and state agencies during a webinar in July 2020. During the webinar, the proposed plans for sampling the SRWF (video), the SRWEC–NYS (SPI/PV, sediment grabs), and the ICW HDD (PV, sediment grabs, video) were discussed. In August 2020, the SRWF video survey was conducted to further delineate complex bottom observed during geophysical surveys and the SPI/PV survey (INSPIRE 2020); data from this SRWF video survey will be used to inform future habitat mapping efforts. In August 2020, INSPIRE collected SPI and PV images and sediment grab samples at stations along the export cable located within the state waters in New York (SRWEC–NYS). In September 2020, INSPIRE collected PV images, sediment grab samples, and underwater video footage within the ICW HDD survey area. Analysis of the SPI/PV, sediment grabs, and video data provided information about surface sediments and benthic habitats in the proposed construction areas to support the benthic habitat assessment and for ground-truthing of geophysical and geotechnical (G&G) data. Preliminary results from the SRWEC–NYS and ICW HDD surveys were shared with federal and state agencies during a webinar in October 2020. This document reports physical and biological parameters obtained from SPI/PV imagery, grain size and benthic community analysis results from sediment grab samples collected at a subset of stations, as well as results from underwater video analysis within the ICW focusing on the detection of submerged aquatic vegetation (SAV).

SPI/PV imagery is a proven technique to document baseline benthic conditions (physical and biological) as well as any pre-existing pollution or other environmental damage (Germano et al. 2011). This approach can accurately detect and document potential changes in shallow (21 centimeters [cm]) sediment profiles resulting from exploration, construction, operations and maintenance, or decommissioning activities. The imagery is well-suited to inform constituents and stakeholders of baseline and post-construction/operation conditions given its visual photographic format. These capabilities allow the SPI/PV survey to provide fine-scale ground-truthing of G&G survey data. The value in using SPI/PV imaging to assess the benthic habitat within the context of offshore wind development was exemplified by the acceptance of this technique, with no need for benthic community analysis using traditional grab methods, by BOEM and NOAA Habitat. However, to accommodate suggestions by NYS agencies, sediment grab samples were collected within the NYS waters' portion of the Project, which were analyzed for grain size and benthic community.

1.3 OBJECTIVES

The purpose of the benthic surveys was to provide data to assess benthic habitats and communities, and to characterize surficial sediments that can be used to ground-truth interpreted G&G data collected independently

from these surveys. Results from the SPI/PV surveys provide information to support project planning as well as federal and state permitting efforts. Pursuant to several BOEM guidelines, the Coastal and Marine Ecological Classification Standard (CMECS) (Federal Geographic Data Committee [FGDC] 2012) was used to classify dominant biotic categories and to classify surficial sediments and associated fauna (BOEM 2019, 2020a). CMECS is a useful standardized classification system to characterize environments and allows seamless comparisons across studies (FGDC 2012). In addition to CMECS variables, CMECS modifiers are variables that provide additional descriptive information characterizing the physical and biological components of an environment. For example, for these SPI/PV surveys, descriptive information such as successional stage and the epifauna types present are considered CMECS modifiers.

The variables collected as part of this survey program, including the SPI and PV parameters and sediment grab grain size and benthic community analysis (BCA), correspond to BOEM benthic habitat guidelines (BOEM 2019) and NOAA Habitat recommendations (NOAA Habitat 2020) (Table 1.3-1). As such, these data contributed to the completion of the Construction and Operations Plan (COP) and Article VII documentation in satisfaction of the regulatory guidelines and recommendations. Additionally, a higher density of stations, relative to the BOEM guidelines, was sampled within NYS waters to meet recommendations provided by NYS agencies during review of the benthic survey protocol.

The specific objectives of the surveys were to:

- Characterize and delineate benthic habitats
    - Characterization of benthic habitat attributes (SPI/PV)
    - Identification of dominant benthic macrofaunal and macrofloral communities classified using the CMECS Biotic Component to the lowest taxonomic unit practicable (PV)
    - Characterization of benthic community composition visible in SPI and PV images
    - Characterization of the benthic community composition of the sediment grab samples
    - Characterization of physical hydrodynamics (SPI/PV)
    - Identification of sensitive taxa (SPI/PV)
    - Identification of non-native taxa (SPI/PV)
    - Detection of the presence and spatial extent of SAV along the planned ICW HDD corridor north of Fire Island (video transects)

- Identify surficial seafloor conditions
    - Identification/confirmation of rock outcrops and boulders (PV)
    - Identification of bedforms (PV)
    - Identification of distinct horizons in subsurface sediments (SPI)
    - Identification of notable features such as corals, gas seepage, silt/clay, sand, gravel, cobbles, rock, and hardground with very dense or consolidated sediments (SPI/PV)
    - Classification of surface sediment composition to the CMECS Substrate Group and Subgroup levels (PV and SPI)
    - Classification of grain size major mode, expressed in phi units of the Udden-Wentworth classification system (SPI)
    - Analysis of sediment grain size (sediment grab samples)

- Identify potentially sensitive seafloor habitats, such as corals, SAV beds, and ecologically valuable cobble and boulder habitat (BOEM 2019). Cobble and boulder habitat can serve as nursery ground for juvenile lobster and as preferred habitat for squid to deposit their eggs. Both lobster and squid are specific in their habitat requirements and are also economically important species in New England. SAV beds are designated as habitat areas of particular concern for summer flounder in this region. For

these reasons, federal and state agencies consider evidence of these taxa to indicate potentially sensitive habitats.

- Establish a pre-construction baseline that may be used to assess whether detectable changes occur in post-construction benthic habitats associated with proposed operations.

Table 1.3-1. SPI and PV Survey Parameters with Corresponding BOEM Guidelines for Providing Benthic Habitat Survey Information (30 CFR Part 585, BOEM 2019) and NOAA Recommendations for Mapping Fish Habitat (NOAA Habitat 2020)

Table 1.3-1			
BOEM Guidelines and *NOAA*† *Recommendations*	**Parameters Derived from PV Images**	**Parameters Derived from SPI Images**	**Parameters Derived from Sediment Grab Sample Analyses**
Classification of CMECS sediment type Grain size analysis	CMECS Substrate Group CMECS Substrate Subgroup Gravel measurements	Sediment type (based on grain size major mode)	Grain size analysis
Identification of distinct horizons in subsurface sediment	None	Sediment type (based on grain size major mode) Apparent Redox Potential Discontinuity (aRPD)*	None
Delineate hard bottom substrates	CMECS Substrate Group CMECS Substrate Subgroup Gravel measurements	Sediment type (based on grain size major mode)	None
Identification of bedforms Characterization of physical hydrodynamic properties	Bedform type Sediment Descriptor (e.g., mobile or non-mobile)*	Boundary roughness	None
Identification of rock outcrops and boulders Characterization and delineation of any hard bottom gradients of low to high relief such as coral (heads/reefs), rock or clay outcroppings, or other shelter-forming features	CMECS Substrate Group CMECS Substrate Subgroup Gravel measurements	None	None
Characterization of benthic habitat attributes	Gravel measurements Sediment Descriptor* Habitat type	aRPD* Prism penetration depth Sediment oxygen demand and proxies (methane, *Beggiatoa* [bacteria])	Grain size analysis

Table 1.3-1

BOEM Guidelines and *NOAA*† *Recommendations*	**Parameters Derived from PV Images**	**Parameters Derived from SPI Images**	**Parameters Derived from Sediment Grab Sample Analyses**
Classification to CMECS Biotic Component to lowest taxonomic unit practicable	CMECS Dominant Biotic Subclass CMECS Co-occurring Biotic Subclass	None	Benthic community analysis (infauna)
Characterization of benthic community composition (identify and confirm benthic species [flora and fauna] that inhabit the area) Identification of communities of sessile and slow-moving marine invertebrates (clams, quahogs, mussels, polychaetes, anemones, sponges, echinoderms) *Identification of potentially sensitive seafloor habitat* *Identification of important biogenic habitats:* • *Hard bottom substrates with epifauna* • *Hard bottom substrates with macroalgae* • *Submerged aquatic vegetation (seagrass)* • *Long-lived and habitat forming taxa (e.g., emergent fauna)*	CMECS Dominant Biotic Subclass CMECS Co-occurring Biotic Subclass Epifauna* Sensitive taxa Attached Flora/Fauna Percent Cover* Burrows/Tubes/Tracks Habitat type	Epifauna* Sensitive taxa Tubes/Voids Successional Stage*	Benthic Community Analysis (infauna)

† NOAA Recommendations are indicated by use of italicized characters and support BOEM Guidelines with further detail.
* Indicates variable that is a CMECS modifier. CMECS modifiers provide additional detail to further characterize habitat components using a consistent set of definitions.

2.0 SITE SPECIFIC SURVEY METHODOLOGY

2.1 SEDIMENT PROFILE AND PLAN VIEW IMAGE COLLECTION

SPI/PV imaging is a monitoring technique used to provide data describing the physical characteristics of the seafloor and the benthic biological community (Germano et al. 2011). SPI/PV imaging is a powerful reconnaissance tool that can efficiently map gradients in sediment type, biological communities, and disturbances from physical forces. As an observational approach, SPI/PV data are a snapshot in time and space of the benthic environment, and through interpretation and analysis can provide information on the dynamic processes that shape the physical and biological characteristics of the seafloor; these interpretations should be considered hypotheses available for further testing/confirmation.

All stations along the SRWEC–NYS (every 1,000 ft [305 m] per NYS recommendation) were sampled August 12-19, 2020 during 24-hour operations aboard the *Northstar Challenger* out of New Bedford, Massachusetts (Figure 2.1-1). All stations within the vicinity of the ICW HDD were sampled September 7-9, 2020 aboard the *Red Wing* out of Mastic Beach, New York (Figure 2.1-2). Data obtained from SPI/PV image analysis and sediment grab sample benthic community and grain size analyses from these SRWEC–NYS and ICW HDD stations are reported here. Results from the offshore stations sampled along the SRWEC–OCS and at the SRWF, were presented in a separate report (INSPIRE 2020).

SPI/PV station locations from the SRWEC–NYS survey and PV station locations from the ICW HDD survey are provided in Attachment A. The methodology for data acquisition and analysis for these images was consistent with the sampling methods described in detail in INSPIRE's standard operating procedures (INSPIRE 2019) and summarized below. The SPI/PV field logs from both surveys are provided in Attachment B.

2.1.1 Sediment Profile Imaging

The SPI technique involves deploying an underwater camera system to photograph a cross-section of the sediment–water interface. High-resolution SPI were acquired using a Nikon® D7200 digital single-lens reflex (DSLR) camera mounted inside an Ocean Imaging® Model 3731 pressure housing. The pressure housing sat atop a wedge-shaped steel prism with a plexiglass front faceplate and a back mirror, that was mounted at a 45° angle. The camera lens looked down at the mirror, which reflected the image from the faceplate. The prism had an internal strobe mounted inside at the back of the wedge to provide illumination for the image; this chamber was filled with distilled water, so the camera always had an optically clear path. The descent of the prism into the sediment was controlled by a hydraulic piston. As the prism penetrated the seafloor, a trigger activated a time-delayed circuit that fired the internal strobe to obtain a cross-sectional image of the upper sediment column (Figure 2.1-3). The camera remained on the seafloor for approximately 20 seconds to ensure that successful images were obtained.

Test exposures of a Color Calibration Target were made on deck at the beginning of the survey to verify that all internal electronic systems were working to design specifications and to provide a color standard against which final images could be checked for proper white balance. Test images were also captured to confirm proper camera settings for site conditions. For the SRWEC–NYS stations, the SPI camera ISO-equivalent was set at 640, shutter speed was 1/250s, and the f-stop was f11. Images were stored in compressed raw Nikon Electronic Format (NEF) files (approximately 30 megabytes [MB] each). Images were checked periodically throughout the survey to confirm that the initial camera settings were still resulting in the highest quality images possible. All camera settings and any setting changes were recorded in the field logs (Attachment B). Details of the camera settings for each digital image are also available in the associated parameters file embedded in each electronic image file.

When the camera was brought back on board after each station, the frame counter was checked to ensure that the requisite number of replicates had been obtained. In addition, a prism penetration depth indicator on the camera frame was checked to verify that the optical prism had penetrated the bottom to a sufficient depth. If images were missed or the penetration depth was insufficient, the camera frame stop collars were adjusted and/or weights were added or removed, and additional replicate images were taken. Frame counts, time of image acquisition, water depth, frame stop-collar position, and the number of weights used were recorded in the field logs for each replicate image (Attachment B). Visual checks and hand tightening checks of all nuts and bolts on the SPI/PV camera frame were conducted periodically to make sure nothing vibrated loose during the survey.

Prior to field operations, the internal clock in the digital SPI system was synchronized with the vessel's navigation. Each image was assigned a unique time stamp in the digital file attributes by the camera's data logger and cross-checked with the time stamp in the navigational system's computer data file. Digital image files were renamed with the appropriate station names immediately after downloading as a further quality assurance step.

2.1.2 Plan View Imaging

An Ocean Imaging® Model DSC24000 plan view underwater camera system with two Ocean Imaging® Model 400-37 Deep Sea Scaling lasers was attached to the sediment profile camera frame and used to collect plan view images of the seafloor surface. Both SPI and PV images were collected during each "drop" of the system, or just PV samples in the case of the ICW HDD survey. SPI was not collected during the ICW HDD survey so as to minimize any potential disturbance to sensitive benthic habitats (i.e., SAV beds). The PV system consisted of a Nikon® D7200 DSLR camera encased in a pressure housing, a 24 VDC autonomous power pack, a 500 W strobe, and a bounce trigger. A weight was attached to the bounce trigger with a stainless-steel cable so that the weight hung below the camera frame; the scaling lasers projected two red dots that were separated by a constant distance (26 cm) regardless of the field-of-view of the PV system. The field-of-view can be varied by increasing or decreasing the length of the trigger wire and, thereby, the camera height above the bottom when the picture is taken. As the SPI/PV camera system was lowered to the seafloor, the weight attached to the bounce trigger contacted the seafloor prior to the camera frame reaching the seafloor and triggered the PV camera (Figure 2.1-3).

During set-up and testing of the PV camera, the positions of lasers on the PV camera were checked and calibrated to ensure separation of 26 cm. Test images were also captured to confirm proper camera settings for site conditions. For both the SRWEC–NYS and ICW HDD surveys, the PV camera ISO-equivalent was set at 640, shutter speed was 1/15s and the f-stop was f18. Images were stored in compressed raw NEF files (approximately 30 MB each). Images were checked periodically throughout the surveys to confirm that the initial camera settings were still resulting in the highest quality images possible. All camera settings and any setting changes were recorded in the field logs (Attachment B). Details of the camera settings for each digital image also are available in the associated parameters file embedded in each electronic image file.

Prior to field operations, the internal clock in the digital PV system was synchronized with the vessel's navigation system and the SPI camera. Each image was assigned a unique time stamp in the digital file attributes by the camera's data logger and cross-checked with the time stamp in the navigational system's computer data file. In addition, the field crew kept redundant field logs (Attachment B). Throughout the surveys, PV images were downloaded at the same time as SPI and were evaluated for successful image acquisition and image clarity. Digital image files were renamed with the appropriate station names immediately after downloading as a further quality assurance step.

The ability of the PV system to collect usable images is dependent on the clarity of the water column. Water conditions during the SRWEC–NYS survey allowed use of a 21.8-inch (0.55-m) trigger wire, resulting in a mean

image width of 0.6 m and a mean field-of-view of 0.24 m^2. Water conditions during the ICW HDD survey allowed use of a 24-inch (0.6-m) trigger wire. Due to a combination of water column turbidity and high natural light levels in these shallow waters, the PV lasers were not visible in any of the images collected during the ICW HDD survey and thus, the field-of-view could not be calculated.

2.1.3 SPI/PV Data Collection

Navigational data was collected in the same manner for both the SRWEC–NYS and ICW HDD surveys. Navigation software was used for positional data acquisition and navigating the vessels to sampling stations. When the vessel was within a 25-ft (7.5-m) radius of the target location, the camera system was lowered to the seafloor. During the SRWEC–NYS survey, the navigator electronically recorded the vessel's position and water depth when the SPI camera contacted the seafloor and the winch wire went slack. During the ICW HDD survey, where SPI were not collected, the navigator electronically recorded the vessel's position when the PV camera was deployed.

At least four replicate SPI/PV samples, or just PV samples in the case of the ICW HDD survey, were taken at each station. Each replicate camera position was recorded, time stamped, and linked to the SPI/PV logs by station number and replicate. During sampling, the vessel position was electronically recorded by the navigator. At the time of sample acquisition, the time, station name and replicate were recorded in the field logs (Attachment B). The three replicate images with the best quality (adequate prism penetration, no or minimal sampling artifacts) at each station were selected for analysis. Based on quality, Station 434 did not have any PV images that were suitable for analysis, Stations 426 and 433 each had one acceptable replicate PV image, and Station 429 had two acceptable replicate PV images (Figure 2.1-1).

2.1.4 Image Conversion and Calibration

Following completion of field operations, quality control checks were conducted of filenames, date/time stamps, and the field log. After these procedures, the NEF raw image files were color calibrated in Adobe Camera Raw® by synchronizing the raw color profiles to the Color Calibration Target that was photographed prior to field operations with the SPI camera. The raw SPI and PV images were then converted to high-resolution Photoshop Document (PSD) format files, using a lossless conversion file process and maintaining an Adobe RGB (1998) color profile. The PSD images were then calibrated and analyzed in Adobe Photoshop®. Length and area measurements were recorded as number of pixels and converted to scientific units using the calibration information.

2.2 SEDIMENT GRAB SAMPLE COLLECTION

Sediment grab samples were collected every 2,000 ft (610 m) (per NYS recommendation) along the SRWEC–NYS (18 total stations) and at two stations near the ICW HDD (Figures 2.1-1 and 2.1-2). Grabs were collected with a Ted Young Modified Van Veen grab sampler. When the sampler landed on the seafloor, an additional 0.5–1 m of cable was laid out to allow the grab sampler to close. The navigator recorded the position (electronically, Attachment A) and the grab was returned to the surface. Once onboard, field scientists examined the surface of the grab for acceptability, which included the following: the sampler was not over-filled, overlying water was present and not excessively turbid, and the penetration depth was ~ 7cm. Additional information was recorded on the sediment sample log form for each station, including time of collection, number of grab attempts, general visual description of the sediment, penetration depth, and any odor (Attachment C).

A 200-ml cylinder was used to collect a plug of sediment for grain size analysis. Then the remaining sediment was transferred to a collection bucket and the grab sampler was carefully rinsed to deposit any remaining sediment and organisms into the bucket. The contents of the bucket were sieved gently through a 0.5-mm

mesh sieve using filtered seawater. The sieve contents were gently rinsed into an appropriately sized, screw-top sample container (typically 500–1,000 mL). The jar was then filled with a solution of filtered seawater and 10% buffered formalin (4% formaldehyde). One teaspoon of borax was added to neutralize the slightly acidic formalin. The container was shaken gently to mix preservative and buffer thoroughly within the sample material. Upon return from the field, the preserved benthic infauna samples were shipped to Barry Vittor and Associates (Mobile, AL) for analysis and the sediment subsamples for grain size analysis were shipped to GeoTesting Express (Acton, MA).

2.3 TOWED VIDEO COLLECTION

A video sled that consisted of an Outland UWS-3510 video system on a custom fabricated sled (Figure 2.3-1) was employed to document any SAV within 100 m of the planned ICW HDD route. Towed video was deployed along 22 discrete transects during the ICW HDD survey (Figure 2.3-2). Transects were within the shallow areas flanking the channel between Bellport Bay and Narrow Bay. The towed video surveyed area included regions where eelgrass (*Zostera marina*) was expected, on the southern side of the channel where an SAV bed was previously reported, as well as the northern side of the channel where attached macroalgae was previously reported (NYDOS 2020) (Figure 2.3-2). The general approach for the SAV component of the survey followed the methodology described in Colarusso and Verkade (2016).

The Outland, a high-definition camera accompanied by LED lights and a scaling laser, was mounted on a towable frame and deployed from the vessel. Oriented with an oblique view, the camera, lights, and lasers worked together to provide brighter images with scaling capabilities to allow for real time observations and video recordings of the seafloor. The live video feed was transferred through an attached data cable and recorded on a hard disk drive located on the vessel. The video recorder overlaid date, time, and transect ID on the video.

The towable frame was deployed from the davit of the vessel. Once the towed frame was submerged, video data began recording. The live video was monitored on deck to ensure the towable frame did not contact the seafloor or disrupt any submerged vegetation. Field notes on transect start and end time and SAV observations were recorded in the logbook (Attachment A).

2.3.1 Video Collection Navigation

A Hemisphere vector V102 GPS compass was used to accurately record vessel heading as well as a differential position accuracy to within a meter. During mobilization, the navigator conducted a positional accuracy check on the system, by placing the antenna on a known GPS point and ensuring the antenna's position fell within a meter of the known coordinates. During operations, HYPACK Ultralite software was used to receive positional data and direct the vessel along pre-determined transects. Offsets from the antenna to the davit were applied.

During operations, constant navigational data were recorded to track the position of the towed video frame. This process allowed scientists to detect any SAV through high-definition video data and delineate the spatial extent of the SAV (if identified) through navigational data recording.

2.4 SPI/PV DATA ANALYSIS

SPI and PV images were analyzed using a set of standard computer-aided measurements to allow for comparisons among different areas of interest.

Measured parameters for SPI and PV images were recorded in Microsoft Excel© spreadsheets. These data were subsequently checked by INSPIRE's senior scientists as an independent quality assurance/quality control review before final interpretation was performed. Spatial distributions of SPI and PV parameters were mapped

using ESRI ArcGIS 10.7. Map backgrounds use a world-wide data layer called ESRI Oceans (Esri, Garmin, GEBCO, NOAA NGDC, and other contributors) to provide geospatial context.

2.4.1 Sediment Profile Image Analysis Parameters

The parameters discussed below were assessed and/or measured and recorded for each replicate SPI selected for analysis (Attachment D). Descriptive comments were also recorded for each. A depiction of standard variables derived from example SPI from soft bottom settings are provided in Figure 2.4-1.

2.4.1.1 Sediment Type

The sediment grain size major mode and range were visually estimated from the color images by overlaying a grain size comparator utilizing Udden-Wentworth sediment standards that was at the same scale and photographed through the SPI optical system. This comparison allows for grain sizes to be transformed into a sediment type for data presentation. This transformation was prepared by photographing a series of Udden-Wentworth size classes (equal to or less than coarse silt up to granule and larger sizes) with the SPI camera: silt/clay (>4 phi), very fine sand (4 to 3 phi), fine sand (3 to 2 phi), medium sand (2 to 1 phi), coarse sand (1 to 0 phi), very coarse sand (0 to -1 phi), and granule and larger (<-1 phi). The lower limit of optical resolution of the photographic system is about 62 microns, allowing recognition of grain sizes equal to, or greater than, coarse silt ($\geq$4 phi). The accuracy of this method has been documented by comparing SPI estimates with grain size statistics determined from laboratory sieve analyses (Marine Surveys 1984). The comparison of the SPI with Udden-Wentworth sediment standards photographed through the SPI optical system was also used to map near-surface stratigraphy such as sand-over-mud or mud-over-sand, where observed. When mapped on a local scale, this stratigraphy can provide information on relative transport magnitude and frequency.

2.4.1.2 Prism Penetration Depth

The SPI prism penetration depth was measured from the bottom of the image to the sediment–water interface. The area of the entire cross-sectional sedimentary portion of the image was digitized; the number of pixels within this area was divided by the calibrated linear width of the image to determine the mean penetration depth. Linear maximum and minimum depths of penetration were also measured. All three measurements (maximum, minimum, and mean penetration depths) were recorded in the data file.

Since the stop collar settings and the number of weights used in the camera frame were held constant for all stations, the depth to which the SPI prism penetrated the seafloor provided an indication of the sediment bearing capacity and shear strength. The penetration depth can range from a minimum of 0 cm (no penetration on hard substrata) to a maximum of 20 cm (full penetration of very soft substrata). Comparative penetration values from sites of similar grain size give an indication of the relative water content of the sediment. Highly bioturbated sediments and rapidly accumulating sediments tend to have higher water content and greater prism penetration depths.

2.4.1.3 Small-Scale Surface Boundary Roughness

Surface boundary roughness was determined by measuring the vertical distance between the highest and lowest points of the sediment–water interface. The camera must be level to record accurate boundary roughness measurements. The surface boundary roughness (sediment surface relief) measured over the width of sediment profile images typically ranges from 0 to 4 cm and may be related to either physical structures (ripples) or biogenic features (burrow openings, fecal mounds, foraging depressions). Biogenic roughness typically changes seasonally and is related to the interaction of bottom turbulence and bioturbation. In sandy sediments, boundary roughness can be a measure of sand wave height. On silt/clay bottoms, boundary roughness values often reflect biogenic features such as fecal mounds or surface burrows. The size and scale of boundary roughness values can have dramatic effects on both sediment erodibility and localized oxygen penetration into subsurface sediments (Huettel et al. 1996).

2.4.1.4 Apparent Redox Potential Discontinuity Depth

Oxic near-surface marine sediments typically have higher reflectance relative to underlying hypoxic or anoxic sediments. Surface sands washed free of mud also have higher optical reflectance than underlying muddy sands. Oxidized surface sediments contain particles coated with ferric hydroxide (an olive or tan color when associated with particles) while reduced and muddy sediments below this oxygenated layer are darker, generally gray to black (Fenchel 1969; Lyle 1983; Sturdivant and Shimizu 2017). These differences in optical reflectance are visible in SPI. The boundary between colored ferric hydroxide surface sediments and underlying gray to black sediments is called the apparent redox potential discontinuity (aRPD) (Figure 2.4-1). The aRPD is described as "apparent" because of the potential discrepancy between where the sediment color shifts and the complete depletion of dissolved oxygen concentration occurs due to the lag time between when the redox potential (Eh) reaches 0 millivolts (mV) and the precipitation of darker sulfidic sediments (Jorgensen and Fenchel 1974). However, the mean aRPD measured in SPI is a suitable proxy for the RPD with the depth of the actual Eh = 0 horizon generally either equal to or slightly shallower than the depth of the optical reflectance boundary (Rosenberg et al. 2001; Simone and Grant 2017). Factors that influence the depth of the aRPD include biological processes (e.g., respiration, bioturbation) and physical processes (e.g., advection, diffusion, local erosion). Scouring can wash away fines and shell or gravel deposits and can result in a very thin surface oxidized layer. During storm periods, erosion may completely remove any evidence of the aRPD (Fredette et al. 1988).

In sandy sediments that have very low sediment oxygen demand (SOD), the sediment may lack a visibly reduced layer even if an aRPD is present. Because the determination of the aRPD requires discrimination of optical contrast between oxidized and reduced particles, it is difficult, if not impossible, to determine the depth of the aRPD in well-sorted sands of any size that have little to no silt or organic matter in them. When using SPI technology on sand bottoms, estimates of the mean aRPD depths are often indeterminate with conventional white light photography.

2.4.1.5 Sediment Oxygen Demand Proxies

SOD represents the overall rate of oxygen consumption, biologically and chemically, in the sediments. The relative amount of organic enrichment is indicated by sediment color; darker coloration indicates more reduced sediments with greater organic loading and higher SOD (Fenchel 1969; Rhoads 1974; Lyle 1983; Bull and Williamson 2001; Sturdivant and Shimizu 2017). SOD levels (i.e., none, low, medium, and high) were assessed for all images. Under high organic matter loading and subsequently high SOD, microbial sulfate reduction proceeds and may completely deplete porewater sulfate concentrations. Under these conditions, methanogenesis can occur, leading to methane bubbles in the sediment column. In SPI, methane appears as irregular shaped gas-filled voids with a glassy texture (due to the reflection of the strobe off the gas bubble). Any presence of methane was noted. Similarly, under highly reduced anoxic conditions, *Beggiatoa* bacteria may be present. These bacterial colonies have diagnostic morphology that has been documented in numerous other sediment profile imaging surveys (Nilsson and Rosenberg 1997; Rosenberg et al. 2001; Karakassis et al. 2002; Germano et al. 2011). Although unlikely to be present in NYS sediments, if encountered, *Beggiatoa* or *Beggiatoa*-like colonies were noted. SOD is a CMECS modifier, adding detail and informing CMECS classifications.

2.4.2 Plan View Image Analysis Parameters

PV images record conditions at the seafloor surface in a downward-looking orientation. They provide a larger field-of-view than SPI along with valuable information about the landscape ecology and sediment topography in the area where the pinpoint "optical core" of the sediment profile was taken (Figure 2.4-2). The parameters discussed below were assessed and/or measured and recorded for each replicate PV image selected for analysis (Attachment E). Descriptive comments were also recorded for each replicate PV image.

2.4.2.1 Field-of-View

The field-of-view area was measured using the scale information provided by the underwater lasers (i.e., the measurement between two laser points with a known distance). Scaling allows accurate measurements of sediment grain sizes, density counts of attached epifaunal colonies, sediment burrow openings, and/or larger macrofauna or fish. The laser points may not be visible in images with high turbidity.

2.4.2.2 Boulders

The CMECS size definition of boulders was utilized for this survey: gravel larger than 256 mm. Sensitive taxa and attached fauna (e.g., sponges, hydroids, barnacles) are often associated with boulders. Further, the presence of boulders in mixed bottom types has been noted as an important feature for understanding the distribution of soft and hard non reef-building corals in the region of the SRWEC–NYS. The presence/absence of boulders in each replicate was noted.

2.4.2.3 Bedforms

Seafloor bedforms are indicative of seafloor hydrodynamics and are physical features visible on the surface of the seafloor. These features can give an indication of the physical energy of the system (ripples) or of biotic activity (feeding pits). Sediment bedforms such as sand waves, sand bars, and ripples develop as a response of the seafloor to hydrodynamic conditions. For example, short wavelength sediment ripples indicate mobile sands and active bedload transport. In contrast, soft silt/clay sediments often lack surficial bedforms and indicate quiescent depositional environments. The view of the seafloor provided in the PV images was <1 m^2, the scope of this view limits the ability to distinguish bedforms that exist over larger scales (e.g., sand waves or dunes). Bedforms, where present, were noted in each replicate PV image.

2.4.3 Parameters Obtained Using Both SPI and PV Image Analysis

The parameters discussed below were assessed and/or measured and recorded for each replicate SPI and PV pair selected for analysis (Attachments D and E).

2.4.3.1 Infaunal Successional Stage

The classification of infaunal successional stages is readily accomplished with SPI/PV technology. Infaunal successional stage is a measure of the biological community inhabiting the seafloor. Organism–sediment interactions in fine-grained sediments follow a predictable sequence of development after a major disturbance (e.g., dredged material disposal) (Pearson and Rosenberg 1978; Rhoads and Germano 1982; Rhoads and Boyer 1982). This continuum is divided subjectively into four stages: Stage 0, indicative of a sediment column that is largely devoid of macrofauna, occurs immediately following a physical disturbance or in close proximity to an organic enrichment source; Stage 1 is the initial recolonizing of tiny, densely populated polychaete assemblages; Stage 2 is the start of the transition to head-down deposit feeders; and Stage 3 is the mature, equilibrium community of deep-dwelling, head-down deposit feeders (Figure 2.4-3).

Various combinations of these basic successional stages are possible. For example, secondary succession can occur (Horn 1974) in response to additional labile carbon input to surface sediments, with surface-dwelling Stage 1 or 2 organisms coexisting at the same time and place with Stage 3, resulting in the assignment of a “Stage 1 on 3” or “Stage 2 on 3” designation. If both Stage 1 and Stage 2 organisms exist in an image with Stage 3 fauna, the Stage 1 on 3 designation is used because it is more important to denote the presence of recruiting organisms than intermediate Stage 2 fauna. In addition, intermediate stages (1->2 and 2->3) exist when limited evidence of a more advanced stage is documented alongside an earlier stage. For example, a Stage 2->3 designation might be assigned to an image where Stage 2 tubes have been documented overlaying a very deep aRPD, which suggests that deep-dwelling, head-down deposit feeders are likely to exist in that area and were not captured in that particular SPI replicate.

While the successional dynamics of invertebrate communities in fine-grained sediments have been well documented, the successional dynamics of invertebrate communities in sand and coarser sediments are not well known. Consequently, the insights gained from SPI/PV technology regarding biological community structure and dynamics in sandy and coarse-grained bottoms are limited. Successional stage was assigned by assessing the types of infauna and related activities (e.g., feeding voids) apparent in both the SPI and PV images. Successional stage is a CMECS modifier, adding detail and informing CMECS classifications.

2.4.3.2 Fauna and Flora Presence

Where visible in the SPI and/or PV images, flora and fauna were identified to the lowest possible taxonomic grouping. The inferred presence of fauna was identified through observations of burrows, tubes, tracks, foraging pits, and fecal casts. The presence of surficial tubes and deep voids were also noted. Fauna were grouped into several categories: fish, soft sediment infauna, sessile epifauna, mobile epifauna, sensitive taxa, and non-native taxa. Epifauna taxa is a CMECS modifier (Associated Taxa), adding detail to the CMECS classifications. Where attached flora and fauna were present in PV images, the percent coverage of the image was estimated using the CMECS Percent Cover Modifier (FGDC 2012).

2.4.3.3 CMECS Substrate Group and Subgroup

CMECS Substrate Groups, Substrate Subgroups, and Biotic Subclasses observed during these analyses within the context of broader level CMECS classifications (e.g., CMECS Origin, CMECS Subclass) is summarized below (Table 2.4-1). Substrate[1] is defined in CMECS as the non-living materials that form an aquatic bottom or seafloor or that provide a surface (e.g., floating objects, buoys) for growth by attached biota. Substrate may be composed of any substance, natural or manmade. Describing the composition of the substrate is a fundamental part of any ecological classification scheme. Substrate provides context and setting for many aquatic processes and it provides living space for benthic and attached biota. The Substrate Component is a characterization of the composition and particle size of the surface layers of the substrate; this component is designed to be compatible with a range of sampling tools (FGDC 2012).

Detailed definitions of all possible substrate classifications can be found in the CMECS document (FGDC 2012); only the substrate classifications observed in this survey are presented here. Where gravels were present, the dominant grain size was measured; the diameter in millimeters was calculated and translated to a gravel type according to the Wentworth scale (Wentworth 1922). PV images were assigned one of four Substrate Groups: Gravel, Gravel Mixes, Gravelly, and Sand or Finer. Subsequently, each PV image was assigned one of the following Substrate Subgroups, nested hierarchically within the Groups (Figure 2.4-4).

- Gravel:
    - Boulder - Geologic Substrate contains >80% Gravel, with predominant Gravel size range of 256 mm to <4,096 mm.
    - Cobble - Geologic Substrate contains >80% Gravel, with predominant Gravel size range of 64 mm to <256 mm.
    - Pebble - Geologic Substrate contains >80% Gravel, with predominant Gravel size range of 4 mm to <64 mm.
    - Granule - Geologic Substrate contains >80% Gravel, with predominant Gravel size range of 2 mm to <4 mm.
- Gravel Mixes:
    - Sandy Gravel - Geologic Substrate is 30% to <80% Gravel, with Sand composing 90% or more of the remaining Sand-Mud mix.

[1] CMECS uses the term ‘substrate’ for both a geological substratum (a layer of sediment or rock) and for biological or anthropogenic substrates (solid surfaces on which plants or animals grow). For CMECS descriptions we adopt this convention, but for SPI descriptions of sediments we use the geological term, i.e., substratum.

  - Mixed Sediment – Geologic Substrate is 5% to <80% Gravel, and the remaining Sand-Mud mix is <90% Sand
- Gravelly:
  - Gravelly Sand - Geologic Substrate is 5% to <30% Gravel, and the remaining Sand-Mud mix is 90% or more Sand.
- Sand or Finer – geologic substrate is <5% Gravel, grain size major mode obtained from SPI of surficial sediments (see Section 2.4.1.1 for size classification descriptions) was used to decipher the following Subgroups within this Group:
  - Very Coarse Sand
  - Coarse Sand
  - Medium Sand
  - Fine Sand
  - Very Fine Sand
  - Silt/Clay

2.4.3.4 CMECS Biotic Subclass

The Biotic Component of CMECS is a classification of the living organisms of the seabed and water column together with their physical associations at a variety of spatial scales. The Biotic Component is organized into a branched hierarchy of five nested levels: Biotic Setting, Biotic Class, Biotic Subclass, Biotic Group, and Biotic Community. Biotic Component classifications are defined by the dominance of life forms, taxa, or other classifiers in the observation. In the case of PV images, dominance is assigned to the taxa with the greatest percent cover in the observational footprint (FGDC 2012).

The Biotic Subclass is a key CMECS classifier that presents valuable information about the surveyed area in terms of physical habitat and the potential presence of sensitive taxa; therefore, it was identified as a parameter for PV image analysis. Biotic Subclasses describe dominant biota at a coarse level, and, to provide additional information, a Co-occurring Biotic Subclass was designated as any secondarily dominant (by percent cover) Biotic Subclass. The Biotic Component Setting most applicable to all data reported here is the Benthic/Attached Biota. Within the Benthic/Attached Biota setting, there are eight classes, of which the Faunal Bed class is of most relevance to the SRWEC–NYS and ICW HDD. Three subclasses fall under the Faunal Bed hierarchy: Attached Fauna, Soft Sediment Fauna, and Inferred Fauna. Inferred Fauna (e.g., tracks and trails, egg masses) are often present, but in this study, were primarily used to inform or confirm the selection of either the Attached or Soft Sediment Fauna subclass. Although the Biotic Subclass is not directly based on sediment grain size distributions, it reflects them at the scale of relevance to the dominant fauna present, thus serving as an integrator of physical and biological characteristics of the seafloor. CMECS expressly states that “substrate type is such a defining aspect of the Faunal Bed class that CMECS Faunal Bed subclasses are assigned as physical-biological associations involving both biota and substrate (FGDC 2012).”

PV images were assigned one of the following Biotic Subclasses, under the Faunal Bed hierarchy (definitions from FGDC 2012):

- Attached Fauna – “Areas characterized by rock substrates, gravel substrates, other hard substrates, or mixed substrates that are dominated by fauna which maintain contact with the substrate surface, including firmly attached, crawling, resting, interstitial, or clinging fauna. Fauna may be found on, between, or under rocks or other hard substrates or substrate mixes. These fauna use pedal discs, cement, byssal threads, feet, claws, appendages, spines, suction, negative density, or other means to stay in contact with the (generally) hard substrate, and may or may not be capable of slow movement over the substrate. Many attached fauna are suspension feeders and feed from the water column.

Other attached fauna are benthic feeders, including herbivores, predators, detritivores, and omnivores."

- Soft Sediment Fauna – "Areas that are characterized by fine unconsolidated substrates (sand, mud) and that are dominated in percent cover or in estimated biomass by infauna, sessile epifauna, mobile epifauna, mobile fauna that create semi-permanent burrows as homes, or by structures or evidence associated with these fauna (e.g., tilefish burrows, lobster burrows). These animals may tunnel freely within the sediment or embed themselves wholly or partially in the sediment. In many cases, they will regularly leave their burrows, and may move rapidly or swim actively after doing so, but any animal that creates a semi-permanent home in the sediment can be classified as Soft Sediment Fauna. These animals may also move slowly over the sediment surface but are not capable of moving outside of the boundaries of the classification unit within one day. Most of these fauna possess specialized organs for burrowing, digging, embedding, tube-building, anchoring, or locomotory activities in soft substrates."

- Inferred Fauna – "Areas dominated by evidence (real or inferred) of faunal activity, but where the fauna themselves are not currently present or evident, given the sampling methodology."

- IND – an indeterminate Biotic Subclass

The Biotic Component subclasses of Attached and Soft Sediment Fauna are broad-brush tools for screening-level assessments of seafloor habitats for offshore wind development. Mapping proposed development areas with this CMECS classifier can highlight locations, that from a benthic habitat perspective, might be considered suitable for offshore wind development (Soft Sediment Fauna) and those that may be unsuitable or require further detailed study to determine suitability (Attached Fauna). Depending on the results and scale of reconnaissance surveys, additional studies would likely be needed as specific siting alternatives are examined.

Attached Fauna habitats are also referred to in some documents as "live bottom." These hard bottom habitats that support "live bottom" are considered potentially valuable and sensitive resources for regionally important taxa. Additionally, cobbles and boulders can provide habitat for a diverse range of taxa and serve as valuable habitat for corals and as a place for squid to lay their eggs.

Table 2.4-1. CMECS Classification Levels Used in Analysis and Classifications for the Survey

CMECS Term	Scale of Classification	Classifications
Geoform Component		
Tectonic Setting	Site	Passive Continental Margin
Physiographic Setting	Site	Continental Shelf
Geoform Origin	Site	Geologic
Substrate Component		
Substrate Origin	Site	Geologic Substrate
Substrate Class	SPI/PV	Unconsolidated Mineral Substrate
[+]Substrate Subclass	SPI/PV	Fine Unconsolidated Substrate; Coarse Unconsolidated Substrate
[+]Substrate Group	PV	**Sand or Finer**; Gravelly; Gravel Mixes; Gravel
[+]Substrate Subgroup	Station	Silt/Clay; **Very Fine Sand; Fine Sand;** Medium Sand; Coarse Sand; Very Coarse Sand; Gravelly Sand; Sandy Gravel; Granule; Pebble; Cobble; Boulder
Biotic Component		
Biotic Setting	SPI/PV	Benthic/Attached Biota
Biotic Class	SPI/PV	Faunal Bed
[+]Biotic Subclass	SPI/PV	**Soft Sediment Fauna;** Attached Fauna; Inferred Fauna

[+] Indicates variability within the surveyed area at this level of the hierarchy
Bold text indicates an overwhelming dominant classification across the surveyed area, including both SRWEC–NYS and ICW HDD

2.4.3.5 Sensitive Taxa and Species of Concern

The image resolution of the SPI/PV survey allows for the identification of sensitive taxa. Sensitive seafloor habitats include corals, SAV beds, and valuable cobble and boulder habitat (BOEM 2019). Cobble and boulder habitat can serve as structure for hard and soft corals, nursery ground for juvenile lobster, and as preferable benthic habitat for squid to deposit their eggs. Taxa considered sensitive for this region include corals, seagrass beds, squid eggs, and American lobster. In the SRWEC–NYS area, species of ecological concern and/or concern regarding possible habitat disturbance from offshore wind construction and operation activities include black sea bass, Atlantic cod, sea scallop, and ocean quahog (Guida et al. 2017). Within the estuarine environment of the ICW HDD, the presence of seagrass beds, characterized by continuous or patchy seagrass (SAV), are considered sensitive and ecologically important benthic habitat. Presence/absence of each sensitive taxa or species of concern was noted for each replicate SPI and PV images.

2.4.3.6 Non-native Taxa

The introduction of non-native species to the water column and benthic habitat is an important concern related to offshore development. The introduction of new structures, such as concrete mattresses, to the seafloor during construction may also lead to the introduction of non-native species. The SPI/PV survey collected baseline presence/absence data for marine non-native species within the surveyed area. A list of potential non-native species was derived from a combination of relevant resources including the Northeastern Aquatic

Nuisance Species Panel (https://www.northeastans.org/) and the National Exotic Marine and Estuarine Species Information System database (NEMESIS) curated by the Smithsonian Environmental Research Center.

2.4.3.7 Macrohabitat Type

Benthic habitat types, and specifically macrohabitat types, are used here as a construct to describe repeatable physical-biological associations and were derived from CMECS classifiers and modifiers obtained from the SPI/PV analysis. Given the spatial scale of the SPI/PV data, benthic habitat types derived from replicate SPI and PV images are considered macrohabitats (*sensu* Greene et al. 2007). Each PV replicate image is between 0.2 and 0.5 m^2 and the replicate images were collected within approximately 10 m of each other. Thus, this design can provide insight into the degree of patchiness of habitat features such as boulders and cobbles within this spatial context. This sampling approach cannot capture larger habitat features such as sand waves or smaller habitat features such as cracks and crevices on a boulder. Recognizing scale is a critical component to habitat descriptions and delineations, the habitat types derived from the SPI/PV approach are most accurately described as macrohabitats, which are defined by Greene et al. 2007 as encompassing a scale of 1 to 10 m.

A summary of SPI and PV parameters across the replicate images were used to inform macrohabitat type at each station. Specifically, the variables used for macrohabitat classification included,

- CMECS Substrate Subgroup,
- Maximum Gravel Size,
- Bedforms,
- CMECS Biotic Subclass,
- Co-occurring CMECS Biotic Subclass,
- Percent cover of attached fauna,
- Percent cover of emergent infauna,
- Grain Size Major Mode (SPI variable)

The macrohabitat type derived from SPI/PV data at each station cannot be extrapolated beyond the scale of the station. These point data will be used to ground-truth and inform future benthic habitat mapping efforts to support Essential Fish Habitat consultation. This habitat mapping will utilize geophysical data (bathymetry, backscatter, side-scan sonar), these SPI/PV data, as well as video transect data (where available), to provide a large-scale delineation of benthic habitats across the survey area.

2.5 SEDIMENT GRAB SAMPLE ANALYSIS AND DATA ANALYSIS

2.5.1 Grain Size Analysis

Sediment grab samples were analyzed for grain size using the Standard Test Method for Particle-Size Distribution (ASTM D6913, 2013) by GeoTesting Express (Acton, MA).

2.5.2 Benthic Community Analysis

Sediment grab samples were analyzed for infaunal community composition by Barry Vittor and Associates, INC (Mobile, AL). Individuals were hand-picked and identified to the lowest possible taxonomic unit. Data are presented by station with both the summation and mean number of individuals and number of taxa across the three replicates.

2.6 TOWED VIDEO ANALYSIS

The objective of the video collection during the ICW HDD survey was to visually document the presence and extent of existing SAV within 100 m of the planned ICW HDD route. For video analysis, video footage was reviewed by transect, longer transect lines were split into segments of 10-minute intervals. All video footage was viewed using VLC Media Player, software tools were used to adjust the hue, saturation, contrast, gamma, and sharpness to optimize visualization. The presence/absence of SAV was documented and recorded during post-collection video analysis. The presence and general characteristics of macroalgal beds were also noted during video analysis.

2.7 DATA QUALITY ASSURANCE AND QUALITY CONTROL

Measures were taken during field data collection for data quality assurance and control in alignment with INSPIRE's standard operating procedure for sediment profile and plan view imaging sample collection (INSPIRE 2019). These included but were not limited to:

- Systems tested prior to and during survey activities to ensure calibration and operation,
- Full backup system (including tools, parts, and electronics) was carried in the field,
- Image data collected was time stamped both digitally and in hand-written logs to ensure proper identification and synchronization with navigational data,

A quality assurance review of all data and results presented in this report was performed in accordance with INSPIRE's standard operating procedure for sediment profile and plan view image analysis (INSPIRE 2019). Image analysis parameters were thoroughly checked by senior scientists to ensure quality and accuracy.

3.0 SITE SPECIFIC SURVEY RESULTS

INSPIRE scientists conducted two benthic surveys within NYS waters: a 35-station SPI/PV/grab survey along the SRWEC–NYS, and an eight-station PV and video survey in the vicinity of the ICW HDD (Figures 2.1-1 and 2.1-2). The survey along the SRWEC–NYS was conducted August 12-19, 2020 aboard the utility research vessel the *Northstar Challenger*, and included 35 SPI/PV stations, 18 of which also included triplicate sediment grab sample collection. The ICW HDD survey was conducted September 7-9, 2020 aboard the *Red Wing* and included a video component which served to document the presence and spatial extent of any SAV beds within 100 m of the planned cable route.

Station coordinates, sampling date and time, and field comments from both surveys are provided in Attachment A. Attachment B includes the field logs with details on the weights and stop collar parameters used for SPI/PV collection. Attachment C provides the Sediment Sample Log Forms for all grab samples. Complete datasets of all parameters measured from each analyzed SPI and PV image are presented in Attachments D and E, respectively. Attachment F provides benthic community analysis data, specifically the taxonomy and counts of the species observed in each replicate sediment grab. Sediment grab grain size analysis results are provided in Attachment G. Station SPI/PV summary data were grouped and reported by area: SRWEC–NYS and the ICW HDD (Figures 2.1-1 and 2.1-2). Summary SPI/PV data are presented in Tables 3.1-1, 3.1-2, 3.2-1, and 3.2-2. Summary of sediment grab benthic community analysis and grain size data are presented in Tables 3.1-3, and 3.1-4. A total of 43 stations were sampled, which included 35 stations along the SRWEC–NYS and eight stations within the ICW. Approximately 4 hours of video footage was collected along 22 transects within the ICW and analyzed for presence of SAV and occurrence of benthic macroalgal beds. Section 3.1 summarizes SPI/PV and sediment grab results from the SRWEC–NYS survey. Section 3.2 provides detailed results from ICW HDD, including PV results, analytical results from sediment grab data and video analysis results.

3.1 SUNRISE WIND EXPORT CABLE – NEW YORK STATE WATERS (SRWEC–NYS)

A total of 35 stations were surveyed at the SRWEC–NYS, which were distributed every 1,000 ft (305 m) (per NYS recommendation) along the planned export cable corridor from the 3-nm NYS boundary landward (Figure 2.1-1). All 35 stations consisted of soft sediments ranging from very fine sand to medium sand with visual evidence of generally low organic matter content, although there was evidence of the presence of benthic microalgae at many of the stations. The sediment grab samples were all composed primarily of sand with minor fractions of silt/clay and gravel. Hermit crabs, sand dollars, burrowing anemones (cerianthids) and tube-building polychaetes (*Diopatra* sp.) were commonly observed in the SPI and PV images across stations. Sediment grab analysis revealed the infaunal community was generally dominated by two polychaetes (*Polygordius* sp. and *Mediomastus* sp.), with high occurrences of the amphipod, *Protohaustorius wigleyi*, at the nearshore stations.

3.1.1 SPI/PV Results

3.1.1.1 Physical Features

The measured water depth across SRWEC–NYS stations ranged from 4.6 to 26.8 m with an average of 17.4 m (Table 3.1-1). The surface sediments along the SRWEC–NYS consisted of fine substrata. All stations were classified with the CMECS Substrate Group of Sand or Finer and the CMECS Substrate Subgroups ranged from Very Fine Sand to Medium Sand (Table 3.1-1; Figure 3.1-1). The most frequently observed CMECS Substrate Subgroup, a variable derived from SPI and PV images, was Fine Sand, which was the predominant classification at 17 of the 35 stations. Sediment type, derived from SPI, ranged from silt/clay over very fine sand to medium sand. The most frequently observed sediment types were fine sand followed by very fine sand, which were the predominant classification at 17 and 12 stations, respectively. Within-station heterogeneity was generally low for sediment type; only seven stations had variable sediment types across replicates (Table 3.1-

1; Figure 3.1-2). Along the SRWEC–NYS, no more than 5% cover of gravel was observed in any given PV replicate, and no boulders or cobbles were observed.

Small scale sediment mobility was generally low at the stations along the SRWEC–NYS, as assessed through the general lack of bedforms observed in PV images. In general, sand ripples were more frequently observed at the stations closest to shore. When sand ripples were observed they were generally small in size, with the exception of the two stations nearest to shore (Stations 427 and 435), which were characterized as having large ripples (1-3 within field of view). Small ripples (≥4 within field of view) were observed at several other stations within the general nearshore area (Stations 422, 428, 425, 426, and 430) (Figures 3.1-3 and 3.1-4).

Mean station prism penetration depth along the SRWEC–NYS ranged from a minimum of 2.4 to a maximum of 6.9 cm, with a mean of 4.4 (Standard Deviation [SD]±1.3) (Table 3.1-1). The majority of stations (28 of the 35) had mean station prism penetrations equal to or less than 6.0 cm (Figure 3.1-5) indicating the load bearing capacity of the sediment at stations along the SRWEC–NYS was relatively strong. There were no obvious spatial trends of mean station prism penetration, but in general stations that had coarser sediment types had deeper prism penetration (e.g., Stations 402, 415, 424, 429) compared to stations with finer sediment. This relationship is not commonly observed except in near-coastal sands and suggests the stations with coarser sediments were less compact with a high porosity and the stations with finer sediments were more compact with less fluidity.

Mean station small-scale boundary roughness along the SRWEC–NYS ranged from 0.8 to 3.8 cm, with an average of 1.4 (SD±0.6) (Table 3.1-1). The vast majority of stations had low mean station boundary roughness (<1.5 cm) dominated by biologically driven processes (Figure 3.1-6). Only two stations had a mean station boundary roughness greater than 2.5 cm (Stations 425 and 427), both of which were located near to shore and characterized by bedform ripples, suggesting physical forces attributed to the boundary roughness (Figures 3.1-3 and 3.1-6).

3.1.1.2 Biological and Habitat Features

Across the SRWEC–NYS, macrohabitat classifications were either *sand with ripples*, *sand*, or *sand and mud* (Table 3.1-2; Figures 3.1-7 and 3.1-8). In general, there was more evidence of bedload transport at the stations closer to shore compared to the stations located near the 3-nm state boundary. Higher water column turbidity was often observed in the PV images at the stations closer to the shore. All macrohabitats observed across the SRWEC–NYS had low sediment oxygen demand (SOD) (Attachment D), as indicated by the high optical reflectance of the sediments.

Out of the stations that could be assigned a CMECS Biotic Subclass, all stations sampled along the SRWEC–NYS were characterized by the Biotic Subclass Soft Sediment Fauna. The water column was too turbid in the PV images at Stations 426 and 434 classify Biotic Subclass. Due to the high turbidity at Station 434 no PV images were acceptable for analysis and at Station 426 only one replicate PV image was analyzed. Observations of the Soft Sediment Fauna Subclass along the SRWEC–NYS typically were present in the form of infaunal tubes and burrows at the sediment–water interface (Figure 3.1-9) and sand dollar and cerianthid burrowing anemone species on the sediment surface (Figure 3.1-10). The most frequently observed fauna in the SPI and PV images were sand dollars and cerianthids (Figure 3.1-11). Sand dollars were observed at 60% of the stations along the SRWEC–NYS (21 total stations) and cerianthids were documented at approximately 30% of the stations (10 total stations) (Figure 3.1-10). Cerianthids occurred in at least one replicate of every station from Station 405 traversing shoreward to Station 414 (Table 3.1-2). Sand dollars occurred in at least one replicate at every station from Station 401 traversing shoreward to Station 416, and at several stations nearshore. *Diopatra* sp., an infaunal polychaete that builds distinct tubes composed of sand and shell fragments, was observed in at least one replicate (SPI or PV) at 20% of the stations along the SRWEC–NYS

(seven total stations) (Figure 3.1-10). No sensitive taxa, species of concern (as designated by Guida et al. 2017), or non-native taxa were noted in any of the replicate SPI or PV images across the SRWEC–NYS.

The aRPD depth at the SRWEC–NYS was typically classified as indeterminant (Table 3.1-2) due to the low organic content in the sediments, as inferred by the optical reflectance of the sediment column; generally sandy and porous sediments have low organic content. Station 419 was the only station in which an aRPD was captured and measurable. A qualitative estimate of the sediment oxygen demand corroborated the indeterminant aRPD measurements, with all stations classified as having low sediment oxygen demand (Attachment D). Similarly, there was no indication of low dissolved oxygen concentrations in the water column at any of the SRWEC–NYS stations and methane was not observed at any of the stations. At several stations, a thin layer of darker sand or muddy sand was observed overlying lighter colored sand, which may be indicative of ephemeral organic matter deposition and/or benthic microalgae growth (Figure 3.1-11).

The benthic communities along the SRWEC–NYS were generally characterized as being in an intermediate state of succession as defined by the designation of Successional Stage 1 -> 2 or Stage 2 (Figure 3.1-12), which included a total of 21 stations where at least one replicate was classified by one of these stages (Table 3.1-2). A total of five stations had a least one replicate with a Successional Stage 2 -> 3, which were typically inferred by the presence of Stage 2 tubes on the surface concurrent with large burrows observed in the PV image, indicative of deep-burrowing Stage 3 taxa.

3.1.2 Sediment Grab Results

3.1.2.1 Benthic Community Analysis

Sediment grabs were collected at a total of 18 stations along the SRWEC–NYS, at which three replicate grabs were collected and processed for benthic community analysis. A total of 95 distinct taxa were identified across the 54 sediment grab replicates. The number of taxa within each replicate averaged 42.7 (SD±13.8) (Table 3.1-3). The average number of individuals across replicates at each station ranged from 32.7 individuals at Station 427 to 524 individuals at Station 402 (Table 3.1-3).

Three taxa accounted for approximately 70% of total benthic infaunal abundance across all replicates along the SRWEC–NYS: (1) the polychaete, *Polygordiidae* (Family) *Polygordius* (Genus, lowest practical identification level [LPIL]), (2) the polychaete *Capitellidae (*Family) *Mediomastus* (Genus, LPIL), and (3) the amphipod *Haustoriidae* (Family) *Protohaustorius wigleyi* (Attachment F). The percent relative abundances of the top 25 most abundant taxa across all stations is provided as stacked bar charts for each replicate sample (Figure 3.1-13). Generally, the infaunal community composition varied with distance from shore. The offshore stations (Station 402 numerically through Station 423) were largely dominated by *Polygordius* (LPIL) and/or *Mediomastus* (LPIL), with high occurrences of the polychaete *Aricidea wassi* and the oligochaete *Naididae* (LPIL) at these stations (Figure 3.1-13; Attachment F). While at the stations closer to shore (Station 425 numerically through Station 435), there were greater occurrences and abundances of the amphipod *Protohaustorius wigleyi* and the polychaete *Nephtyidae* (LPIL) (Figure 3.1-13; Attachment F). Benthic community analysis of sediment grabs provides a granular description of the community composition through detailed and specific taxonomic identification. Benthic community assessment through SPI and PV imagery provides a broader depiction of the infaunal community, using benthic features such as voids, burrows, tubes, and boundary roughness, to characterize the functionality of the benthic community present while documenting the presence of specific benthic organisms that, due to their size or distinct characteristics, can be identified in SPI or PV images.

3.1.2.2 Grain Size Analysis

Sediment grabs were collected at a total of 18 stations along the SRWEC–NYS, at which three replicate grabs were collected and processed for grain size analysis. The sediment grab samples were all composed primarily

of sand with minor fractions of silt/clay and gravel (Table 3.1-4; Figure 3.2-10). The percent sand fraction, averaged across the triplicate samples at each station along the SRWEC–NYS, ranged from a minimum of 91.2% (SD±1.4) at Station 423 to a maximum of 99.2% (SD±0.1) at Station 402 (Table 3.1-4). The sediment grab grain size analysis results corroborated the SPI/PV data, specifically the CMECS Substrate Subgroup and sediment type (Figures 3.1-1 and 3.1-2).

Table 3.1-1. Summary of Sediment Profile and Plan View Image Analysis Geophysical Results at the SRWEC–NYS

Table 3.1-1											
Station ID	SPI Replicate (n)	Water Depth (m)	Mean Prism Penetration Depth (cm)	Mean Boundary Roughness (cm)	SPI Sediment Type (by replicate)			PV Replicate (n)	CMECS Substrate Group	CMECS Substrate Subgroup[1]	Bedforms
401	3	26.8	5.3	1.1	Fine sand	Fine sand	Fine sand	3	Sand or Finer	Fine Sand	Small ripples
402	3	25.6	6.2	1.8	Fine sand	Medium sand	Medium sand	3	Sand or Finer	Medium Sand	None
403	3	25.9	4.7	1.1	Fine sand	Fine sand	Fine sand	3	Sand or Finer	Fine Sand	None
404	3	25.9	4.0	0.8	Fine sand	Fine sand	Fine sand	3	Sand or Finer	Fine Sand	None
405	3	25.6	3.9	1.0	Fine sand	Fine sand	Fine sand	3	Sand or Finer	Fine Sand	None
406	3	25.3	3.0	0.8	Fine sand	Fine sand	Fine sand	3	Sand or Finer	Fine Sand	None
407	3	24.7	2.8	1.0	Very fine sand	Very fine sand	Very fine sand	3	Sand or Finer	Very Fine Sand	None
408	3	24.4	3.6	1.0	Very fine sand	Very fine sand	Very fine sand	3	Sand or Finer	Very Fine Sand	Small isolated (linguoid) ripples
409	3	24.4	3.7	0.9	Very fine sand	Very fine sand	Very fine sand	3	Sand or Finer	Very Fine Sand	Small isolated (linguoid) ripples
410	3	23.5	3.1	1.3	Very fine sand	Very fine sand	Very fine sand	3	Sand or Finer	Very Fine Sand	None
411	3	23.5	3.8	1.5	Very fine sand	Very fine sand	Very fine sand	3	Sand or Finer	Very Fine Sand	Small isolated (linguoid) ripples
412	3	22.3	4.0	1.2	Very fine sand	Very fine sand	Very fine sand	3	Sand or Finer	Very Fine Sand	None
413	3	22.3	3.8	1.1	Fine sand	Fine sand	Fine sand	3	Sand or Finer	Fine Sand	None
414	3	21.3	3.2	1.2	Very fine sand	Very fine sand	Very fine sand	3	Sand or Finer	Very Fine Sand	None
415	3	21.0	6.4	1.6	Medium sand	Medium sand	Medium sand	3	Sand or Finer	Medium Sand	None
416	3	19.5	5.6	1.1	Fine sand	Fine sand	Fine sand	3	Sand or Finer	Fine Sand	None
417	3	18.6	5.0	1.2	Fine sand	Fine sand	Fine sand	3	Sand or Finer	Fine Sand	None
418	3	17.7	4.2	1.1	Fine sand	Fine sand	Fine sand	3	Sand or Finer	Fine Sand	None
419	3	17.7	6.9	1.2	Silt/clay over very fine sand	Very fine sand	Very fine sand over silt/clay	3	Sand or Finer	Very Fine Sand	None
420	3	16.8	3.5	0.8	Fine sand	Fine sand	Very fine sand	3	Sand or Finer	Fine Sand	Small isolated (linguoid) ripples
421	3	15.2	6.2	1.9	Finer sediment over medium sand	Medium sand	Medium sand over finer sediment	3	Sand or Finer	Medium Sand	None

Table 3.1-1											
Station ID	SPI Replicate (n)	Water Depth (m)	Mean Prism Penetration Depth (cm)	Mean Boundary Roughness (cm)	SPI Sediment Type (by replicate)			PV Replicate (n)	CMECS Substrate Group	CMECS Substrate Subgroup[1]	Bedforms
422	3	13.7	4.1	1.2	Very fine sand	Very fine sand	Very fine sand	3	Sand or Finer	Very Fine Sand	Small ripples
423	3	12.2	5.2	1.3	Very fine sand	Very fine sand	Very fine sand	3	Sand or Finer	Very Fine Sand	None
424	3	10.7	6.1	0.9	Medium sand	Medium sand	Medium sand	3	Sand or Finer	Medium Sand	IND
425	3	8.8	3.8	2.7	Fine sand	Fine sand	Fine sand	3	Sand or Finer	Fine Sand	Small ripples
426	3	7.3	3.2	1.5	Fine sand	Fine sand	Fine sand	1	Sand or Finer	Fine Sand	Small ripples
427	3	4.6	5.2	3.8	Fine sand	Fine sand	Fine sand	3	Sand or Finer	Fine Sand	Large ripples
428	3	13.1	5.2	1.4	Fine sand	Fine sand	Fine sand	3	Sand or Finer	Fine Sand	Small ripples
429	3	11.9	6.4	1.4	Medium sand	Medium sand	Medium sand	2	Sand or Finer	Medium Sand	IND
430	3	11.6	3.3	1.5	Very fine sand	Very fine sand	Very fine sand	3	Sand or Finer	Very Fine Sand	Small ripples
431	3	11.9	3.0	1.3	Fine sand	Fine sand	Very fine sand	3	Sand or Finer	Fine Sand	Small isolated (linguoid) ripples
432	3	11.9	6.1	1.7	Fine sand	Fine sand	Medium sand	3	Sand or Finer	Fine Sand	Small isolated (linguoid) ripples
433	3	9.8	2.4	1.2	Fine sand	Very fine sand	Very fine sand	1	Sand or Finer	Very Fine Sand	IND
434	3	7.6	2.4	2.3	Very fine sand	Very fine sand	Very fine sand	0	-	IND	-
435	3	4.6	5.4	2.0	Fine sand	Fine sand	Fine sand	3	Sand or Finer	Fine Sand	Large ripples
	n = SPI-35, PV-34										
	Max	26.8	6.9	3.8							
	Min	4.6	2.4	0.8							
	Mean	17.4	4.4	1.4							
	SD		1.3	0.6							

IND=Indeterminate

"-" Replicate image not analyzed.

[1]Variable determined from combined SPI/PV analysis.

Table 3.1-2. Summary of Sediment Profile and Plan View Image Analysis Biological Results at the SRWEC–NYS

Table 3.1-2																	
Station ID	SPI Replicate (n)	Water Depth (m)	Mean aRPD Depth (cm)	Successional Stage (by replicate)[1]			PV Replicate (n)	Macrohabitat[2]	CMECS Biotic Subclasses (# of reps)	CMECS Co-occurring Biotic Subclasses (# of reps)	Maximum Attached Fauna Percent Cover (CMECS Percent Cover Modifier)	Maximum Macroalgae and/or SAV Percent Cover	Burrow Presence	Tracks Presence	Common Taxa Type	Tubes Presence[2]	Sessile Epifauna Present[2]	Mobile Epifauna Present[2]
401	3	26.8	IND	2 -> 3	IND	IND	3	Sand with ripples	Soft Sediment Fauna (3)	Inferred Fauna (1)	None	None	Yes	Yes	*Diopatra* and Sand Dollar(s)	Yes	Ampelisca Amphipod(s)	Hermit Crab(s), Sand Dollar(s), Shrimp
402	3	25.6	IND	IND	IND	IND	3	Sand	Soft Sediment Fauna (3)	Inferred Fauna (2)	None	None	No	Yes	Sand Dollar(s)	No	None	Hermit Crab(s), Sand Dollar(s)
403	3	25.9	IND	IND	IND	IND	3	Sand	Soft Sediment Fauna (3)	Inferred Fauna (1)	None	None	No	Yes	Sand Dollar(s)	No	None	Hermit Crab(s), Sand Dollar(s)
404	3	25.9	IND	2	IND	IND	3	Sand	Soft Sediment Fauna (3)	Inferred Fauna (3)	None	None	No	Yes	Sand Dollar(s)	Yes	None	Hermit Crab(s), Sand Dollar(s)
405	3	25.6	IND	2	IND	IND	3	Sand	Soft Sediment Fauna (3)	Inferred Fauna (3)	None	None	Yes	Yes	Cerianthid(s) and Sand Dollar(s)	Yes	None	Hermit Crab(s), Sand Dollar(s)
406	3	25.3	IND	IND	IND	IND	3	Sand	Soft Sediment Fauna (3)	Inferred Fauna (2)	None	None	Yes	Yes	Cerianthid(s) and Sand Dollar(s)	Yes	None	Hermit Crab(s), Sand Dollar(s)
407	3	24.7	IND	IND	IND	IND	3	Sand	Soft Sediment Fauna (3)	Inferred Fauna (1)	None	None	Yes	Yes	Cerianthid(s) and Sand Dollar(s)	No	None	Hermit Crab(s), Sand Dollar(s)
408	3	24.4	IND	IND	IND	IND	3	Sand with ripples	Soft Sediment Fauna (3)	Inferred Fauna (2)	None	None	Yes	Yes	Cerianthid(s) and Sand Dollar(s)	No	None	Hermit Crab(s), Sand Dollar(s)
409	3	24.4	IND	IND	IND	IND	3	Sand with ripples	Soft Sediment Fauna (3)	Inferred Fauna (1)	None	None	Yes	Yes	Cerianthid(s) and Sand Dollar(s)	No	None	Hermit Crab(s), Sand Dollar(s)
410	3	23.5	IND	IND	IND	IND	3	Sand	Soft Sediment Fauna (3)	Inferred Fauna (2)	None	None	Yes	Yes	Cerianthid(s) and Sand Dollar(s)	No	None	Sand Dollar(s)
411	3	23.5	IND	IND	IND	IND	3	Sand with ripples	Soft Sediment Fauna (3)	Inferred Fauna (2)	None	None	Yes	Yes	Cerianthid(s) and Sand Dollar(s)	Yes	None	Sand Dollar(s)
412	3	22.3	IND	2 -> 3	2 -> 3	IND	3	Sand and mud	Soft Sediment Fauna (3)	Inferred Fauna (3)	None	None	Yes	Yes	Cerianthid(s) and Sand Dollar(s)	Yes	None	Hermit Crab(s), Sand Dollar(s)

Table 3.1-2

Station ID	SPI Replicate (n)	Water Depth (m)	Mean aRPD Depth (cm)	Successional Stage (by replicate)[1]			PV Replicate (n)	Macrohabitat[2]	CMECS Biotic Subclasses (# of reps)	CMECS Co-occurring Biotic Subclasses (# of reps)	Maximum Attached Fauna Percent Cover (CMECS Percent Cover Modifier)	Maximum Macroalgae and/or SAV Percent Cover	Burrow Presence	Tracks Presence	Common Taxa Type	Tubes Presence[2]	Sessile Epifauna Present[2]	Mobile Epifauna Present[2]
413	3	22.3	IND	2	2 -> 3	2 -> 3	3	Sand	Soft Sediment Fauna (3)	Inferred Fauna (2)	None	None	Yes	Yes	Cerianthid(s) and Sand Dollar(s)	Yes	None	Hermit Crab(s), Sand Dollar(s)
414	3	21.3	IND	2 -> 3	2 -> 3	2 -> 3	3	Sand and mud	Soft Sediment Fauna (3)	Inferred Fauna (1)	None	None	Yes	Yes	Cerianthid(s) and Sand Dollar(s)	Yes	None	Hermit Crab(s), Sand Dollar(s)
415	3	21.0	IND	1 -> 2	2	IND	3	Sand	Inferred Fauna (1), Soft Sediment Fauna (2)	Inferred Fauna (2)	None	None	No	Yes	Sand Dollar(s)	Yes	None	Hermit Crab(s), Sand Dollar(s)
416	3	19.5	IND	1 -> 2	2	2	3	Sand	Soft Sediment Fauna (3)	Inferred Fauna (3)	None	None	No	Yes	Sand Dollar(s)	Yes	None	Hermit Crab(s), Sand Dollar(s)
417	3	18.6	IND	1 -> 2	1 -> 2	1 -> 2	3	Sand	Soft Sediment Fauna (1)	None	None	None	No	No	None	Yes	None	Hermit Crab(s)
418	3	17.7	IND	1 -> 2	1 -> 2	2	3	Sand	Soft Sediment Fauna (3)	Inferred Fauna (2)	None	None	No	Yes	Sand Dollar(s)	Yes	None	Gastropod, Hermit Crab(s), Sand Dollar(s), Snail(s)
419	3	17.7	5.4	1 -> 2	2	2 -> 3	3	Sand and mud	Soft Sediment Fauna (3)	None	None	None	No	No	*Diopatra*	Yes	None	Hermit Crab(s), Snail(s)
420	3	16.8	IND	2	2	2	3	Sand and mud	Soft Sediment Fauna (3)	Inferred Fauna (2)	None	None	No	Yes	Sand Dollar(s)	Yes	None	Hermit Crab(s), Sand Dollar(s), Snail(s)
421	3	15.2	IND	1 -> 2	1 -> 2	IND	3	Sand	Soft Sediment Fauna (3)	None	None	None	IND	IND	None	Yes	None	Hermit Crab(s)
422	3	13.7	IND	2	2	2	3	Sand with ripples	Soft Sediment Fauna (3)	None	None	None	No	No	Sand Dollar(s)	Yes	None	Hermit Crab(s), Sand Dollar(s)
423	3	12.2	IND	2	2	2	3	Sand and mud	Soft Sediment Fauna (3)	None	None	None	No	No	*Diopatra*	Yes	None	Hermit Crab(s), Isopod(s), Snail(s)

Table 3.1-2

Station ID	SPI Replicate (n)	Water Depth (m)	Mean aRPD Depth (cm)	Successional Stage (by replicate)[1]			PV Replicate (n)	Macrohabitat[2]	CMECS Biotic Subclasses (# of reps)	CMECS Co-occurring Biotic Subclasses (# of reps)	Maximum Attached Fauna Percent Cover (CMECS Percent Cover Modifier)	Maximum Macroalgae and/or SAV Percent Cover	Burrow Presence	Tracks Presence	Common Taxa Type	Tubes Presence[2]	Sessile Epifauna Present[2]	Mobile Epifauna Present[2]
424	3	10.7	IND	IND	IND	IND	3	IND	Soft Sediment Fauna (1)	IND	IND	IND	IND	IND	IND	No	None	Hermit Crab(s), Isopod(s)
425	3	8.8	IND	2	2	2	3	Sand with ripples	Soft Sediment Fauna (1)	IND	IND	IND	IND	IND	*Diopatra*	Yes	None	Gastropod(s), Hermit Crab(s), Isopod(s)
426	3	7.3	IND	2	2	IND	1	Sand with ripples	IND	IND	IND	IND	IND	IND	IND	Yes	None	Isopod(s)
427	3	4.6	IND	IND	IND	IND	3	Sand with ripples	Soft Sediment Fauna (1)	None	None	None	No	No	None	No	None	Hermit Crab(s)
428	3	13.1	IND	1 -> 2	2	IND	3	Sand with ripples	Soft Sediment Fauna (1)	IND	IND	IND	IND	IND	IND	Yes	None	Hermit Crab(s)
429	3	11.9	IND	IND	IND	IND	2	IND	IND	IND	IND	IND	IND	IND	IND	Yes	None	None
430	3	11.6	IND	2	2	IND	3	Sand with ripples	Soft Sediment Fauna (2)	None	None	None	No	No	*Diopatra*	Yes	None	Hermit Crab(s), Snail(s)
431	3	11.9	IND	2	2	2	3	Sand with ripples	Soft Sediment Fauna (3)	None	None	None	No	No	None	Yes	None	Hermit Crab(s)
432	3	11.9	IND	2	2	2	3	Sand with ripples	Soft Sediment Fauna (2)	None	None	None	No	No	*Diopatra*	Yes	None	Hermit Crab(s)
433	3	9.8	IND	2	2	IND	1	IND	Soft Sediment Fauna (1)	IND	IND	IND	IND	IND	Sand Dollar(s)	Yes	None	Hermit Crab(s), Sand Dollar(s)
434	3	7.6	IND	2	2	IND	0	-	-	-	-	-	-	-	-	Yes	None	Isopod(s)
435	3	4.6	IND	2	IND	IND	3	Sand with ripples	Soft Sediment Fauna (2)	None	None	None	No	No	*Diopatra* and Sand Dollar(s)	Yes	None	Hermit Crab(s), Isopod(s), Sand Dollar(s)
n = SPI-35, PV-34																		
	Max	26.8	5.4															
	Min	4.6	5.4															
	Mean	17.4	5.4															
	SD		0.0															

IND=Indeterminate SAV=Submerged Aquatic Vegetation [1]Successional Stage: "->" indicates one Stage is progressing to another Stage (i.e., 2 -> 3).

[2]Variable determined from combined SPI/PV analysis.

Table 3.1-3. Summary of Benthic Community Analysis of Sediment Grab Samples Collected at the SRWEC–NYS and the ICW HDD

Survey Area	Station	Number of Replicates	Sum of Number of Individuals[1]	Sum of Number of Taxa[1]	Mean Number of Individuals	Mean Number of Taxa	Mean Density (Individuals/m^2)	Diversity (H')	Evenness (J')
SRWEC–NYS	402	3	1572	35	524.0	11.7	13100	0.42	0.14
	404	3	341	51	113.7	17.0	2842	1.94	0.60
	406	3	391	56	130.3	18.7	3258	2.21	0.65
	408	3	679	73	226.3	24.3	5658	1.78	0.50
	410	3	415	51	138.3	17.0	3458	1.76	0.53
	412	3	695	52	231.7	17.3	5792	1.67	0.51
	414	3	1011	41	337.0	13.7	8425	1.48	0.47
	416	3	723	47	241.0	15.7	6025	1.12	0.33
	418	3	339	51	113.0	17.0	2825	1.59	0.49
	420	3	983	29	327.7	9.7	8192	1.09	0.38
	422	3	821	55	273.7	18.3	6842	1.58	0.48
	423	3	333	49	111.0	16.3	2775	2.31	0.69
	425	3	643	33	214.3	11.0	5358	0.77	0.26
	427	3	98	20	32.7	6.7	817	1.39	0.58
	429	3	224	31	74.7	10.3	1867	0.99	0.34
	431	3	273	37	91.0	12.3	2275	1.67	0.54
	433	3	344	40	114.7	13.3	2867	1.77	0.57
	435	3	100	18	33.3	6.0	833	1.49	0.77
ICW HDD	802	3	2128	110	709.3	36.7	17733	2.63	0.67
	805	3	2912	118	970.7	39.3	24267	2.69	0.68
	SRWEC–NYS SUMMARY								
		n	18	18	54	54	54	18	18
		Max	1572	73	941	27	23525	2.31	0.77
		Min	98	18	12	5	300	0.42	0.14
		Mean	554.7	42.7	184.9	14.2	4622.7	1.50	0.49
		SD	376.1	13.8	154.6	5.3	3864.7	0.48	0.16
	ICW HDD SUMMARY								
		n	2	2	6	6	6	2	2
		Max	2912	118	1173	43	29325	2.69	0.68
		Min	2128	110	336	33	8400	2.63	0.67
		Mean	2520	114	840	38	21000	2.66	0.67
		SD	N/A	N/A	316.1	3.9	7903.6	N/A	N/A

N/A=Not applicable (n = 2)

[1]Summed across replicates (n = 3 for all stations).

Table 3.1-4. Summary of Grain Size Analysis of Sediment Grab Samples Collected at the SRWEC–NYS and the ICW HDD

Survey Area	Station ID	Number of Replicates	%Gravel (± SD)	%Sand (± SD)	%Silt/Clay (± SD)
SRWEC–NYS	402	3	0.03 ± 0.1	99.2 ± 0.1	0.73 ± 0.1
	404	3	0.10 ± 0.0	98.4 ± 0.3	1.53 ± 0.3
	406	3	0.10 ± 0.2	98.3 ± 0.2	1.60 ± 0.0
	408	3	0.07 ± 0.1	98.5 ± 0.1	1.43 ± 0.1
	410	3	0.03 ± 0.1	97.9 ± 0.9	2.07 ± 0.9
	412	3	0.10 ± 0.0	97.6 ± 0.3	2.27 ± 0.3
	414	3	0.03 ± 0.1	97.5 ± 0.7	2.50 ± 0.6
	416	3	1.07 ± 1.8	97.6 ± 2	1.33 ± 0.3
	418	3	0.07 ± 0.1	98.1 ± 0.2	1.87 ± 0.3
	420	3	0.20 ± 0.2	92.5 ± 1.3	7.30 ± 1.5
	422	3	0.03 ± 0.1	94.8 ± 0.8	5.13 ± 0.8
	423	3	0.10 ± 0.1	91.2 ± 1.4	8.70 ± 1.5
	425	3	0.07 ± 0.1	96.7 ± 0.5	3.23 ± 0.6
	427	3	0.07 ± 0.1	99.0 ± 0.1	0.93 ± 0.1
	429	3	0.03 ± 0.1	99.0 ± 0.1	0.97 ± 0.2
	431	3	0.07 ± 0.1	96.0 ± 0.8	3.90 ± 0.8
	433	3	0.07 ± 0.1	93.8 ± 0.5	6.10 ± 0.6
	435	3	0.00 ± 0.0	98.8 ± 0.6	1.23 ± 0.6
ICW HDD	802	3	22.0 ± 10.4	75.8 ± 10.5	2.20 ± 0.2
	805	3	16.5 ± 4.2	80.1 ± 5.2	3.30 ± 1.0
SRWEC–NYS SUMMARY ACROSS REPLICATES					
		n	54		
		Max	3.1	99.3	10.4
		Min	0.0	89.6	0.6
		Mean	0.1	96.9	2.9
		SD	0.4	2.4	2.4
ICW HDD SUMMARY ACROSS REPLICATES					
		n	6		
		Max	29.0	87.8	4.5
		Min	10.1	68.6	2.1
		Mean	19.3	78.0	2.8
		SD	7.7	7.8	0.9

3.2 ONSHORE TRANSMISSION CABLE HDD ROUTE – INTRACOASTAL WATERWAY (ICW HDD)

3.2.1 PV Results

3.2.1.1 Physical Features

The ICW HDD stations were spatially variable in terms of physical characteristics. In general, the stations within the central portion of the channel were comprised of small gravels on sand, while the stations flanking the channel on the north and south sides were characterized by soft sediments. Five of the eight stations along the ICW HDD were categorized with the CMECS Substrate Group Sand or Finer (Figure 3.2-1). Of the remaining stations, two were predominantly Gravel Mixes (Stations 802 and 805) and the other was predominantly Gravelly (Station 808) (Table 3.2-1; Figure 3.2-1). The CMECS Substrate Subgroup for Stations 802 and 805 was Sandy Gravel, while for Station 808 the CMECS Substrate Subgroup was Gravelly Sand (Figure 3.2-2). No SPI imagery was collected at the ICW HDD stations and therefore sediment type could not be determined. With no corresponding SPI data, a more resolved CMECS Substrate Subgroup for the five stations classified as Sand or Finer could not be determined. Small sand ripples were documented at Stations 803 and 806, located on the south side of the channel (Figure 3.2-3).

3.2.1.2 Biological and Habitat Features

Along the ICW HDD, inferences of biological and habitat features were exclusively determined from the PV data. These stations were classified by the CMECS Biotic Subclass as either Soft Sediment Fauna or Attached Fauna (Figure 3.2-4). A thick carpet of tubes across the sediment–water interface was observed in all the PV replicates from the two stations located north of the channel (Stations 801 and 804) (Figures 3.2-5 and 3.2-6). The two stations on the south side of the channel (Stations 803 and 806) were characterized by sand ripples with some biotic tracks (Figures 3.2.5 and 3.2.6). At stations 802 and 805, which were located within the central stem of the inlet, small gravels encrusted with bryozoa over muddy sand were observed. Tufts of floating macroalgae were noted in multiple PV replicates collected from the ICW HDD (Attachment E).

The five stations that were classified as the CMECS Substrate Group/Subgroup Sand or Finer, were characterized by the CMECS Biotic Subclass Soft Sediment Fauna (Figure 3.2-4), with one of these stations having the Co-occurring Biotic Subclass Attached Fauna (Station 801) (Table 3.2-2). At three stations >5% gravel was observed (i.e., the CMECS Substrate Subgroup was either Gravelly Sand or Sandy Gravel) and these stations were characterized by the CMECS Biotic Subclass Attached Fauna (Figures 3.2-2 and 3.2-4). One of these stations, Station 802, was classified by the Co-occurring Biotic Subclass Soft Sediment Fauna (Table 3.2-2). However, the percent cover of attached fauna (CMECS modifier) at all of these stations was generally low: Trace (<1%) at Stations 801, 805, and 808; and Sparse (1 to <30%) at Station 802 (Figure 3.2-7). Attached fauna was typically composed of encrusting bryozoa colonies as well as serpulid tubes (Table 3.2-2; Figure 3.2-8).

3.2.2 Sediment Grab Results

3.2.2.1 Benthic Community Analysis

Sediment grabs were collected at a total of two stations at the ICW HDD, at which three replicate grabs were collected and processed for benthic community analysis. A total of 65 distinct taxa were identified across the 6 sediment grab replicates. The number of taxa within each replicate averaged 114 taxa (Table 3.1-3). The average number of individuals across replicates at each station ranged from 709.3 individuals at Station 802 to 970.7 individuals at Station 805 (Table 3.1-3). The number of individuals per sample was substantially higher at

the ICW HDD compared with the SRWEC–NYS. Alpha diversity (Shannon Index) was also higher at the ICW HDD compared with the SRWEC–NYS (Table 3.1-3).

The infauna species composition was generally similar at the two stations at the ICW HDD. The percent relative abundances of the top 25 most abundant taxa across the two stations is provided as stacked bar charts for each replicate sample (Figure 3.2-9). Five taxa accounted for just over 60% of the total benthic infaunal abundance across all replicates at the ICW–HDD: (1) an oligochaete, *Naididae* (Family, LPIL), (2) the amphipod *Eobrolgus spinosus*, (3) the polychaete *Exogone dispar*, (4) the amphipod *Elasmopus levis,* and (5) the amphipod *Gammaropsis* (Genus, LPIL) (Figure 3.2-9; Attachment F).

3.2.2.2 Grain Size Analysis

Sediment grabs were collected at a total of two stations at the ICW HDD, at which three replicate grabs were collected and processed for grain size analysis. The sediment grab samples were all composed mainly of sand mixed with an average of between 22.0% and 16.5% gravel and a minor fraction of silt/clay (Table 3.1-4; Figure 3.2-14). The percent sand fraction, averaged across the triplicate samples at each station along the SRWEC–NYS, ranged from a minimum of 75.8% (SD±10.5) at Station 802 to a maximum of 80.1% (SD±5.2) at Station 803 (Table 3.1-4). The sediment grab grain size analysis results corroborated the PV data, specifically the CMECS Substrate Subgroup (Figure 3.2-2).

3.2.3 Video Results

A total of 3 hours and 48 minutes of video footage was collected over a total of 3,447 m across 22 total transects within the ICW north of Fire Island (Figure 3.2-9; Attachment A). All video footage was analyzed post-collection with a focus on the detection of SAV, and, if detected, the spatial extent of the SAV patch or bed was determined. The video analyst also documented the presence of macroalgal beds, with qualitative notes on the density of the macroalgae observed. Submerged aquatic vegetation, eelgrass (*Zostera marina*), was observed along three transects (Transects 18, 20, and 21) and when documented, the density of eelgrass was very low: a maximum of one to three shoots were observed within a single video frame. Still frame images of each instance that eelgrass blades were observed during video analysis, which included a total of six occurrences, are provided in Figure 3.2-10. Often the eelgrass shoots appeared to be uprooted and deposited within a dense macroalgal bed (e.g., Figure 3.2-10 C). SAV was not observed on the south side of the channel, despite an SAV bed being documented in this area previously (Figures 2.3-2 and 3.2-9) (NYDOS 2020). The individual SAV shoots that were observed occurred on the north side of the channel within dense macroalgal beds. Dense macroalgal beds were observed across numerous transects mainly along the northern side of the channel.

Table 3.2-1. Summary of Plan View Image Analysis Geophysical Results at the ICW HDD

Station ID	PV Replicate (n)	CMECS Substrate Group	CMECS Substrate Subgroup	Bedforms
801	3	Sand or Finer	Sand or Finer	None
802	3	Gravel Mixes	Sandy Gravel	None
803	3	Sand or Finer	Sand or Finer	Small ripples
804	3	Sand or Finer	Sand or Finer	None
805	3	Gravel Mixes	Sandy Gravel	None
806	3	Sand or Finer	Sand or Finer	Small ripples
807	3	Sand or Finer	Sand or Finer	None
808	3	Gravelly	Gravelly Sand	None

Table 3.2-2. Summary of Plan View Image Analysis Biological Results at the ICW HDD

Station ID	CMECS Biotic Subclasses (# of reps)	CMECS Co-occurring Biotic Subclasses (# of reps)	Maximum Attached Fauna Percent Cover (CMECS Percent Cover Modifier)	Maximum Macroalgae and/or SAV Percent Cover	Burrow Presence	Tracks Presence	Common Taxa Type	Tubes Presence	Sessile Epifauna Present	Mobile Epifauna Present
801	Soft Sediment Fauna (3)	Attached Fauna (1)	Trace (<1%)	Sparse (1 to <30%)	No	No	None	Yes	None	Unidentified Crab
802	Attached Fauna (3)	Soft Sediment Fauna (1)	Sparse (1 to <30%)	None	No	No	None	No	Bryozoan(s), Serpulid(s)	Hermit Crab(s)
803	Inferred Fauna (1), Soft Sediment Fauna (1)	None	None	Trace (<1%)	No	Yes	None	No	None	None
804	Soft Sediment Fauna (3)	None	None	Sparse (1 to <30%)	No	No	None	Yes	None	None
805	Attached Fauna (3)	None	Trace (<1%)	Sparse (1 to <30%)	No	No	None	No	Bryozoan(s)	None
806	None	None	None	Trace (<1%)	No	No	None	No	None	None
807	Soft Sediment Fauna (1)	None	None	Trace (<1%)	No	No	None	No	None	None
808	Attached Fauna (1)	None	Trace (<1%)	Trace (<1%)	No	No	None	No	Bryozoan(s), Serpulid(s)	None

SAV=Submerged Aquatic Vegetation

4.0 SUMMARY AND DISCUSSION

The purpose of these surveys was to provide data about the surficial sediments and characterize the benthic habitats and fauna along Sunrise Wind's proposed export cable route within NYS waters (SRWEC–NYS) and where the Onshore Transmission Cable transits north of Fire Island via HDD (ICW HDD). Results from these surveys are intended to support spatial planning decisions, reduce uncertainty associated with baseline conditions, and inform future approaches. This study provides data for the assessment of the physical, geological, and biological conditions of the surficial sediments within the surveyed area. This study carefully considered all BOEM regulations and guidelines (BOEM 2019, 2020a, 2020b), NOAA Habitat's recommendations (NOAA Habitat 2020), NYS Seagrass Task Force Report (STF, 2009), and NYSERDA's Offshore Wind Master Plan (NYSERDA, 2017). SPI and PV images provide important data pertaining to several of these regulations and guidelines (Table 1.3-1). The data from this study were collected and interpreted in consideration of these regulations and guidelines, as well as in consultation with state agencies, to assist Sunrise Wind in providing the best available information for review by state and federal regulators. Below is a summary of the observations from the surveys, beginning with a discussion of the physical features observed across the SRWEC–NYS and ICW HDD, followed by details on the biological attributes and habitats.

Across the surveyed area, bottom substrata composition was fully characterized using a combination of classifications that spanned spatial scales, including CMECS Substrate Group obtained from PV images and sediment type derived from SPI analyses, both of which informed CMECS Substrate Subgroup classifications. These variables, in addition to macrohabitat type – a variable that integrates CMECS Substrate Group, maximum gravel size (when present), grain size major mode, and bedform presence/absence – provided a thorough depiction of the physical seafloor composition at each station. CMECS Substrate Group was consistently Sand or Finer across all stations along the SRWEC–NYS (Table 3.1-1). Along the ICW HDD, three stations were observed to contain more than 5% cover of gravel and were classified with the CMECS Substrate Group of either Gravel Mixes or Gravelly. The remaining five ICW HDD stations were classified as Sand or Finer (Table 3.2-1; Figure 3.2-1). No boulders or cobbles were observed in any replicate image along the SRWEC–NYS or the ICW HDD. Along the SRWEC–NYS, CMECS Substrate Subgroup, a variable incorporating information from both the PV and SPI, provided a more detailed and comprehensive depiction of surficial sediment composition. CMECS Substrate Subgroup ranged from Very Fine Sand to Medium Sand, with no gravel documented (Figure 3.1-1). The predominant CMECS Substrate Subgroups characterized along the SRWEC–NYS were Very Fine Sand or Fine Sand; this mirrored the results documented by sediment type. SPI was not collected during the ICW HDD survey, and CMECS Substrate Subgroup classifications were only derived from PV images. CMECS Substrate Subgroup at stations in the ICW HDD ranged from Sand or Finer to Gravel Mixes, with larger grain sizes occurring in the central channel region compared to the stations flanking the channel (Figure 3.2-1).

Prism penetration and small-scale boundary roughness, parameters measured from SPI, supplied additional insight into the physical attributes of the sediments along the SRWEC–NYS. When the camera frame stops and weights are held constant, prism penetration measurement can provide additional information about the bearing capacity and shear strength of the sediments surveyed; the camera frame stops and weights were held constant throughout the survey (Attachment B). Overall sediment bedload strength at stations along the SRWEC–NYS was relatively strong; the vast majority of stations contained prism penetrations less than 6.0 cm (Table 3.1-1; Figure 3.1-5). Small-scale surface boundary roughness measured in SPI images can indicate physical shaping activity related to bedforms and hydrodynamics as well as biological activities such as infaunal burrowing and fish foraging. Overall small-scale boundary roughness along the SRWEC–NYS was relatively small, the vast majority of stations had boundary roughness values less than 1.5 cm (Table 3.1-1;

Figure 3.1-6). Biological activity was the primary driver shaping small-scale boundary roughness for the majority of the SPI images analyzed.

At all the stations along the SRWEC–NYS, the sediment oxygen demand, inferred by the optical reflectance of the sediment column, was low and the aRPD at these stations was always indeterminant (with the exception of Station 419). In general, this benthic environment, with sandy porous sediments, is likely characterized by high hydrodynamics allowing any organic matter input to the sediments to be flushed or frequently redistributed through natural resuspension and deposition. Under these conditions, often the aRPD depth is not visible due to the lack of ferrous iron build-up as a result of low microbial respiration rates. Alternatively, the aRPD may not be visible as it may occur below the depth of the prism penetration, again due to the high hydrodynamics resulting in oxygenation extending deep into the sediment column.

Macrohabitat type along the SRWEC–NYS stations were classified as either *sand with ripples*, *sand*, or *sand and mud* (Figure 3.1-7). It was not possible to classify macrohabitat type at a few stations along the SRWEC–NYS due to high turbidity, and the macrohabitat at these stations was designated as Indeterminate. Representative SPI and PV images for all of the macrohabitat types along the SRWEC–NYS and the common taxa that were documented inhabiting these benthic environments are provided (Figure 3.1-8). The majority of the stations across both surveys were classified with the CMECS Biotic Subclass of Soft Sediment Fauna, with the exception of three stations within the ICW HDD, which were designated with the CMECS Biotic Subclass of Attached Fauna (Tables 3.1-2 and 3.2-2; Figure 3.2-4). The physical seabed of stations sampled in the ICW HDD were more variable than the stations observed along the SRWEC–NYS; the variability in physical features at stations in the ICW HDD corresponded with the variability in Biotic Subclass designations. Stations in the ICW HDD that were classified with a Biotic Subclass of Attached Fauna were co-located at stations composed of gravel (Stations 802, 805, and 808), and the mobile sand present at the other stations in the ICW HDD were classified with the Biotic Subclass of Soft Sediment Fauna (see select representative images provided in Figure 3.1-11). The soft sediment fauna communities across both surveyed areas were generally characterized by the presence of small burrows, tubes, and tracks (Figures 3.1-9 and 3.2-5). Sand dollars, burrowing anemones (cerianthids), and tube-building polychaetes (*Diopatra* sp.) were frequently observed along the SRWEC–NYS (Table 3.1-2; Figures 3.1-8 and 3.1-10). No sensitive taxa, species of concern, or non-native species were observed at any of the stations along the SRWEC–NYS or the ICW HDD.

Table 4.1-1. Summary of SPI/PV Approaches and Results as they Relate to BOEM Guidelines

Table 4.1-1		
BOEM Guidelines	**SPI/PV Survey Approach and Parameter(s)**	**Results summary**
Classification of CMECS sediment type Grain size analysis	PV: CMECS Substrate Group and Subgroup, Gravel measurements SPI: Sediment type (based on Grain size major mode)	• Majority of the surveyed area was Sand or Finer (Substrate Group). • Coarser Substrate Groups/Subgroups were documented in the ICW HDD (e.g., Gravelly Sand and Gravel Mixes), specifically in the central channel. • SRWEC–NYS sediment type (and CMECS Substrate Subgroup) was fine sand or very fine sand at the vast majority of stations.
Identification of distinct horizons in subsurface sediment*	SPI: Sediment type (based on Grain Size major mode), aRPD	• Few stations had sediment layering, although many stations along the SRWEC–NYS had a distinct thin layer of darker sediment overlying lighter sediment, which could be ephemeral organic matter deposition and/or benthic microalgal growth.
Identification of bedforms Characterization of physical hydrodynamic properties	PV: Bedform type and measurements SPI: Boundary Roughness	• Small sand ripple bedforms were observed frequently along the SRWEC–NYS. • Sand ripples were also observed within the ICW HDD, specifically on the south side of the channel. • Small-scale boundary roughness tended to be physically driven.
Identification of rock outcrops and boulders	PV: Boulder presence	• No boulders or cobbles were observed at any of the stations along the SRWEC–NYS or ICW HDD.
Characterization of benthic habitat attributes	SPI: aRPD, Penetration Depth, Sediment Oxygen Demand and proxies (methane, *Beggiatoa*) PV: Gravel Measurements, Habitat type	• Majority of SRWEC–NYS was sand or sand and mud with regions closer to shore having larger and more distinct sand ripples. • Generally deep or indeterminant aRPD with low sediment oxygen demand at all stations. • Small gravel observed at stations within central region of ICW HDD survey. • No methane or *Beggiatoa* documented.
Classification to CMECS Biotic Component to lowest taxonomic unit practicable	PV: CMECS Dominant and Co-occurring Biotic Subclass	• Survey area overwhelmingly dominated by Soft Sediment Fauna, with many instances of tubes, tracks, and burrows. • Attached Fauna documented at only 4 stations (corresponded with coarser Substrate Groups/Subgroups), all of which were during the ICW HDD survey. • Dense macroalgal mats observed on the north side of the ICW HDD during the video survey. • Small, solitary SAV shoots were observed within this dense macroalgal bed; no SAV beds were documented.

Table 4.1-1		
BOEM Guidelines	**SPI/PV Survey Approach and Parameter(s)**	**Results summary**
Identification of potentially sensitive seafloor habitat	SPI and PV: Sensitive Taxa, Epifauna* PV: CMECS Dominant Biotic Subclass, Attached Flora/Fauna Percent Cover*, Habitat type	• *Diopatra* sp. (tube-building polychaete) observed frequently at nearshore SRWEC–NYS stations. • Sand dollars and cerianthids (burrowing anemones) occurred frequently along the SRWEC–NYS. • Bryozoa and serpulid tubes encrusted small gravel at several stations at the ICW HDD, although percent cover of attached fauna was generally low (Trace <1%). • No sensitive taxa, species of concern, or non-native taxa observed.
Characterization of macrofaunal community and any submerged aquatic vegetation (seagrass and macroalgae) Identification of taxa diversity	SPI and PV: Epifauna* SPI: Tubes/Voids, Successional Stage* PV: CMECS Dominant and Co-occurring Biotic Subclass and Group, Attached Flora/Fauna Percent Cover*, Burrows/Tubes/Tracks, Infauna, Flora	• Sand dollars and burrowing anemones (cerianthids) were commonly observed at stations as sand or sand and mud along the SRWEC–NYS. • The majority of surveyed area characterized as intermediate Successional Stage (2).
Identification of non-native taxa	SPI and PV: Non-native Taxa	• No non-native species documented.

5.0 REFERENCES

ASTM D 6913 (2013) Standard test methods for particle-size distribution (gradation) of soils using sieve analysis. American Society of Testing & Materials Handbook, Pennsylvania

Bull, D.C. and R.B. Williamson. 2001. Prediction of principal metal-binding solid phases in estuarine sediments from color image analysis. Environ. Sci. Tech. 35: 1658-1662.

Bureau of Ocean Energy Management (BOEM) Office of Renewable Energy Programs. 2019. Guidelines for Providing Benthic Habitat Survey Information for Renewable Energy Development on the Atlantic Outer Continental Shelf Pursuant to 30 CFR Part 585. June 2019.

Bureau of Ocean Energy Management (BOEM) Office of Renewable Energy Programs. 2020b. Guidelines for Providing Geophysical, Geotechnical, and Geohazard Information Pursuant to 30 CFR Part 585. May 27, 2020.

Bureau of Ocean Energy Management (BOEM) Office of Renewable Energy Programs. 2020c. Guidelines for Providing Archaeological and Historic Property Information Pursuant to 30 CFR Part 585. May 27, 2020.

Colarusso, P. and A. Verkade. 2016. Joint Federal Agency: Submerged aquatic vegetation Survey Guidance for the New England Region.

Federal Geographic Data Committee (FGDC). 2012. FGDC-STD-018-2012. Coastal and Marine Ecological Classification Standard. Reston, VA.

Fenchel, T. 1969. The ecology of marine macrobenthos IV. Structure and function of the benthic ecosystem, its chemical and physical factors and the microfauna communities with special reference to the ciliated protozoa. Ophelia 6: 1-182.

Fredette, T.J., W.F. Bohlen, D.C. Rhoads, and R.W. Morton. 1988. Erosion and resuspension effects of Hurricane Gloria at Long Island Sound dredged material disposal sites. In: Willey, R.G., editor. Water Quality ’88, Seminar Proceedings; 1988 Feb 20–23; Charleston, SC. Davis (CA): U.S. Army Corps of Engineers, Hydraulic Engineering Center. p. 323-334.

Germano, J.D., D.C. Rhoads, R.M. Valente, D. Carey, and M. Solan. 2011. The use of Sediment Profile Imaging (SPI) for environmental impact assessments and monitoring studies: lessons learned from the past four decades. Oceanogr. Mar. Biol. 49: 247-310.

Greene, H.G., J.J. Bizzarro, V.M. O’Connell, and C.K. Brylinsky. 2007, Construction of digital potential marine benthic habitat maps using a coded classification scheme and its applications, in Todd, B.J., and Greene, H.G., eds., Mapping the Seafloor for Habitat Characterization: Geological Association of Canada, Special Paper 47, p. 147-162.

Guida, V., A. Drohan, H. Welch, J. McHenry, D. Johnson, V. Kentner, J. Brink, D. Timmons, and E. Estela-Gomez. 2017. Habitat Mapping and Assessment of Northeast Wind Energy Areas. Sterling, VA: US Department of the Interior, Bureau of Ocean Energy Management. OCS Study BOEM 2017-088. 312 p.

Horn, H.S. 1974. The ecology of secondary succession. Annu. Rev. Ecol. Systemat. 5: 25-37.

Huettel, M., W. Ziebis, and S. Forster. 1996. Flow-induced uptake of particulate matter in permeable sediments. Limnol. Oceanogr. 41: 309-322.

INSPIRE Environmental. 2019. Standard operating procedure for sediment profile and plan view imaging sample collection and image analysis. Prepared by INSPIRE Environmental, March 2019.

INSPIRE Environmental. 2020. Benthic Resources Characterization Report – Federal Waters, Sunrise Wind Farm Project. Prepared for Stantec, Quincy, MA and Sunrise Wind LLC. Prepared by INSPIRE Environmental. September 2020.

Jorgensen, B.B. and T. Fenchel. 1974. The sulfur cycles of a marine sediment model system. Mar. Biol. 24: 189-201.

Karakassis, I., M. Tsapakis, C.J. Smith, and H. Rumohr. 2002. Fish farming impacts in the Mediterranean studied through sediment profiling imagery. Mar. Ecol. Progr. 227: 125-133.

Lyle, M. 1983. The brown-green colour transition in marine sediments: a marker of the Fe (III) – Fe (II) redox boundary. Limnol. Oceanogr. 28: 1026-1033.

Marine Surveys. 1984. Chesapeake Bay Disposal Sites Survey: REMOTS® Baseline Monitoring. February 1984. New Haven, Connecticut: final report prepared for Virginia Institute of Marine Science, Gloucester Point, VA.

Nilsson, H.C. and R. Rosenberg. 1997. Benthic habitat quality assessment of an oxygen stressed fjord by surface and sediment profile images. J. Mar. Syst. 11: 249-264.

New York Department of State (NYSDOS), GOSR, NOAA, Dewberry. 2020. 2018 Long Island South Shore Benthic Habitat 2018 (LISS_Biotic_2018_Contractor_Final). Available from http://opdgig.dos.ny.gov/#/home

New York State Energy Research and Development Authority (NYSERDA). 2017. New York State Offshore Wind Master Plan Analysis of Multibeam Echo Sounder and Benthic Survey Data. Final Report Prepared for NYSERDA, prepared by INSPIRE Environmental. NYSERDA Report 17-25a December 2017. Available from https://www.nyserda.ny.gov/-/media/Files/Publications/Research/Biomass-Solar-Wind/Master-Plan/17-25a-MBES-and-Benthic-Survey-Data.pdf

New York State Seagrass Task Force (STF). 2009. Final Report of the New York State Seagrass Task Force: Recommendations to the New York State Governor and Legislature December 2009. https://www.dec.ny.gov/docs/fish_marine_pdf/finalseagrassreport.pdf

NOAA Habitat (NOAA National Marine Fisheries Greater Atlantic Regional Fisheries Office Habitat Conservation and Ecosystem Services Division). 2020. Recommendations for Mapping Fish Habitat. May 2020.

Pearson, T.H. and R. Rosenberg. 1978. Macrobenthic succession in relation to organic enrichment and pollution of the marine environment. Oceanogr. Mar. Biol. 16: 229-311.

Rhoads, D.C. 1974. Organism-sediment relations on the muddy seafloor. Oceanogr. Mar. Biol. 12: 263-300.

Rhoads, D.C. and L.F. Boyer. 1982. The effects of marine benthos on physical properties of sediments. In: McCall, P.L. and M.J.S. Tevesz, editors. Animal-sediment relations. New York (NY): Plenum Press. p. 3-52.

Rhoads, D.C. and J.D. Germano. 1982. Characterization of organism-sediment relations using sediment profile imaging: an efficient method of remote ecological monitoring of the seafloor (REMOTS System). Mar. Ecol. Progr. 8: 115-128.

Rosenberg, R., H.C. Nilsson, and R.J. Diaz. 2001. Response of benthic fauna and changing sediment redox profiles over a hypoxic gradient. Estuar. Coast. Shelf Sci. 53: 343-350.

Simone, M. and J. Grant. 2017. Visual assessment of redoxcline compared to electron potential in coastal marine sediments. Estuar. Coast. Shelf Sci. 188: 156-162.

Sturdivant, S.K. and M.S. Shimizu. 2017. In situ organism-sediment interactions: bioturbation and biogeochemistry in a highly depositional estuary. PLoS ONE 12(11): e0187800.

USGS. 2020. usSEABED: Coastal and Marine Geology Program. https://walrus.wr.usgs.gov/usseabed/ Accessed: 6/30/2020

Wentworth, C. K. 1922. “A Scale of Grade and Class Terms for Clastic Sediments.” *The Journal of Geology* 30: 377–392.

Benthic Resources Characterization Report – New York State Waters

FIGURES

Sunrise Wind Farm Project

Prepared for:

Stantec Consulting Services Inc.
400 Crown Colony Drive
Quincy, MA 02169

and

Sunrise Wind | Powered by Ørsted & Eversource
Sunrise Wind LLC

Prepared by:

INSPIRE Environmental
513 Broadway, Suite 314
Newport, Rhode Island 02840

December 2020

LIST OF FIGURES

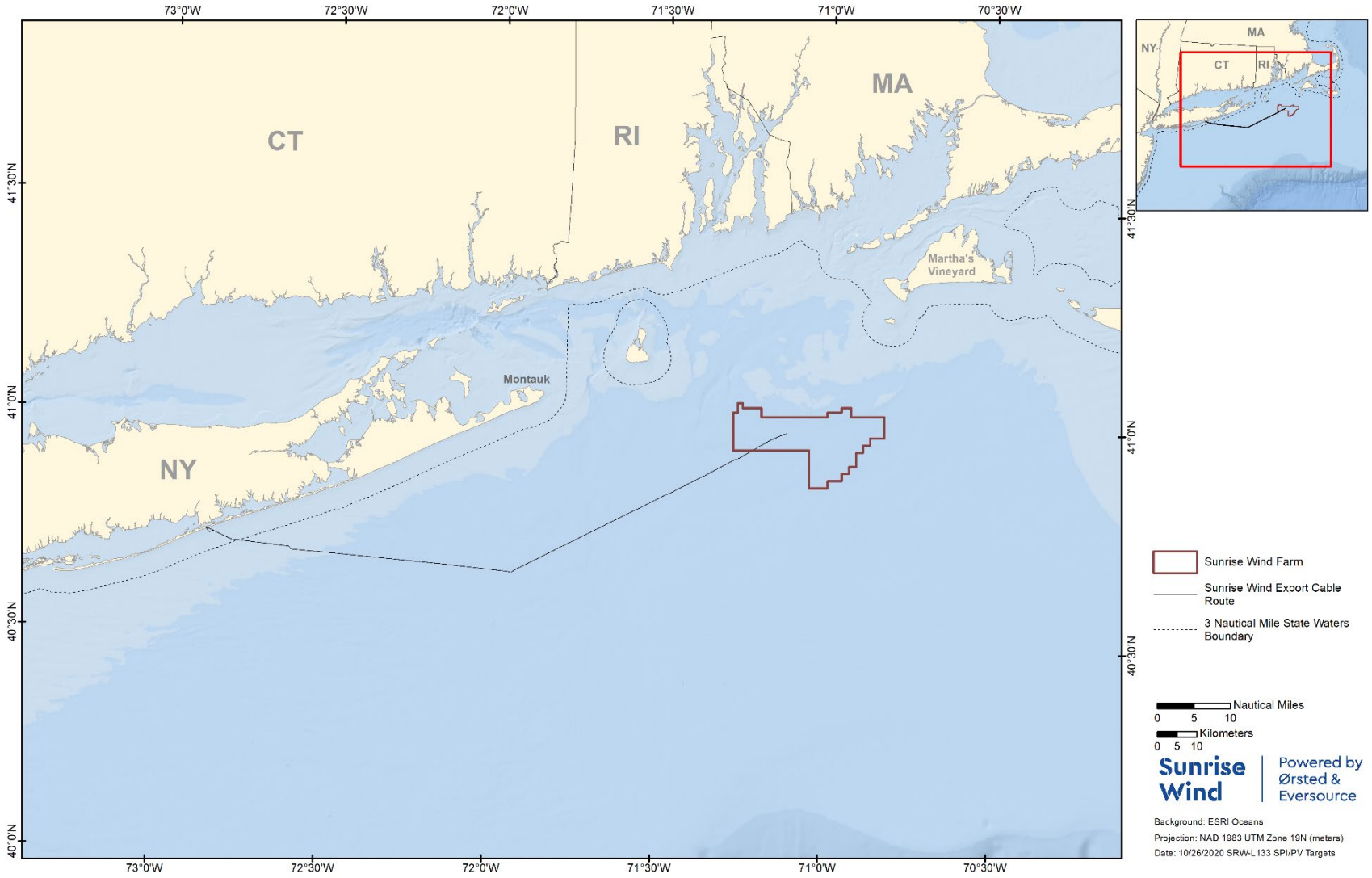


Figure 1.1-1 Location of the planned Sunrise Wind Farm (SRWF) and Export Cable Corridor (SRWEC)

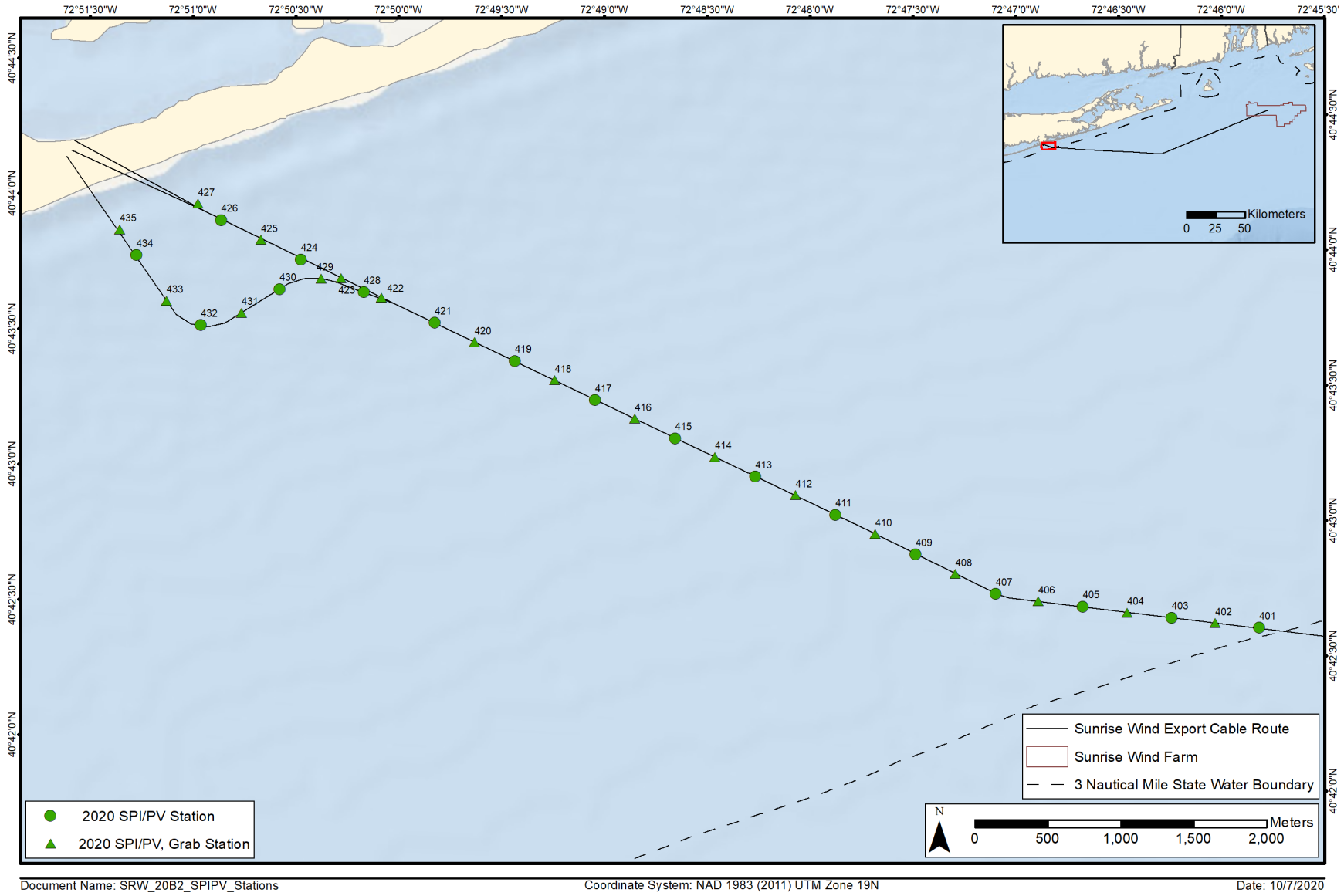


Figure 2.1-1 Station locations where SPI and PV images and sediment grabs were collected along the SRWEC–NYS

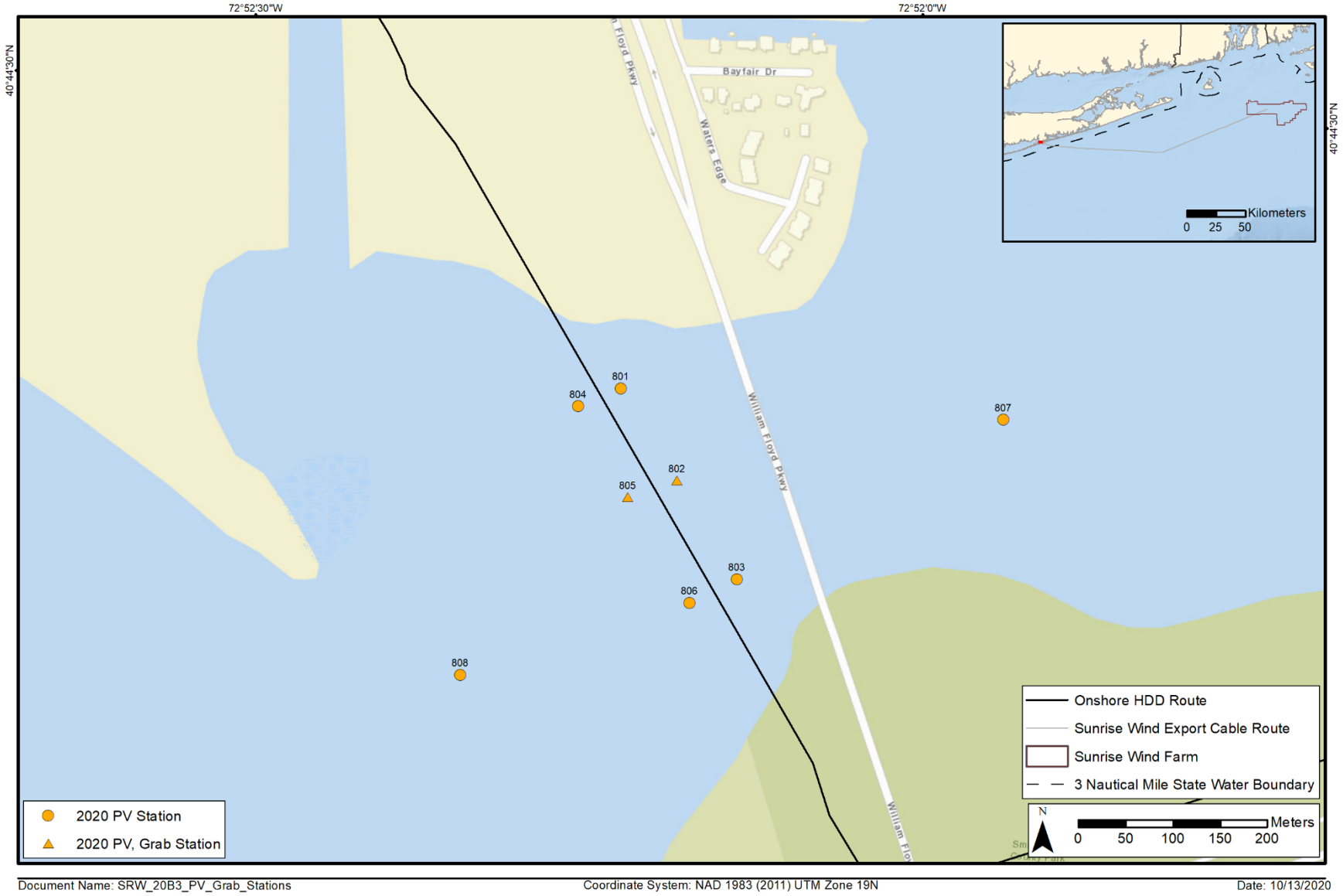


Figure 2.1-2 Station locations where PV images and sediment grabs were collected along the ICW HDD

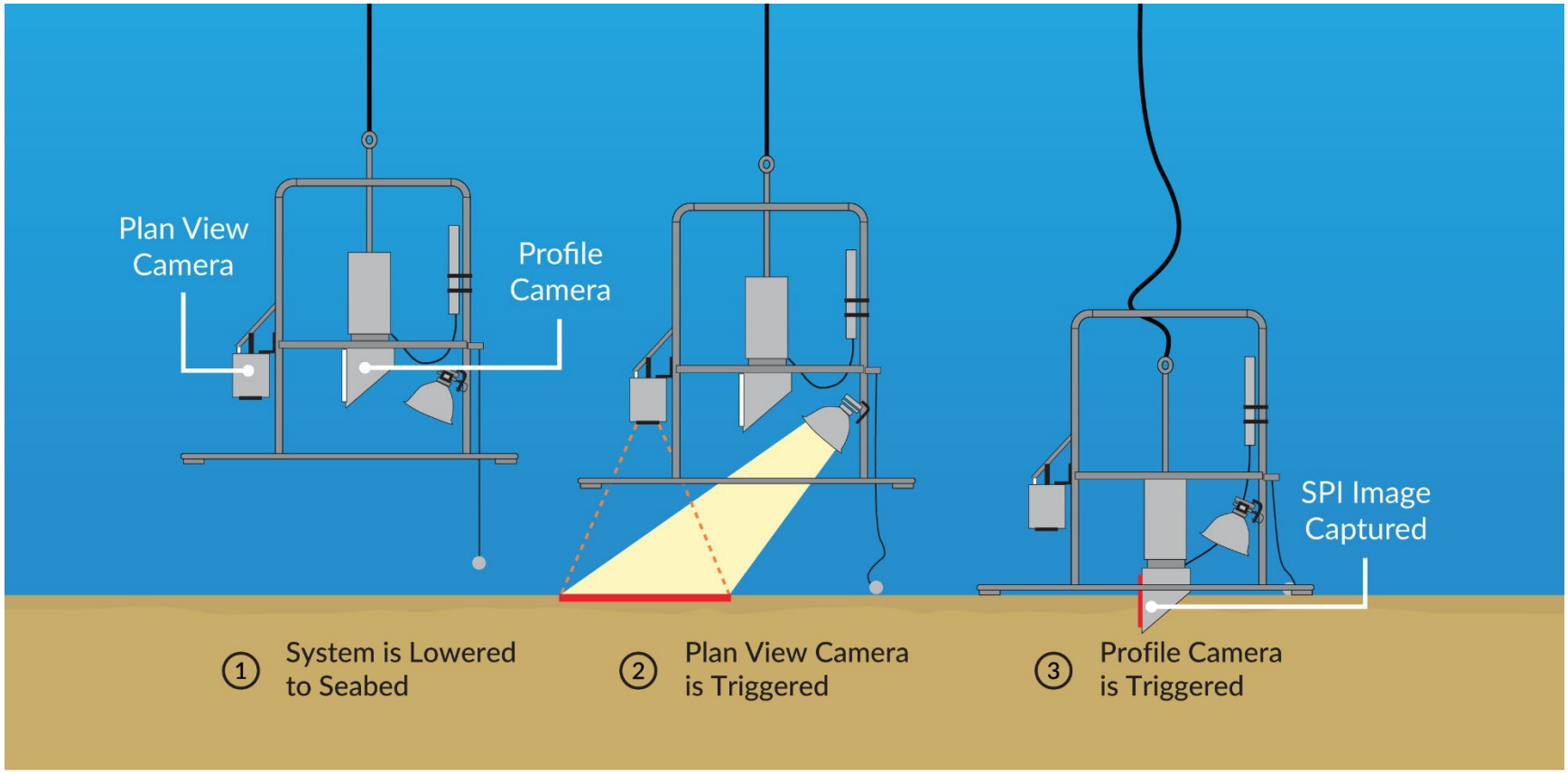


Figure 2.1-3 Schematic diagram of the operation of the sediment profile and plan view camera imaging system

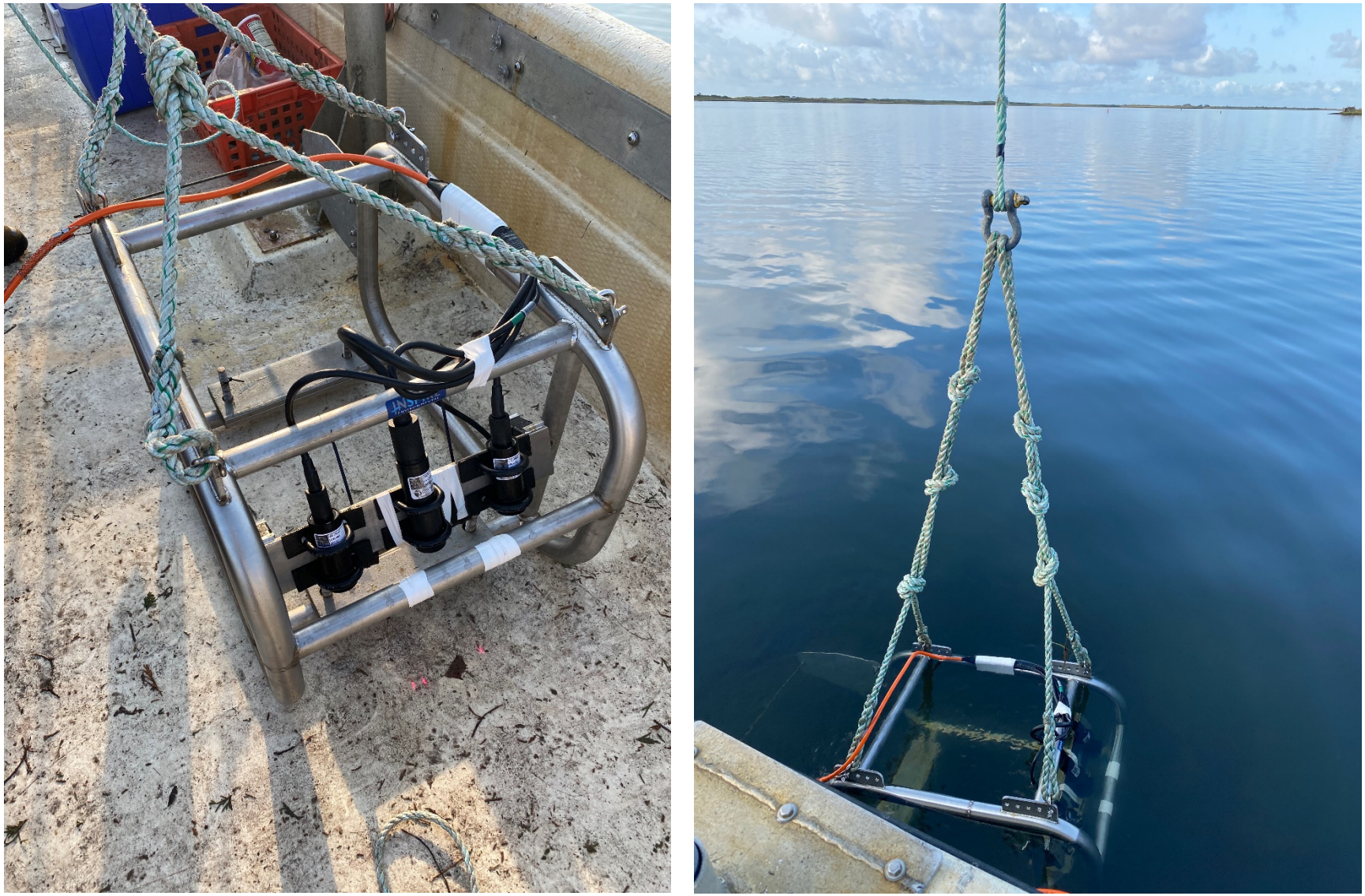


Figure 2.3-1 Photographs of the video sled used during the ICW survey to collect video footage in order to detect the presence and extent of submerged aquatic vegetation (SAV) within 100 m of the planned HDD route

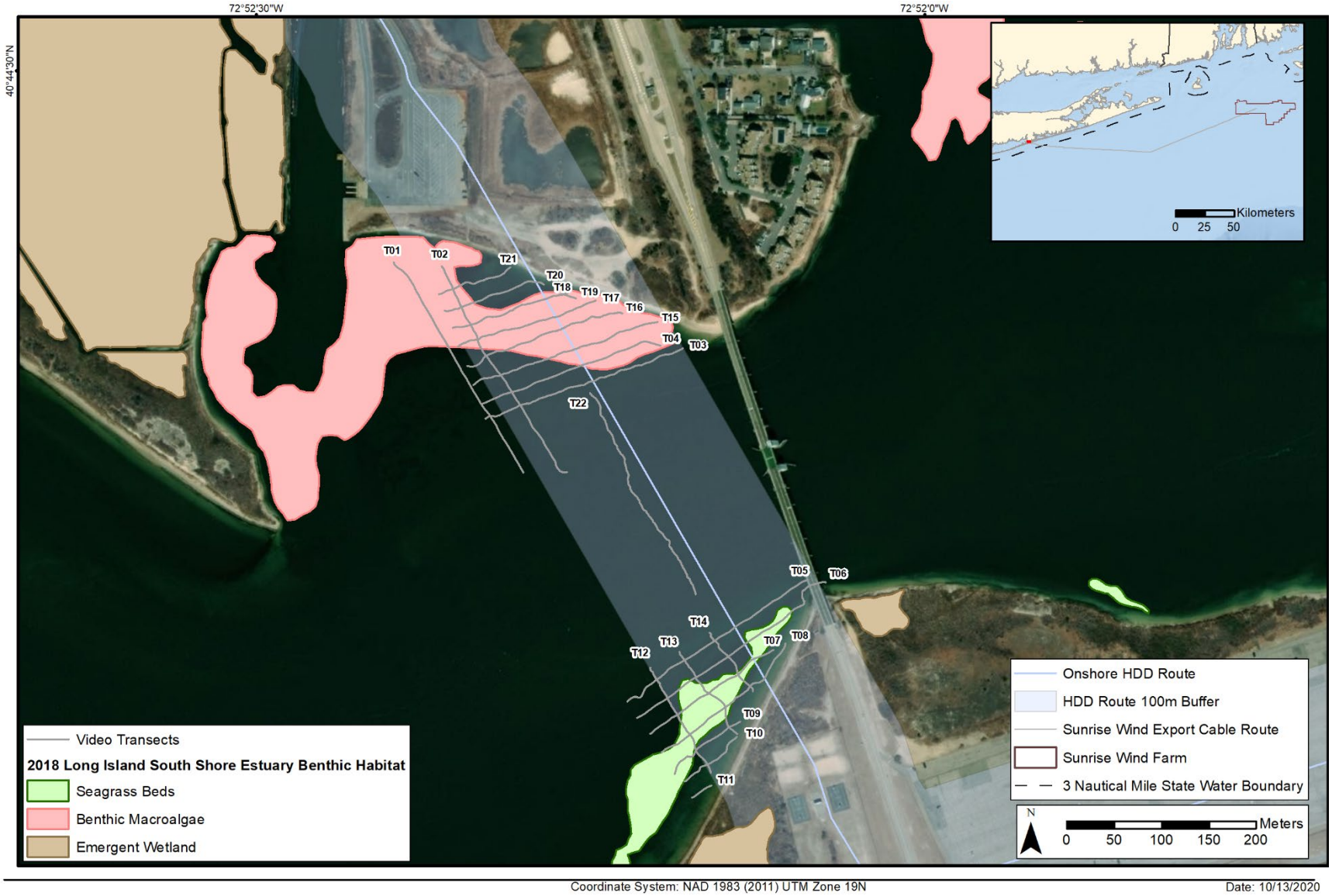


Figure 2.3-2 Video transects conducted near the ICW HDD in relation to the macroalgal and SAV beds observed in 2018 (NYDOS, 2020)

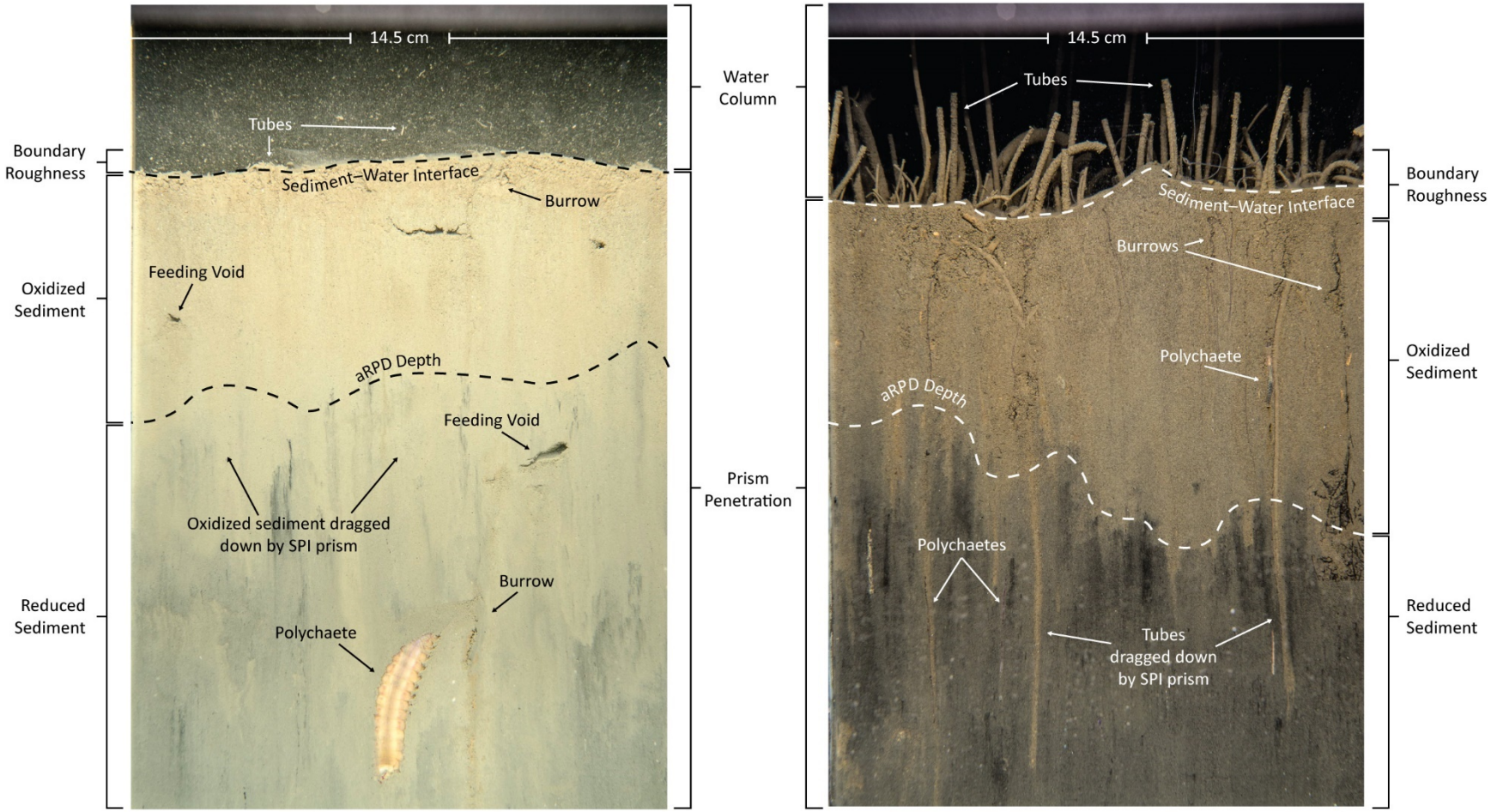


Figure 2.4-1 **SPI images from soft bottom coastal and estuarine environments annotated with many standard variables derived from SPI images. The water column, depth of prism penetration, boundary roughness of the sediment–water interface, and zones of oxidized and reduced sediment are denoted with brackets. The apparent redox potential discontinuity (aRPD), the boundary between oxidized and reduced sediments, is marked with a dashed line. Infauna and related structures (tubes, burrows, feeding voids) are noted with arrows.**

Figure 2.4-2 This representative plan view image shows the sampling relationship between plan view and sediment profile images. Note: plan view images differ between surveys and stations and the area covered by each plan view image may vary slightly between images and stations.

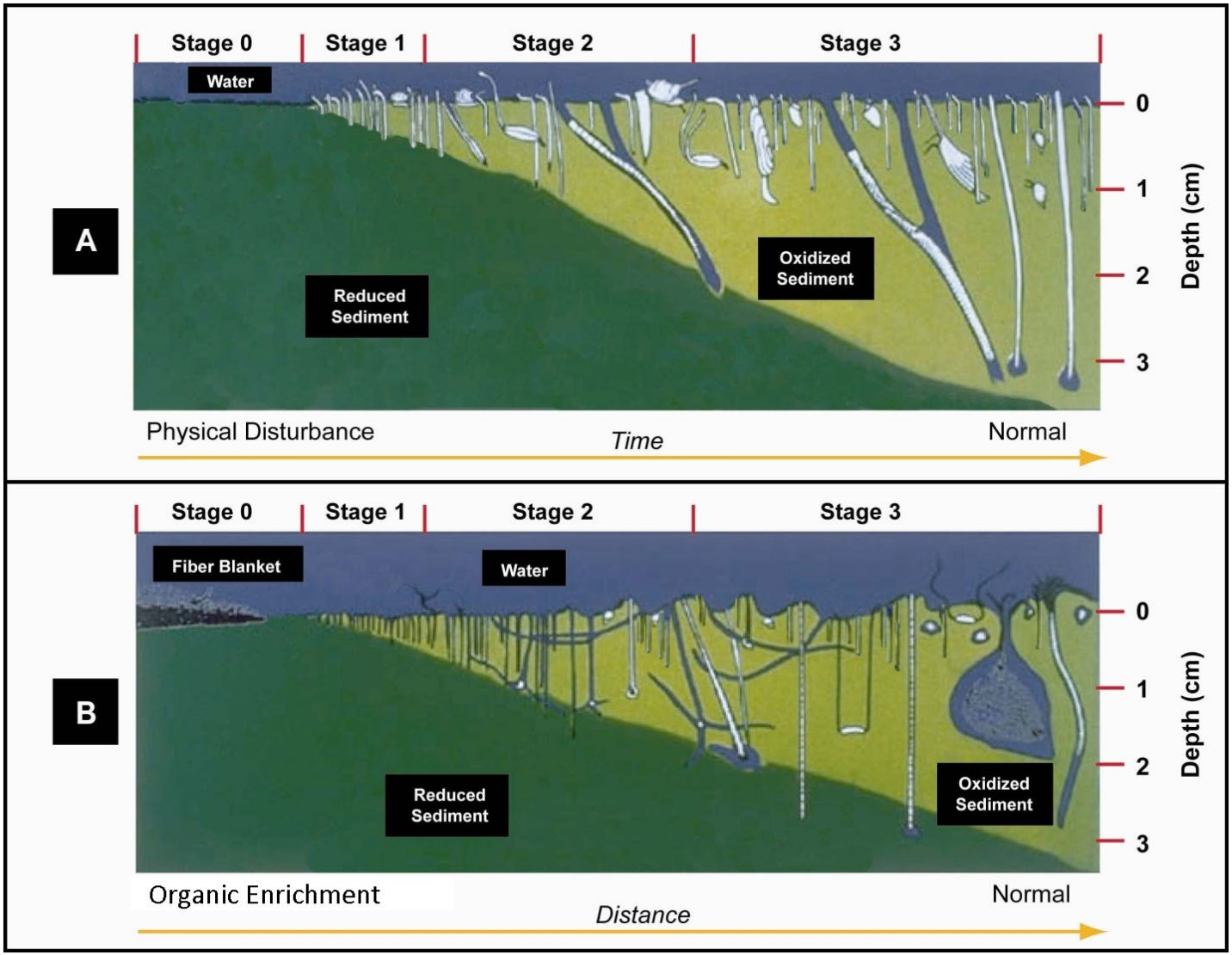


Figure 2.4-3 **The stages of infaunal succession as a response of soft bottom benthic communities to (A) physical disturbance or (B) organic enrichment; from Rhoads and Germano (1982)**

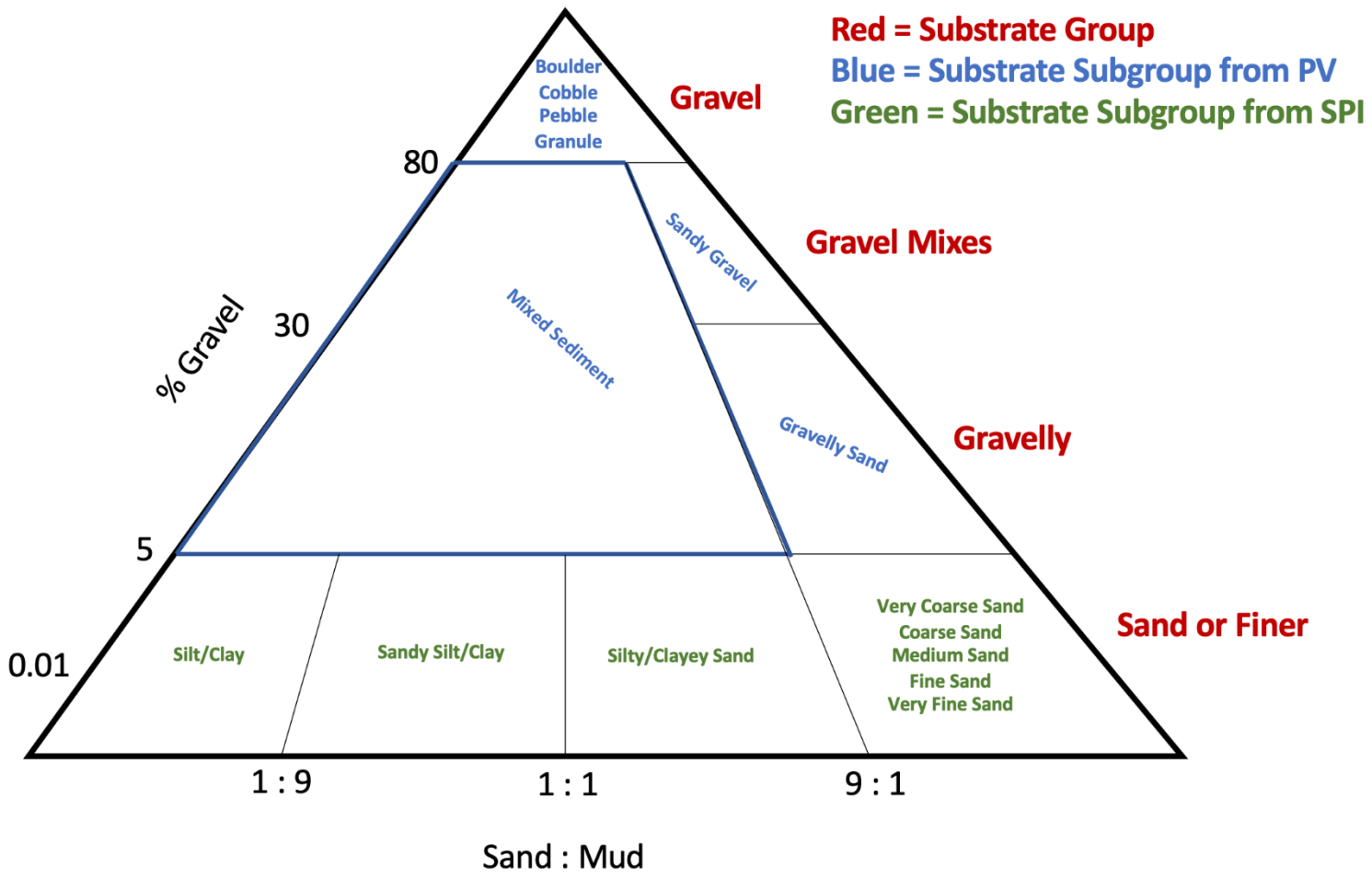


Figure 2.4-4 **A ternary diagram adapted from Folk (1954) by CMECS (FDGC 2012) and further tailored for SPI/PV data. The diagram illustrates the standard Folk threshold values for Gravel-Sand-Mud combinations for classifying CMECS Substrate Group and Subgroup. Grain size bins are determined using Wentworth (1922) as described in the text.**

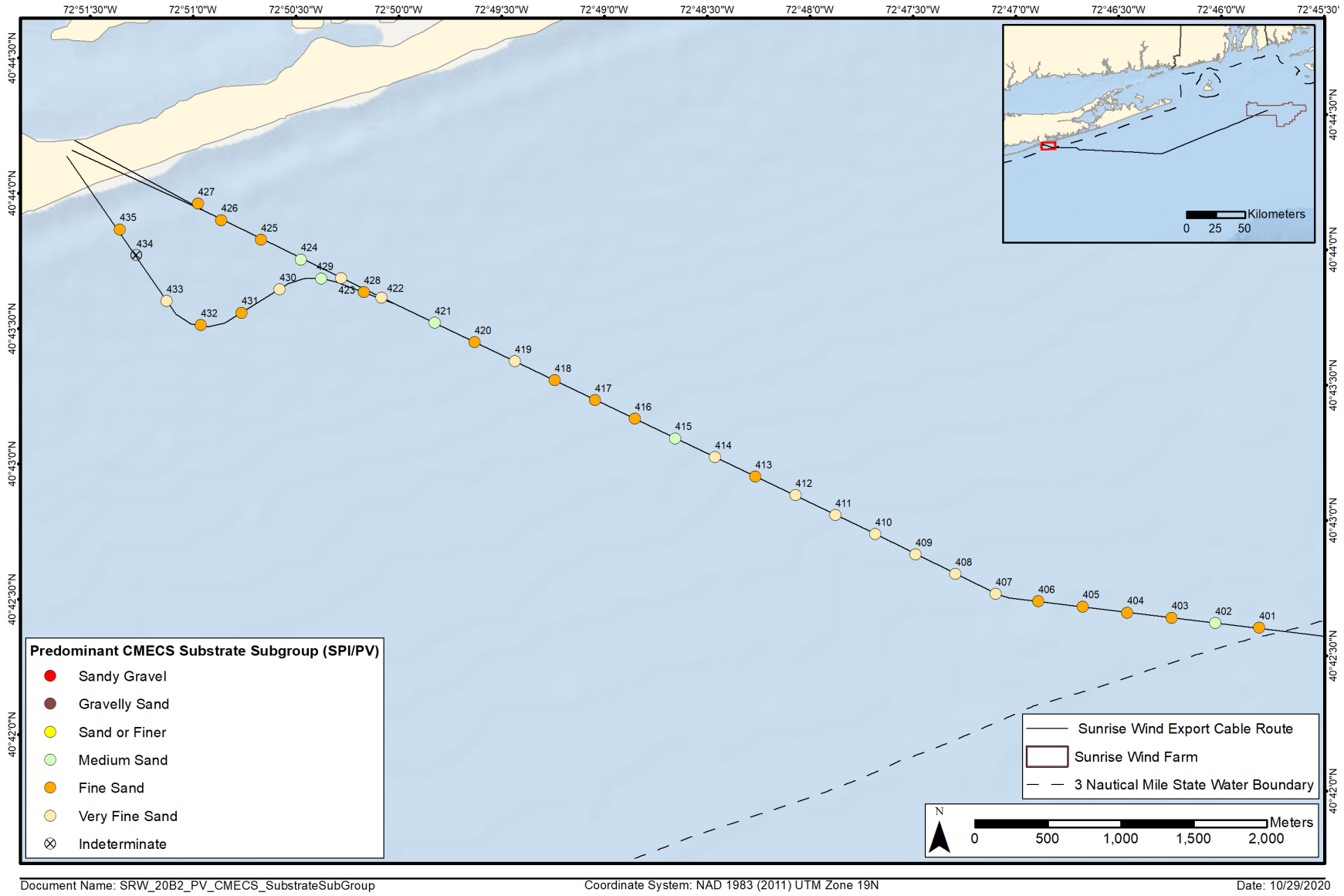


Figure 3.1-1 Predominant CMECS Substrate Subgroup derived from both SPI and PV images at the SRWEC–NYS

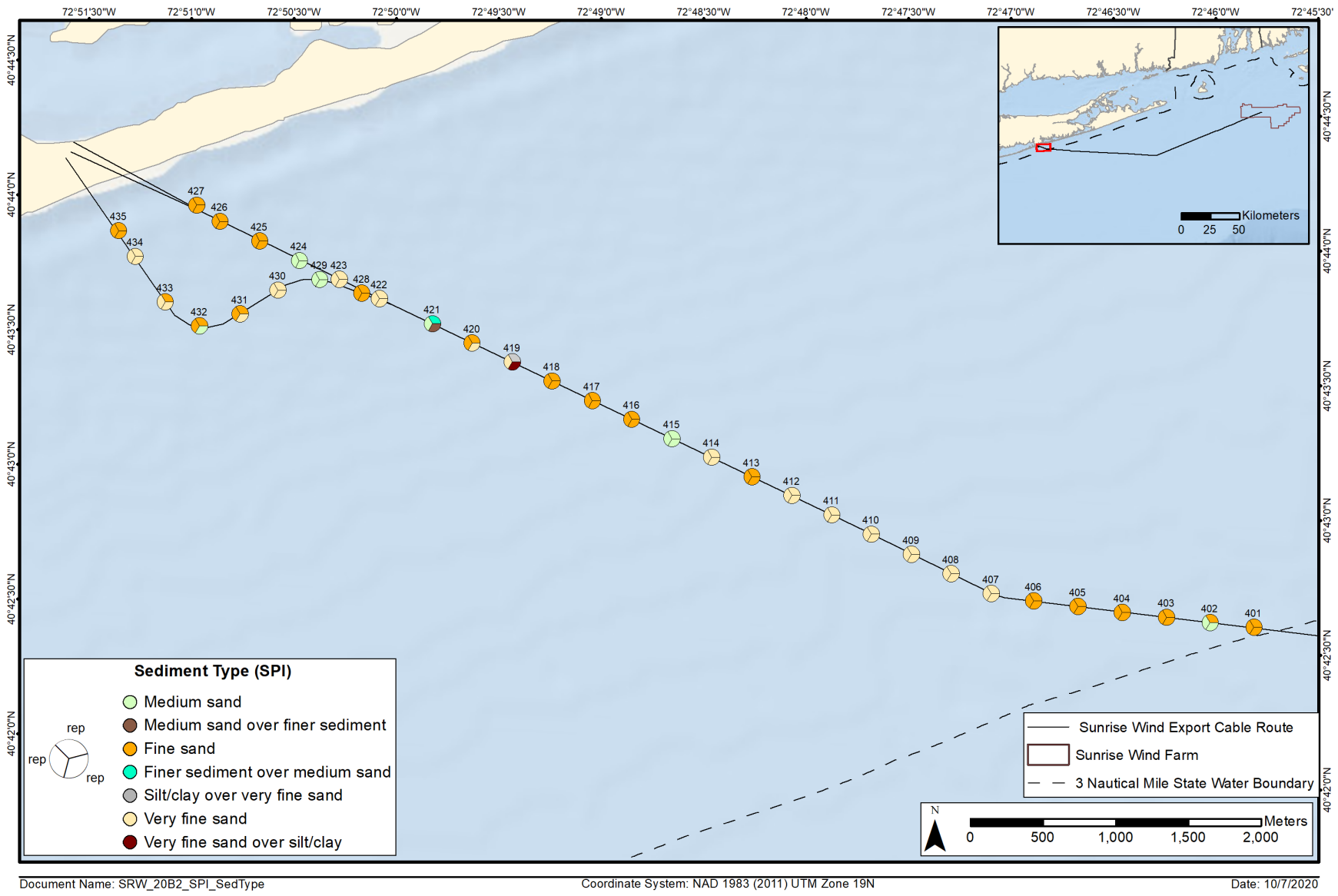


Figure 3.1-2 Sediment types aggregated from grain size major mode (phi units) derived from SPI images at the SRWEC–NYS

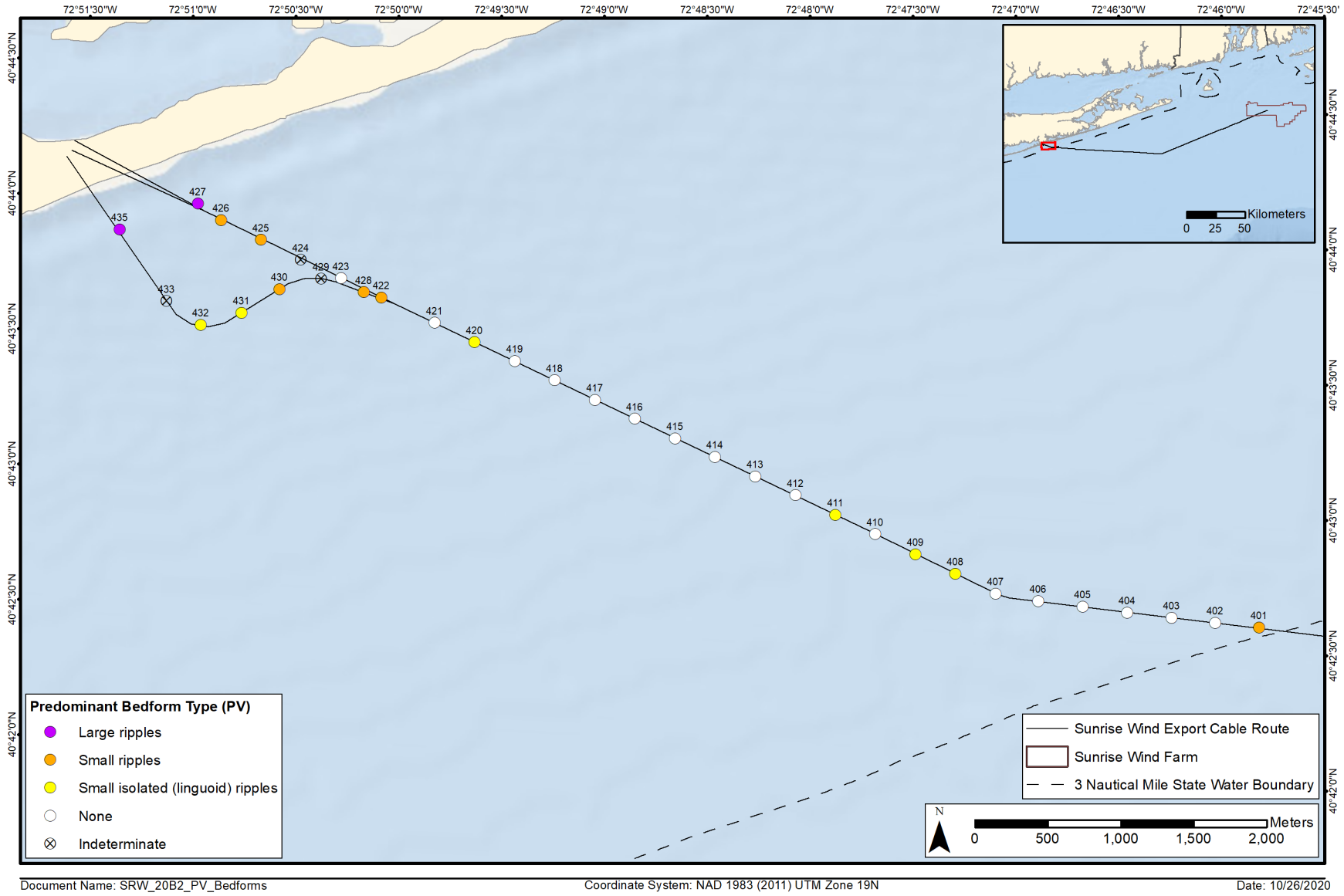


Figure 3.1-3 Small-scale bedforms observed in PV images collected at the SRWEC–NYS

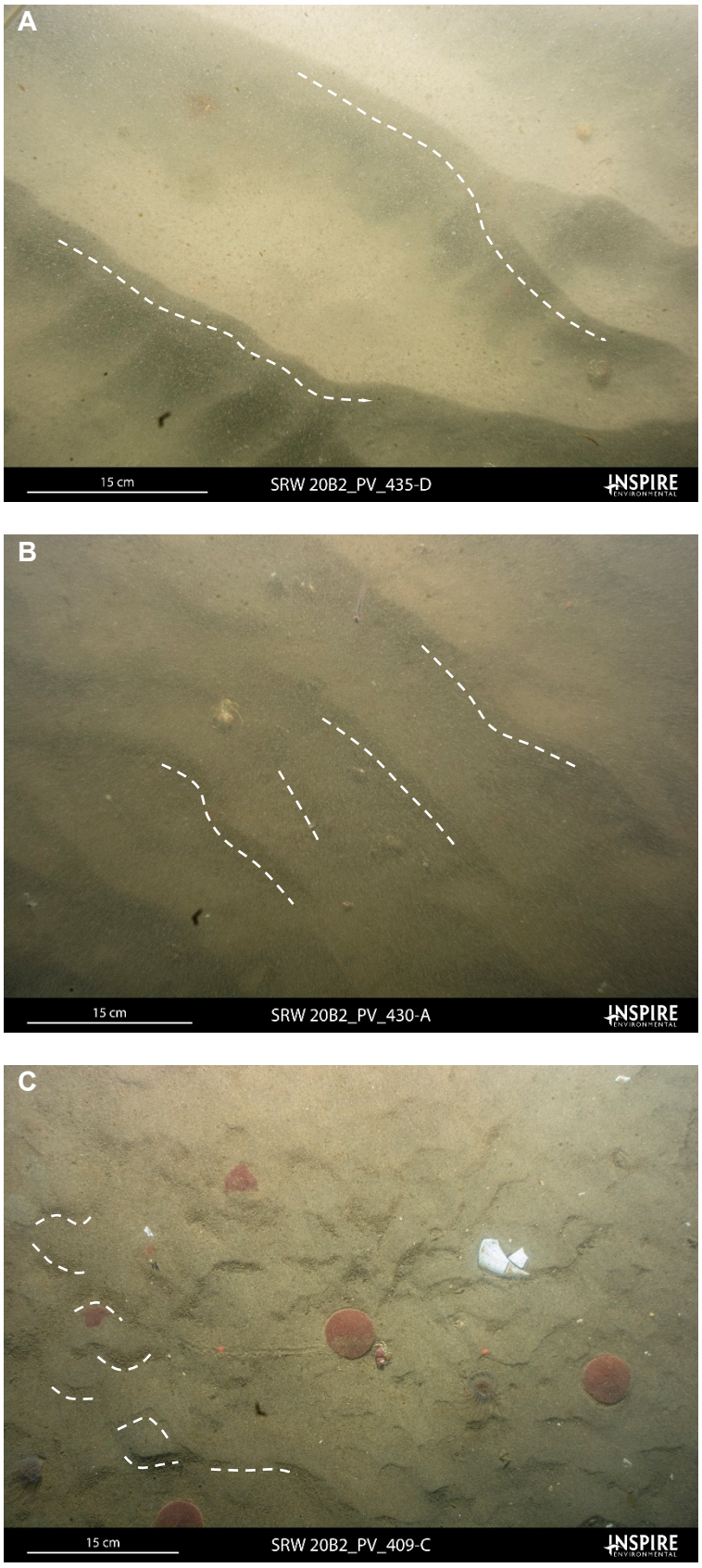


Figure 3.1-4 Representative plan view images depicting bedforms observed at the SRWEC–NYS including (A) large; (B) small; and (C) small isolated (linguoid) ripples (dashed lines)

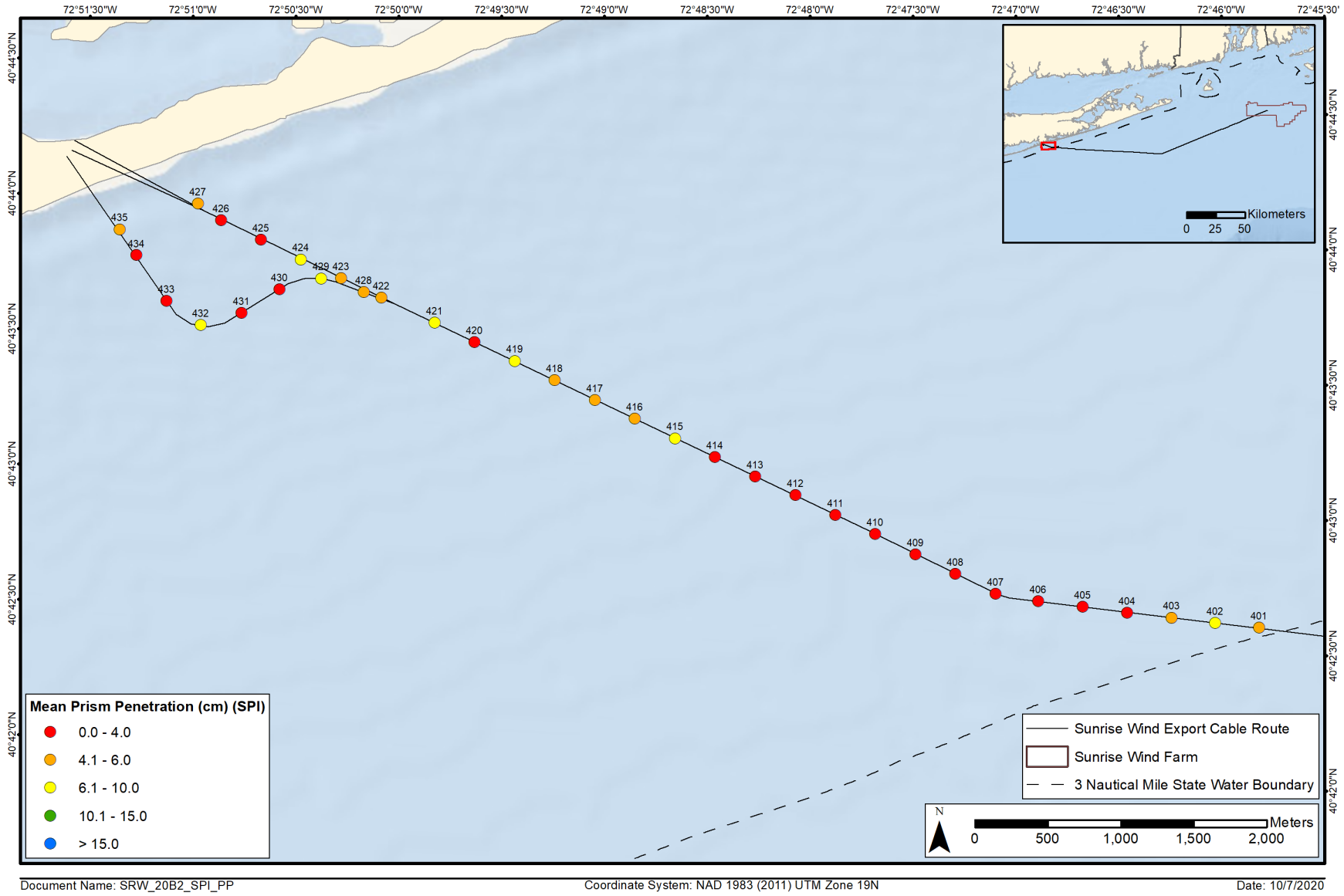


Figure 3.1-5 Mean station camera prism penetration depths (cm) at the SRWEC–NYS

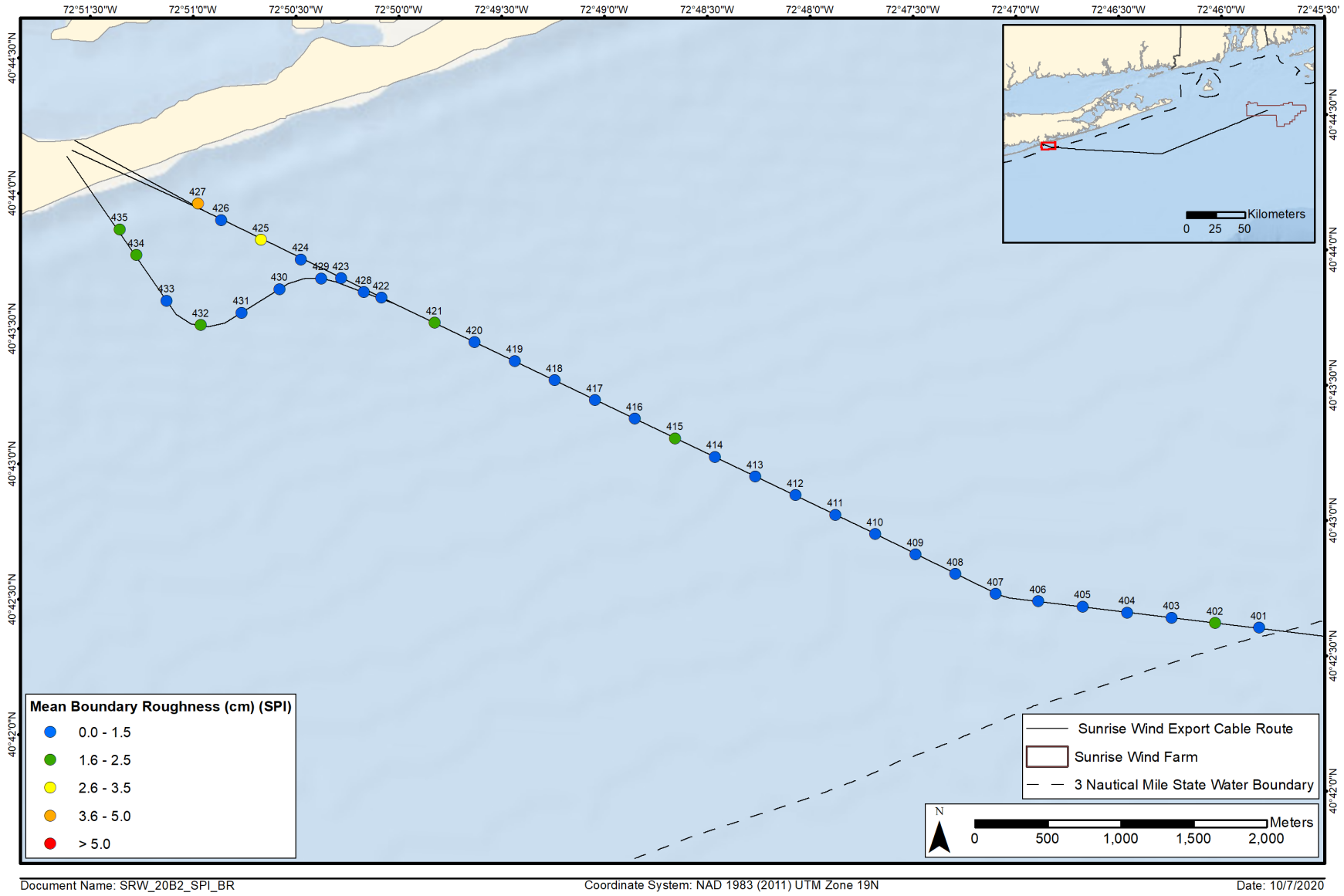


Figure 3.1-6 Mean station small-scale boundary roughness (cm) at the SRWEC–NYS

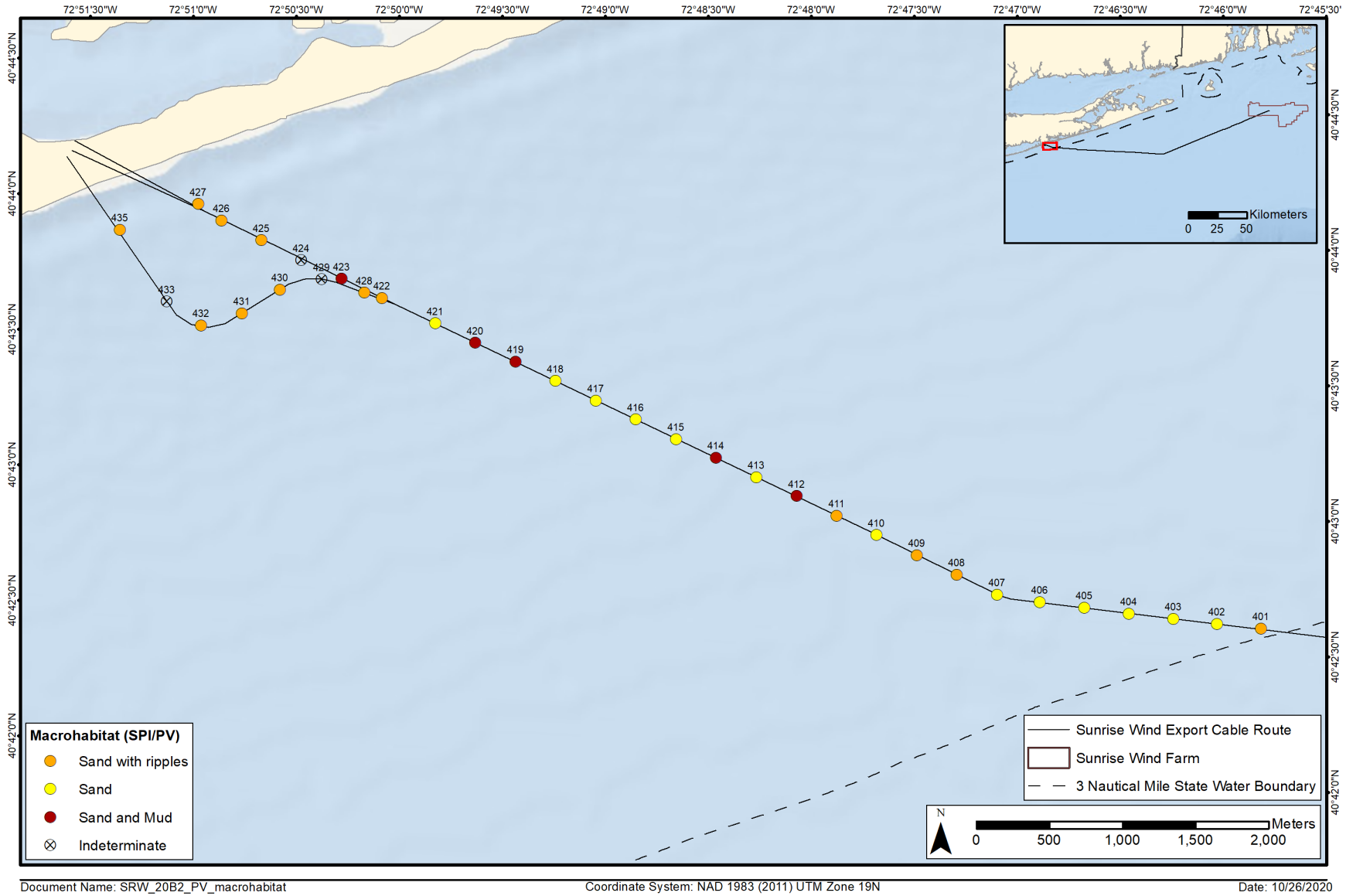


Figure 3.1-7 Macrohabitat type at the SRWEC–NYS, which was derived from a subset of both SPI and PV parameters including CMECS Substrate Group, grain size major mode, and bedform presence

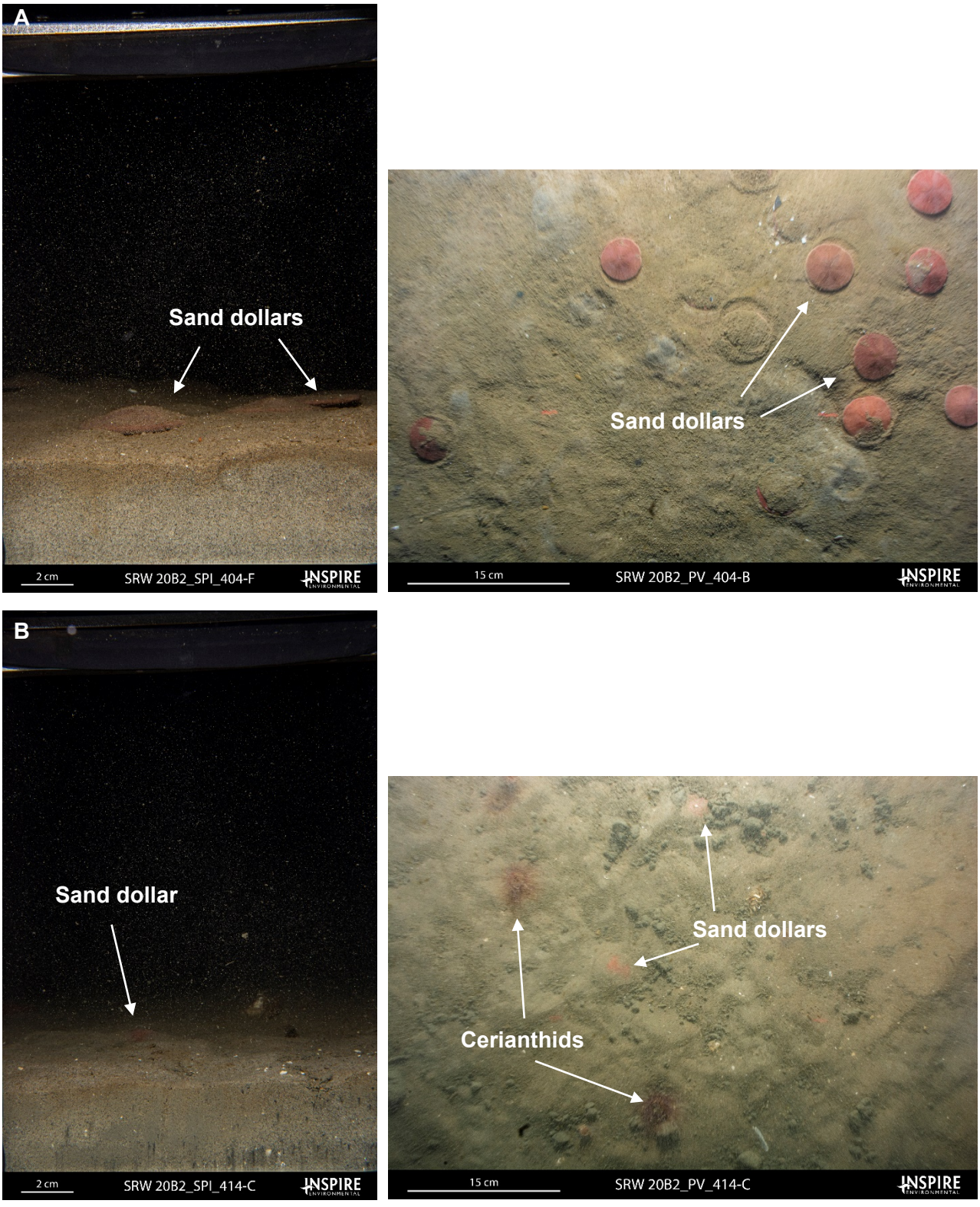


Figure 3.1-8 **Representative SPI and PV images depicting the range of macrohabitat types documented at SRWEC–NYS; (A) *sand* inhabited by sand dollars; (B) *sand and mud* inhabited by cerianthids and sand dollars; and (C) *sand with ripples* with mud snails and tube-building *Diopatra* sp.**

Figure 3.1-8 continued Representative SPI and PV images depicting the range of macrohabitat types documented at SRWEC–NYS; (A) *sand* inhabited by sand dollars; (B) *sand and mud* inhabited by cerianthids and sand dollars; and (C) *sand with ripples* with mud snails and tube-building *Diopatra* sp.

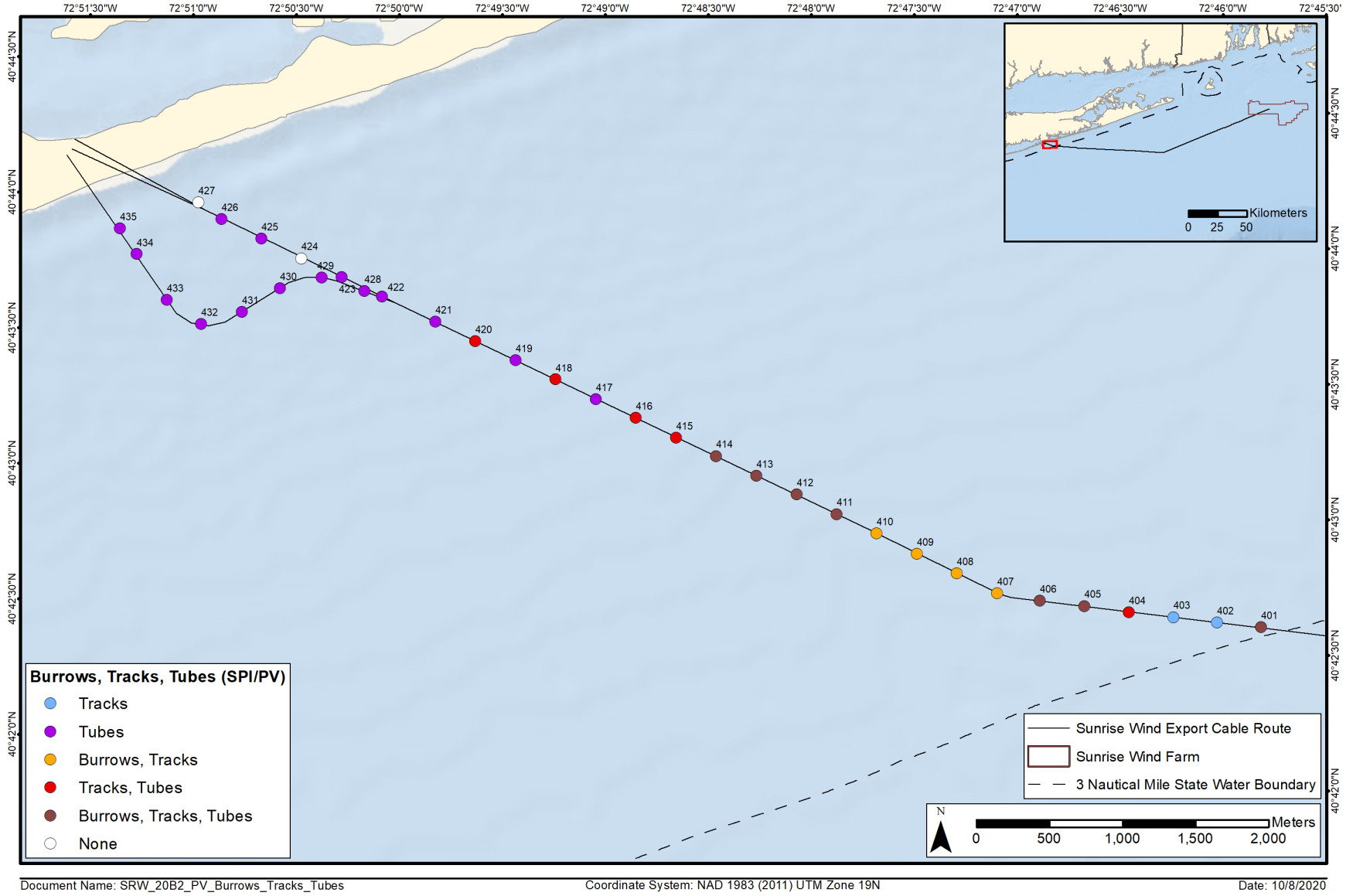


Figure 3.1-9 Occurrences of burrows, tracks, and tubes at the SRWEC–NYS

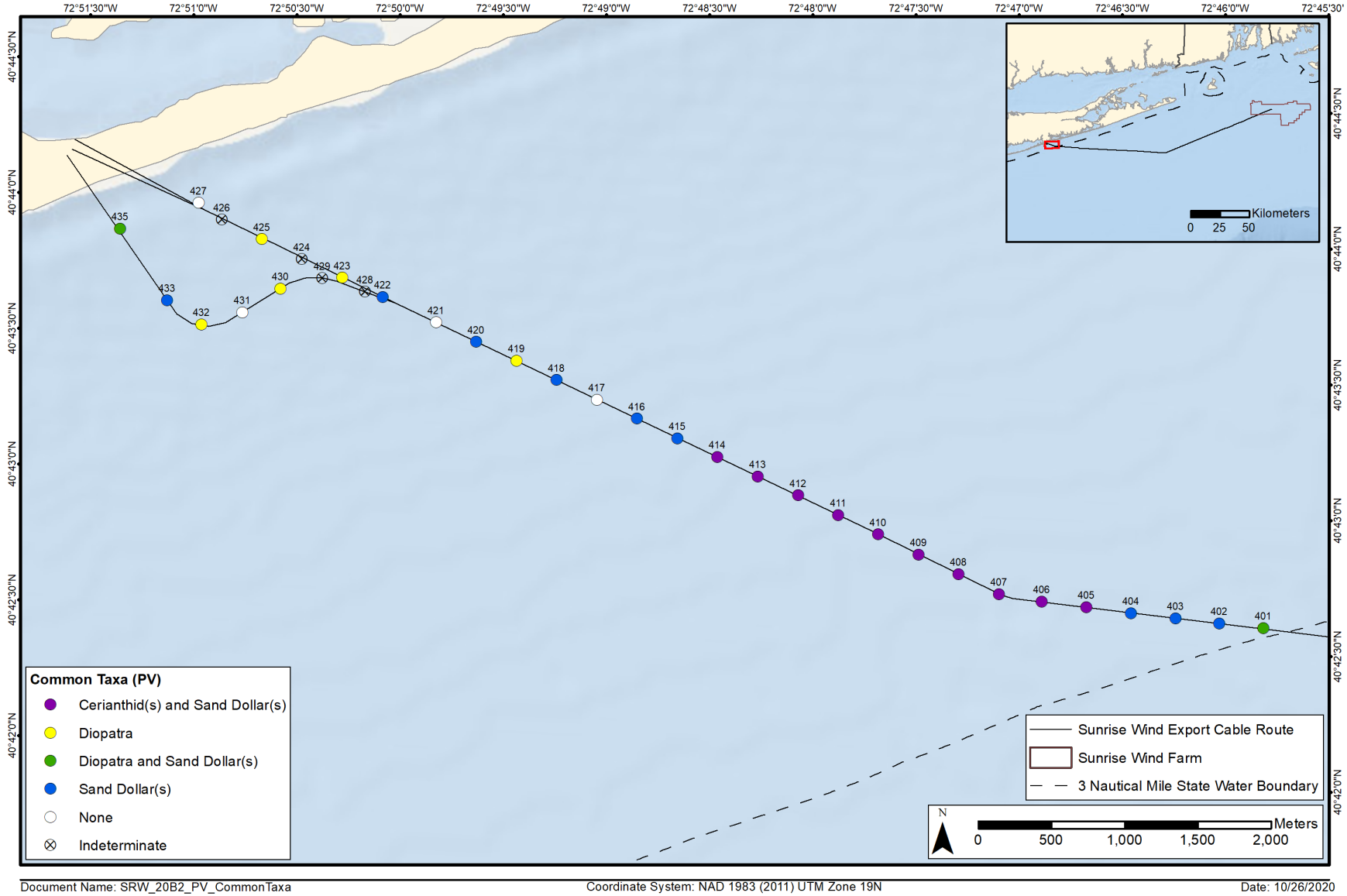


Figure 3.1-10 Distribution of burrowing anemones (cerianthids), sand dollars, and *Diopatra* sp., three commonly observed taxa along the SRWEC–NYS

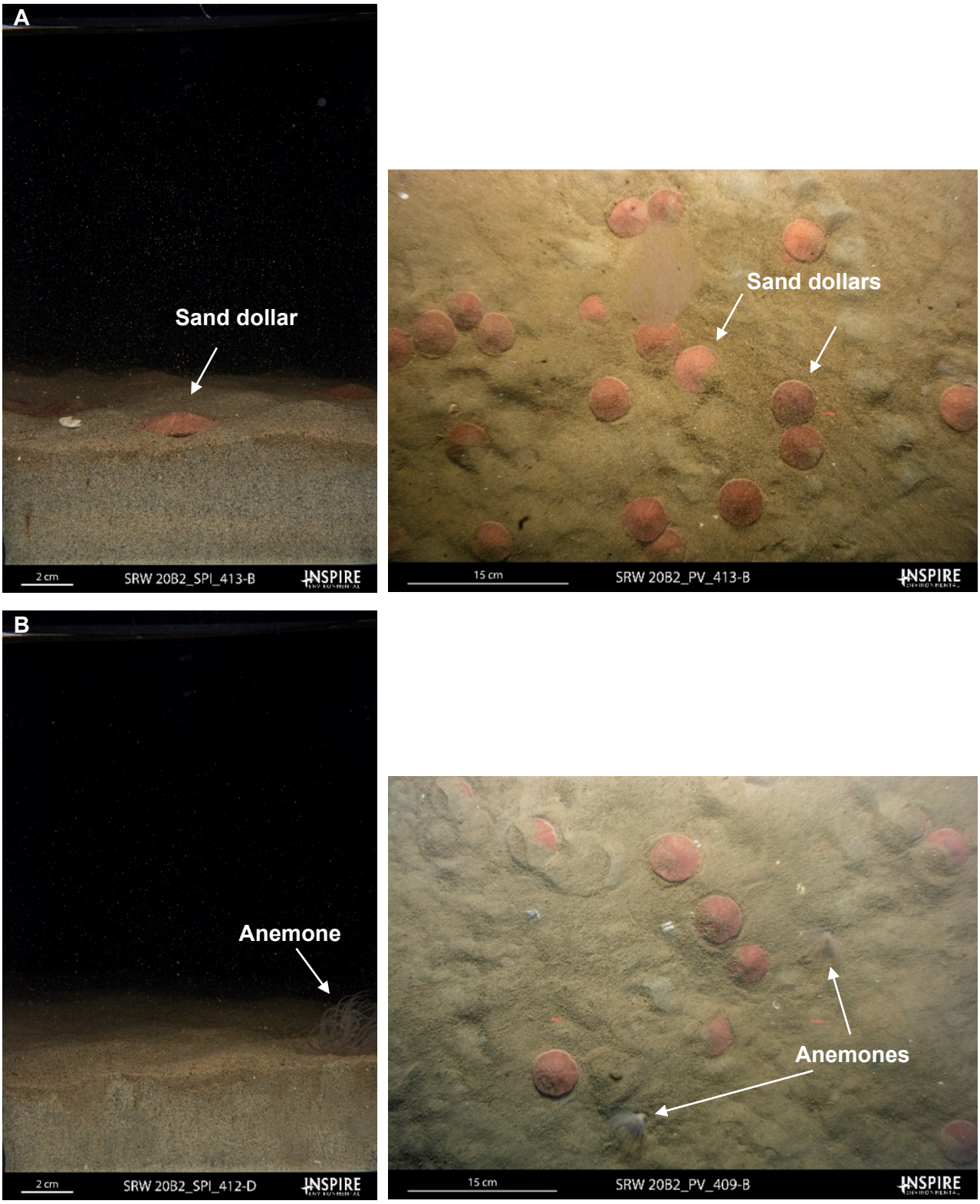


Figure 3.1-11 **Representative SPI and PV images showing species frequently observed along the SRWEC–NYS including (A) sand dollars; (B) burrowing anemones (cerianthids); and (C) tube-building polychaete, *Diopatra* sp. The selected SPI images also show examples of darker sediment at the sediment–water interface that may be indicative of ephemeral organic matter deposition and/or benthic microalgal biomass.**

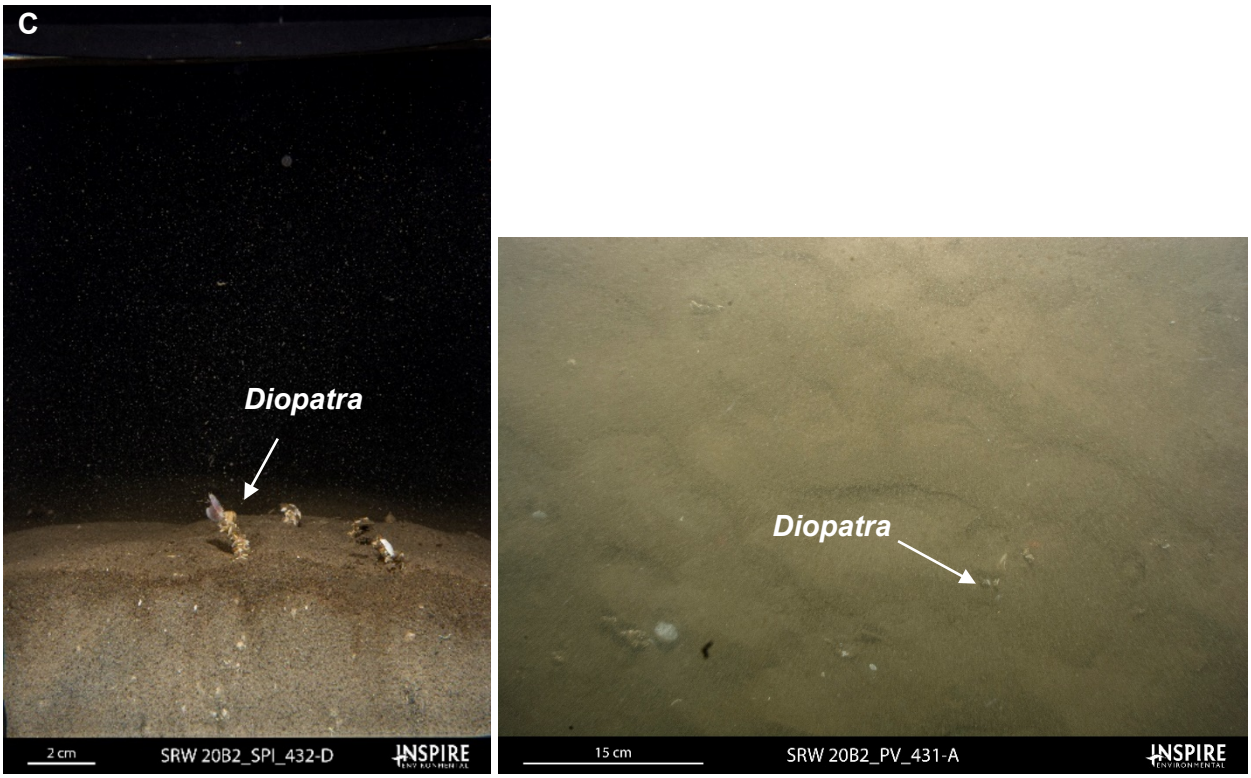


Figure 3.1-11 continued Representative SPI and PV images showing species frequently observed along the SRWEC–NYS including (A) sand dollars; (B) burrowing anemones (cerianthids); and (C) tube-building polychaete, *Diopatra* sp. The selected SPI also show examples of darker sediment at the sediment–water interface that may be indicative of ephemeral organic matter deposition and/or benthic microalgal biomass.

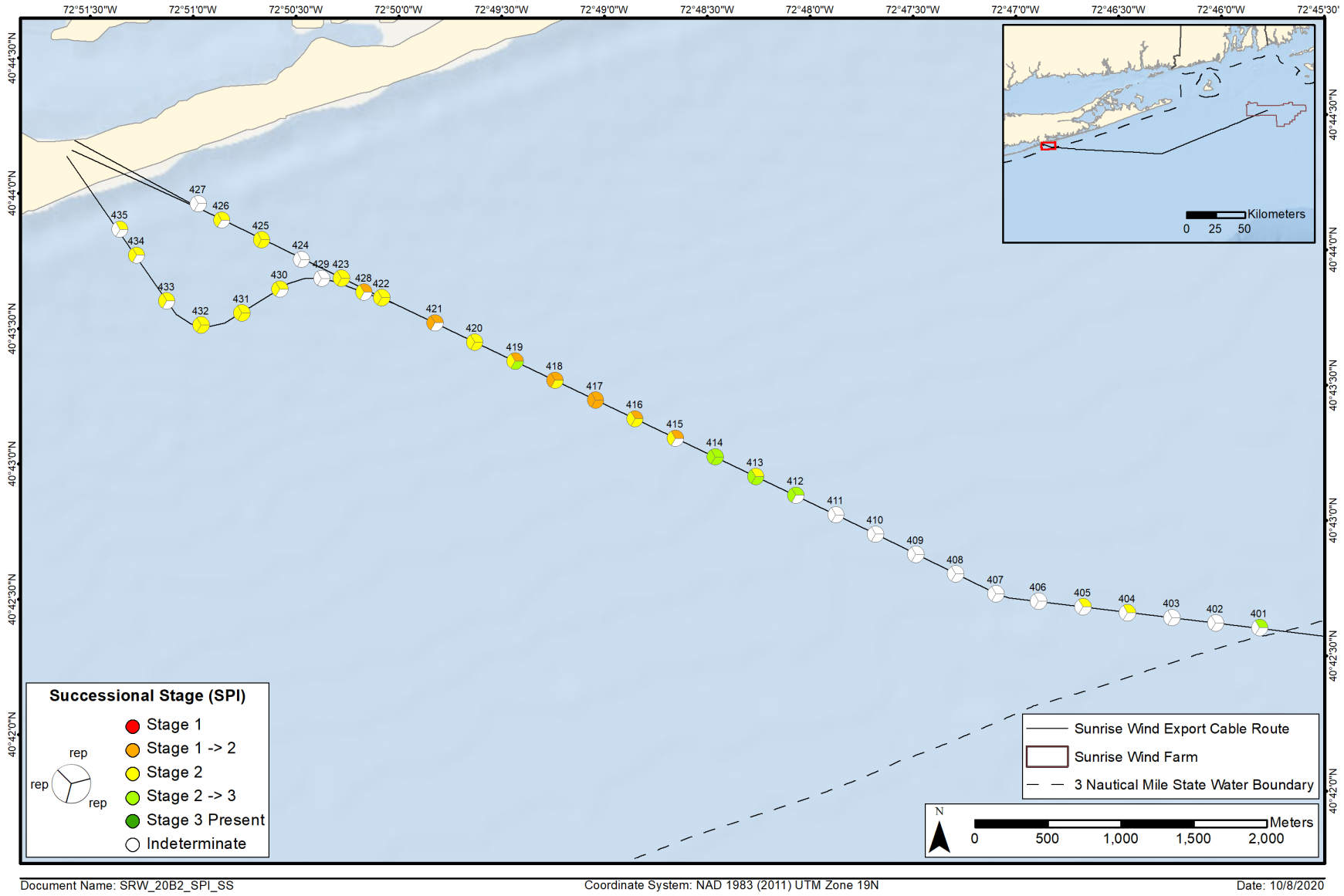


Figure 3.1-12 Infaunal successional stages along the SRWEC–NYS, each replicate value at each station is shown

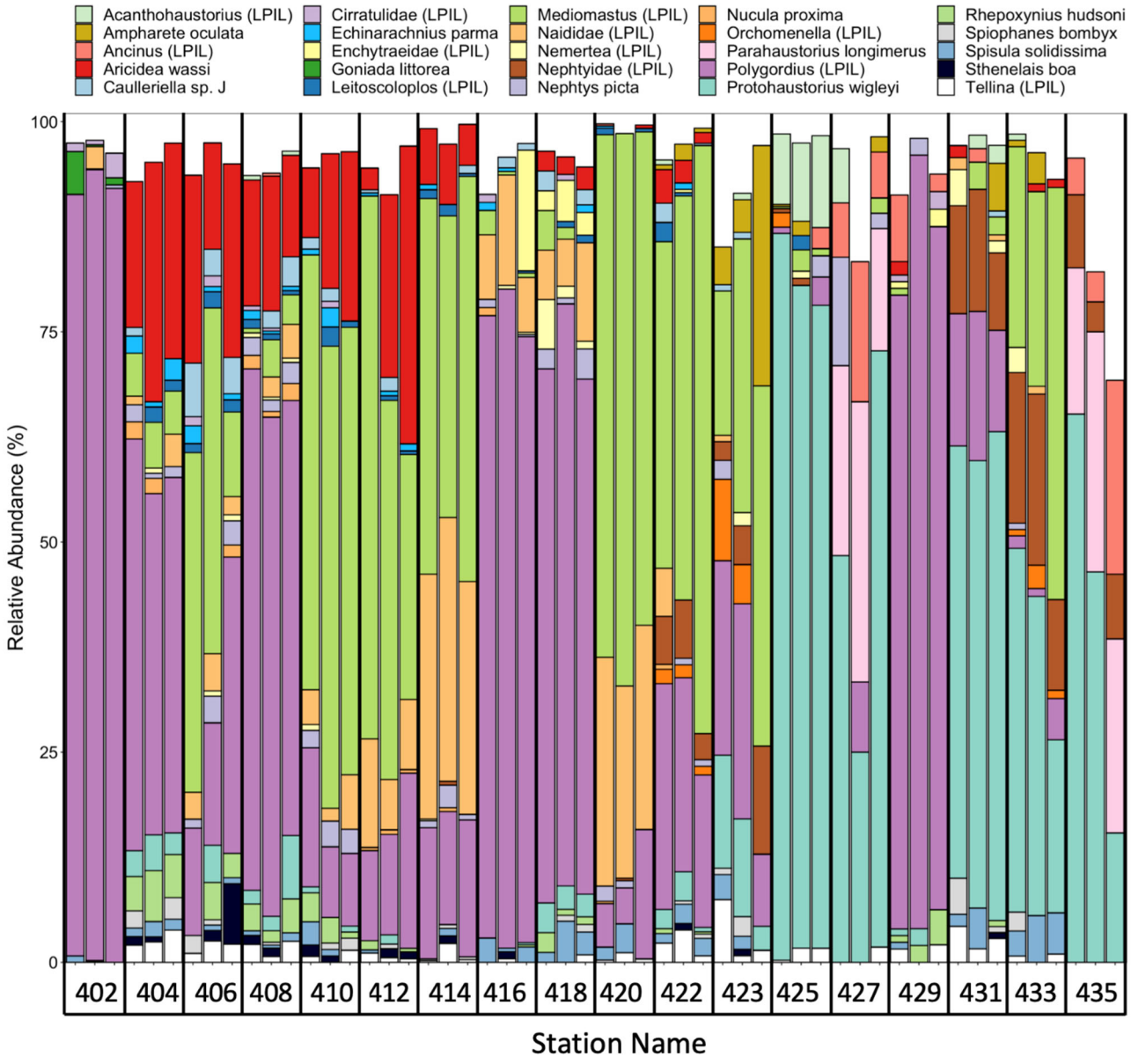


Figure 3.1-13 Percent relative abundance within each replicate of the top 25 most abundant taxa at the SRWEC–NYS. The complete dataset is provided in Attachment F.

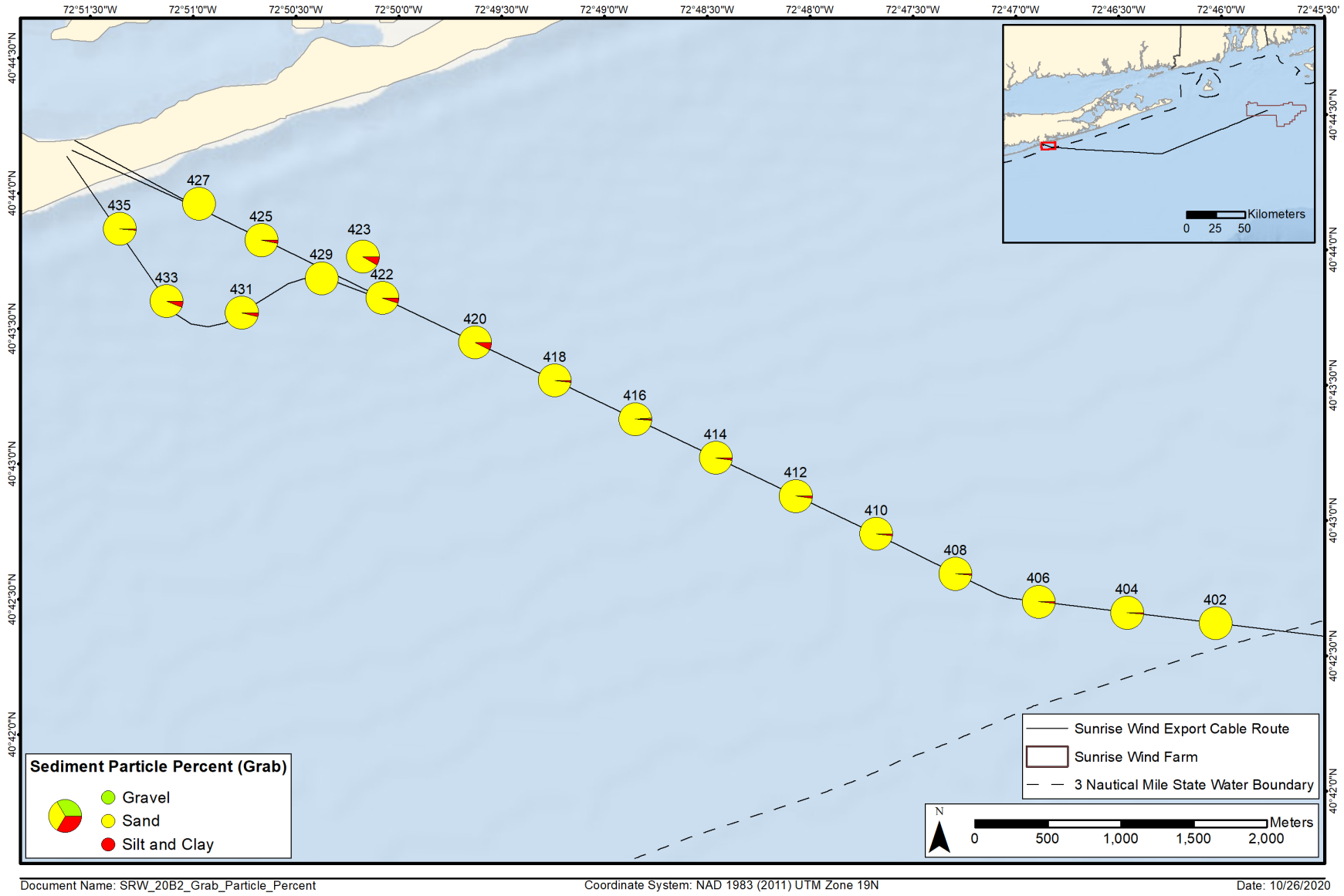


Figure 3.1-14 Sediment grab sample grain size distributions along the SRWEC–NYS

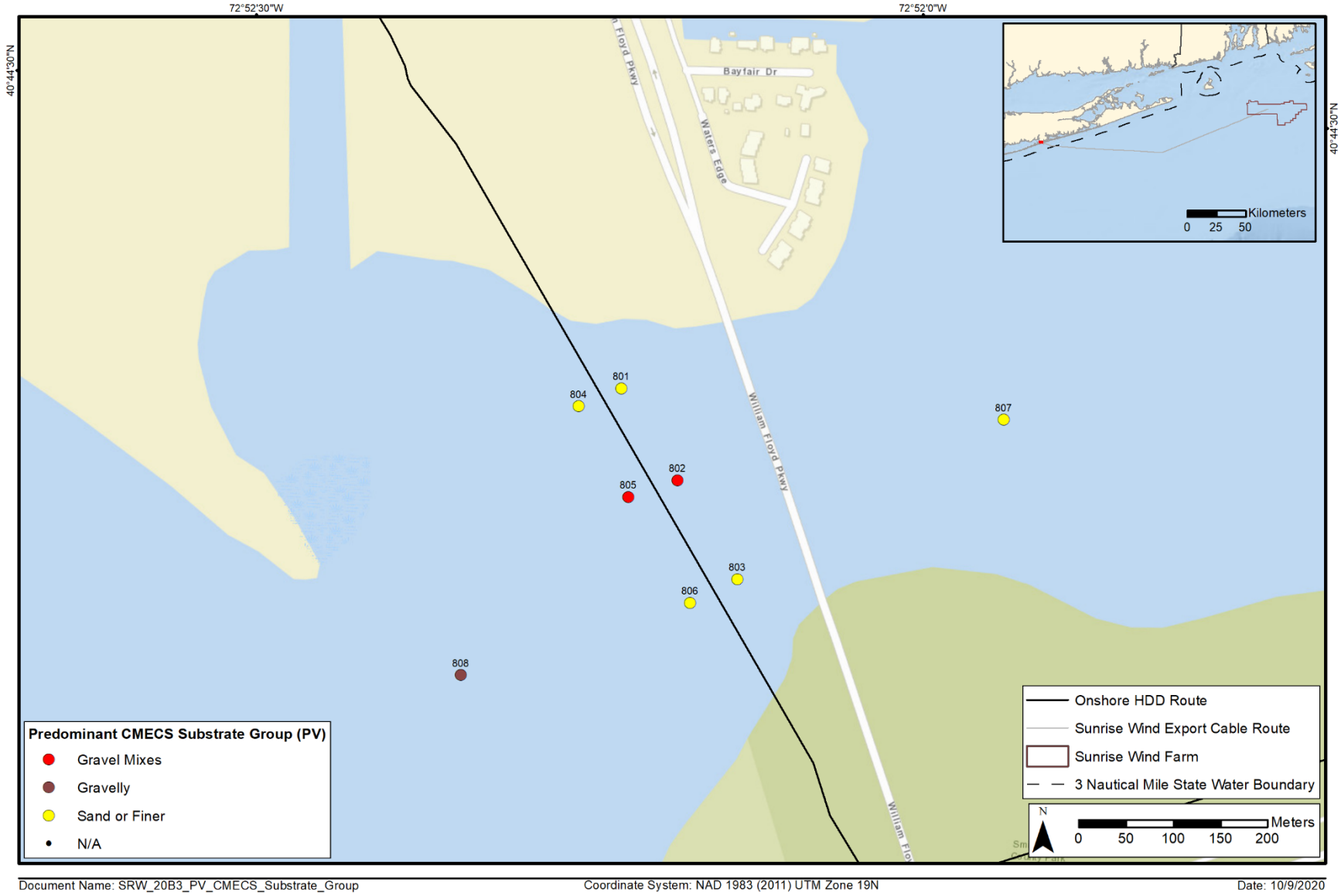


Figure 3.2-1 Predominant CMECS Substrate Group at the ICW HDD

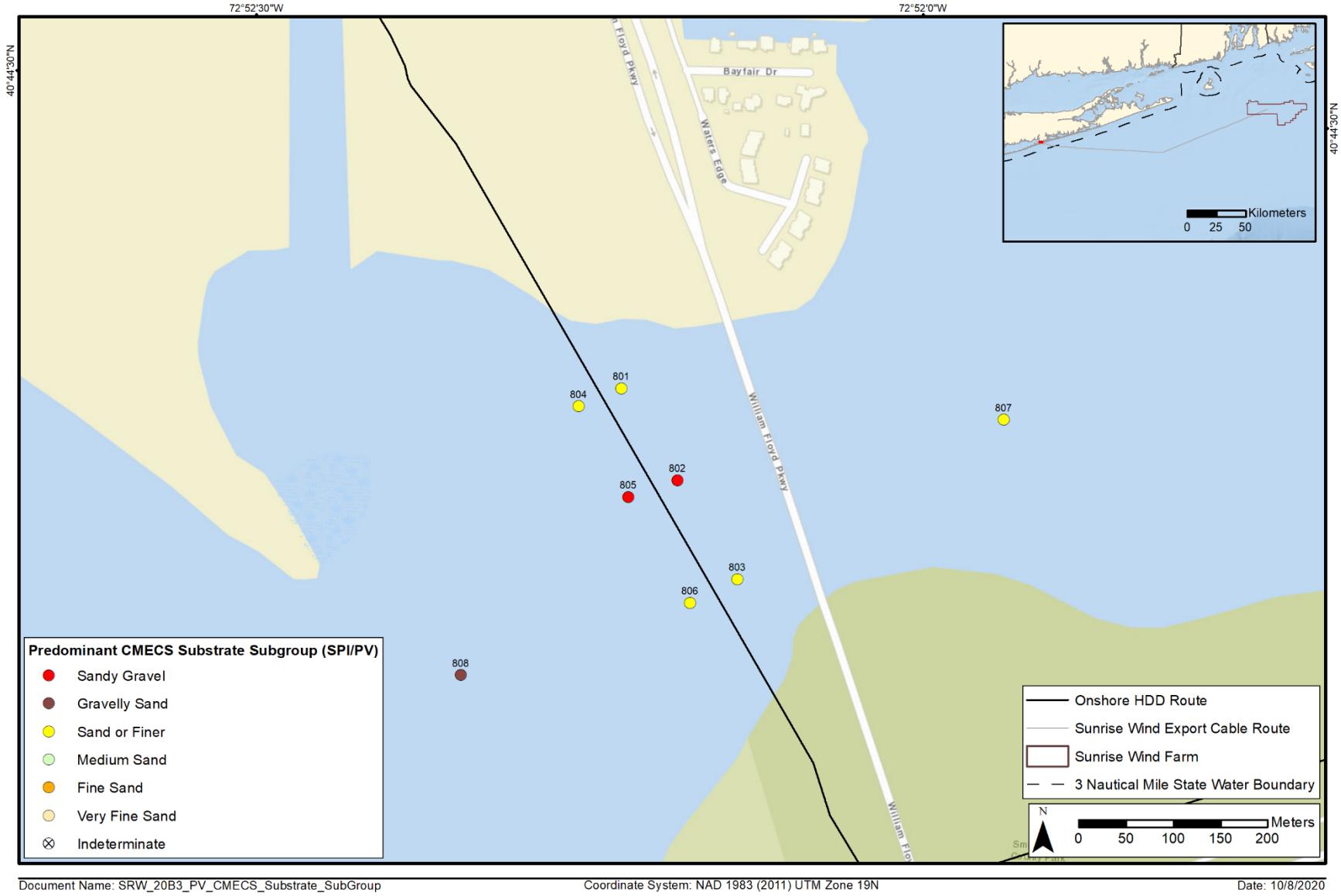


Figure 3.2-2 Predominant CMECS Substrate Subgroup derived from PV images at the ICW HDD

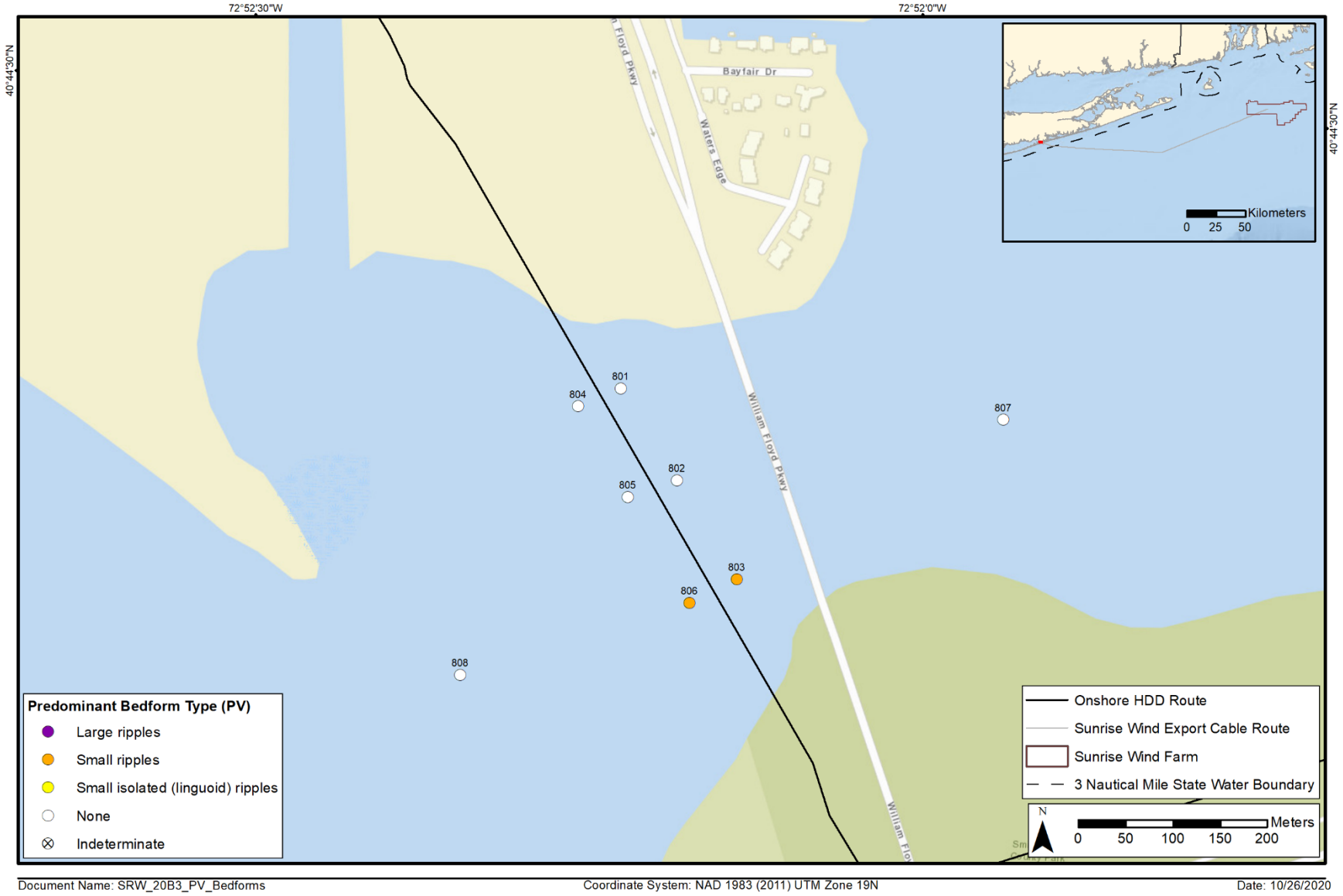


Figure 3.2-3 Small-scale bedforms observed in the PV images collected at the ICW HDD

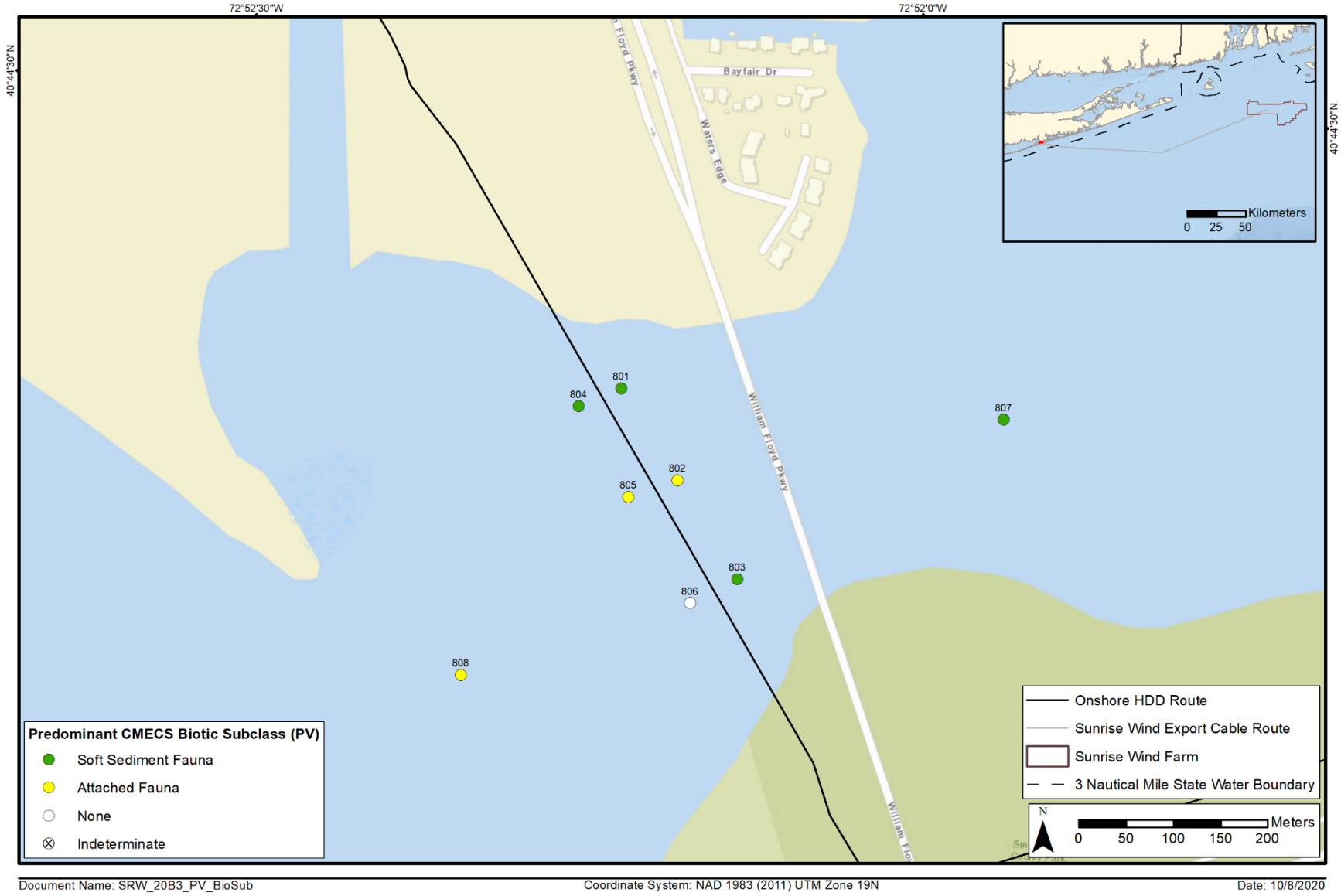


Figure 3.2-4 Predominant CMECS Biotic Subclass determined from PV images at the ICW HDD

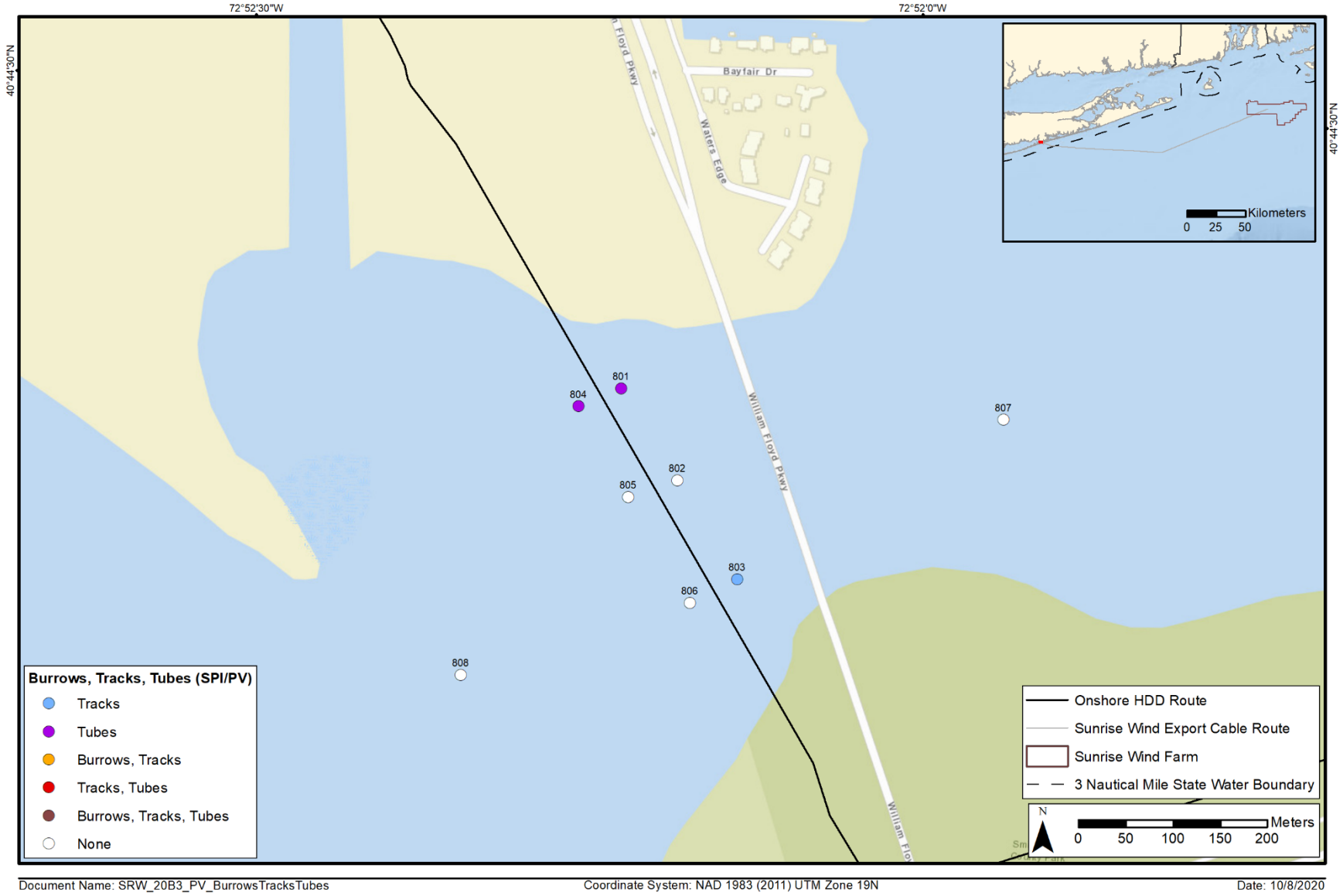


Figure 3.2-5 Occurrences of burrows, tracks, and tubes at the ICW HDD

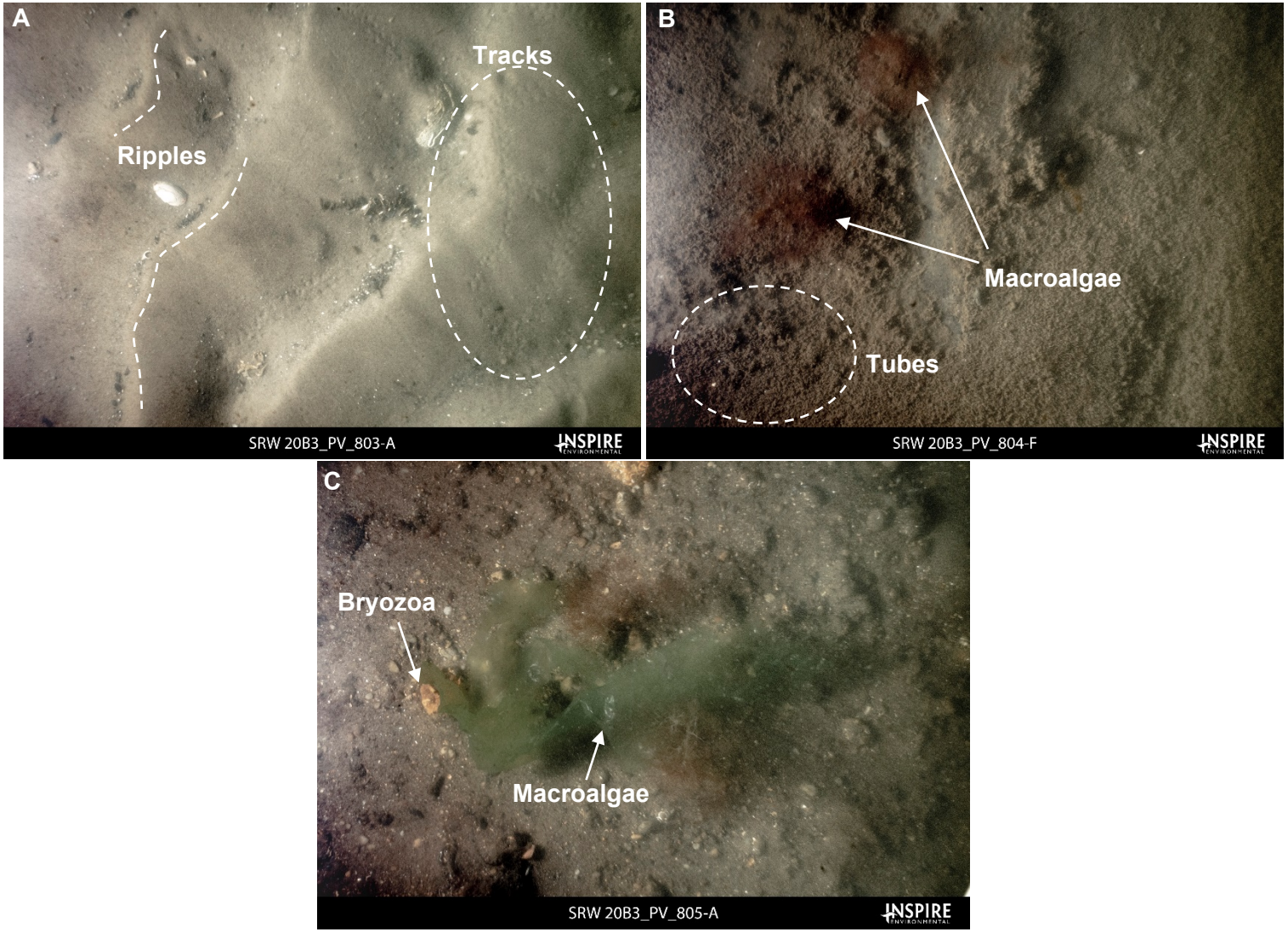


Figure 3.2-6 **Representative plan view images depicting the benthic environment observed at the ICW HDD, including (A) a station on the south side of the channel classified as CMECS Substrate Subgroup Sand or Finer with sand ripples and biotic tracks; (B) a station on the north side of the channel characterized by a dense carpet of small tubes with several tufts of red drift macroalgae; and (C) a station within the central portion of the inlet classified as Sandy Gravel with drift macroalgae and some bryozoa growth on gravel.**

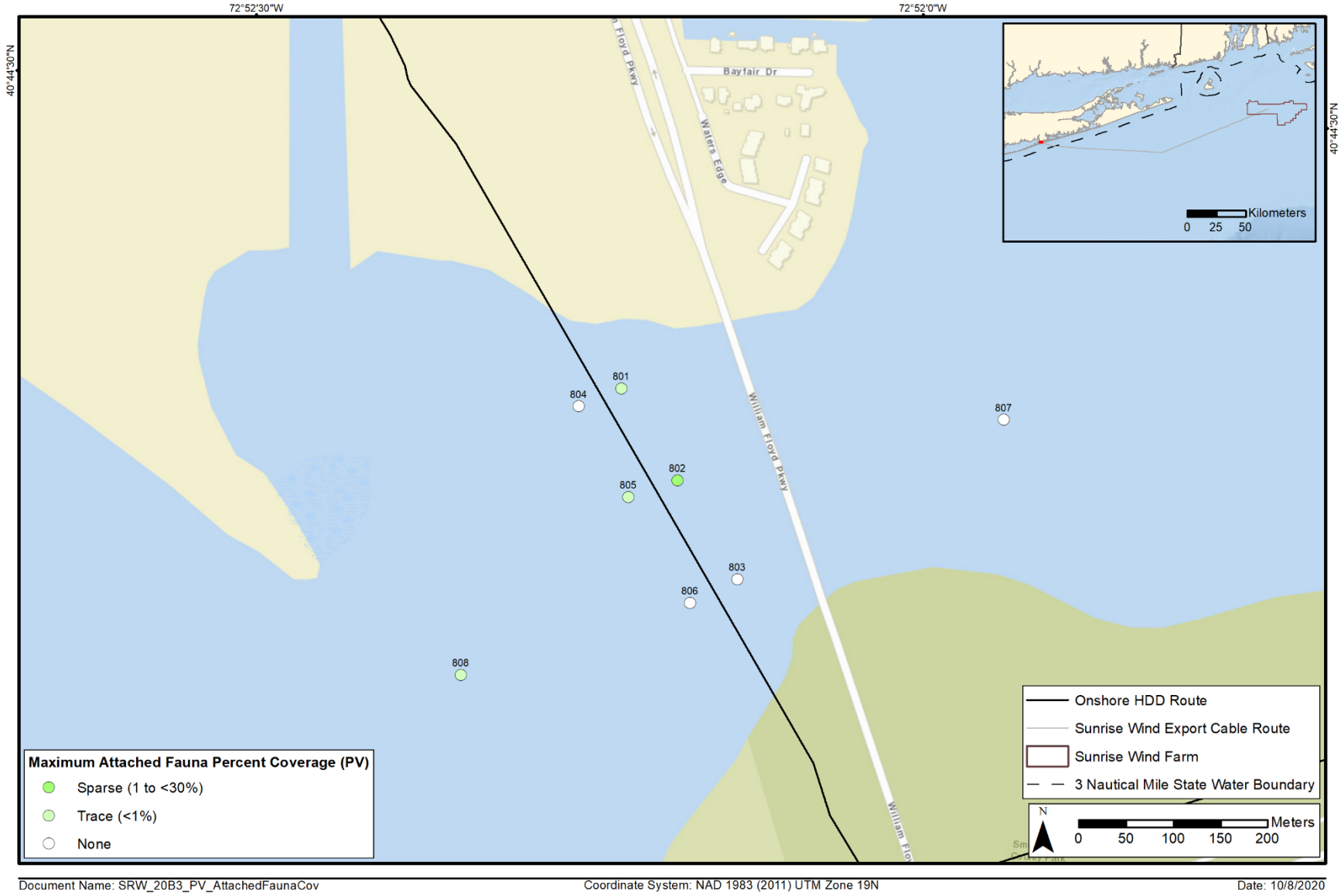


Figure 3.2-7 Maximum Attached Fauna Percent Cover (CMECS Percent Cover Modifier) at the ICW HDD

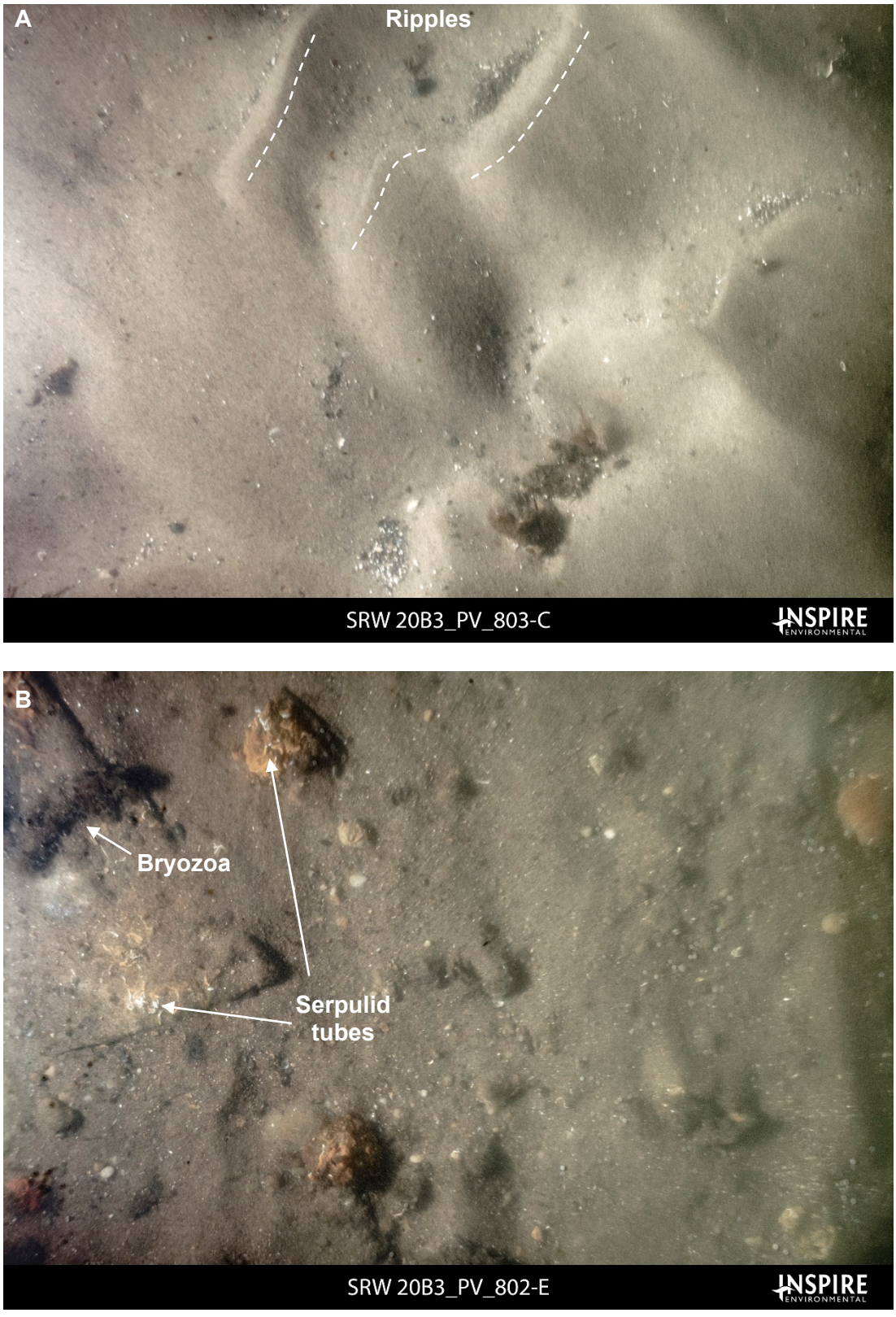


Figure 3.2-8 **Representative plan view images collected along the ICW HDD depicting (A) sand with ripples and (B) small gravel encrusted with serpulid tubes and bryozoa**

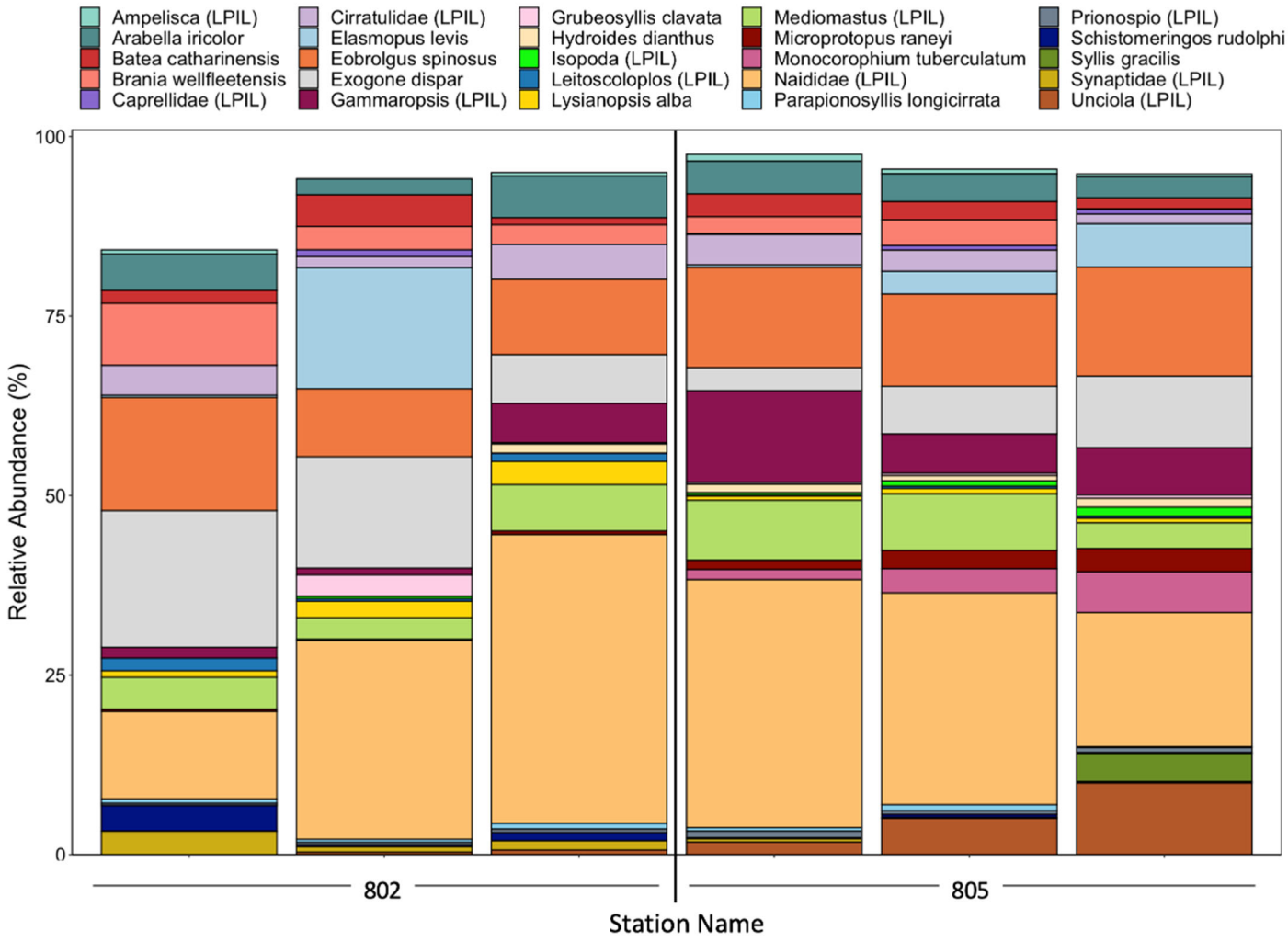


Figure 3.2-9 Percent relative abundance within each replicate of the top 25 most abundant taxa at the ICW HDD. The complete dataset is provided in Attachment F.

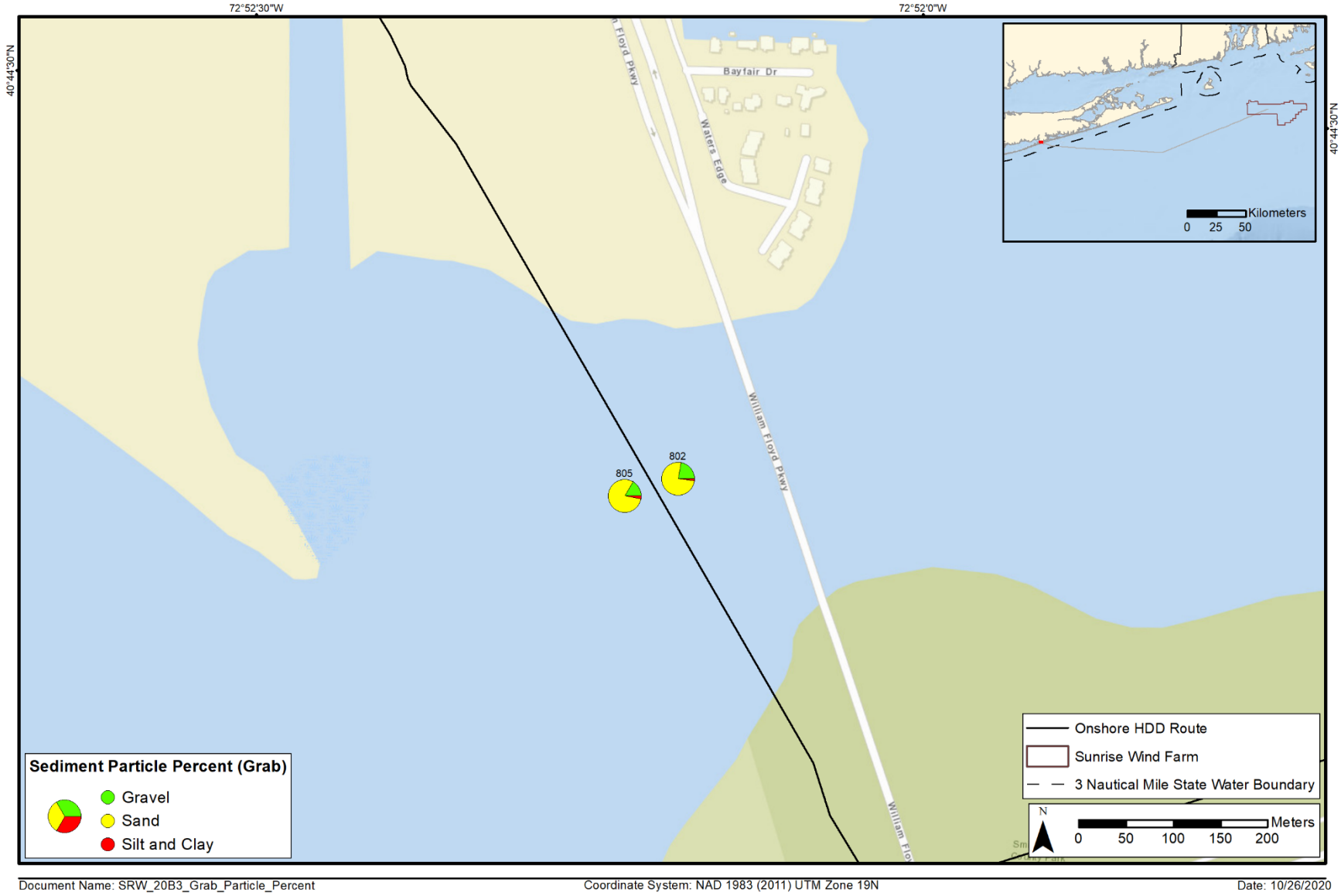


Figure 3.2-10 Sediment grab sample grain size distributions along the SRWEC–NYS

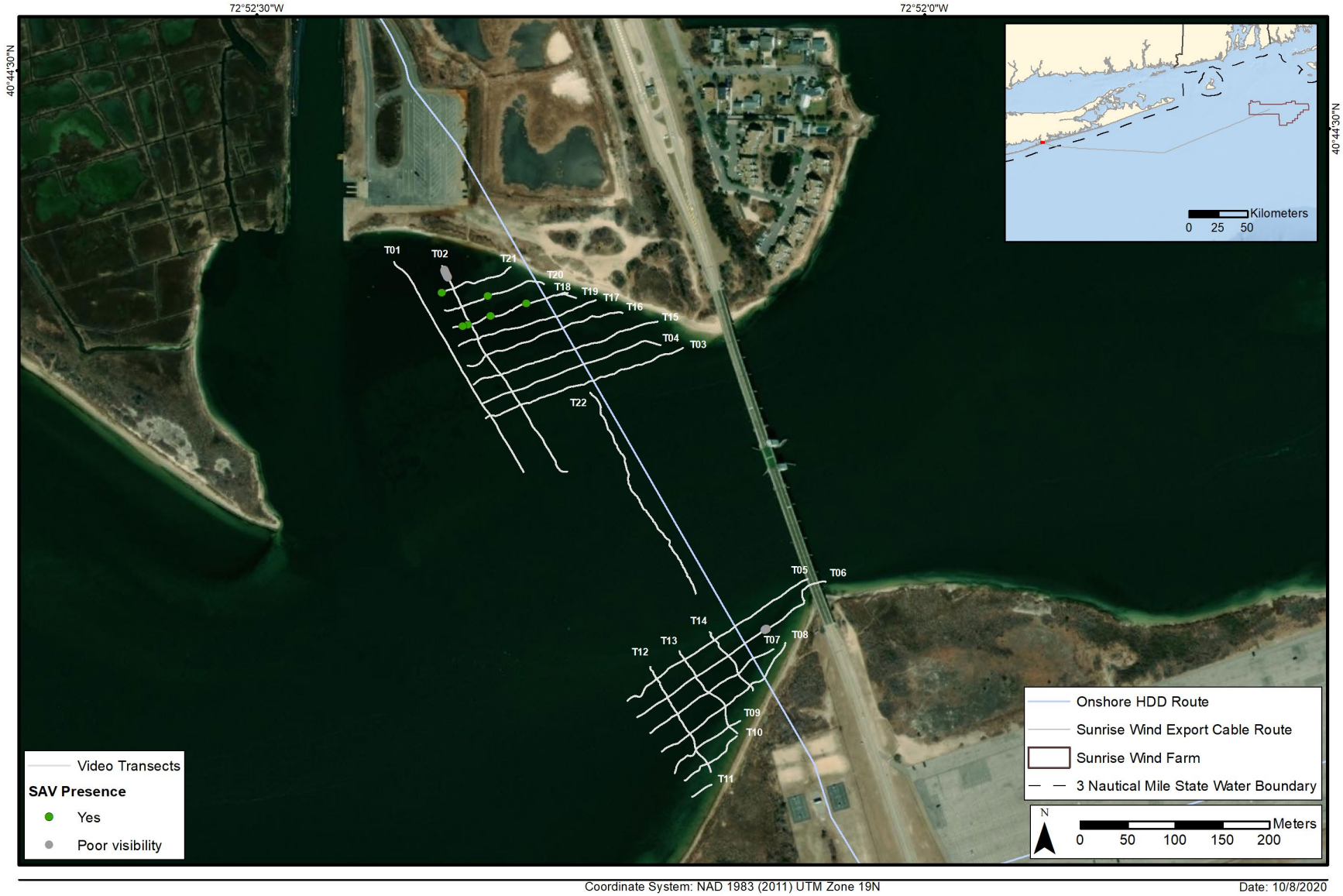


Figure 3.2-11 Transects where video footage was collected and analyzed for SAV presence within the ICW. The occurrences of seagrass are denoted.

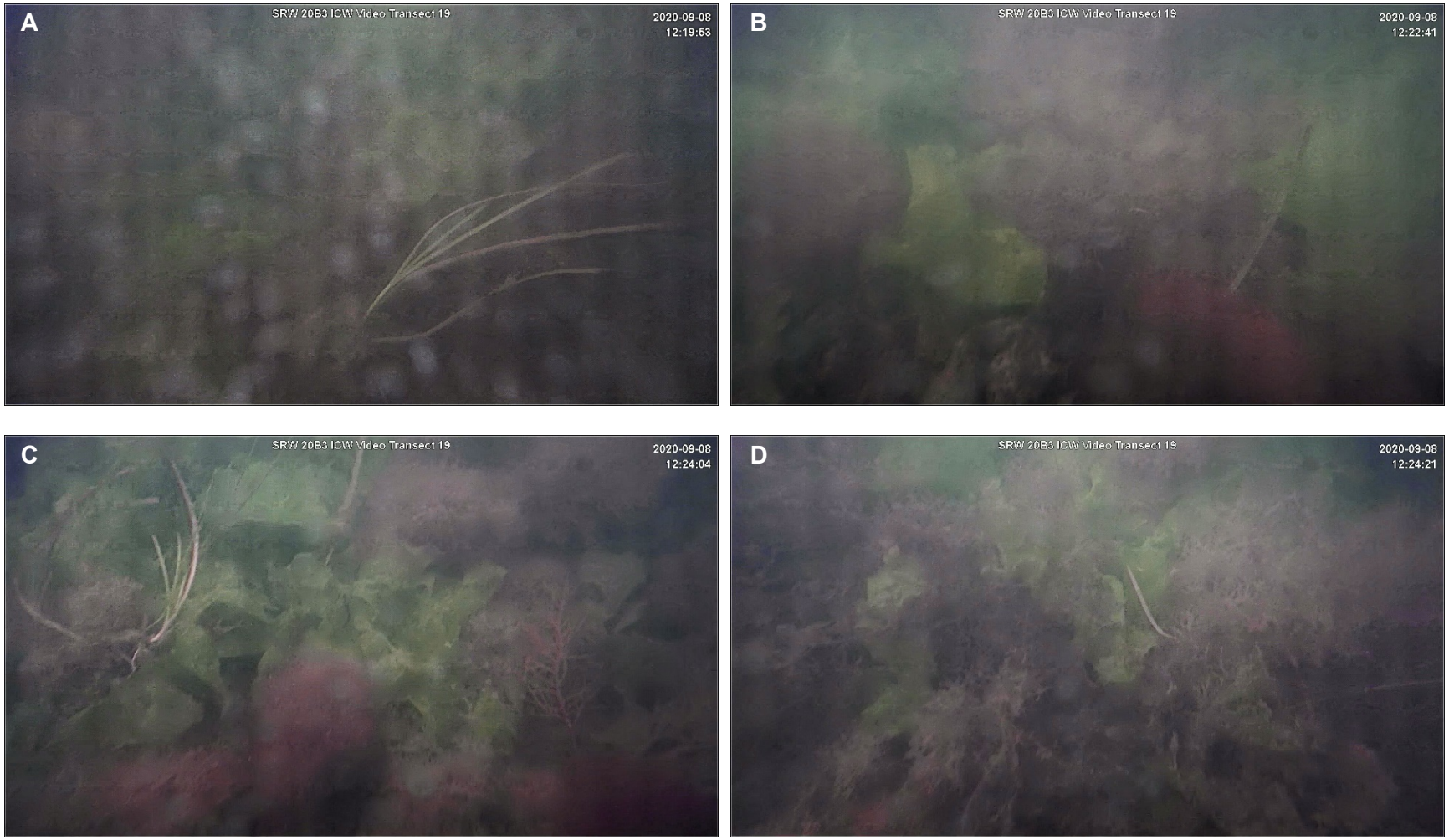


Figure 3.2-12 Images of all six SAV observations obtained from video footage during the ICW HDD survey. Four observations occurred along Transect 19 (images A-D timestamped A-12:19:53; B-12:22:41; C-12:24:04; and D-12:24:21), one along Transect 20 (image E timestamped 12:33:58), and one along Transect 21 (image timestamped 12:42:15). All observations were solitary SAV shoots within a dense macroalgal bed.

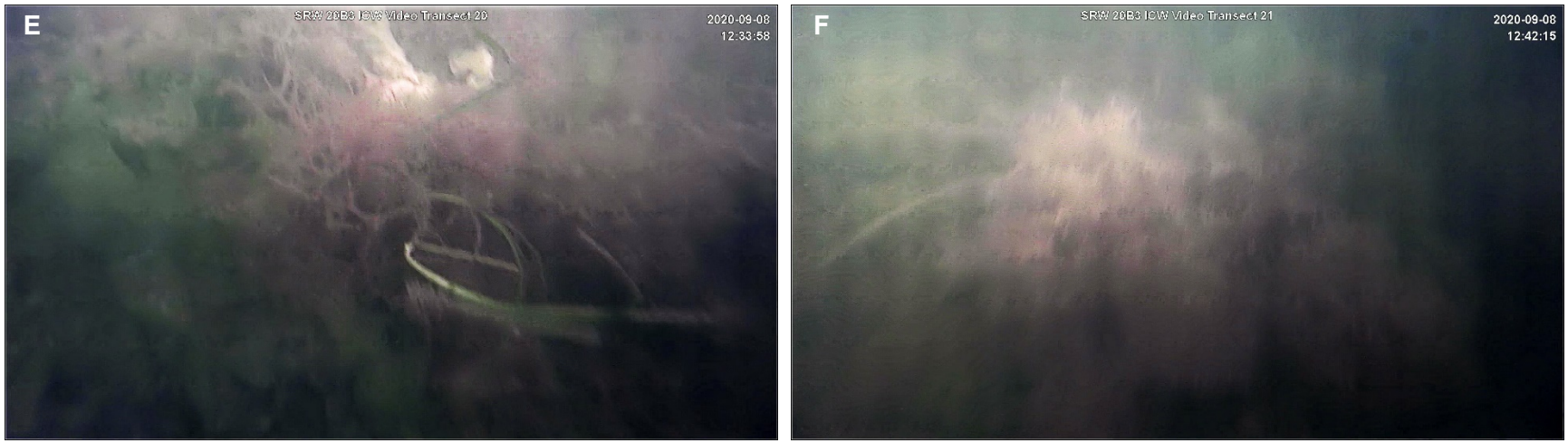


Figure 3.2-12 continued Images of all six SAV observations obtained from video footage during the ICW HDD survey. Four observations occurred along Transect 19 (images A-D timestamped A-12:19:53; B-12:22:41; C-12:24:04; and D-12:24:21), one along Transect 20 (image E timestamped 12:33:58), and one along Transect 21 (image timestamped 12:42:15). All observations were solitary SAV shoots within a dense macroalgal bed.

Benthic Resources Characterization Report – New York State Waters

ATTACHMENTS

Sunrise Wind Farm Project

Prepared for:

Stantec

Stantec Consulting Services Inc.
400 Crown Colony Drive
Quincy, MA 02169

and

Sunrise Wind | Powered by Ørsted & Eversource

Sunrise Wind LLC

Prepared by:

INSPIRE ENVIRONMENTAL

INSPIRE Environmental
513 Broadway, Suite 314
Newport, Rhode Island 02840

December 2020

ATTACHMENT A - SPI/PV and Grab Station Locations, Video Transect Locations

SampleType	Area	SurveyID	StationID	Replicate	Date	Time	X_UTM19N_m	Y_UTM19N_m	Latitude_N_WGS84	Longitude_W_WGS84	Depth_m	Comments
SPI/PV	SRWEC-NYS	SRW_20B2	401	A	8/12/2020	12:38:17	182247.93	4513353.98	40.70982808	72.76133936	26.8	
SPI/PV	SRWEC-NYS	SRW_20B2	401	B	8/12/2020	12:39:09	182247.94	4513358.04	40.70986458	72.76134131	26.8	
SPI/PV	SRWEC-NYS	SRW_20B2	401	C	8/12/2020	12:40:07	182248.05	4513352.1	40.7098112	72.76133702	26.8	
SPI/PV	SRWEC-NYS	SRW_20B2	401	D	8/12/2020	12:40:49	182247.27	4513355.47	40.70984121	72.761348	26.8	
SPI/PV	SRWEC-NYS	SRW_20B2	402	A	8/12/2020	12:50:13	181945.13	4513393.07	40.71006268	72.76493626	25.6	
SPI/PV	SRWEC-NYS	SRW_20B2	402	B	8/12/2020	12:51:05	181946.8	4513391.31	40.71004754	72.76491559	25.6	
SPI/PV	SRWEC-NYS	SRW_20B2	402	C	8/12/2020	12:51:54	181945.31	4513393.93	40.71007047	72.76493452	25.6	
SPI/PV	SRWEC-NYS	SRW_20B2	402	D	8/12/2020	12:52:33	181944.21	4513392.56	40.7100578	72.7649468	25.6	
SPI/PV	SRWEC-NYS	SRW_20B2	403	A	8/12/2020	12:58:00	181642.33	4513430.74	40.71028445	72.76853232	25.9	
SPI/PV	SRWEC-NYS	SRW_20B2	403	B	8/12/2020	12:58:55	181642.03	4513431.03	40.7102869	72.76853597	25.9	
SPI/PV	SRWEC-NYS	SRW_20B2	403	C	8/12/2020	12:59:52	181642.11	4513429.42	40.71027246	72.7685342	25.9	
SPI/PV	SRWEC-NYS	SRW_20B2	403	D	8/12/2020	13:00:39	181640.98	4513431.61	40.71029172	72.76854871	25.9	
SPI/PV	SRWEC-NYS	SRW_20B2	404	A	8/12/2020	13:05:17	181337.76	4513466.69	40.71048988	72.77214843	25.9	
SPI/PV	SRWEC-NYS	SRW_20B2	404	B	8/12/2020	13:06:04	181342	4513463.59	40.7104637	72.77209683	25.9	
SPI/PV	SRWEC-NYS	SRW_20B2	404	C	8/12/2020	13:06:57	181339.27	4513467.03	40.71049356	72.77213082	25.9	
SPI/PV	SRWEC-NYS	SRW_20B2	404	D	8/12/2020	13:07:55	181338.2	4513465.65	40.71048078	72.7721427	25.9	
SPI/PV	SRWEC-NYS	SRW_20B2	405	A	8/12/2020	13:12:54	181036.73	4513506.1	40.71072774	72.77572459	25.6	
SPI/PV	SRWEC-NYS	SRW_20B2	405	B	8/12/2020	13:13:42	181038.3	4513504.9	40.71071759	72.77570545	25.6	
SPI/PV	SRWEC-NYS	SRW_20B2	405	C	8/12/2020	13:14:34	181036.82	4513502.62	40.71069655	72.77572169	25.9	
SPI/PV	SRWEC-NYS	SRW_20B2	405	D	8/12/2020	13:15:29	181035.28	4513504.83	40.71071582	72.77574106	25.9	
SPI/PV	SRWEC-NYS	SRW_20B2	406	A	8/12/2020	13:20:30	180733.69	4513541.27	40.71092657	72.77932233	25.3	
SPI/PV	SRWEC-NYS	SRW_20B2	406	B	8/12/2020	13:21:14	180734.6	4513542.04	40.71093384	72.77931191	25.3	
SPI/PV	SRWEC-NYS	SRW_20B2	406	C	8/12/2020	13:21:59	180736.36	4513539.65	40.71091304	72.77928992	25.3	
SPI/PV	SRWEC-NYS	SRW_20B2	406	D	8/12/2020	13:22:41	180735.96	4513539.57	40.7109122	72.77929464	25.3	
SPI/PV	SRWEC-NYS	SRW_20B2	407	A	8/12/2020	13:27:56	180436.681	4513596.615	40.711309	72.782859	24.7	Time recorded on computer incorrectly 19:56:56
SPI/PV	SRWEC-NYS	SRW_20B2	407	B	8/12/2020	13:28:44	180437.54	4513596.09	40.71130459	72.78284863	24.7	
SPI/PV	SRWEC-NYS	SRW_20B2	407	C	8/12/2020	13:29:38	180435.68	4513594.41	40.71128879	72.78286971	24.7	
SPI/PV	SRWEC-NYS	SRW_20B2	407	D	8/12/2020	13:30:24	180437.06	4513594.33	40.71128863	72.78285343	24.7	
SPI/PV	SRWEC-NYS	SRW_20B2	408	A	8/12/2020	13:35:54	180160.37	4513734.97	40.71244554	72.78619365	24.4	
SPI/PV	SRWEC-NYS	SRW_20B2	408	B	8/12/2020	13:36:38	180163.81	4513730.57	40.7124073	72.7861508	24.4	
SPI/PV	SRWEC-NYS	SRW_20B2	408	C	8/12/2020	13:37:28	180163.85	4513731.66	40.71241711	72.78615086	24.4	
SPI/PV	SRWEC-NYS	SRW_20B2	408	D	8/12/2020	13:38:21	180164.36	4513733.28	40.7124319	72.78614568	24.4	
SPI/PV	SRWEC-NYS	SRW_20B2	409	A	8/12/2020	13:43:13	179889.29	4513866.01	40.71351822	72.78946288	24.4	
SPI/PV	SRWEC-NYS	SRW_20B2	409	B	8/12/2020	13:44:08	179890.76	4513867.28	40.71353016	72.78944615	24.4	
SPI/PV	SRWEC-NYS	SRW_20B2	409	C	8/12/2020	13:45:05	179890.08	4513866.34	40.71352146	72.78945371	24.4	
SPI/PV	SRWEC-NYS	SRW_20B2	409	D	8/12/2020	13:45:45	179890.86	4513866.78	40.71352571	72.78944468	24.4	
SPI/PV	SRWEC-NYS	SRW_20B2	409	E	8/12/2020	13:46:32	179888.49	4513867.71	40.71353312	72.78947314	24.4	
SPI/PV	SRWEC-NYS	SRW_20B2	410	A	8/12/2020	13:51:34	179611.24	4514003.98	40.71465039	72.79281805	23.5	
SPI/PV	SRWEC-NYS	SRW_20B2	410	B	8/12/2020	13:52:28	179618.32	4514000.7	40.71462359	72.79273271	23.5	
SPI/PV	SRWEC-NYS	SRW_20B2	410	C	8/12/2020	13:53:14	179618.71	4514004.35	40.7146566	72.79272998	23.5	
SPI/PV	SRWEC-NYS	SRW_20B2	410	D	8/12/2020	13:54:13	179617.39	4514003.51	40.7146485	72.79274509	23.5	
SPI/PV	SRWEC-NYS	SRW_20B2	411	A	8/12/2020	13:58:37	179341.23	4514134.05	40.71571455	72.79607425	23.5	
SPI/PV	SRWEC-NYS	SRW_20B2	411	B	8/12/2020	13:59:26	179342.84	4514130.92	40.71568702	72.79605368	23.5	
SPI/PV	SRWEC-NYS	SRW_20B2	411	C	8/12/2020	14:00:14	179343.24	4514133.68	40.71571196	72.79605036	23.5	
SPI/PV	SRWEC-NYS	SRW_20B2	411	D	8/12/2020	14:01:01	179344.93	4514135.15	40.71572583	72.79603106	23.5	
SPI	SRWEC-NYS	SRW_20B2	411	E	8/12/2020	15:58:52	179343.58	4514134.79	40.71572213	72.79604686	23.5	
SPI	SRWEC-NYS	SRW_20B2	411	F	8/12/2020	15:59:34	179342.77	4514134.8	40.71572186	72.79605641	23.5	
SPI	SRWEC-NYS	SRW_20B2	411	G	8/12/2020	16:00:14	179342.82	4514134.53	40.71571952	72.79605578	23.5	
SPI	SRWEC-NYS	SRW_20B2	411	H	8/12/2020	16:01:06	179344.04	4514134.91	40.7157234	72.79604157	23.5	
SPI	SRWEC-NYS	SRW_20B2	410	E	8/12/2020	16:12:41	179615.56	4514002.11	40.7146352	72.79276598	23.5	
SPI	SRWEC-NYS	SRW_20B2	410	F	8/12/2020	16:13:40	179614.17	4514003.84	40.71465024	72.79278334	23.5	
SPI	SRWEC-NYS	SRW_20B2	410	G	8/12/2020	16:14:38	179619.08	4514002.5	40.71464007	72.79272469	23.5	

SampleType	Area	SurveyID	StationID	Replicate	Date	Time	X_UTM19N_m	Y_UTM19N_m	Latitude_N_WGS84	Longitude_W_WGS84	Depth_m	Comments
SPI	SRWEC-NYS	SRW_20B2	410	H	8/12/2020	16:15:33	179619.69	4514002.8	40.714643	72.79271762	23.5	
SPI	SRWEC-NYS	SRW_20B2	409	F	8/12/2020	16:20:54	179892.24	4513863.85	40.71349989	72.78942694	24.4	
SPI	SRWEC-NYS	SRW_20B2	409	G	8/12/2020	16:21:46	179889.16	4513866.51	40.7135226	72.78946469	24.4	
SPI	SRWEC-NYS	SRW_20B2	409	H	8/12/2020	16:22:26	179891.98	4513869.61	40.71355163	72.78943285	24.4	
SPI	SRWEC-NYS	SRW_20B2	409	I	8/12/2020	16:23:08	179893.6	4513868.44	40.71354174	72.78941316	24.4	
SPI	SRWEC-NYS	SRW_20B2	409	J	8/12/2020	16:23:49	179892.45	4513864.99	40.71351029	72.78942502	24.4	
SPI	SRWEC-NYS	SRW_20B2	408	E	8/12/2020	16:29:22	180164.47	4513730.57	40.71240752	72.78614297	24.4	
SPI	SRWEC-NYS	SRW_20B2	408	F	8/12/2020	16:30:17	180163.52	4513732.67	40.71242606	72.78615532	24.4	
SPI	SRWEC-NYS	SRW_20B2	408	G	8/12/2020	16:30:48	180163.23	4513732.83	40.71242734	72.78615881	24.4	
SPI	SRWEC-NYS	SRW_20B2	408	H	8/12/2020	16:31:26	180163.16	4513734.01	40.71243795	72.78616021	24.4	
SPI	SRWEC-NYS	SRW_20B2	407	E	8/12/2020	16:36:58	180440.57	4513593.83	40.71128545	72.78281173	24.7	
SPI	SRWEC-NYS	SRW_20B2	407	F	8/12/2020	16:37:49	180440.11	4513599	40.71133181	72.78281971	24.7	
SPI	SRWEC-NYS	SRW_20B2	407	G	8/12/2020	16:38:24	180438.57	4513599.2	40.71133297	72.78283799	24.7	
SPI	SRWEC-NYS	SRW_20B2	407	H	8/12/2020	16:39:05	180438.14	4513596.35	40.71130721	72.78284171	24.7	
SPI	SRWEC-NYS	SRW_20B2	406	E	8/12/2020	16:44:36	180733.45	4513542.92	40.71094134	72.77932596	25.3	
SPI	SRWEC-NYS	SRW_20B2	406	F	8/12/2020	16:45:31	180734.74	4513543.34	40.71094561	72.77931097	25.3	
SPI	SRWEC-NYS	SRW_20B2	406	G	8/12/2020	16:46:33	180737.92	4513544.23	40.71095479	72.77927382	25.3	
SPI	SRWEC-NYS	SRW_20B2	406	H	8/12/2020	16:47:29	180738.35	4513537.69	40.71089625	72.77926546	25.3	
SPI	SRWEC-NYS	SRW_20B2	405	E	8/12/2020	16:52:15	181040.55	4513502.15	40.71069373	72.77567742	25.6	
SPI	SRWEC-NYS	SRW_20B2	405	F	8/12/2020	16:53:16	181038.85	4513505.23	40.71072079	72.77569907	25.6	
SPI	SRWEC-NYS	SRW_20B2	405	G	8/12/2020	16:54:12	181039.31	4513504.97	40.71071859	72.77569347	25.6	
SPI	SRWEC-NYS	SRW_20B2	405	H	8/12/2020	16:55:04	181041.29	4513505.53	40.71072436	72.77567044	25.6	
SPI	SRWEC-NYS	SRW_20B2	404	E	8/12/2020	17:00:39	181343.5	4513464.44	40.71047192	72.77207952	25.9	
SPI	SRWEC-NYS	SRW_20B2	404	F	8/12/2020	17:01:10	181341.02	4513465.21	40.71047783	72.77210923	25.9	
SPI	SRWEC-NYS	SRW_20B2	404	G	8/12/2020	17:01:51	181340.49	4513468.15	40.71050406	72.77211691	25.9	
SPI	SRWEC-NYS	SRW_20B2	404	H	8/12/2020	17:02:29	181341.16	4513469.54	40.71051688	72.77210975	25.9	
SPI	SRWEC-NYS	SRW_20B2	403	E	8/12/2020	17:06:34	181647.04	4513430.01	40.71027972	72.76847628	25.9	
SPI	SRWEC-NYS	SRW_20B2	403	F	8/12/2020	17:07:18	181643.13	4513429.84	40.71027663	72.76852243	25.9	
SPI	SRWEC-NYS	SRW_20B2	403	G	8/12/2020	17:08:07	181645.44	4513430.74	40.71028563	72.7684956	25.9	
SPI	SRWEC-NYS	SRW_20B2	403	H	8/12/2020	17:08:56	181643.73	4513432.9	40.71030436	72.76851689	25.9	
SPI	SRWEC-NYS	SRW_20B2	402	E	8/12/2020	17:13:38	181947.11	4513393.75	40.71006954	72.76491315	25.6	
SPI	SRWEC-NYS	SRW_20B2	402	F	8/12/2020	17:14:29	181945.5	4513395.31	40.710083	72.76493292	25.6	
SPI	SRWEC-NYS	SRW_20B2	402	G	8/12/2020	17:15:10	181947.23	4513394.29	40.71007443	72.76491203	25.6	
SPI	SRWEC-NYS	SRW_20B2	402	H	8/12/2020	17:16:07	181948.95	4513392.08	40.71005524	72.76489054	25.6	
SPI	SRWEC-NYS	SRW_20B2	401	E	8/12/2020	17:21:19	182248.63	4513362.1	40.70990134	72.76133519	26.8	
SPI	SRWEC-NYS	SRW_20B2	401	F	8/12/2020	17:21:57	182247.11	4513358.11	40.70986493	72.76135115	26.8	
SPI	SRWEC-NYS	SRW_20B2	401	G	8/12/2020	17:22:33	182251.93	4513354.68	40.70983594	72.76129255	26.8	
SPI	SRWEC-NYS	SRW_20B2	401	H	8/12/2020	17:23:19	182251.69	4513358.62	40.70987122	72.76129739	26.8	
SPI/PV	SRWEC-NYS	SRW_20B2	412	A	8/12/2020	17:53:38	179069.5	4514269.32	40.71682469	72.79935356	22.3	
SPI/PV	SRWEC-NYS	SRW_20B2	412	B	8/12/2020	17:54:29	179067.41	4514267.07	40.71680364	72.7993771	22.3	
SPI/PV	SRWEC-NYS	SRW_20B2	412	C	8/12/2020	17:55:17	179072.66	4514263.49	40.71677352	72.79931325	22.3	
SPI/PV	SRWEC-NYS	SRW_20B2	412	D	8/12/2020	17:56:04	179070.32	4514269.86	40.71682984	72.79934425	22.3	
SPI/PV	SRWEC-NYS	SRW_20B2	413	A	8/12/2020	18:01:42	178794.29	4514397.38	40.71786858	72.80267046	22.3	
SPI/PV	SRWEC-NYS	SRW_20B2	413	B	8/12/2020	18:02:24	178795.26	4514395.42	40.71785134	72.80265797	22.3	
SPI/PV	SRWEC-NYS	SRW_20B2	413	C	8/12/2020	18:03:10	178794.11	4514396.67	40.71786216	72.80267222	22.3	
SPI/PV	SRWEC-NYS	SRW_20B2	413	D	8/12/2020	18:03:52	178796.42	4514398.84	40.71788251	72.802646	22.3	
SPI/PV	SRWEC-NYS	SRW_20B2	413	E	8/12/2020	18:04:31	178795.3	4514396.72	40.71786309	72.80265819	22.3	
SPI/PV	SRWEC-NYS	SRW_20B2	414	A	8/12/2020	18:09:53	178517.64	4514531.8	40.71896902	72.80600771	21.3	
SPI/PV	SRWEC-NYS	SRW_20B2	414	B	8/12/2020	18:10:30	178515.56	4514530.91	40.7189602	72.80603186	21.3	
SPI/PV	SRWEC-NYS	SRW_20B2	414	C	8/12/2020	18:11:18	178519.35	4514530.66	40.71895943	72.80598695	21.3	
SPI/PV	SRWEC-NYS	SRW_20B2	414	D	8/12/2020	18:12:00	178521.56	4514527.68	40.71893351	72.80595923	21.3	
SPI/PV	SRWEC-NYS	SRW_20B2	415	A	8/12/2020	18:17:46	178244.48	4514659.13	40.7200069	72.80930016	21.0	
SPI/PV	SRWEC-NYS	SRW_20B2	415	B	8/12/2020	18:18:30	178245.27	4514661.95	40.72003257	72.8092923	21.0	

SampleType	Area	SurveyID	StationID	Replicate	Date	Time	X_UTM19N_m	Y_UTM19N_m	Latitude_N_WGS84	Longitude_W_WGS84	Depth_m	Comments
SPI/PV	SRWEC-NYS	SRW_20B2	415	C	8/12/2020	18:19:16	178247.54	4514657.85	40.71999663	72.80926336	21.0	
SPI/PV	SRWEC-NYS	SRW_20B2	415	D	8/12/2020	18:20:02	178244.35	4514660.29	40.72001731	72.80930226	21.0	
SPI/PV	SRWEC-NYS	SRW_20B2	416	A	8/12/2020	18:26:54	177966.58	4514792.8	40.72109989	72.81265193	19.5	
SPI/PV	SRWEC-NYS	SRW_20B2	416	B	8/12/2020	18:27:48	177971.22	4514790.59	40.72108185	72.81259597	19.5	
SPI/PV	SRWEC-NYS	SRW_20B2	416	C	8/12/2020	18:28:45	177969.04	4514790.64	40.72108146	72.81262175	19.5	
SPI/PV	SRWEC-NYS	SRW_20B2	416	D	8/12/2020	18:29:30	177971.46	4514793.79	40.72111071	72.81259481	19.5	
SPI/PV	SRWEC-NYS	SRW_20B2	417	A	8/12/2020	18:34:10	177689.96	4514924.13	40.7221722	72.81598757	18.6	
SPI/PV	SRWEC-NYS	SRW_20B2	417	B	8/12/2020	18:34:56	177696.21	4514920.81	40.7221448	72.81591197	18.6	
SPI/PV	SRWEC-NYS	SRW_20B2	417	C	8/12/2020	18:35:48	177695.53	4514925.41	40.72218588	72.81592246	18.6	
SPI/PV	SRWEC-NYS	SRW_20B2	417	D	8/12/2020	18:36:39	177696.29	4514922.16	40.72215703	72.81591182	18.6	
SPI/PV	SRWEC-NYS	SRW_20B2	417	E	8/12/2020	18:37:26	177696.84	4514924.69	40.72217996	72.81590659	18.6	
SPI/PV	SRWEC-NYS	SRW_20B2	418	A	8/12/2020	18:42:22	177418.66	4515056.1	40.7232523	72.81926074	17.7	
SPI/PV	SRWEC-NYS	SRW_20B2	418	B	8/12/2020	18:43:07	177417.62	4515058.21	40.72327085	72.8192741	17.7	
SPI/PV	SRWEC-NYS	SRW_20B2	418	C	8/12/2020	18:43:53	177422.11	4515055.22	40.72324575	72.8192195	17.7	
SPI/PV	SRWEC-NYS	SRW_20B2	418	D	8/12/2020	18:44:42	177420.71	4515055.04	40.72324361	72.819236	17.7	
SPI/PV	SRWEC-NYS	SRW_20B2	419	A	8/12/2020	18:49:33	177145.69	4515188.66	40.72433688	72.82255404	17.7	
SPI/PV	SRWEC-NYS	SRW_20B2	419	B	8/12/2020	18:50:16	177144.58	4515188.72	40.72433703	72.82256716	17.7	
SPI/PV	SRWEC-NYS	SRW_20B2	419	C	8/12/2020	18:50:59	177145.44	4515187.57	40.72432699	72.82255644	17.7	
SPI/PV	SRWEC-NYS	SRW_20B2	419	D	8/12/2020	18:51:58	177147.95	4515182.87	40.72428574	72.82252434	17.7	
SPI/PV	SRWEC-NYS	SRW_20B2	420	A	8/12/2020	18:57:32	176869.05	4515320.88	40.72541691	72.82589065	16.8	
SPI/PV	SRWEC-NYS	SRW_20B2	420	B	8/12/2020	18:58:06	176867.71	4515317.42	40.72538529	72.82590463	16.8	
SPI/PV	SRWEC-NYS	SRW_20B2	420	C	8/12/2020	18:58:51	176871.73	4515318.73	40.72539869	72.82585782	16.8	
SPI/PV	SRWEC-NYS	SRW_20B2	420	D	8/12/2020	18:59:38	176873.15	4515316.71	40.72538105	72.82584002	16.8	
SPI/PV	SRWEC-NYS	SRW_20B2	420	E	8/12/2020	19:00:24	176871.03	4515316.11	40.72537482	72.82586483	16.8	
SPI/PV	SRWEC-NYS	SRW_20B2	421	A	8/12/2020	19:05:31	176595.7	4515451.69	40.7264855	72.82918776	15.2	
SPI/PV	SRWEC-NYS	SRW_20B2	421	B	8/12/2020	19:06:27	176596.24	4515450.11	40.72647148	72.82918053	15.2	
SPI/PV	SRWEC-NYS	SRW_20B2	421	C	8/12/2020	19:07:11	176595.61	4515446.85	40.7264419	72.82918633	15.2	
SPI/PV	SRWEC-NYS	SRW_20B2	421	D	8/12/2020	19:07:59	176592.56	4515450.21	40.72647093	72.82922409	15.2	
SPI/PV	SRWEC-NYS	SRW_20B2	422	A	8/12/2020	19:29:53	176231.12	4515622.75	40.72787989	72.8335836	13.7	
SPI/PV	SRWEC-NYS	SRW_20B2	422	B	8/12/2020	19:30:50	176232.33	4515621.99	40.72787353	72.83356897	13.7	
SPI/PV	SRWEC-NYS	SRW_20B2	422	C	8/12/2020	19:31:38	176233.5	4515622.41	40.72787778	72.83355529	13.7	
SPI/PV	SRWEC-NYS	SRW_20B2	422	D	8/12/2020	19:32:32	176235.7	4515622.46	40.72787909	72.83352937	13.7	
SPI/PV	SRWEC-NYS	SRW_20B2	428	A	8/12/2020	19:36:44	176109.25	4515660.33	40.72816972	72.83504298	13.1	
SPI/PV	SRWEC-NYS	SRW_20B2	428	B	8/12/2020	19:37:32	176107.35	4515661.83	40.72818244	72.83506613	13.1	
SPI/PV	SRWEC-NYS	SRW_20B2	428	C	8/12/2020	19:38:26	176105.68	4515660.76	40.72817216	72.83508541	13.1	
SPI/PV	SRWEC-NYS	SRW_20B2	428	D	8/12/2020	19:39:09	176106.31	4515659.46	40.72816079	72.83507728	13.1	
SPI/PV	SRWEC-NYS	SRW_20B2	423	A	8/12/2020	19:42:36	175954.94	4515755.47	40.72896424	72.83691541	12.2	
SPI/PV	SRWEC-NYS	SRW_20B2	423	B	8/12/2020	19:43:20	175958.05	4515755.09	40.72896206	72.83687848	12.2	
SPI/PV	SRWEC-NYS	SRW_20B2	423	C	8/12/2020	19:44:07	175959.84	4515755.26	40.72896429	72.83685732	12.2	
SPI/PV	SRWEC-NYS	SRW_20B2	423	D	8/12/2020	19:44:52	175960.73	4515753.56	40.72894936	72.83684601	12.2	
SPI/PV	SRWEC-NYS	SRW_20B2	429	A	8/12/2020	19:50:00	175819.46	4515754.49	40.72890213	72.83851562	11.9	
SPI/PV	SRWEC-NYS	SRW_20B2	429	B	8/12/2020	19:50:48	175818.64	4515755.09	40.7289072	72.83852565	11.9	
SPI/PV	SRWEC-NYS	SRW_20B2	429	C	8/12/2020	19:51:36	175819.62	4515755.85	40.72891441	72.83851444	11.9	
SPI/PV	SRWEC-NYS	SRW_20B2	429	D	8/12/2020	19:52:26	175819.37	4515756.12	40.72891669	72.83851754	11.9	
SPI/PV	SRWEC-NYS	SRW_20B2	424	A	8/12/2020	19:56:23	175679.94	4515884.09	40.73001213	72.84023113	10.7	
SPI/PV	SRWEC-NYS	SRW_20B2	424	B	8/12/2020	19:57:11	175684.59	4515883.43	40.73000798	72.84017584	10.7	
SPI/PV	SRWEC-NYS	SRW_20B2	424	C	8/12/2020	19:57:53	175684.28	4515887.81	40.73004728	72.8401818	10.7	
SPI/PV	SRWEC-NYS	SRW_20B2	424	D	8/12/2020	19:58:33	175683.29	4515888.54	40.73005341	72.84019391	10.7	
SPI/PV	SRWEC-NYS	SRW_20B2	425	A	8/12/2020	20:03:09	175407.13	4516018.95	40.73111686	72.84352443	8.8	
SPI/PV	SRWEC-NYS	SRW_20B2	425	B	8/12/2020	20:04:04	175406.33	4516017.76	40.73110579	72.84353329	8.8	
SPI/PV	SRWEC-NYS	SRW_20B2	425	C	8/12/2020	20:04:58	175405.84	4516017.66	40.73110475	72.84353903	8.8	
SPI/PV	SRWEC-NYS	SRW_20B2	425	D	8/12/2020	20:05:48	175406.67	4516017.08	40.73109979	72.84352886	8.8	
SPI/PV	SRWEC-NYS	SRW_20B2	426	A	8/12/2020	20:10:41	175133.74	4516154.01	40.73222298	72.84682467	7.3	

SampleType	Area	SurveyID	StationID	Replicate	Date	Time	X_UTM19N_m	Y_UTM19N_m	Latitude_N_WGS84	Longitude_W_WGS84	Depth_m	Comments
SPI/PV	SRWEC-NYS	SRW_20B2	426	B	8/12/2020	20:11:30	175131.58	4516150.35	40.73218923	72.84684831	7.3	
SPI/PV	SRWEC-NYS	SRW_20B2	426	C	8/12/2020	20:12:11	175134.49	4516148.69	40.73217548	72.84681313	7.3	
SPI/PV	SRWEC-NYS	SRW_20B2	426	D	8/12/2020	20:13:02	175136.84	4516149.08	40.73217991	72.84678546	7.3	
SPI/PV	SRWEC-NYS	SRW_20B2	427	A	8/12/2020	20:23:30	174974.43	4516265.93	40.73316617	72.84876516	4.6	TOO SHALLOW SHIFTED STATION 40 M. ABOUT 40M OFF FROM ORIGINAL STATION LOCATION DUE TO DEPTH
SPI/PV	SRWEC-NYS	SRW_20B2	427	B	8/12/2020	20:24:29	174978.22	4516267.51	40.73318181	72.84872121	4.6	ABOUT 40M OFF FROM ORIGINAL STATION LOCATION DUE TO DEPTH
SPI/PV	SRWEC-NYS	SRW_20B2	427	C	8/12/2020	20:25:03	174977.04	4516274.36	40.73324297	72.84873864	4.6	ABOUT 40M OFF FROM ORIGINAL STATION LOCATION DUE TO DEPTH
SPI/PV	SRWEC-NYS	SRW_20B2	427	D	8/12/2020	20:26:06	174977.17	4516262.23	40.73313398	72.84873082	4.6	ABOUT 40M OFF FROM ORIGINAL STATION LOCATION DUE TO DEPTH
SPI/PV	SRWEC-NYS	SRW_20B2	427	E	8/12/2020	20:26:50	174977.67	4516260.52	40.73311877	72.8487241	4.6	ABOUT 40M OFF FROM ORIGINAL STATION LOCATION DUE TO DEPTH
SPI/PV	SRWEC-NYS	SRW_20B2	435	A	8/12/2020	20:37:32	174436.11	4516090.79	40.73137938	72.85503488	4.6	
SPI/PV	SRWEC-NYS	SRW_20B2	435	B	8/12/2020	20:38:23	174434.86	4516091.64	40.73138646	72.85505016	4.6	
SPI/PV	SRWEC-NYS	SRW_20B2	435	C	8/12/2020	20:39:07	174435.75	4516093.75	40.73140581	72.85504066	4.6	
SPI/PV	SRWEC-NYS	SRW_20B2	435	D	8/12/2020	20:39:51	174437.99	4516093.72	40.73140643	72.8550142	4.6	
SPI/PV	SRWEC-NYS	SRW_20B2	434	A	8/12/2020	20:45:38	174550.1	4515913.31	40.72982918	72.85359591	7.6	
SPI/PV	SRWEC-NYS	SRW_20B2	434	B	8/12/2020	20:46:33	174547.28	4515912.59	40.72982162	72.85362879	7.6	
SPI/PV	SRWEC-NYS	SRW_20B2	434	C	8/12/2020	20:47:14	174548.99	4515913.6	40.72983131	72.85360909	7.6	
SPI/PV	SRWEC-NYS	SRW_20B2	434	D	8/12/2020	20:47:59	174551.09	4515914.38	40.72983914	72.85358474	7.6	
SPI/PV	SRWEC-NYS	SRW_20B2	433	A	8/12/2020	21:11:10	174756.75	4515601.42	40.72710744	72.85099237	9.8	
SPI/PV	SRWEC-NYS	SRW_20B2	433	B	8/12/2020	21:12:10	174755.53	4515603.27	40.72712355	72.85100776	9.8	
SPI/PV	SRWEC-NYS	SRW_20B2	433	C	8/12/2020	21:13:00	174755.42	4515603.81	40.7271284	72.85100937	9.8	
SPI/PV	SRWEC-NYS	SRW_20B2	433	D	8/12/2020	21:13:53	174756.69	4515604.98	40.72713938	72.85099497	9.8	
SPI/PV	SRWEC-NYS	SRW_20B2	432	A	8/12/2020	21:21:41	174992.04	4515435.25	40.72570671	72.84812622	11.9	
SPI/PV	SRWEC-NYS	SRW_20B2	432	B	8/12/2020	21:22:24	174991.27	4515428.01	40.72564128	72.84813164	11.9	
SPI/PV	SRWEC-NYS	SRW_20B2	432	C	8/12/2020	21:23:12	174991.12	4515431.03	40.72566843	72.84813492	11.9	
SPI/PV	SRWEC-NYS	SRW_20B2	432	D	8/12/2020	21:24:05	174991.87	4515431.43	40.72567231	72.84812635	11.9	
SPI/PV	SRWEC-NYS	SRW_20B2	431	A	8/12/2020	21:29:07	175271.73	4515518.23	40.72656283	72.84486481	11.9	
SPI/PV	SRWEC-NYS	SRW_20B2	431	B	8/12/2020	21:29:45	175270.35	4515517.74	40.72655791	72.84488082	11.9	
SPI/PV	SRWEC-NYS	SRW_20B2	431	C	8/12/2020	21:30:30	175268.86	4515521.58	40.7265918	72.84490049	11.9	
SPI/PV	SRWEC-NYS	SRW_20B2	431	D	8/12/2020	21:31:21	175268.82	4515520.29	40.72658019	72.84490028	11.9	
SPI/PV	SRWEC-NYS	SRW_20B2	430	A	8/12/2020	21:35:54	175531.76	4515681	40.72812828	72.84187689	11.6	
SPI/PV	SRWEC-NYS	SRW_20B2	430	B	8/12/2020	21:36:49	175528.98	4515683.86	40.7281529	72.84191116	11.6	
SPI/PV	SRWEC-NYS	SRW_20B2	430	C	8/12/2020	21:37:45	175526.63	4515682.46	40.72813942	72.84193825	11.6	
SPI/PV	SRWEC-NYS	SRW_20B2	430	D	8/12/2020	21:38:41	175526.68	4515682.45	40.72813932	72.84193761	11.6	
Grab	SRWEC-NYS	SRW_20B2	402	AB1	8/18/2020	9:11:49	181947.1	4513392.17	40.71005536	72.76491279	26.2	
Grab	SRWEC-NYS	SRW_20B2	402	C1	8/18/2020	10:02:23	181948.9	4513392.35	40.71005763	72.76489147	26.2	
Grab	SRWEC-NYS	SRW_20B2	404	AB1	8/18/2020	10:27:34	181341.2	4513463.89	40.71046609	72.77210617	25.0	
Grab	SRWEC-NYS	SRW_20B2	404	C1	8/18/2020	10:56:48	181341.8	4513466.84	40.71049286	72.77210102	25.0	
Grab	SRWEC-NYS	SRW_20B2	406	AB1	8/18/2020	11:19:47	180737.9	4513540.02	40.71091702	72.77927202	24.7	REJECT
Grab	SRWEC-NYS	SRW_20B2	406	AB2	8/18/2020	11:31:01	180733.7	4513539.05	40.71090668	72.77932063	24.7	
Grab	SRWEC-NYS	SRW_20B2	406	C1	8/18/2020	12:10:08	180736.8	4513540.28	40.71091887	72.77928457	24.7	
Grab	SRWEC-NYS	SRW_20B2	408	AB1	8/18/2020	12:40:40	180164.3	4513730.46	40.71240646	72.78614545	23.5	
Grab	SRWEC-NYS	SRW_20B2	408	C1	8/18/2020	13:05:26	180163.2	4513730.3	40.7124046	72.78615841	23.5	
Grab	SRWEC-NYS	SRW_20B2	410	AB1	8/18/2020	13:34:26	179621	4514005.09	40.71466413	72.79270342	22.9	
Grab	SRWEC-NYS	SRW_20B2	410	C1	8/18/2020	13:54:26	179619.4	4513999.28	40.71461131	72.79271957	22.9	
Grab	SRWEC-NYS	SRW_20B2	429	AB1	8/18/2020	14:23:16	175819.2	4515755.88	40.72891454	72.83851899	11.6	
Grab	SRWEC-NYS	SRW_20B2	429	C1	8/18/2020	14:52:28	175822.3	4515758.41	40.72893846	72.83848355	11.6	
Grab	SRWEC-NYS	SRW_20B2	425	AB1	8/18/2020	15:15:31	175406.1	4516016.35	40.73109309	72.84353505	8.8	
Grab	SRWEC-NYS	SRW_20B2	425	C1	8/18/2020	15:35:25	175410.4	4516021.37	40.73113989	72.84348703	8.8	

SampleType	Area	SurveyID	StationID	Replicate	Date	Time	X_UTM19N_m	Y_UTM19N_m	Latitude_N_WGS84	Longitude_W_WGS84	Depth_m	Comments
Grab	SRWEC-NYS	SRW_20B2	427	AB1	8/18/2020	15:59:57	174978.2	4516264.4	40.73315389	72.84872014	4.6	
Grab	SRWEC-NYS	SRW_20B2	427	C1	8/18/2020	16:17:32	174979.4	4516263.87	40.73314956	72.84870561	4.6	
Grab	SRWEC-NYS	SRW_20B2	435	AB1	8/18/2020	16:37:32	174434.6	4516093.23	40.73140074	72.85505361	5.2	
Grab	SRWEC-NYS	SRW_20B2	435	C1	8/18/2020	16:54:30	174433.9	4516093	40.73139836	72.85506264	5.2	
Grab	SRWEC-NYS	SRW_20B2	433	AB1	8/18/2020	17:42:37	174757.2	4515598.51	40.72708146	72.8509855	10.4	
Grab	SRWEC-NYS	SRW_20B2	433	C1	8/18/2020	18:01:20	174757.136	4515603.804	40.727129	72.850989	10.4	
Grab	SRWEC-NYS	SRW_20B2	431	AB1	8/18/2020	18:26:42	175272.1	4515518.8	40.72656804	72.84486137	11.9	
Grab	SRWEC-NYS	SRW_20B2	431	C1	8/18/2020	18:45:00	175274.7	4515515.92	40.72654319	72.84482891	11.9	
Grab	SRWEC-NYS	SRW_20B2	423	AB1	8/18/2020	19:03:29	175957.9	4515752.34	40.72893722	72.83687894	12.2	
Grab	SRWEC-NYS	SRW_20B2	423	C1	8/18/2020	19:28:38	175960.6	4515752.14	40.72893656	72.83684626	12.2	
Grab	SRWEC-NYS	SRW_20B2	422	AB1	8/18/2020	20:23:07	176234.9	4515620.13	40.72785779	72.83353708	14.3	
Grab	SRWEC-NYS	SRW_20B2	422	C1	8/18/2020	20:40:08	176233.8	4515619.57	40.72785233	72.83355088	14.3	
Grab	SRWEC-NYS	SRW_20B2	420	AB1	8/18/2020	20:54:59	176870.9	4515315.42	40.72536861	72.82586606	17.4	
Grab	SRWEC-NYS	SRW_20B2	420	C1	8/18/2020	21:13:27	176868.9	4515315.1	40.72536494	72.82588993	17.4	
Grab	SRWEC-NYS	SRW_20B2	418	AB1	8/18/2020	21:30:12	177417.1	4515054.94	40.72324128	72.8192789	18.9	
Grab	SRWEC-NYS	SRW_20B2	418	C1	8/18/2020	21:48:24	177419.7	4515051.48	40.72321118	72.81924634	18.9	
Grab	SRWEC-NYS	SRW_20B2	416	AB1	8/18/2020	22:16:36	177968.8	4514790.52	40.72108027	72.81262518	20.4	A ONLY
Grab	SRWEC-NYS	SRW_20B2	416	B2C1	8/18/2020	22:32:37	177969.7	4514786.59	40.72104528	72.81261152	20.4	
Grab	SRWEC-NYS	SRW_20B2	414	AB1	8/18/2020	22:55:56	178520.7	4514525.18	40.7189107	72.80596777	22.3	B REJECTED
Grab	SRWEC-NYS	SRW_20B2	414	B2C1	8/18/2020	23:10:28	178520.4	4514525.01	40.71890903	72.80597175	22.3	
Grab	SRWEC-NYS	SRW_20B2	412	AB1	8/18/2020	23:32:17	179069.4	4514263.27	40.71677031	72.79935194	23.2	B REJECTED
Grab	SRWEC-NYS	SRW_20B2	412	BC1	8/18/2020	23:48:46	179073.4	4514269.07	40.71682396	72.79930701	23.2	
PV	SRWEC-ICW	SRW_20B3	801	A	9/7/2020	13:36:53	173200.38	4516982.82	40.73890768	72.87010091		
PV	SRWEC-ICW	SRW_20B3	801	B	9/7/2020	13:37:24	173201.75	4516982.03	40.73890113	72.87008431		
PV	SRWEC-ICW	SRW_20B3	801	C	9/7/2020	13:37:41	173202.75	4516981.81	40.73889955	72.87007238		
PV	SRWEC-ICW	SRW_20B3	801	D	9/7/2020	13:37:58	173202.11	4516981.85	40.73889965	72.87007997		
PV	SRWEC-ICW	SRW_20B3	801	E	9/7/2020	13:38:22	173200.99	4516984.78	40.73892554	72.87009473		
PV	SRWEC-ICW	SRW_20B3	804	A	9/7/2020	13:53:08	173158.38	4516962.35	40.73870703	72.87058654		
PV	SRWEC-ICW	SRW_20B3	804	B	9/7/2020	13:53:24	173155.15	4516961.26	40.73869595	72.87062413		
PV	SRWEC-ICW	SRW_20B3	804	C	9/7/2020	13:53:37	173155.83	4516961.41	40.73869757	72.87061618		
PV	SRWEC-ICW	SRW_20B3	804	D	9/7/2020	13:53:54	173156.69	4516963.08	40.73871292	72.87060689		
PV	SRWEC-ICW	SRW_20B3	804	E	9/7/2020	13:54:07	173156.76	4516964.51	40.7387258	72.87060681		
PV	SRWEC-ICW	SRW_20B3	804	F	9/7/2020	13:54:18	173157.17	4516965.06	40.73873091	72.87060225		
PV	SRWEC-ICW	SRW_20B3	804	G	9/7/2020	13:54:29	173158.46	4516963.33	40.73871587	72.8705861		
PV	SRWEC-ICW	SRW_20B3	804	H	9/7/2020	13:54:39	173157.5	4516962.73	40.7387101	72.87059713		
PV	SRWEC-ICW	SRW_20B3	801	F	9/7/2020	13:57:14	173199.66	4516981	40.73889104	72.87010847		
PV	SRWEC-ICW	SRW_20B3	801	G	9/7/2020	13:57:43	173199.91	4516982.91	40.73890831	72.87010652		
PV	SRWEC-ICW	SRW_20B3	801	H	9/7/2020	13:58:01	173201.56	4516986.08	40.73893745	72.87008867		
PV	SRWEC-ICW	SRW_20B3	806	A	9/7/2020	14:11:41	173274.11	4516755.46	40.73689341	72.86911109		
PV	SRWEC-ICW	SRW_20B3	806	B	9/7/2020	14:11:58	173272.46	4516753.86	40.73687837	72.86912975		
PV	SRWEC-ICW	SRW_20B3	806	C	9/7/2020	14:12:15	173273.25	4516753.86	40.73687869	72.86912042		
PV	SRWEC-ICW	SRW_20B3	806	D	9/7/2020	14:12:31	173271.79	4516754.48	40.73688368	72.86913799		
PV	SRWEC-ICW	SRW_20B3	806	E	9/7/2020	14:12:51	173272.78	4516755.88	40.73689666	72.86912702		
PV	SRWEC-ICW	SRW_20B3	806	F	9/7/2020	14:13:06	173273.09	4516755.7	40.73689516	72.86912327		
PV	SRWEC-ICW	SRW_20B3	806	G	9/7/2020	14:13:21	173272.48	4516755.04	40.73688899	72.86913013		
PV	SRWEC-ICW	SRW_20B3	806	H	9/7/2020	14:13:35	173271.57	4516754.4	40.73688287	72.86914055		
PV	SRWEC-ICW	SRW_20B3	803	A	9/7/2020	14:17:20	173324.46	4516780.38	40.73713736	72.86852913		
PV	SRWEC-ICW	SRW_20B3	803	B	9/7/2020	14:17:37	173323.85	4516780.1	40.73713461	72.86853619		
PV	SRWEC-ICW	SRW_20B3	803	C	9/7/2020	14:17:58	173322.84	4516780.27	40.73713573	72.86854821		
PV	SRWEC-ICW	SRW_20B3	803	D	9/7/2020	14:18:17	173322.97	4516782.73	40.73715789	72.86854796		
PV	SRWEC-ICW	SRW_20B3	803	E	9/7/2020	14:18:33	173323.87	4516783.12	40.73716176	72.86853753		
PV	SRWEC-ICW	SRW_20B3	803	F	9/7/2020	14:18:49	173324.38	4516782.88	40.7371598	72.86853138		
PV	SRWEC-ICW	SRW_20B3	803	G	9/7/2020	14:19:06	173324.56	4516782.63	40.73715763	72.86852912		

SampleType	Area	SurveyID	StationID	Replicate	Date	Time	X_UTM19N_m	Y_UTM19N_m	Latitude_N_WGS84	Longitude_W_WGS84	Depth_m	Comments
PV	SRWEC-ICW	SRW_20B3	803	H	9/7/2020	14:19:22	173324.26	4516782.67	40.73715787	72.86853269		
PV	SRWEC-ICW	SRW_20B3	805	A	9/7/2020	14:36:15	173208.85	4516867.24	40.73787218	72.86994054		
PV	SRWEC-ICW	SRW_20B3	805	B	9/7/2020	14:36:30	173207.33	4516866.43	40.73786436	72.86995809		
PV	SRWEC-ICW	SRW_20B3	805	C	9/7/2020	14:36:47	173206.18	4516866.75	40.73786672	72.86997175		
PV	SRWEC-ICW	SRW_20B3	805	D	9/7/2020	14:37:02	173207.88	4516868.02	40.73787884	72.86995238		
PV	SRWEC-ICW	SRW_20B3	805	E	9/7/2020	14:37:20	173208.92	4516870.67	40.73790308	72.86994146		
PV	SRWEC-ICW	SRW_20B3	805	F	9/7/2020	14:39:35	173206.79	4516869.54	40.73789202	72.86996608		
PV	SRWEC-ICW	SRW_20B3	805	G	9/7/2020	14:39:49	173208.31	4516869.27	40.73789019	72.86994797		
PV	SRWEC-ICW	SRW_20B3	805	H	9/7/2020	14:40:02	173208.02	4516868.64	40.73788446	72.869951		
PV	SRWEC-ICW	SRW_20B3	802	A	9/7/2020	14:42:49	173261.19	4516885.04	40.73805292	72.86933133		
PV	SRWEC-ICW	SRW_20B3	802	B	9/7/2020	14:43:25	173259.59	4516889.45	40.73809197	72.86935246		
PV	SRWEC-ICW	SRW_20B3	802	C	9/7/2020	14:43:38	173259.43	4516890.59	40.73810214	72.86935504		
PV	SRWEC-ICW	SRW_20B3	802	D	9/7/2020	14:43:51	173260.21	4516890.54	40.73810197	72.8693458		
PV	SRWEC-ICW	SRW_20B3	802	E	9/7/2020	14:44:05	173260.6	4516890.39	40.73810084	72.86934107		
PV	SRWEC-ICW	SRW_20B3	802	F	9/7/2020	14:44:19	173261	4516889.8	40.73809568	72.86933608		
PV	SRWEC-ICW	SRW_20B3	802	G	9/7/2020	14:44:36	173260.02	4516888.57	40.73808422	72.86934702		
PV	SRWEC-ICW	SRW_20B3	802	H	9/7/2020	14:44:50	173260.43	4516887.31	40.7380731	72.86934152		
PV	SRWEC-ICW	SRW_20B3	802	I	9/7/2020	14:56:23	173260.74	4516890.29	40.73810001	72.86933934		
PV	SRWEC-ICW	SRW_20B3	802	J	9/7/2020	14:56:39	173261.47	4516889.25	40.7380909	72.86933015		
PV	SRWEC-ICW	SRW_20B3	802	K	9/7/2020	14:56:56	173261.63	4516888.49	40.7380841	72.86932786		
PV	SRWEC-ICW	SRW_20B3	808	A	9/7/2020	15:07:22	173030.63	4516678.8	40.73610773	72.87194808		
PV	SRWEC-ICW	SRW_20B3	808	B	9/7/2020	15:07:37	173030.63	4516677.1	40.73609244	72.87194715		
PV	SRWEC-ICW	SRW_20B3	808	C	9/7/2020	15:07:53	173031.13	4516676.76	40.73608963	72.87194112		
PV	SRWEC-ICW	SRW_20B3	808	D	9/7/2020	15:08:08	173032.03	4516677.95	40.7361007	72.87193107		
PV	SRWEC-ICW	SRW_20B3	808	E	9/7/2020	15:08:25	173032.18	4516679.34	40.73611321	72.87192999		
PV	SRWEC-ICW	SRW_20B3	808	F	9/7/2020	15:10:23	173031.37	4516678.48	40.73610521	72.87193914		
PV	SRWEC-ICW	SRW_20B3	808	G	9/7/2020	15:10:44	173033.53	4516676.96	40.73609239	72.87191289		
PV	SRWEC-ICW	SRW_20B3	808	H	9/7/2020	15:11:07	173031.68	4516675.95	40.73608253	72.87193417		
PV	SRWEC-ICW	SRW_20B3	807	A	9/7/2020	15:23:17	173608.41	4516948.33	40.73875946	72.86526134		
PV	SRWEC-ICW	SRW_20B3	807	B	9/7/2020	15:25:38	173607.67	4516948.15	40.73875757	72.86526995		
PV	SRWEC-ICW	SRW_20B3	807	C	9/7/2020	15:25:53	173605.8	4516948.86	40.7387632	72.86529242		
PV	SRWEC-ICW	SRW_20B3	807	D	9/7/2020	15:26:06	173606.65	4516949.28	40.73876733	72.86528263		
PV	SRWEC-ICW	SRW_20B3	807	E	9/7/2020	15:29:50	173608.62	4516946.11	40.73873958	72.86525771		
PV	SRWEC-ICW	SRW_20B3	807	F	9/7/2020	15:30:01	173607.75	4516945.99	40.73873816	72.86526793		
PV	SRWEC-ICW	SRW_20B3	807	G	9/7/2020	15:30:12	173607.28	4516945.94	40.73873757	72.86527346		
PV	SRWEC-ICW	SRW_20B3	807	H	9/7/2020	15:30:23	173607.33	4516945.96	40.73873778	72.86527282		
PV	SRWEC-ICW	SRW_20B3	807	I	9/7/2020	15:37:47	173607.71	4516944.98	40.73872909	72.86526782		
PV	SRWEC-ICW	SRW_20B3	807	J	9/7/2020	15:37:58	173607.5	4516943.93	40.73871958	72.86526975		
PV	SRWEC-ICW	SRW_20B3	807	K	9/7/2020	15:40:53	173608.39	4516946.82	40.73874595	72.86526076		
PV	SRWEC-ICW	SRW_20B3	807	L	9/7/2020	15:43:14	173607.06	4516945.35	40.73873214	72.86527576		
PV	SRWEC-ICW	SRW_20B3	807	M	9/7/2020	15:43:38	173607.05	4516947.52	40.73875171	72.86527691		
Grab	SRWEC-ICW	SRW_20B3	802	A	9/8/2020	13:47:19	173261.34	4516886.69	40.73806785	72.86933043		
Grab	SRWEC-ICW	SRW_20B3	802	B	9/8/2020	14:29:25	173261.08	4516889.73	40.73809507	72.86933508		
Grab	SRWEC-ICW	SRW_20B3	802	C	9/8/2020	14:55:58	173261.69	4516889.11	40.73808974	72.86932755		
Grab	SRWEC-ICW	SRW_20B3	805	A	9/8/2020	15:29:34	173205.08	4516868.59	40.73788284	72.86998578		
Grab	SRWEC-ICW	SRW_20B3	805	B	9/8/2020	15:50:40	173207.39	4516869.57	40.73789257	72.869959		
Grab	SRWEC-ICW	SRW_20B3	805	C	9/8/2020	16:22:51	173207.8	4516866.72	40.73786711	72.86995267		
Video	SRWEC-ICW	SRW_20B3	T01	Start	9/8/2020	7:44:50	172960.35	4517116.62	40.74001497	72.87300703		Macroalgae
Video	SRWEC-ICW	SRW_20B3	T01	End	9/8/2020	8:01:14	173096.98	4516894.65	40.7380742	72.8712767		
Video	SRWEC-ICW	SRW_20B3	T02	Start	9/8/2020	8:07:10	173143.23	4516894.9	40.73809473	72.87073029		Macroalgae
Video	SRWEC-ICW	SRW_20B3	T02	End	9/8/2020	8:25:34	173011.01	4517111.87	40.73999241	72.87240599		
Video	SRWEC-ICW	SRW_20B3	T03	Start	9/8/2020	8:35:37	173056.9	4516951.62	40.73857033	72.87178005		
Video	SRWEC-ICW	SRW_20B3	T03	End	9/8/2020	8:50:16	173265.68	4517025.66	40.73931863	72.86935157		

SampleType	Area	SurveyID	StationID	Replicate	Date	Time	X_UTM19N_m	Y_UTM19N_m	Latitude_N_WGS84	Longitude_W_WGS84	Depth_m	Comments
Video	SRWEC-ICW	SRW_20B3	T04	Start	9/8/2020	8:52:24	173241.7	4517028.62	40.73933574	72.86963647		
Video	SRWEC-ICW	SRW_20B3	T04	End	9/8/2020	9:04:18	173053	4516967.02	40.73870715	72.87183422		
Video	SRWEC-ICW	SRW_20B3	T05	Start	9/8/2020	9:13:00	173206.82	4516653.23	40.7359479	72.86985279		
Video	SRWEC-ICW	SRW_20B3	T05	End	9/8/2020	9:29:00	173397.07	4516781.66	40.73717768	72.86767171		
Video	SRWEC-ICW	SRW_20B3	T06	Start	9/8/2020	9:33:41	173416.11	4516779.04	40.73716169	72.86744543		
Video	SRWEC-ICW	SRW_20B3	T06	End	9/8/2020	9:47:45	173216.81	4516635.86	40.7357957	72.86972578		
Video	SRWEC-ICW	SRW_20B3	T07	Start	9/8/2020	9:50:19	173230.78	4516619.2	40.73565147	72.86955198		
Video	SRWEC-ICW	SRW_20B3	T07	End	9/8/2020	10:01:06	173361.03	4516707.89	40.73650029	72.86805922		
Video	SRWEC-ICW	SRW_20B3	T08	Start	9/8/2020	10:04:46	173373.22	4516714.72	40.73656651	72.86791872		
Video	SRWEC-ICW	SRW_20B3	T08	End	9/8/2020	10:16:34	173243.05	4516599.58	40.73548004	72.86939674		
Video	SRWEC-ICW	SRW_20B3	T09	Start	9/8/2020	10:21:21	173256.73	4516576.94	40.73528199	72.86922326		
Video	SRWEC-ICW	SRW_20B3	T09	End	9/8/2020	10:26:54	173325.94	4516632.23	40.73580639	72.86843434		
Video	SRWEC-ICW	SRW_20B3	T10	Start	9/8/2020	10:28:58	173322.35	4516616.02	40.73565923	72.86846835		
Video	SRWEC-ICW	SRW_20B3	T10	End	9/8/2020	10:34:44	173267.06	4516569.15	40.735216	72.86909713		
Video	SRWEC-ICW	SRW_20B3	T11	Start	9/8/2020	10:38:06	173274.67	4516552.11	40.7350659	72.86899836		
Video	SRWEC-ICW	SRW_20B3	T11	End	9/8/2020	10:39:49	173295.43	4516564.79	40.73518814	72.86875975		
Video	SRWEC-ICW	SRW_20B3	T12	Start	9/8/2020	10:49:51	173294.73	4516578.11	40.73530758	72.86877485		
Video	SRWEC-ICW	SRW_20B3	T12	End	9/8/2020	10:58:25	173230.87	4516688.95	40.73627846	72.86958726		
Video	SRWEC-ICW	SRW_20B3	T13	Start	9/8/2020	11:01:28	173261.65	4516705.65	40.7364408	72.86923225		
Video	SRWEC-ICW	SRW_20B3	T13	End	9/8/2020	11:07:40	173322.64	4516618.98	40.73568593	72.86846643		
Video	SRWEC-ICW	SRW_20B3	T14	Start	9/8/2020	11:11:45	173338.84	4516664.04	40.73609743	72.86829851		
Video	SRWEC-ICW	SRW_20B3	T14	End	9/8/2020	11:16:35	173293.45	4516725.65	40.73663311	72.86886691		
Video	SRWEC-ICW	SRW_20B3	T15	Start	9/8/2020	11:28:51	173044.43	4516987.06	40.7388839	72.87194588		
Video	SRWEC-ICW	SRW_20B3	T15	End	9/8/2020	11:42:27	173238.68	4517053.39	40.73955719	72.8696851		
Video	SRWEC-ICW	SRW_20B3	T16	Start	9/8/2020	11:45:36	173201.8	4517062.22	40.73962188	72.87012554		
Video	SRWEC-ICW	SRW_20B3	T16	End	9/8/2020	11:55:32	173037.72	4517007.16	40.73906187	72.87203563		
Video	SRWEC-ICW	SRW_20B3	T17	Start	9/8/2020	11:58:21	173028.57	4517027.76	40.73924339	72.8721545		
Video	SRWEC-ICW	SRW_20B3	T17	End	9/8/2020	12:07:00	173173.48	4517075.92	40.73973383	72.87046733		
Video	SRWEC-ICW	SRW_20B3	T18	Start	9/8/2020	12:11:44	173143.61	4517083.49	40.73978998	72.8708242		
Video	SRWEC-ICW	SRW_20B3	T18	End	9/8/2020	12:12:37	173134.03	4517081.71	40.73977019	72.87093647		
Video	SRWEC-ICW	SRW_20B3	T19	Start	9/8/2020	12:15:40	173152.79	4517078.16	40.73974568	72.87071299		3 blades SAV
Video	SRWEC-ICW	SRW_20B3	T19	End	9/8/2020	12:24:54	173022.62	4517047.11	40.73941497	72.87223492		
Video	SRWEC-ICW	SRW_20B3	T20	Start	9/8/2020	12:30:50	173013.92	4517065.12	40.73957341	72.87234716		
Video	SRWEC-ICW	SRW_20B3	T20	End	9/8/2020	12:37:40	173118.65	4517092.85	40.7398642	72.87112402		
Video	SRWEC-ICW	SRW_20B3	T21	Start	9/8/2020	12:42:07	173007.95	4517082.73	40.73972934	72.8724269		
Video	SRWEC-ICW	SRW_20B3	T21	End	9/8/2020	12:46:28	173083.43	4517111.05	40.74001377	72.87154981		
Video	SRWEC-ICW	SRW_20B3	T22	Start	9/8/2020	12:52:38	173167.27	4516978.45	40.73885531	72.8704898		
Video	SRWEC-ICW	SRW_20B3	T22	End	9/8/2020	13:09:00	173278.83	4516766.32	40.73699289	72.86906096		

ATTACHMENT B - SPI/PV Field Log

Notes:

FC=Frame Count

SurveyID	StationID	Replicate	Date	Time	Frame	SPI_StopCollar_in	SPI_Weights_perSide_num	Comments
SRWEC-NYS Survey								
SRW_20B2	401	A	8/12/2020	12:38:49	031	16	5	SPI: ISO 640, f/11, 1/250s; PV: ISO 640, f/18, 1/15s, trigger wire 21.75". (12:15) Shift change.
SRW_20B2	401	B	8/12/2020	12:39:41	032	16	5	
SRW_20B2	401	C	8/12/2020	12:40:29	033	16	5	
SRW_20B2	401	D	8/12/2020	12:41:20	034	16	5	
SRW_20B2	402	A	8/12/2020	12:50:10	035	16	5	
SRW_20B2	402	B	8/12/2020	12:51:02	036	16	5	
SRW_20B2	402	C	8/12/2020	12:51:47	037	16	5	
SRW_20B2	402	D	8/12/2020	12:52:32	038	16	5	
SRW_20B2	403	A	8/12/2020	12:57:58	039	16	5	
SRW_20B2	403	B	8/12/2020	12:58:53	040	16	5	
SRW_20B2	403	C	8/12/2020	12:59:50	041	16	5	
SRW_20B2	403	D	8/12/2020	13:00:38	042	16	5	
SRW_20B2	404	A	8/12/2020	13:05:14	043	16	5	
SRW_20B2	404	B	8/12/2020	13:06:02	044	16	5	
SRW_20B2	404	C	8/12/2020	13:06:56	045	16	5	
SRW_20B2	404	D	8/12/2020	13:07:53	046	16	5	
SRW_20B2	405	A	8/12/2020	13:12:52	047	16	5	
SRW_20B2	405	B	8/12/2020	13:13:41	048	16	5	
SRW_20B2	405	C	8/12/2020	13:14:34	049	16	5	
SRW_20B2	405	D	8/12/2020	13:15:28	050	16	5	
SRW_20B2	406	A	8/12/2020	13:20:26	051	16	5	
SRW_20B2	406	B	8/12/2020	13:21:09	052	16	5	
SRW_20B2	406	C	8/12/2020	13:21:58	053	16	5	
SRW_20B2	406	D	8/12/2020	13:22:40	054	16	5	
SRW_20B2	407	A	8/12/2020	13:27:53	055	16	5	
SRW_20B2	407	B	8/12/2020	13:28:40	056	16	5	
SRW_20B2	407	C	8/12/2020	13:29:34	057	16	5	
SRW_20B2	407	D	8/12/2020	13:30:22	058	16	5	
SRW_20B2	408	A	8/12/2020	13:35:52	059	16	5	
SRW_20B2	408	B	8/12/2020	13:36:36	060	16	5	
SRW_20B2	408	C	8/12/2020	13:37:26	061	16	5	
SRW_20B2	408	D	8/12/2020	13:38:20	062	16	5	
SRW_20B2	409	A	8/12/2020	13:43:14	063	16	5	
SRW_20B2	409	B	8/12/2020	13:44:07	064	16	5	
SRW_20B2	409	C	8/12/2020	13:44:57	065	16	5	Winch line pulled taut.
SRW_20B2	409	D	8/12/2020	13:45:44	066	16	5	
SRW_20B2	409	E	8/12/2020	13:46:32	067	16	5	
SRW_20B2	410	A	8/12/2020	13:51:33	068	16	5	
SRW_20B2	410	B	8/12/2020	13:52:26	069	16	5	
SRW_20B2	410	C	8/12/2020	13:53:13	070	16	5	
SRW_20B2	410	D	8/12/2020	13:54:08	071	16	5	
SRW_20B2	411	A	8/12/2020	13:58:36	072	16	5	
SRW_20B2	411	B	8/12/2020	13:59:25	073	16	5	
SRW_20B2	411	C	8/12/2020	14:00:13	074	16	5	

SurveyID	StationID	Replicate	Date	Time	Frame	SPI_StopCollar_in	SPI_Weights_perSide_num	Comments
SRW_20B2	411	D	8/12/2020	14:01:00	075	16	5	Download. FC 030. (14:20) No SPI. FC unchanged. SPI strobe not flashing. Begin diagnostic. (15:50) System back together. Camera body malfunctioning. Discovered after trying new SPI cable, trigger, and SPI head. Changed camera body and reverted back to original cable, trigger, and SPI head. (16:00) Commence sampling again. FC 004.
SRW_20B2	411	E	8/12/2020	15:58:40	005	16	5	SPI only.
SRW_20B2	411	F	8/12/2020	15:59:32	006	16	5	SPI only.
SRW_20B2	411	G	8/12/2020	16:00:12	007	16	5	SPI only.
SRW_20B2	411	H	8/12/2020	16:01:08	008	16	5	SPI only. On deck, FC check. FC 009.
SRW_20B2	410	E	8/12/2020	16:12:37	010	16	5	SPI only.
SRW_20B2	410	F	8/12/2020	16:13:39	011	16	5	SPI only.
SRW_20B2	410	G	8/12/2020	16:14:37	012	16	5	SPI only.
SRW_20B2	410	H	8/12/2020	16:15:33	013	16	5	SPI only.
SRW_20B2	409	F	8/12/2020	16:20:53	014	16	5	SPI only.
SRW_20B2	409	G	8/12/2020	16:21:43	015	16	5	SPI only.
SRW_20B2	409	H	8/12/2020	16:22:24	016	16	5	SPI only.
SRW_20B2	409	I	8/12/2020	16:23:06	017	16	5	SPI only.
SRW_20B2	409	J	8/12/2020	16:23:45	018	16	5	SPI only.
SRW_20B2	408	E	8/12/2020	16:29:20	019	16	5	SPI only.
SRW_20B2	408	F	8/12/2020	16:30:04	020	16	5	SPI only.
SRW_20B2	408	G	8/12/2020	16:30:45	021	16	5	SPI only.
SRW_20B2	408	H	8/12/2020	16:31:25	022	16	5	SPI only.
SRW_20B2	407	E	8/12/2020	16:36:57	023	16	5	SPI only.
SRW_20B2	407	F	8/12/2020	16:37:45	024	16	5	SPI only.
SRW_20B2	407	G	8/12/2020	16:38:22	025	16	5	SPI only.
SRW_20B2	407	H	8/12/2020	16:39:03	026	16	5	SPI only.
SRW_20B2	406	E	8/12/2020	16:44:35	027	16	5	SPI only.
SRW_20B2	406	F	8/12/2020	16:45:31	028	16	5	SPI only.
SRW_20B2	406	G	8/12/2020	16:46:25	029	16	5	SPI only.
SRW_20B2	406	H	8/12/2020	16:47:27	030	16	5	SPI only.
SRW_20B2	405	E	8/12/2020	16:52:11	031	16	5	SPI only.
SRW_20B2	405	F	8/12/2020	16:53:15	032	16	5	SPI only.
SRW_20B2	405	G	8/12/2020	16:54:09	033	16	5	SPI only.
SRW_20B2	405	H	8/12/2020	16:55:00	034	16	5	SPI only.
SRW_20B2	404	E	8/12/2020	17:00:26	035	16	5	SPI only.
SRW_20B2	404	F	8/12/2020	17:01:07	036	16	5	SPI only.
SRW_20B2	404	G	8/12/2020	17:01:45	037	16	5	SPI only.
SRW_20B2	404	H	8/12/2020	17:02:27	038	16	5	SPI only.
SRW_20B2	403	E	8/12/2020	17:06:30	039	16	5	SPI only.
SRW_20B2	403	F	8/12/2020	17:07:16	040	16	5	SPI only.
SRW_20B2	403	G	8/12/2020	17:08:06	041	16	5	SPI only.
SRW_20B2	403	H	8/12/2020	17:08:54	042	16	5	SPI only.
SRW_20B2	402	E	8/12/2020	17:13:37	043	16	5	SPI only.
SRW_20B2	402	F	8/12/2020	17:14:25	044	16	5	SPI only.
SRW_20B2	402	G	8/12/2020	17:15:07	045	16	5	SPI only.
SRW_20B2	402	H	8/12/2020	17:15:58	046	16	5	SPI only.
SRW_20B2	401	E	8/12/2020	17:21:11	047	16	5	SPI only.
SRW_20B2	401	F	8/12/2020	17:21:51	048	16	5	SPI only.

SurveyID	StationID	Replicate	Date	Time	Frame	SPI_StopCollar_in	SPI_Weights_perSide_num	Comments
SRW_20B2	401	G	8/12/2020	17:22:32	049	16	5	SPI only.
SRW_20B2	401	H	8/12/2020	17:23:18	050	16	5	SPI only. Download, FC 050.
SRW_20B2	412	A	8/12/2020	17:53:33	051	16	5	
SRW_20B2	412	B	8/12/2020	17:54:25	052	16	5	
SRW_20B2	412	C	8/12/2020	17:55:15	053	16	5	
SRW_20B2	412	D	8/12/2020	17:56:03	054	16	5	
SRW_20B2	413	A	8/12/2020	18:01:36	055	16	5	
SRW_20B2	413	B	8/12/2020	18:02:22	056	16	5	
SRW_20B2	413	C	8/12/2020	18:03:07	057	16	5	
SRW_20B2	413	D	8/12/2020	18:03:55	058	16	5	
SRW_20B2	413	E	8/12/2020	18:04:31	059	16	5	
SRW_20B2	414	A	8/12/2020	18:09:49	060	16	5	
SRW_20B2	414	B	8/12/2020	18:10:29	061	16	5	
SRW_20B2	414	C	8/12/2020	18:11:18	062	16	5	
SRW_20B2	414	D	8/12/2020	18:11:57	063	16	5	
SRW_20B2	415	A	8/12/2020	18:17:44	064	16	5	
SRW_20B2	415	B	8/12/2020	18:18:30	065	16	5	
SRW_20B2	415	C	8/12/2020	18:19:15	066	16	5	
SRW_20B2	415	D	8/12/2020	18:20:01	067	16	5	
SRW_20B2	416	A	8/12/2020	18:26:53	068	16	5	
SRW_20B2	416	B	8/12/2020	18:27:48	069	16	5	
SRW_20B2	416	C	8/12/2020	18:28:42	070	16	5	
SRW_20B2	416	D	8/12/2020	18:29:29	071	16	5	
SRW_20B2	417	A	8/12/2020	18:34:08	072	16	5	
SRW_20B2	417	B	8/12/2020	18:34:54	073	16	5	
SRW_20B2	417	C	8/12/2020	18:35:47	074	16	5	
SRW_20B2	417	D	8/12/2020	18:36:37	075	16	5	
SRW_20B2	417	E	8/12/2020	18:37:24	076	16	5	
SRW_20B2	418	A	8/12/2020	18:42:19	077	16	5	
SRW_20B2	418	B	8/12/2020	18:43:03	078	16	5	
SRW_20B2	418	C	8/12/2020	18:43:50	079	16	5	
SRW_20B2	418	D	8/12/2020	18:44:39	080	16	5	
SRW_20B2	419	A	8/12/2020	18:49:26	081	16	5	
SRW_20B2	419	B	8/12/2020	18:50:12	082	16	5	
SRW_20B2	419	C	8/12/2020	18:50:58	083	16	5	
SRW_20B2	419	D	8/12/2020	18:51:38	084	16	5	
SRW_20B2	420	A	8/12/2020	18:57:15	085	16	5	
SRW_20B2	420	B	8/12/2020	18:58:05	086	16	5	
SRW_20B2	420	C	8/12/2020	18:58:50	087	16	5	
SRW_20B2	420	D	8/12/2020	18:59:36	088	16	5	
SRW_20B2	420	E	8/12/2020	19:00:23	089	16	5	
SRW_20B2	421	A	8/12/2020	19:05:31	090	16	5	
SRW_20B2	421	B	8/12/2020	19:06:26	091	16	5	
SRW_20B2	421	C	8/12/2020	19:07:12	092	16	5	
SRW_20B2	421	D	8/12/2020	19:07:55	093	16	5	Download, FC 094.
SRW_20B2	422	A	8/12/2020	19:29:47	095	16	5	
SRW_20B2	422	B	8/12/2020	19:30:46	096	16	5	
SRW_20B2	422	C	8/12/2020	19:31:38	097	16	5	

SurveyID	StationID	Replicate	Date	Time	Frame	SPI_StopCollar_in	SPI_Weights_perSide_num	Comments
SRW_20B2	422	D	8/12/2020	19:32:29	098	16	5	
SRW_20B2	428	A	8/12/2020	19:36:34	099	16	5	
SRW_20B2	428	B	8/12/2020	19:37:30	100	16	5	
SRW_20B2	428	C	8/12/2020	19:38:24	101	16	5	
SRW_20B2	428	D	8/12/2020	19:39:07	102	16	5	
SRW_20B2	423	A	8/12/2020	19:42:35	103	16	5	
SRW_20B2	423	B	8/12/2020	19:43:18	104	16	5	
SRW_20B2	423	C	8/12/2020	19:44:02	105	16	5	
SRW_20B2	423	D	8/12/2020	19:44:52	106	16	5	
SRW_20B2	429	A	8/12/2020	19:49:58	107	16	5	
SRW_20B2	429	B	8/12/2020	19:50:47	108	16	5	
SRW_20B2	429	C	8/12/2020	19:51:35	109	16	5	
SRW_20B2	429	D	8/12/2020	19:52:24	110	16	5	
SRW_20B2	424	A	8/12/2020	19:56:20	111	16	5	
SRW_20B2	424	B	8/12/2020	19:57:06	112	16	5	
SRW_20B2	424	C	8/12/2020	19:57:51	113	16	5	
SRW_20B2	424	D	8/12/2020	19:58:33	114	16	5	
SRW_20B2	425	A	8/12/2020	20:03:05	115	16	5	
SRW_20B2	425	B	8/12/2020	20:04:01	116	16	5	
SRW_20B2	425	C	8/12/2020	20:04:58	117	16	5	
SRW_20B2	425	D	8/12/2020	20:05:48	118	16	5	
SRW_20B2	426	A	8/12/2020	20:10:38	119	16	5	
SRW_20B2	426	B	8/12/2020	20:11:29	120	16	5	
SRW_20B2	426	C	8/12/2020	20:12:10	121	16	5	
SRW_20B2	426	D	8/12/2020	20:13:00	122	16	5	
SRW_20B2	427	A	8/12/2020	20:23:32	123	16	5	~40 m off station due to shallow depth.
SRW_20B2	427	B	8/12/2020	20:24:10	124	16	5	~40 m off station due to shallow depth.
SRW_20B2	427	C	8/12/2020	20:24:59	125	16	5	~40 m off station due to shallow depth.
SRW_20B2	427	D	8/12/2020	20:26:06	126	16	5	~40 m off station due to shallow depth.
SRW_20B2	427	E	8/12/2020	20:26:48	127	16	5	~40 m off station due to shallow depth.
SRW_20B2	435	A	8/12/2020	20:37:32	128	16	5	
SRW_20B2	435	B	8/12/2020	20:38:23	129	16	5	
SRW_20B2	435	C	8/12/2020	20:39:06	130	16	5	
SRW_20B2	435	D	8/12/2020	20:39:51	131	16	5	
SRW_20B2	434	A	8/12/2020	20:45:39	132	16	5	
SRW_20B2	434	B	8/12/2020	20:46:29	133	16	5	
SRW_20B2	434	C	8/12/2020	20:47:12	134	16	5	
SRW_20B2	434	D	8/12/2020	20:47:58	135	16	5	Download, FC 135.
SRW_20B2	433	A	8/12/2020	21:11:10	136	16	5	
SRW_20B2	433	B	8/12/2020	21:12:09	137	16	5	
SRW_20B2	433	C	8/12/2020	21:13:01	138	16	5	
SRW_20B2	433	D	8/12/2020	21:13:53	139	16	5	
SRW_20B2	432	A	8/12/2020	21:21:40	141	16	5	Extra rep accidentally collected, rep removed.
SRW_20B2	432	B	8/12/2020	21:22:22	142	16	5	
SRW_20B2	432	C	8/12/2020	21:23:10	143	16	5	
SRW_20B2	432	D	8/12/2020	21:24:05	144	16	5	
SRW_20B2	431	A	8/12/2020	21:29:03	145	16	5	
SRW_20B2	431	B	8/12/2020	21:29:43	146	16	5	

SurveyID	StationID	Replicate	Date	Time	Frame	SPI_StopCollar_in	SPI_Weights_perSide_num	Comments
SRW_20B2	431	C	8/12/2020	21:30:30	147	16	5	
SRW_20B2	431	D	8/12/2020	21:31:20	148	16	5	
SRW_20B2	430	A	8/12/2020	21:35:53	149	16	5	
SRW_20B2	430	B	8/12/2020	21:36:49	150	16	5	
SRW_20B2	430	C	8/12/2020	21:37:49	151	16	5	
SRW_20B2	430	D	8/12/2020	21:38:40	152	16	5	Download, FC 152. (21:55) All SPI/PV for NYS waters complete.
SRWEC-ICW Survey								
SRW_20B3	801	A	9/7/2020	13:36:53				PV: ISO 640, f/18, 1/15s, trigger wire 24".
SRW_20B3	801	B	9/7/2020	13:37:24				
SRW_20B3	801	C	9/7/2020	13:37:41				
SRW_20B3	801	D	9/7/2020	13:37:58				
SRW_20B3	801	E	9/7/2020	13:38:22				Download.
SRW_20B3	804	A	9/7/2020	13:53:08				
SRW_20B3	804	B	9/7/2020	13:53:24				
SRW_20B3	804	C	9/7/2020	13:53:37				
SRW_20B3	804	D	9/7/2020	13:53:54				
SRW_20B3	804	E	9/7/2020	13:54:07				
SRW_20B3	804	F	9/7/2020	13:54:18				
SRW_20B3	804	G	9/7/2020	13:54:29				
SRW_20B3	804	H	9/7/2020	13:54:39				
SRW_20B3	801	F	9/7/2020	13:57:14				
SRW_20B3	801	G	9/7/2020	13:57:43				
SRW_20B3	801	H	9/7/2020	13:58:01				Download.
SRW_20B3	806	A	9/7/2020	14:11:41				
SRW_20B3	806	B	9/7/2020	14:11:58				
SRW_20B3	806	C	9/7/2020	14:12:15				
SRW_20B3	806	D	9/7/2020	14:12:31				
SRW_20B3	806	E	9/7/2020	14:12:51				
SRW_20B3	806	F	9/7/2020	14:13:06				
SRW_20B3	806	G	9/7/2020	14:13:21				
SRW_20B3	806	H	9/7/2020	14:13:35				
SRW_20B3	803	A	9/7/2020	14:17:20				
SRW_20B3	803	B	9/7/2020	14:17:37				
SRW_20B3	803	C	9/7/2020	14:17:58				
SRW_20B3	803	D	9/7/2020	14:18:17				
SRW_20B3	803	E	9/7/2020	14:18:33				
SRW_20B3	803	F	9/7/2020	14:18:49				
SRW_20B3	803	G	9/7/2020	14:19:06				
SRW_20B3	803	H	9/7/2020	14:19:22				
SRW_20B3	805	A	9/7/2020	14:36:15				
SRW_20B3	805	B	9/7/2020	14:36:30				
SRW_20B3	805	C	9/7/2020	14:36:47				
SRW_20B3	805	D	9/7/2020	14:37:02				
SRW_20B3	805	E	9/7/2020	14:37:20				
SRW_20B3	805	F	9/7/2020	14:39:35				
SRW_20B3	805	G	9/7/2020	14:39:49				
SRW_20B3	805	H	9/7/2020	14:40:02				Download.

SurveyID	StationID	Replicate	Date	Time	Frame	SPI_StopCollar_in	SPI_Weights_perSide_num	Comments
SRW_20B3	802	A	9/7/2020	14:42:49				
SRW_20B3	802	B	9/7/2020	14:43:25				
SRW_20B3	802	C	9/7/2020	14:43:38				
SRW_20B3	802	D	9/7/2020	14:43:51				
SRW_20B3	802	E	9/7/2020	14:44:05				
SRW_20B3	802	F	9/7/2020	14:44:19				
SRW_20B3	802	G	9/7/2020	14:44:36				
SRW_20B3	802	H	9/7/2020	14:44:50				Download.
SRW_20B3	802	I	9/7/2020	14:56:23				
SRW_20B3	802	J	9/7/2020	14:56:39				
SRW_20B3	802	K	9/7/2020	14:56:56				
SRW_20B3	808	A	9/7/2020	15:07:22				
SRW_20B3	808	B	9/7/2020	15:07:37				
SRW_20B3	808	C	9/7/2020	15:07:53				
SRW_20B3	808	D	9/7/2020	15:08:08				
SRW_20B3	808	E	9/7/2020	15:08:25				
SRW_20B3	808	F	9/7/2020	15:10:23				
SRW_20B3	808	G	9/7/2020	15:10:44				
SRW_20B3	808	H	9/7/2020	15:11:07				
SRW_20B3	807	A	9/7/2020	15:23:17				
SRW_20B3	807	B	9/7/2020	15:25:38				
SRW_20B3	807	C	9/7/2020	15:25:53				
SRW_20B3	807	D	9/7/2020	15:26:06				
SRW_20B3	807	E	9/7/2020	15:29:50				
SRW_20B3	807	F	9/7/2020	15:30:01				
SRW_20B3	807	G	9/7/2020	15:30:12				
SRW_20B3	807	H	9/7/2020	15:30:23				
SRW_20B3	807	I	9/7/2020	15:37:47				
SRW_20B3	807	J	9/7/2020	15:37:58				
SRW_20B3	807	K	9/7/2020	15:40:53				
SRW_20B3	807	L	9/7/2020	15:43:14				
SRW_20B3	807	M	9/7/2020	15:43:38				Download.

ATTACHMENT C - Sediment Sample Log Forms

INSPIRE ENVIRONMENTAL

Sediment Sample Log Form

INSPIRE Project Number:	Project Name:	Date:	Station ID:
17C04-1913	Sunrise Wind	8/18/20	402
			Sample ID: A
Vessel: Northstar Challenger		Photograph (Y/N – file) Yes	
Sampling Staff: Dan Jackson, Dustin Varnell, Chuck Holloway		Penetration (cm): 8	Sample Time: (local) 09:11:49
Sampling Gear (circle one and size): (Double van Veen) Single van Veen			

Sample Description

Color: (Light Brown) Tannish Orange Greenish Gray Olive Gray Light Gray Dark Gray Black
Other:

Type: Cobble Gravel (Sand) (coarse med (fine)) Silt Clay Wood chips Shells or (Shell Hash)
Other:

Odor: (None) Slight Strong Petroleum H_2S Other:

Density: Hard Solid (Firm) Soft Loose Other:

Debris Present: Yes (No) Type:

Overlying Water Present: Yes (No)

Misc: Biota None Detritus None

Sample Type

(Grain Size)

Benthic Infauna (indicate # of jars): 2 Jars

Grab Number (A= Accepted; R = Rejected)

***Codes: DB** = Debris Interference; **DS** = Disturbed Surface; **NS** = No Sediment in sampler; **OP** = Over Penetration; **OT** = Other*

1	2	3	4	5	6
Accept					

Field Activities / Comments / Observations:

Took 1/2 of 1 bucket from double van veen ($0.1m^2$) $\approx$ $0.4m^2$ sample
Sandy material, small fragments of shell hash

Field Team Leader Signature and Approval

INSPIRE ENVIRONMENTAL

Sediment Sample Log Form

INSPIRE Project Number:	Project Name:	Date:	Station ID:
17C04-1913	Sunrise Wind	8/18/2020	402
			Sample ID: B

Vessel:	Photograph (Y/N – file)
Northstar Challenger	Yes

Sampling Staff:	Penetration (cm):	Sample Time: (local)
Dan Jackson, Dustin Varnell, Chuck Holloway	8	09:11:49
Sampling Gear (circle one and size): Double van Veen / Single van Veen		

Sample Description

Color: (Light Brown) Tannish Orange Greenish Gray Olive Gray Light Gray Dark Gray Black
Other:

Type: Cobble Gravel Sand (coarse med fine) Silt Clay Wood chips Shells or Shell Hash
Other:

Odor: (None) Slight Strong Petroleum H_2S Other:

Density: Hard Solid (Firm) Soft Loose Other:

Debris Present: Yes (No) Type:

Overlying Water Present: Yes (No)

Misc: Biota None Detritus None

Sample Type

~~***Grain Size***~~

~~***Benthic Infauna (indicate # of jars):***~~ 2 Jars

Grab Number (A= Accepted; R = Rejected)

***Codes: DB** = Debris Interference; **DS** = Disturbed Surface; **NS** = No Sediment in sampler; **OP** = Over Penetration; **OT** = Other*

1	2	3	4	5	6
Acept					

Field Activities / Comments / Observations:

Taken from other bucket of replicate A, split ½ of material for ≈0.4m Sample area

Field Team Leader Signature and Approval

INSPIRE ENVIRONMENTAL

Sediment Sample Log Form

INSPIRE Project Number:	Project Name:	Date:	Station ID:
17C04-1913	Sunrise Wind	8/18/2020	402
			Sample ID: C

Vessel:	Photograph (Y/N – file)
Northstar Challenger	Yes

Sampling Staff:	Penetration (cm):	Sample Time: (local)
Dan Jackson, Dustin Varnell, Chuck Holloway	7	10:02:23
Sampling Gear (circle one and size): Double van Veen / Single van Veen		

Sample Description

Color: ~~Light Brown~~ Tannish Orange Greenish Gray Olive Gray Light Gray Dark Gray Black
Other: Tanish

Type: Cobble Gravel Sand (coarse med/fine) Silt Clay Wood chips Shells or Shell Hash
Other:

Odor: (None) Slight Strong Petroleum H_2S Other:

Density: Hard Solid (Firm) Soft Loose Other:

Debris Present: Yes (No) Type:

Overlying Water Present: Yes (No)

Misc: Biota None Detritus None

Sample Type

Grain Size

Benthic Infauna (indicate # of jars):

Grab Number (A= Accepted; R = Rejected)

***Codes: DB** = Debris Interference; **DS** = Disturbed Surface; **NS** = No Sediment in sampler; **OP** = Over Penetration; **OT** = Other*

1	2	3	4	5	6
Accept					

Field Activities / Comments / Observations:

Medium Sand,
7cm of pen - took 1/2 of one bucket from double van veen
Small shell fragments present

Field Team Leader Signature and Approval

INSPIRE ENVIRONMENTAL

Sediment Sample Log Form

INSPIRE Project Number:	Project Name:	Date:	Station ID:
17C04-1913	Sunrise Wind	8/18/20	404
			Sample ID: A
Vessel: Northstar Challenger		**Photograph (Y/N – file)** Yes	
Sampling Staff: Dan Jackson, Dustin Varnell, Chuck Hollaway		**Penetration** (cm): 8	**Sample Time:** (local) 10:27:34
Sampling Gear (circle one and size): Double van Veen / Single van Veen			

Sample Description

Color: (Light Brown) Tannish Orange Greenish Gray Olive Gray Light Gray Dark Gray Black
Other: Tannish

Type: Cobble Gravel (Sand) (coarse med (fine)) Silt Clay Wood chips Shells or Shell Hash
Other:

Odor: (None) Slight Strong Petroleum H_2S Other:

Density: Hard Solid (Firm) Soft Loose Other:

Debris Present: Yes (No) Type:

Overlying Water Present: (Yes)

Misc: Biota Sand Dollars, echinoderm worm casings Detritus None

Sample Type

~~***Grain Size***~~

Benthic Infauna (indicate # of jars): 1 Jar

Grab Number (A= Accepted; R = Rejected)

***Codes: DB** = Debris Interference; **DS** = Disturbed Surface; **NS** = No Sediment in sampler; **OP** = Over Penetration; **OT** = Other*

1	2	3	4	5	6
Acceptable					

Field Activities / Comments / Observations:

Sand dollars, fine sand, some water present, used ½ of 1 bucket from double van veen

Most material sieved out

Field Team Leader Signature and Approval

INSPIRE ENVIRONMENTAL

Sediment Sample Log Form

INSPIRE Project Number: 17C04-1913	Project Name: Sunrise Wind	Date: 8/18/20	Station ID: 404
			Sample ID: B
Vessel: Northstar Challenger		Photograph (Y/N – file) Yes	
Sampling Staff: Dan Jackson, Dustin Varnell, Chuck Holloway		Penetration (cm): 8	Sample Time: (local) 10:27:34
Sampling Gear (circle one and size): Double van Veen Single van Veen			

Sample Description

Color: (Light Brown) Tannish Orange Greenish Gray Olive Gray Light Gray Dark Gray Black
Other: Tannish

Type: Cobble Gravel Sand (coarse med (fine)) Silt Clay Wood chips Shells or Shell Hash
Other:

Odor: (None) Slight Strong Petroleum H_2S Other:

Density: Hard Solid (Firm) Soft Loose Other:

Debris Present: Yes (No) Type:

Overlying Water Present: Yes (No)

Misc: Biota Sand Dollars Detritus None

Sample Type

Grain Size

Benthic Infauna (indicate # of jars): 1 Jar

Grab Number (A= Accepted; R = Rejected)

***Codes: DB** = Debris Interference; **DS** = Disturbed Surface; **NS** = No Sediment in sampler; **OP** = Over Penetration; **OT** = Other*

1	2	3	4	5	6
Accept					

Field Activities / Comments / Observations:

Took ½ of second bucket, taken at same time as sample A

Most material sieved out

Field Team Leader Signature and Approval

INSPIRE ENVIRONMENTAL

Sediment Sample Log Form

INSPIRE Project Number: 17C04-1913	Project Name: Sunrise Wind	Date: 8/18/20	Station ID: 404
			Sample ID: C
Vessel: Northstar Challenger		Photograph (Y/N – file) Yes	
Sampling Staff: Dan Jackson, Dustin Varnell, Chuck Holloway		Penetration (cm): 7.5	Sample Time: (local) 10:56:48
Sampling Gear (circle one and size): Double van Veen Single van Veen			

Sample Description

Color: Light Brown Tannish Orange Greenish Gray Olive Gray Light Gray (Dark Gray) Black
Other:

Type: Cobble Gravel (Sand) (coarse med (fine)) Silt Clay Wood chips Shells or Shell Hash
Other:

Odor: (None) Slight Strong Petroleum H_2S Other:

Density: Hard Solid (Firm) Soft Loose Other:

Debris Present: Yes (No) Type:

Overlying Water Present: (Yes) No

Misc: Biota Polychaete Tubes, Echinoderms Detritus None

Sample Type

Grain Size

Benthic Infauna (indicate # of jars): 1 Jar

Grab Number (A= Accepted; R = Rejected)

***Codes: DB** = Debris Interference; **DS** = Disturbed Surface; **NS** = No Sediment in sampler; **OP** = Over Penetration; **OT** = Other*

1	2	3	4	5	6
Accept					

Field Activities / Comments / Observations:

Some overlaying water, Sand dollars, some shell hash, ½ of 1 bucket from double van Veen

Most material sieved out

Field Team Leader Signature and Approval

INSPIRE ENVIRONMENTAL

Sediment Sample Log Form

INSPIRE Project Number:	Project Name:	Date:	Station ID:
17C04-1913	Sunrise Wind	8/18/20	406
			Sample ID: A

Vessel:	Photograph (Y/N – file)
Northstar Challenger	Yes

Sampling Staff:	Penetration (cm):	Sample Time: (local)
Dan Jackson, Chuck Holloway, Dustin Varnell	7	11:31:01
Sampling Gear (circle one and size): Double van Veen Single van Veen		

Sample Description

Color: Light Brown Tannish Orange Greenish Gray Olive Gray (Light Gray) Dark Gray Black
Other:

Type: Cobble Gravel Sand (coarse med (fine)) Silt Clay Wood chips Shells or Shell Hash
Other:

Odor: (None) Slight Strong Petroleum H_2S Other:

Density: Hard Solid (Firm) Soft Loose Other:

Debris Present: Yes (No) Type:

Overlying Water Present: (Yes) No

Misc: Biota Arthropod, echoderms, polychaetes Detritus None

Sample Type

Grain Size

Benthic Infauna (indicate # of jars):

Grab Number (A= Accepted; R = Rejected)

***Codes: DB** = Debris Interference; **DS** = Disturbed Surface; **NS** = No Sediment in sampler; **OP** = Over Penetration; **OT** = Other*

1	2	3	4	5	6
Reject	Accept				

Field Activities / Comments / Observations:

Attempt 1, not enough penetration

Attempt 2 good, Some overlying water, sub sample from 1st bucket of double van Veen, some biota Present

Field Team Leader Signature and Approval

INSPIRE ENVIRONMENTAL

Sediment Sample Log Form

INSPIRE Project Number:	Project Name:	Date:	Station ID:
17C04-1913	Sunrise Wind	8/18/20	406
			Sample ID: B
Vessel: Northstar Challenger		**Photograph (Y/N – file)** Yes	
Sampling Staff: Dan Jackson, Chuck Holloway, Dustin Varne		**Penetration** (cm): 7.5	**Sample Time:** (local) 11:31:01
Sampling Gear ~~Double van Veen~~ **Single van Veen** (circle one and size):			

Sample Description

Color: Light Brown Tannish Orange Greenish Gray Olive Gray (Light Gray) Dark Gray Black
Other:

Type: Cobble Gravel (Sand) (coarse med (fine)) Silt Clay Wood chips Shells or (Shell Hash)
Other:

Odor: (None) Slight Strong Petroleum H_2S Other:

Density: Hard Solid (Firm) Soft Loose Other:

Debris Present: Yes (No) Type:

Overlying Water Present: Yes (No)

Misc: Biota Polychaete, echinoderms Detritus None

Sample Type

Grain Size

Benthic Infauna (indicate # of jars):

Grab Number (A= Accepted; R = Rejected)

***Codes: DB** = Debris Interference; **DS** = Disturbed Surface; **NS** = No Sediment in sampler; **OP** = Over Penetration; **OT** = Other*

1	2	3	4	5	6
Accept					

Field Activities / Comments / Observations:

Fine Sand, Sand dollars, sub sample from second bucket of double van veen

Field Team Leader Signature and Approval

INSPIRE ENVIRONMENTAL

Sediment Sample Log Form

INSPIRE Project Number:	Project Name:	Date:	Station ID:
17C04-1913	Sunrise Wind	18 Aug 2020	406
			Sample ID: C

Vessel:	Photograph (Y/N – file)
Northstar Challenger	Yes

Sampling Staff: K. Sturdivant, Z. Mickelsen, K. Gustafson	Penetration (cm):	Sample Time: (local)
Sampling Gear (circle one and size): Double van Veen / Single van Veen 0.1	~~6 1/2~~ 6.5 cm	12:10:08

Sample Description

Color: (Light Brown) Tannish Orange Greenish Gray Olive Gray Light Gray Dark Gray Black
Other:

Type: Cobble Gravel Sand (coarse med (fine)) Silt Clay Wood chips Shells or Shell Hash
Other:

Odor: (None) Slight Strong Petroleum H_2S Other:

Density: Hard Solid (Firm) Soft Loose Other:

Debris Present: Yes (No) Type:

Overlying Water Present: (Yes) No

Misc: Biota Sand dollars, polychaete Detritus none

Sample Type

Grain Size

Benthic Infauna (indicate # of jars): 101

Grab Number (A= Accepted; R = Rejected)

***Codes: DB** = Debris Interference; **DS** = Disturbed Surface; **NS** = No Sediment in sampler; **OP** = Over Penetration; **OT** = Other*

1	2	3	4	5	6
~~Accep~~ A					

Field Activities / Comments / Observations:

Field Team Leader Signature and Approval

INSPIRE ENVIRONMENTAL

Sediment Sample Log Form

INSPIRE Project Number:	Project Name:	Date:	Station ID:
17C04-1913	Sunrise Wind	18 Aug 2020	408
			Sample ID: A

Vessel:	Photograph (Y/N – file)
Northstar Challenger	Yes

Sampling Staff: Sturdivant, Gustafson, McKelvey	Penetration (cm):	Sample Time: (local)
Sampling Gear (circle one and size): Double van Veen Single van Veen	~~10~~ 10	12:40:30

Sample Description

Color: (Light Brown) Tannish Orange Greenish Gray (~~Olive Gray~~) Light Gray Dark Gray Black
Other:

Type: Cobble Gravel Sand (coarse med (fine)) Silt Clay Wood chips Shells or Shell Hash
Other:

Odor: (None) Slight Strong Petroleum H_2S Other:

Density: Hard Solid (Firm) Soft Loose Other:

Debris Present: Yes (No) Type:

Overlying Water Present: (Yes) No

Misc: Biota Sand dollars Detritus _____

Sample Type

Grain Size

Benthic Infauna (indicate # of jars): 10

Grab Number (A= Accepted; R = Rejected)
***Codes: DB** = Debris Interference; **DS** = Disturbed Surface; **NS** = No Sediment in sampler; **OP** = Over Penetration; **OT** = Other*

1	2	3	4	5	6
A					

Field Activities / Comments / Observations:

Field Team Leader Signature and Approval

INSPIRE ENVIRONMENTAL

Sediment Sample Log Form

INSPIRE Project Number:	Project Name:	Date:	Station ID:
17C04-1913	Sunrise Wind	18 Aug 2020	408
			Sample ID: B

Vessel:	Photograph (Y/N – file)
Northstar Challenger	Yes

Sampling Staff: Sturdivant, Gustafson, McKelvey	Penetration (cm):	Sample Time: (local)
Sampling Gear (circle one and size): ~~Double van Veen~~ Single van Veen	8	12:40:30

Sample Description

Color: (Light Brown) Tannish Orange Greenish Gray (Olive Gray) Light Gray Dark Gray Black
Other:

Type: Cobble Gravel Sand (coarse med (fine)) Silt Clay Wood chips Shells or Shell Hash
Other:

Odor: (None) Slight Strong Petroleum H_2S Other:

Density: Hard Solid (Firm) Soft Loose Other:

Debris Present: Yes (No) Type:

Overlying Water Present: (Yes) No

Misc: Biota Sand dollars Detritus _____

Sample Type

Grain Size

Benthic Infauna (indicate # of jars): 1

Grab Number (A= Accepted; R = Rejected)

***Codes: DB** = Debris Interference; **DS** = Disturbed Surface; **NS** = No Sediment in sampler; **OP** = Over Penetration; **OT** = Other*

1	2	3	4	5	6
A					

Field Activities / Comments / Observations:

Field Team Leader Signature and Approval

INSPIRE ENVIRONMENTAL

Sediment Sample Log Form

INSPIRE Project Number: 17C04-1913	Project Name: Sunrise Wind	Date: 18 Aug 2020	Station ID: 408
			Sample ID: C
Vessel: Northstar Challenger		Photograph (Y/N – file) Yes	
Sampling Staff: Stuckwal, Gustafson, Mokelke		Penetration (cm): 9.5	Sample Time: (local) 13:05:26
Sampling Gear (circle one and size): Double van Veen / Single van Veen			

Sample Description

Color: Light Brown Tannish Orange Greenish Gray (Olive Gray) Light Gray Dark Gray Black
Other:

Type: Cobble Gravel Sand (coarse med (fine)) Silt Clay Wood chips Shells or Shell Hash
Other:

Odor: (None) Slight Strong Petroleum H_2S Other:

Density: Hard Solid (Firm) Soft Loose Other:

Debris Present: Yes (No) Type:

Overlying Water Present: (Yes) No

Misc: Biota sand dollar, polychaete Detritus _____

Sample Type

(Grain Size)

(Benthic Infauna (indicate # of jars): 1

Grab Number (A= Accepted; R = Rejected)

***Codes: DB** = Debris Interference; **DS** = Disturbed Surface; **NS** = No Sediment in sampler; **OP** = Over Penetration; **OT** = Other*

1	2	3	4	5	6
A					

Field Activities / Comments / Observations:

Field Team Leader Signature and Approval

INSPIRE ENVIRONMENTAL

Sediment Sample Log Form

INSPIRE Project Number:	Project Name:	Date:	Station ID:
17C04-1913	Sunrise Wind	18 Aug 2020	410
			Sample ID: A

Vessel:	Photograph (Y/N – file)
Northstar Challenger	Y

Sampling Staff: Studivant, Gustafson, McKelvey	Penetration (cm):	Sample Time: (local)
Sampling Gear (circle one and size): Double van Veen / Single van Veen	8.5	13:34:26

Sample Description

Color: (Light Brown) Tannish Orange Greenish Gray (Olive Gray) Light Gray Dark Gray Black
Other:

Type: Cobble Gravel Sand (coarse med (fine)) Silt Clay Wood chips Shells or Shell Hash
Other:

Odor: (None) Slight Strong Petroleum H_2S Other:

Density: Hard Solid (Firm) Soft Loose Other:

Debris Present: Yes (No) Type:

Overlying Water Present: (Yes) No

Misc: Biota Sand dollar, polychaete Detritus _____

Sample Type

Grain Size

Benthic Infauna (indicate # of jars): 1

Grab Number (A= Accepted; R = Rejected)

***Codes: DB** = Debris Interference; **DS** = Disturbed Surface; **NS** = No Sediment in sampler; **OP** = Over Penetration; **OT** = Other*

1	2	3	4	5	6
DB	A				

Field Activities / Comments / Observations:

Field Team Leader Signature and Approval

INSPIRE ENVIRONMENTAL

Sediment Sample Log Form

INSPIRE Project Number:	Project Name:	Date:	Station ID:
17C04-1913	Sunrise Wind	18 Aug 2020	410
			Sample ID: B

Vessel:	Photograph (Y/N – file)
Northstar Challenger	Y

Sampling Staff: Sturdivant, Gustafson, McKelvey	Penetration (cm):	Sample Time: (local)
Sampling Gear (circle one and size): Double van Veen Single van Veen	9.0	13:34:26

Sample Description

Color: (Light Brown) Tannish Orange Greenish Gray (Olive Gray) Light Gray Dark Gray Black
Other:

Type: Cobble Gravel Sand (coarse med (fine)) Silt Clay Wood chips Shells or Shell Hash
Other:

Odor: (None) Slight Strong Petroleum H_2S Other:

Density: Hard Solid (Firm) Soft Loose Other:

Debris Present: Yes (No) Type:

Overlying Water Present: (Yes) No

Misc: Biota Sand dollar, polychaete Detritus _____

Sample Type

(Grain Size)

(Benthic Infauna (indicate # of jars): 1

Grab Number (A= Accepted; R = Rejected)

***Codes: DB** = Debris Interference; **DS** = Disturbed Surface; **NS** = No Sediment in sampler; **OP** = Over Penetration; **OT** = Other*

1	2	3	4	5	6
DB	A				

Field Activities / Comments / Observations:

Field Team Leader Signature and Approval

INSPIRE ENVIRONMENTAL

Sediment Sample Log Form

INSPIRE Project Number:	Project Name:	Date:	Station ID:
17C04-1913	Sunrise Wind	18 Aug 2020	710
			Sample ID: C

Vessel:	Photograph (Y/N – file)
Northstar Challenger	Y

Sampling Staff: Sturdivant, Gustafson, McKelvey	Penetration (cm):	Sample Time: (local)
Sampling Gear (circle one and size): ~~Double van Veen~~ Single van Veen	8.0	13:54:26

Sample Description

Color: Light Brown Tannish Orange Greenish Gray (Olive Gray) Light Gray Dark Gray Black
Other:

Type: Cobble Gravel Sand (coarse med (fine)) Silt Clay Wood chips Shells or Shell Hash
Other:

Odor: (None) Slight Strong Petroleum H_2S Other:

Density: Hard Solid (Firm) Soft Loose Other:

Debris Present: Yes (No) Type:

Overlying Water Present: (Yes) No

Misc: Biota polychaets Detritus _____

Sample Type

(***Grain Size***)

(***Benthic Infauna (indicate # of jars):*** 1)

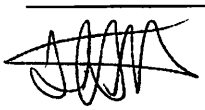
Grab Number (A= Accepted; R = Rejected)

***Codes: DB** = Debris Interference; **DS** = Disturbed Surface; **NS** = No Sediment in sampler; **OP** = Over Penetration; **OT** = Other*

1	2	3	4	5	6
A					

Field Activities / Comments / Observations:

Field Team Leader Signature and Approval



INSPIRE ENVIRONMENTAL

Sediment Sample Log Form

INSPIRE Project Number:	Project Name:	Date:	Station ID:
17C04-1913	Sunrise Wind	18 Aug 2020	429
			Sample ID: A
Vessel: Northstar Challenger		**Photograph (Y/N – file)** Y	
Sampling Staff: Sturdivant, Gustafson, McKelvey		**Penetration** (cm): 7.0	**Sample Time:** (local) 14:23:16
Sampling Gear (circle one and size): Double van Veen Single van Veen			

Sample Description

Color: (Light Brown) Tannish Orange Greenish Gray Olive Gray Light Gray Dark Gray Black
Other:

Type: Cobble Gravel Sand (coarse med fine) Silt Clay Wood chips Shells or Shell Hash
Other:

Odor: (None) Slight Strong Petroleum H_2S Other:

Density: Hard Solid (Firm) Soft Loose Other:

Debris Present: Yes (No) Type:

Overlying Water Present: (Yes) No

Misc: Biota Isopods _____ Detritus _____

Sample Type

Grain Size

Benthic Infauna (indicate # of jars): ✓

Grab Number (A= Accepted; R = Rejected)

***Codes: DB** = Debris Interference; **DS** = Disturbed Surface; **NS** = No Sediment in sampler; **OP** = Over Penetration; **OT** = Other*

1	2	3	4	5	6
A					

Field Activities / Comments / Observations:

Field Team Leader Signature and Approval

INSPIRE ENVIRONMENTAL

Sediment Sample Log Form

INSPIRE Project Number: 17C04-1913	Project Name: Sunrise Wind	Date: 18 Aug 2020	Station ID: 429
			Sample ID: B
Vessel: Northstar Challenger		Photograph (Y/N – file) Y	
Sampling Staff: Studivant, Gustafson, Mikolay		Penetration (cm): 11.0	Sample Time: (local) 14:23:16
Sampling Gear (circle one and size): Double van Veen Single van Veen			

Sample Description

Color: (Light Brown) Tannish Orange Greenish Gray Olive Gray Light Gray Dark Gray Black
Other:

Type: Cobble Gravel Sand (coarse med fine) Silt Clay Wood chips Shells or Shell Hash
Other:

Odor: (None) Slight Strong Petroleum H_2S Other:

Density: Hard Solid (Firm) Soft Loose Other:

Debris Present: Yes (No) Type:

Overlying Water Present: (Yes) No

Misc: Biota None Detritus _____

Sample Type

Grain Size

Benthic Infauna (indicate # of jars): 2

Grab Number (A= Accepted; R = Rejected)

***Codes: DB** = Debris Interference; **DS** = Disturbed Surface; **NS** = No Sediment in sampler; **OP** = Over Penetration; **OT** = Other*

1	2	3	4	5	6
A					

Field Activities / Comments / Observations:

Field Team Leader Signature and Approval

INSPIRE ENVIRONMENTAL

Sediment Sample Log Form

INSPIRE Project Number:	Project Name:	Date:	Station ID:
17C04-1913	Sunrise Wind	18 Aug 2020	429
			Sample ID: C
Vessel: Northstar Challenger		**Photograph (Y/N – file)** Y	
Sampling Staff: Sturdivant, Gustafson, McKelvey		**Penetration** (cm): 13.0	**Sample Time:** (local) 14:52:32
Sampling Gear (circle one and size): ~~Double van Veen~~ Single van Veen			

Sample Description

Color: (Light Brown) Tannish Orange Greenish Gray Olive Gray Light Gray Dark Gray Black
Other:

Type: Cobble Gravel Sand (coarse (med) fine) Silt Clay Wood chips Shells or Shell Hash
Other:

Odor: (None) Slight Strong Petroleum H_2S Other:

Density: Hard Solid (Firm) Soft Loose Other:

Debris Present: Yes (No) Type:

Overlying Water Present: Yes (No)

Misc: Biota N/A Detritus _____

Sample Type

Grain Size

Benthic Infauna (indicate # of jars): 2

Grab Number (A= Accepted; R = Rejected)

***Codes: DB** = Debris Interference; **DS** = Disturbed Surface; **NS** = No Sediment in sampler; **OP** = Over Penetration; **OT** = Other*

1	2	3	4	5	6
A					

Field Activities / Comments / Observations:

Field Team Leader Signature and Approval

INSPIRE ENVIRONMENTAL

Sediment Sample Log Form

INSPIRE Project Number: 17C04-1913	Project Name: Sunrise Wind	Date: 18 Aug 2020	Station ID: #25
			Sample ID: A
Vessel: Northstar Challenger		Photograph (Y/N – file) Y	
Sampling Staff: Sturtivant, Gustafson, Mekelvy		Penetration (cm): 6.0	Sample Time: (local) 15:15:31
Sampling Gear (circle one and size): Double van Veen Single van Veen			

Sample Description

Color: (Light Brown) Tannish Orange Greenish Gray Olive Gray Light Gray Dark Gray Black
Other:

Type: Cobble Gravel Sand (coarse (med) fine) Silt Clay Wood chips Shells or Shell Hash
Other:

Odor: (None) Slight Strong Petroleum H_2S Other:

Density: Hard Solid (Firm) Soft Loose Other:

Debris Present: Yes (No) Type:

Overlying Water Present: (Yes) No

Misc: Biota Hermit crab, polychaete Detritus _____

Sample Type

Grain Size

Benthic Infauna (indicate # of jars): √

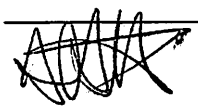
Grab Number (A= Accepted; R = Rejected)

***Codes: DB** = Debris Interference; **DS** = Disturbed Surface; **NS** = No Sediment in sampler; **OP** = Over Penetration; **OT** = Other*

1	2	3	4	5	6
A					

Field Activities / Comments / Observations:

Field Team Leader Signature and Approval



INSPIRE ENVIRONMENTAL

Sediment Sample Log Form

INSPIRE Project Number:	Project Name:	Date:	Station ID:
17C04-1913	Sunrise Wind	18 Aug 2020	425
			Sample ID: B

Vessel:	Photograph (Y/N – file)
Northstar Challenger	Y

Sampling Staff: Sturdivant, Gustafson, McKelvey	Penetration (cm):	Sample Time: (local)
Sampling Gear (circle one and size): Double van Veen / Single van Veen	6.5	15:15:31

Sample Description

Color: (Light Brown) Tannish Orange Greenish Gray Olive Gray Light Gray Dark Gray Black
Other:

Type: Cobble Gravel Sand (coarse (med) fine) Silt Clay Wood chips Shells or Shell Hash
Other:

Odor: (None) Slight Strong Petroleum H_2S Other:

Density: Hard Solid (Firm) Soft Loose Other:

Debris Present: Yes (No) Type:

Overlying Water Present: (Yes) No

Misc: Biota polychaete Detritus _____

Sample Type

(Grain Size

(Benthic Infauna (indicate # of jars): 1

Grab Number (A= Accepted; R = Rejected)

***Codes: DB** = Debris Interference; **DS** = Disturbed Surface; **NS** = No Sediment in sampler; **OP** = Over Penetration; **OT** = Other*

1	2	3	4	5	6
A					

Field Activities / Comments / Observations:

Field Team Leader Signature and Approval

INSPIRE ENVIRONMENTAL

Sediment Sample Log Form

INSPIRE Project Number: 17C04-1913	Project Name: Sunrise Wind	Date: 18 Aug 2020	Station ID: 425
			Sample ID: C
Vessel: Northstar Challenger		Photograph (Y/N – file) Y	
Sampling Staff: Studivant, Gustafson, McKelvy		Penetration (cm): 6.0	Sample Time: (local) 15:35:25
Sampling Gear (circle one and size): ~~Double van Veen~~ Single van Veen			

Sample Description

Color: (Light Brown) Tannish Orange Greenish Gray Olive Gray Light Gray Dark Gray Black
Other:

Type: Cobble Gravel Sand (coarse med (fine)) Silt Clay Wood chips Shells or Shell Hash
Other:

Odor: (None) Slight Strong Petroleum H_2S Other:

Density: Hard Solid (Firm) Soft Loose Other:

Debris Present: Yes (No) Type:

Overlying Water Present: ~~Yes~~ No

Misc: Biota Isopods Detritus _____

Sample Type

Grain Size

Benthic Infauna (indicate # of jars): 1

Grab Number (A= Accepted; R = Rejected)

***Codes: DB** = Debris Interference; **DS** = Disturbed Surface; **NS** = No Sediment in sampler; **OP** = Over Penetration; **OT** = Other*

1	2	3	4	5	6
A					

Field Activities / Comments / Observations:

Field Team Leader Signature and Approval

INSPIRE ENVIRONMENTAL

Sediment Sample Log Form

INSPIRE Project Number:	Project Name:	Date:	Station ID:
17C04-1913	Sunrise Wind	18 Aug 2020	427
			Sample ID: A

Vessel:	Photograph (Y/N – file)
Northstar Challenger	Y

Sampling Staff: Sturdivant, Gustafson, McKelvey	Penetration (cm):	Sample Time: (local)
Sampling Gear (circle one and size): Double van Veen Single van Veen	10.0	15:59:57

Sample Description

Color: (Light Brown) Tannish Orange Greenish Gray Olive Gray Light Gray Dark Gray Black
Other:

Type: Cobble Gravel Sand (coarse med (fine)) Silt Clay Wood chips Shells or Shell Hash
Other:

Odor: (None) Slight Strong Petroleum H_2S Other:

Density: Hard Solid (Firm) Soft Loose Other:

Debris Present: Yes (No) Type:

Overlying Water Present: (Yes) No

Misc: Biota Hermit crab Detritus _____

Sample Type

(Grain Size)

(Benthic Infauna (indicate # of jars): 1

Grab Number (A= Accepted; R = Rejected)

***Codes: DB** = Debris Interference; **DS** = Disturbed Surface; **NS** = No Sediment in sampler; **OP** = Over Penetration; **OT** = Other*

1	2	3	4	5	6
A					

Field Activities / Comments / Observations:

Field Team Leader Signature and Approval

INSPIRE ENVIRONMENTAL

Sediment Sample Log Form

INSPIRE Project Number: 17C04-1913	Project Name: Sunrise Wind	Date: 13 Aug 2020	Station ID: 427
			Sample ID: B
Vessel: Northstar Challenger		Photograph (Y/N – file) Y	
Sampling Staff: Sturdivant, Gustafson, McKelvey		Penetration (cm): 8.0	Sample Time: (local) 15:59:57
Sampling Gear (circle one and size): Double van Veen Single van Veen			

Sample Description

Color: Light Brown Tannish Orange Greenish Gray Olive Gray Light Gray Dark Gray Black
Other:

Type: Cobble Gravel Sand (coarse med (fine)) Silt Clay Wood chips Shells or Shell Hash
Other:

Odor: None Slight Strong Petroleum H_2S Other:

Density: Hard Solid Firm Soft Loose Other:

Debris Present: Yes No Type:

Overlying Water Present: Yes No

Misc: Biota Isolds Detritus

Sample Type

Grain Size

Benthic Infauna (indicate # of jars): 1

Grab Number (A= Accepted; R = Rejected)

***Codes: DB** = Debris Interference; **DS** = Disturbed Surface; **NS** = No Sediment in sampler; **OP** = Over Penetration; **OT** = Other*

1	2	3	4	5	6
A					

Field Activities / Comments / Observations:

Field Team Leader Signature and Approval

INSPIRE ENVIRONMENTAL

Sediment Sample Log Form

INSPIRE Project Number:	Project Name:	Date:	Station ID:
17C04-1913	Sunrise Wind	18 Aug 2020	427
			Sample ID: C
Vessel: Northstar Challenger		**Photograph (Y/N – file)** Y	
Sampling Staff: Sturdivant, Gustafson, McKelvey		**Penetration (cm):** 9.0	**Sample Time:** (local) 16:17:32
Sampling Gear (circle one and size): Double van Veen Single van Veen			

Sample Description

Color: (Light Brown) Tannish Orange Greenish Gray Olive Gray Light Gray Dark Gray Black
Other:

Type: Cobble Gravel Sand (coarse med (fine)) Silt Clay Wood chips Shells or Shell Hash
Other:

Odor: (None) Slight Strong Petroleum H_2S Other:

Density: Hard Solid (Firm) Soft Loose Other:

Debris Present: Yes (No) Type:

Overlying Water Present: (Yes) No

Misc: Biota Isopods, Amphipods Detritus _____

Sample Type

Grain Size

Benthic Infauna (indicate # of jars): 1

Grab Number (A= Accepted; R = Rejected)

***Codes: DB** = Debris Interference; **DS** = Disturbed Surface; **NS** = No Sediment in sampler; **OP** = Over Penetration; **OT** = Other*

1	2	3	4	5	6
A					

Field Activities / Comments / Observations:

Field Team Leader Signature and Approval

INSPIRE ENVIRONMENTAL

Sediment Sample Log Form

INSPIRE Project Number: 17C04-1913	Project Name: Sunrise Wind	Date: 18 Aug 2020	Station ID: 435
			Sample ID: A
Vessel: Northstar Challenger		Photograph (Y/N – file) Y	
Sampling Staff: Sturdivant, Gustafson, McKelvey		Penetration (cm): 8.5	Sample Time: (local) 16:37:32
Sampling Gear (circle one and size): Double van Veen Single van Veen			

Sample Description

Color: (Light Brown) Tannish Orange Greenish Gray Olive Gray Light Gray Dark Gray Black
Other:

Type: Cobble Gravel Sand (coarse med (fine)) Silt Clay Wood chips Shells or Shell Hash
Other:

Odor: (None) Slight Strong Petroleum H_2S Other:

Density: Hard Solid (Firm) Soft Loose Other:

Debris Present: Yes (No) Type:

Overlying Water Present: (Yes) No

Misc: Biota N/A Detritus _____

Sample Type

(Grain) Size

(Benthic Infauna (indicate # of jars): 1

Grab Number (A= Accepted; R = Rejected)

***Codes: DB** = Debris Interference; **DS** = Disturbed Surface; **NS** = No Sediment in sampler; **OP** = Over Penetration; **OT** = Other*

1	2	3	4	5	6
A					

Field Activities / Comments / Observations:

Field Team Leader Signature and Approval

INSPIRE ENVIRONMENTAL

Sediment Sample Log Form

INSPIRE Project Number: 17C04-1913	Project Name: Sunrise Wind	Date: 18 Aug 2020	Station ID: 435
			Sample ID: B
Vessel: Northstar Challenger		Photograph (Y/N – file) Y	
Sampling Staff: Sturdivant, Gustafson, McKelvey		Penetration (cm): 7.0	Sample Time: (local) 16:37:32
Sampling Gear (circle one and size): ~~Double van Veen~~ Single van Veen			

Sample Description

Color: (Light Brown) Tannish Orange Greenish Gray Olive Gray Light Gray Dark Gray Black
Other:

Type: Cobble Gravel Sand (coarse med (fine)) Silt Clay Wood chips Shells or Shell Hash
Other:

Odor: (None) Slight Strong Petroleum H_2S Other:

Density: Hard Solid (Firm) Soft Loose Other:

Debris Present: Yes (No) Type:

Overlying Water Present: (Yes) No

Misc: Biota N/A Detritus _____

Sample Type

(Grain Size)

(Benthic Infauna (indicate # of jars): 1

Grab Number (A= Accepted; R = Rejected)

***Codes: DB** = Debris Interference; **DS** = Disturbed Surface; **NS** = No Sediment in sampler; **OP** = Over Penetration; **OT** = Other*

1	2	3	4	5	6
A					

Field Activities / Comments / Observations:

Field Team Leader Signature and Approval

INSPIRE ENVIRONMENTAL

Sediment Sample Log Form

INSPIRE Project Number: 17C04-1913	Project Name: Sunrise Wind	Date: 18 Aug 2020	Station ID: 435
			Sample ID: C
Vessel: Northstar Challenger		Photograph (Y/N – file) Y	
Sampling Staff: Sturdivant, Gustafson, McKelvey		Penetration (cm): 9.0	Sample Time: (local) 16:54:30
Sampling Gear (circle one and size): Double van Veen Single van Veen			

Sample Description

Color: (Light Brown) Tannish Orange Greenish Gray Olive Gray Light Gray Dark Gray Black
Other:

Type: Cobble Gravel Sand (coarse med (fine)) Silt Clay Wood chips Shells or Shell Hash
Other:

Odor: (None) Slight Strong Petroleum H_2S Other:

Density: Hard Solid (Firm) Soft Loose Other:

Debris Present: Yes (No) Type:

Overlying Water Present: (Yes) No

Misc: Biota N/A Detritus _____

Sample Type

Grain Size

Benthic Infauna (indicate # of jars): 1

Grab Number (A= Accepted; R = Rejected)

***Codes: DB** = Debris Interference; **DS** = Disturbed Surface; **NS** = No Sediment in sampler; **OP** = Over Penetration; **OT** = Other*

1	2	3	4	5	6
A					

Field Activities / Comments / Observations:

Field Team Leader Signature and Approval

INSPIRE ENVIRONMENTAL

Sediment Sample Log Form

INSPIRE Project Number: 17C04-1913	Project Name: Sunrise Wind	Date: 18 Aug 2020	Station ID: 433
			Sample ID: A
Vessel: Northstar Challenger		Photograph (Y/N – file) Y	
Sampling Staff: Stwdibant, Gustafson, McKelvey		Penetration (cm): 7.0	Sample Time: (local) 17:42:37
Sampling Gear (circle one and size): Double van Veen Single van Veen			

Sample Description

Color: (Light Brown) Tannish Orange Greenish Gray (Olive Gray) Light Gray Dark Gray Black
Other:

Type: Cobble Gravel Sand (coarse med (fine)) Silt Clay Wood chips Shells or Shell Hash
Other:

Odor: (None) Slight Strong Petroleum H_2S Other:

Density: Hard Solid (Firm) Soft Loose Other:

Debris Present: Yes (No) Type:

Overlying Water Present: (Yes) No

Misc: Biota N/A Detritus _____

Sample Type

Grain Size

Benthic Infauna (indicate # of jars): 1

Grab Number (A= Accepted; R = Rejected)

***Codes: DB** = Debris Interference; **DS** = Disturbed Surface; **NS** = No Sediment in sampler; **OP** = Over Penetration; **OT** = Other*

1	2	3	4	5	6
A					

Field Activities / Comments / Observations:

Field Team Leader Signature and Approval

INSPIRE ENVIRONMENTAL

Sediment Sample Log Form

INSPIRE Project Number: 17C04-1913	Project Name: Sunrise Wind	Date: 18 Aug 2022	Station ID: 433
			Sample ID: B
Vessel: Northstar Challenger		Photograph (Y/N – file) Y	
Sampling Staff: Hurdiwent, Gustafson, McKelvey		Penetration (cm): 7.0	Sample Time: (local) 17:42:37
Sampling Gear (circle one and size): ~~Double van Veen~~ Single van Veen			

Sample Description

Color: Light Brown Tannish Orange Greenish Gray Olive Gray Light Gray Dark Gray Black
Other:

Type: Cobble Gravel Sand (coarse med fine) Silt Clay Wood chips Shells or Shell Hash
Other:

Odor: None Slight Strong Petroleum H_2S Other:

Density: Hard Solid Firm Soft Loose Other:

Debris Present: Yes No Type:

Overlying Water Present: Yes No

Misc: Biota polychaete tubes Detritus _____

Sample Type

Grain Size

Benthic Infauna (indicate # of jars): 1

Grab Number (A= Accepted; R = Rejected)

***Codes: DB** = Debris Interference; **DS** = Disturbed Surface; **NS** = No Sediment in sampler; **OP** = Over Penetration; **OT** = Other*

1	2	3	4	5	6
A					

Field Activities / Comments / Observations:

Field Team Leader Signature and Approval

INSPIRE ENVIRONMENTAL

Sediment Sample Log Form

INSPIRE Project Number:	Project Name:	Date:	Station ID:
17C04-1913	Sunrise Wind	18 Aug 2020	433
			Sample ID: C
Vessel: Northstar Challenger		**Photograph (Y/N – file)** Y	
Sampling Staff: Hurdivant, Gustafson, McKelvey		**Penetration** (cm): 5.5 cm	**Sample Time:** (local) 18:01:20
Sampling Gear (circle one and size): Double van Veen Single van Veen			

Sample Description

Color: (Light Brown) Tannish Orange Greenish Gray (Olive Gray) Light Gray Dark Gray Black
Other:

Type: Cobble Gravel Sand (coarse med (fine)) Silt Clay Wood chips Shells or Shell Hash
Other:

Odor: (None) Slight Strong Petroleum H_2S Other:

Density: Hard Solid (Firm) Soft Loose Other:

Debris Present: Yes (No) Type:

Overlying Water Present: (Yes) No

Misc: Biota Hermit crab Detritus _____

Sample Type

(Grain) Size

(Benthic Infauna (indicate # of jars): 1

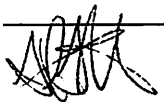
Grab Number (A= Accepted; R = Rejected)

***Codes: DB** = Debris Interference; **DS** = Disturbed Surface; **NS** = No Sediment in sampler; **OP** = Over Penetration; **OT** = Other*

1	2	3	4	5	6
A					

Field Activities / Comments / Observations:

Field Team Leader Signature and Approval



INSPIRE ENVIRONMENTAL

Sediment Sample Log Form

INSPIRE Project Number:	Project Name:	Date:	Station ID:
17C04-1913	Sunrise Wind	18 Aug 2020	431
			Sample ID: A
Vessel: Northstar Challenger		**Photograph (Y/N – file)** Y	
Sampling Staff: Sturdivant, Gustafson, Mellberg		**Penetration** (cm):	**Sample Time:** (local)
Sampling Gear (circle one and size): Double van Veen Single van Veen		9.0	18:26:42

Sample Description

Color: (Light Brown) Tannish Orange Greenish Gray (Olive Gray) Light Gray Dark Gray Black
Other:

Type: Cobble Gravel Sand (coarse med (fine) Silt Clay Wood chips Shells or Shell Hash
Other:

Odor: (None) Slight Strong Petroleum H_2S Other:

Density: Hard Solid (Firm) Soft Loose Other:

Debris Present: Yes (No) Type:

Overlying Water Present: (Yes) No

Misc: Biota Hermit crab, polychaete tubes, small Limulus Detritus _____

Sample Type

(Grain Size)

(Benthic Infauna (indicate # of jars): 1

Grab Number (A= Accepted; R = Rejected)

***Codes: DB** = Debris Interference; **DS** = Disturbed Surface; **NS** = No Sediment in sampler; **OP** = Over Penetration; **OT** = Other*

1	2	3	4	5	6
A					

Field Activities / Comments / Observations:

Field Team Leader Signature and Approval

INSPIRE ENVIRONMENTAL

Sediment Sample Log Form

INSPIRE Project Number:	Project Name:	Date:	Station ID:
17C04-1913	Sunrise Wind	18 Aug 2026	431
			Sample ID: B
Vessel: Northstar Challenger		**Photograph (Y/N – file)** Y	
Sampling Staff: Stinchcomb, Gustafson, McKelvey		**Penetration** (cm):	**Sample Time:** (local)
Sampling Gear (circle one and size): Double van Veen Single van Veen		10.0	18:26:42

Sample Description

Color: Light Brown Tannish Orange Greenish Gray Olive Gray Light Gray Dark Gray Black
Other:

Type: Cobble Gravel Sand (coarse med fine) Silt Clay Wood chips Shells or Shell Hash
Other:

Odor: None Slight Strong Petroleum H_2S Other:

Density: Hard Solid Firm Soft Loose Other:

Debris Present: Yes No Type:

Overlying Water Present: Yes No

Misc: Biota burrowing crab, polychaete tubes, isopods Detritus _____

Sample Type

Grain Size

Benthic Infauna (indicate # of jars): 1

Grab Number (A= Accepted; R = Rejected)

***Codes: DB** = Debris Interference; **DS** = Disturbed Surface; **NS** = No Sediment in sampler; **OP** = Over Penetration; **OT** = Other*

1	2	3	4	5	6
A					

Field Activities / Comments / Observations:

Field Team Leader Signature and Approval

INSPIRE ENVIRONMENTAL

Sediment Sample Log Form

INSPIRE Project Number: 17C04-1913	Project Name: Sunrise Wind	Date: 18 Aug 2020	Station ID: 431
			Sample ID: C
Vessel: Northstar Challenger		Photograph (Y/N – file) Y	
Sampling Staff: Sturdivant, Gustafson, McKelvey		Penetration (cm): 6.0	Sample Time: (local) 18:45:00
Sampling Gear (circle one and size): Double van Veen Single van Veen			

Sample Description

Color: Light Brown Tannish Orange Greenish Gray (Olive Gray) Light Gray Dark Gray Black
Other:

Type: Cobble Gravel Sand (coarse med (fine)) Silt Clay Wood chips Shells or Shell Hash
Other:

Odor: (None) Slight Strong Petroleum H_2S Other:

Density: Hard Solid (Firm) Soft Loose Other:

Debris Present: Yes (No) Type:

Overlying Water Present: (Yes) No

Misc: Biota Hermit crab, polychaete Detritus _____

Sample Type

(Grain Size

(Benthic Infauna (indicate # of jars): 1

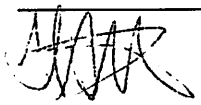
Grab Number (A= Accepted; R = Rejected)

***Codes: DB** = Debris Interference; **DS** = Disturbed Surface; **NS** = No Sediment in sampler; **OP** = Over Penetration; **OT** = Other*

1	2	3	4	5	6
A					

Field Activities / Comments / Observations:

Field Team Leader Signature and Approval



INSPIRE ENVIRONMENTAL

Sediment Sample Log Form

INSPIRE Project Number:	Project Name:	Date:	Station ID:
17C04-1913	Sunrise Wind	18 Aug 2020	423
			Sample ID: A
Vessel: Northstar Challenger		**Photograph (Y/N – file)** Y	
Sampling Staff: Hurdivant, Gustafson, McKelvey		**Penetration** (cm): 11.0	**Sample Time:** (local) 19:03:29
Sampling Gear (circle one and size): **Double van Veen** **Single van Veen**			

Sample Description

Color: Light Brown Tannish Orange Greenish Gray (Olive Gray) Light Gray Dark Gray Black
Other:

Type: Cobble Gravel Sand (coarse med (fine)) Silt Clay Wood chips Shells or Shell Hash
Other:

Odor: (None) Slight Strong Petroleum H_2S Other:

Density: Hard Solid (Firm) Soft Loose Other:

Debris Present: Yes (No) Type:

Overlying Water Present: Yes No

Misc: Biota polychaete tubes Detritus

Sample Type

(Grain Size)

(Benthic) Infauna (indicate # of jars): 1

Grab Number (A= Accepted; R = Rejected)

***Codes: DB** = Debris Interference; **DS** = Disturbed Surface; **NS** = No Sediment in sampler; **OP** = Over Penetration; **OT** = Other*

1	2	3	4	5	6
A					

Field Activities / Comments / Observations:

Field Team Leader Signature and Approval

INSPIRE ENVIRONMENTAL

Sediment Sample Log Form

INSPIRE Project Number: 17C04-1913	Project Name: Sunrise Wind	Date: 18 Aug 2020	Station ID: 423
			Sample ID: B
Vessel: Northstar Challenger		Photograph (Y/N – file) Y	
Sampling Staff: Sturdivant, Gustafson, McKelvey		Penetration (cm): 8.5	Sample Time: (local) 19:03:20
Sampling Gear (circle one and size): Double van Veen Single van Veen			

Sample Description

Color: Light Brown Tannish Orange Greenish Gray (Olive Gray) Light Gray Dark Gray Black
Other:

Type: Cobble Gravel Sand (coarse med (fine)) Silt Clay Wood chips Shells or Shell Hash
Other:

Odor: (None) Slight Strong Petroleum H_2S Other:

Density: Hard Solid (Firm) Soft Loose Other:

Debris Present: Yes (No) Type:

Overlying Water Present: (Yes) No

Misc: Biota polychaete tubes Detritus

Sample Type

Grain Size

Benthic Infauna (indicate # of jars): 1

Grab Number (A= Accepted; R = Rejected)
***Codes: DB** = Debris Interference; **DS** = Disturbed Surface; **NS** = No Sediment in sampler; **OP** = Over Penetration; **OT** = Other*

1	2	3	4	5	6
A					

Field Activities / Comments / Observations:

Field Team Leader Signature and Approval

INSPIRE ENVIRONMENTAL

Sediment Sample Log Form

INSPIRE Project Number:	Project Name:	Date:	Station ID:
17C04-1913	Sunrise Wind	18 Aug 2020	423
			Sample ID: C
Vessel: Northstar Challenger		**Photograph (Y/N – file)** Y	
Sampling Staff: Sturdivant, Gustafson, McKelvey		**Penetration (cm):** 10 cm	**Sample Time:** (local) 19:28:38
Sampling Gear (circle one and size): Double van Veen Single van Veen			

Sample Description

Color: Light Brown Tannish Orange Greenish Gray (Olive Gray) Light Gray Dark Gray Black
Other:

Type: Cobble Gravel Sand (coarse med (fine)) Silt Clay Wood chips Shells or Shell Hash
Other:

Odor: (None) Slight Strong Petroleum H_2S Other:

Density: Hard Solid (Firm) Soft Loose Other:

Debris Present: Yes (No) Type:

Overlying Water Present: (Yes) No

Misc: Biota _____ Detritus _____

Sample Type

(Grain Size)

(Benthic Infauna (indicate # of jars): 1

Grab Number (A= Accepted; R = Rejected)

***Codes: DB** = Debris Interference; **DS** = Disturbed Surface; **NS** = No Sediment in sampler; **OP** = Over Penetration; **OT** = Other*

1	2	3	4	5	6
A					

Field Activities / Comments / Observations:

Field Team Leader Signature and Approval

INSPIRE ENVIRONMENTAL

Sediment Sample Log Form

INSPIRE Project Number: 17C04-1913	Project Name: Sunrise Wind	Date: 18 Aug 2020	Station ID: 422
			Sample ID: A
Vessel: Northstar Challenger		Photograph (Y/N – file) Y	
Sampling Staff: Studivant, Gustafson, M. Kelsey		Penetration (cm): 11.0	Sample Time: (local) 20:23:07
Sampling Gear (circle one and size): Double van Veen Single van Veen			

Sample Description

Color: Light Brown Tannish Orange Greenish Gray (Olive Gray) Light Gray Dark Gray Black
Other:

Type: Cobble Gravel Sand (coarse med (fine)) Silt Clay Wood chips Shells or Shell Hash
Other:

Odor: (None) Slight Strong Petroleum H_2S Other:

Density: Hard Solid (Firm) Soft Loose Other:

Debris Present: Yes (No) Type:

Overlying Water Present: (Yes) No

Misc: Biota _____ Detritus _____

Sample Type

Grain Size

Benthic Infauna (indicate # of jars): 1

Grab Number (A= Accepted; R = Rejected)

***Codes: DB** = Debris Interference; **DS** = Disturbed Surface; **NS** = No Sediment in sampler; **OP** = Over Penetration; **OT** = Other*

1	2	3	4	5	6
A					

Field Activities / Comments / Observations:

Field Team Leader Signature and Approval

INSPIRE ENVIRONMENTAL

Sediment Sample Log Form

INSPIRE Project Number:	Project Name:	Date:	Station ID:
17C04-1913	Sunrise Wind	18 Aug 2020	422
			Sample ID: B
Vessel: Northstar Challenger		**Photograph (Y/N – file)** Y	
Sampling Staff: Sturdivant, Gustafson, McKelvey		**Penetration** (cm): 10.5	**Sample Time:** (local) 20:23:07
Sampling Gear (circle one and size): **Double van Veen** **Single van Veen**			

Sample Description

Color: Light Brown Tannish Orange Greenish Gray (Olive Gray) Light Gray Dark Gray Black
Other:

Type: Cobble Gravel Sand (coarse med (fine)) Silt Clay Wood chips Shells or Shell Hash
Other:

Odor: (None) Slight Strong Petroleum H_2S Other:

Density: Hard Solid (Firm) Soft Loose Other:

Debris Present: Yes (No) Type:

Overlying Water Present: (Yes) No

Misc: Biota _____ Detritus _____

Sample Type

Grain Size

Benthic Infauna (indicate # of jars): /

Grab Number (A= Accepted; R = Rejected)

***Codes: DB** = Debris Interference; **DS** = Disturbed Surface; **NS** = No Sediment in sampler; **OP** = Over Penetration; **OT** = Other*

1	2	3	4	5	6
A					

Field Activities / Comments / Observations:

Field Team Leader Signature and Approval

INSPIRE ENVIRONMENTAL

Sediment Sample Log Form

INSPIRE Project Number:	Project Name:	Date:	Station ID:
17C04-1913	Sunrise Wind	18 Aug 2020	422
			Sample ID: C
Vessel: Northstar Challenger		**Photograph (Y/N – file)** Y	
Sampling Staff: Sturdivant, Gustafson, McKelvey		**Penetration** (cm): 2.5	**Sample Time:** (local) 20:40:08
Sampling Gear (circle one and size): **Double van Veen** **Single van Veen**			

Sample Description

Color: Light Brown Tannish Orange Greenish Gray (Olive Gray) Light Gray Dark Gray Black
Other:

Type: Cobble Gravel Sand (coarse med (fine)) Silt Clay Wood chips Shells or Shell Hash
Other:

Odor: (None) Slight Strong Petroleum H_2S Other:

Density: Hard Solid (Firm) Soft Loose Other:

Debris Present: Yes (No) Type:

Overlying Water Present: (Yes) No

Misc: Biota polychaete Detritus _____

Sample Type

(Grain) Size

(Benthic) Infauna (indicate # of jars): 1

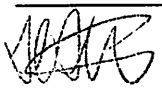
Grab Number (A= Accepted; R = Rejected)

***Codes: DB** = Debris Interference; **DS** = Disturbed Surface; **NS** = No Sediment in sampler; **OP** = Over Penetration; **OT** = Other*

1	2	3	4	5	6
A					

Field Activities / Comments / Observations:

Field Team Leader Signature and Approval



INSPIRE ENVIRONMENTAL

Sediment Sample Log Form

INSPIRE Project Number:	Project Name:	Date:	Station ID:
17C04-1913	Sunrise Wind	18 Aug 2020	420
			Sample ID: A
Vessel: Northstar Challenger		**Photograph (Y/N – file)** Y	
Sampling Staff: Sturdivant, Austerberry, McKelvey		**Penetration** (cm): 9.0	**Sample Time:** (local) 20:54:59
Sampling Gear (circle one and size): **Double van Veen** **Single van Veen**			

Sample Description

Color: Light Brown Tannish Orange Greenish Gray (Olive Gray) Light Gray Dark Gray Black
Other:

Type: Cobble Gravel Sand (coarse med (fine)) Silt Clay Wood chips Shells or Shell Hash
Other:

Odor: (None) Slight Strong Petroleum H_2S Other:

Density: Hard Solid (Firm) Soft Loose Other:

Debris Present: Yes (No) Type:

Overlying Water Present: (Yes) No

Misc: Biota _____ Detritus _____

Sample Type

(Grain Size

Benthic Infauna (indicate # of jars): 1

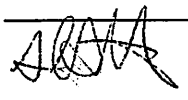
Grab Number (A= Accepted; R = Rejected)

***Codes: DB** = Debris Interference; **DS** = Disturbed Surface; **NS** = No Sediment in sampler; **OP** = Over Penetration; **OT** = Other*

1	2	3	4	5	6
A					

Field Activities / Comments / Observations:

Field Team Leader Signature and Approval



INSPIRE ENVIRONMENTAL

Sediment Sample Log Form

INSPIRE Project Number: 17C04-1913	Project Name: Sunrise Wind	Date: 18 Aug 2020	Station ID: 420
			Sample ID: B
Vessel: Northstar Challenger		Photograph (Y/N – file) Y	
Sampling Staff: Sturdivant, Gustafson, McKelvey		Penetration (cm): 12.0	Sample Time: (local) 20:54:59
Sampling Gear (circle one and size): Double van Veen Single van Veen			

Sample Description

Color: Light Brown Tannish Orange Greenish Gray (Olive Gray) Light Gray Dark Gray Black
Other:

Type: Cobble Gravel Sand (coarse med (fine)) Silt Clay Wood chips Shells or Shell Hash
Other:

Odor: (None) Slight Strong Petroleum H_2S Other:

Density: Hard Solid (Firm) Soft Loose Other:

Debris Present: Yes (No) Type:

Overlying Water Present: (Yes) No

Misc: Biota _____ Detritus _____

Sample Type

Grain Size

Benthic Infauna (indicate # of jars): 1

Grab Number (A= Accepted; R = Rejected)

***Codes: DB** = Debris Interference; **DS** = Disturbed Surface; **NS** = No Sediment in sampler; **OP** = Over Penetration; **OT** = Other*

1	2	3	4	5	6
A					

Field Activities / Comments / Observations:

Field Team Leader Signature and Approval

INSPIRE ENVIRONMENTAL

Sediment Sample Log Form

INSPIRE Project Number: 17C04-1913	Project Name: Sunrise Wind	Date: 18 Aug 2020	Station ID: 420
			Sample ID: C
Vessel: Northstar Challenger		Photograph (Y/N – file) Y	
Sampling Staff: Sturdivant, Gustafson, McKelvey		Penetration (cm): 6.5	Sample Time: (local) 21:13:24
Sampling Gear (circle one and size): Double van Veen Single van Veen			

Sample Description

Color: Light Brown Tannish Orange Greenish Gray (Olive Gray) Light Gray Dark Gray Black
Other:

Type: Cobble Gravel Sand (coarse med (fine)) Silt Clay Wood chips Shells or Shell Hash
Other:

Odor: (None) Slight Strong Petroleum H_2S Other:

Density: Hard Solid (Firm) Soft Loose Other:

Debris Present: Yes (No) Type:

Overlying Water Present: (Yes) No

Misc: Biota _____ Detritus _____

Sample Type

Grain Size

Benthic Infauna (indicate # of jars): 1

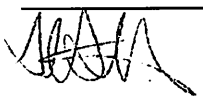
Grab Number (A= Accepted; R = Rejected)

***Codes: DB** = Debris Interference; **DS** = Disturbed Surface; **NS** = No Sediment in sampler; **OP** = Over Penetration; **OT** = Other*

1	2	3	4	5	6
A					

Field Activities / Comments / Observations:

Field Team Leader Signature and Approval



INSPIRE ENVIRONMENTAL

Sediment Sample Log Form

INSPIRE Project Number:	Project Name:	Date:	Station ID:
17C04-1913	Sunrise Wind	18 Aug 2020	418
			Sample ID: A
Vessel: Northstar Challenger		Photograph (Y/N – file) Y	
Sampling Staff: Sturdivant, Gustafson, McKelvey		Penetration (cm):	Sample Time: (local)
Sampling Gear (circle one and size): Double van Veen Single van Veen		6.0	21:30:12

Sample Description

Color: Light Brown Tannish Orange Greenish Gray Olive Gray Light Gray Dark Gray Black
Other:

Type: Cobble Gravel Sand (coarse med fine) Silt Clay Wood chips Shells or Shell Hash
Other:

Odor: None Slight Strong Petroleum H_2S Other:

Density: Hard Solid Firm Soft Loose Other:

Debris Present: Yes (No) Type:

Overlying Water Present: (Yes) No

Misc: Biota _____ Detritus _____

Sample Type

Grain Size

Benthic Infauna (indicate # of jars): 1

Grab Number (A= Accepted; R = Rejected)

***Codes: DB** = Debris Interference; **DS** = Disturbed Surface; **NS** = No Sediment in sampler; **OP** = Over Penetration; **OT** = Other*

1	2	3	4	5	6
A					

Field Activities / Comments / Observations:

Field Team Leader Signature and Approval

INSPIRE ENVIRONMENTAL

Sediment Sample Log Form

INSPIRE Project Number:	Project Name:	Date:	Station ID:
17C04-1913	Sunrise Wind	18 Aug 2020	418
			Sample ID: B
Vessel: Northstar Challenger		**Photograph (Y/N – file):** Y	
Sampling Staff: Sturdivant, Gustafson, McKelvey		**Penetration** (cm):	**Sample Time:** (local)
Sampling Gear Double van Veen Single van Veen (circle one and size):		9.0	2/13 0512

Sample Description

Color: Light Brown Tannish Orange Greenish Gray Olive Gray Light Gray Dark Gray Black
Other:

Type: Cobble Gravel Sand (coarse med fine) Silt Clay Wood chips Shells or Shell Hash
Other:

Odor: None Slight Strong Petroleum H_2S Other:

Density: Hard Solid Firm Soft Loose Other:

Debris Present: Yes No Type:

Overlying Water Present: Yes No

Misc: Biota _____ Detritus _____

Sample Type

Grain Size

Benthic Infauna (indicate # of jars): 1

Grab Number (A= Accepted; R = Rejected)

***Codes: DB** = Debris Interference; **DS** = Disturbed Surface; **NS** = No Sediment in sampler; **OP** = Over Penetration; **OT** = Other*

1	2	3	4	5	6
A					

Field Activities / Comments / Observations:

Field Team Leader Signature and Approval

INSPIRE ENVIRONMENTAL

Sediment Sample Log Form

INSPIRE Project Number: 17C04-1913	Project Name: Sunrise Wind	Date: 18 Aug 2020	Station ID: 418
			Sample ID: C
Vessel: Northstar Challenger		Photograph (Y/N – file) Y	
Sampling Staff: Sturdivant, Gustafson, McKelvey		Penetration (cm): 10.5	Sample Time: (local) 21:48:24
Sampling Gear (circle one and size): Double van Veen Single van Veen			

Sample Description

Color: Light Brown Tannish Orange Greenish Gray (Olive Gray) Light Gray Dark Gray Black
Other:

Type: Cobble Gravel Sand (coarse med (fine)) Silt Clay Wood chips Shells or Shell Hash
Other:

Odor: (None) Slight Strong Petroleum H_2S Other:

Density: Hard Solid (Firm) Soft Loose Other:

Debris Present: Yes (No) Type:

Overlying Water Present: (Yes) No

Misc: Biota polychaete Detritus

Sample Type

(Grain) Size

(Benthic) Infauna (indicate # of jars): 1

Grab Number (A= Accepted; R = Rejected)

***Codes: DB** = Debris Interference; **DS** = Disturbed Surface; **NS** = No Sediment in sampler; **OP** = Over Penetration; **OT** = Other*

1	2	3	4	5	6
A					

Field Activities / Comments / Observations:

Field Team Leader Signature and Approval

INSPIRE ENVIRONMENTAL

Sediment Sample Log Form

INSPIRE Project Number: 17C04-1913	Project Name: Sunrise Wind	Date: 18 Aug 2020	Station ID: 41P Sample ID: A
Vessel: Northstar Challenger		Photograph (Y/N – file): Y	
Sampling Staff: Sturdivant, Gustafson, McKelvey		Penetration (cm): 9.0	Sample Time: (local) 22:16:36
Sampling Gear (circle one and size): Double van Veen Single van Veen			

Sample Description

Color: Light Brown Tannish Orange Greenish Gray (Olive Gray) Light Gray Dark Gray Black
Other:

Type: Cobble Gravel Sand (coarse med (fine)) Silt Clay Wood chips Shells or Shell Hash
Other:

Odor: (None) Slight Strong Petroleum H_2S Other:

Density: Hard Solid (Firm) Soft Loose Other:

Debris Present: Yes (No) Type:

Overlying Water Present: (Yes) No

Misc: Biota _____ Detritus _____

Sample Type

(Grain Size)

(Benthic Infauna (indicate # of jars):

Grab Number (A= Accepted; R = Rejected)

***Codes: DB** = Debris Interference; **DS** = Disturbed Surface; **NS** = No Sediment in sampler; **OP** = Over Penetration; **OT** = Other*

1	2	3	4	5	6
A					

Field Activities / Comments / Observations:

Field Team Leader Signature and Approval

INSPIRE ENVIRONMENTAL

Sediment Sample Log Form

INSPIRE Project Number: 17C04-1913	Project Name: Sunrise Wind	Date: 18 Aug 2020	Station ID: 416
			Sample ID: B
Vessel: Northstar Challenger		Photograph (Y/N – file) Y	
Sampling Staff: Sturdivant, Gustafson, McKelvey		Penetration (cm): 9.0	Sample Time: (local) 22:32:37
Sampling Gear (circle one and size): Double van Veen Single van Veen			

Sample Description

Color: Light Brown Tannish Orange Greenish Gray (Olive Gray) Light Gray Dark Gray Black
Other:

Type: Cobble Gravel Sand (coarse med (fine)) Silt Clay Wood chips Shells or Shell Hash
Other:

Odor: (None) Slight Strong Petroleum H_2S Other:

Density: Hard Solid (Firm) Soft Loose Other:

Debris Present: Yes (No) Type:

Overlying Water Present: (Yes) No

Misc: Biota polychaetes Detritus

Sample Type

(Grain Size)

(Benthic Infauna (indicate # of jars): 1

Grab Number (A= Accepted; R = Rejected)

***Codes: DB** = Debris Interference; **DS** = Disturbed Surface; **NS** = No Sediment in sampler; **OP** = Over Penetration; **OT** = Other*

1	2	3	4	5	6
DB	A				

Field Activities / Comments / Observations:

Field Team Leader Signature and Approval

INSPIRE ENVIRONMENTAL

Sediment Sample Log Form

INSPIRE Project Number: 17C04-1913	Project Name: Sunrise Wind	Date: 18 Aug 2020	Station ID: 416
			Sample ID: C
Vessel: Northstar Challenger		Photograph (Y/N – file) Y	
Sampling Staff: Sturdivant, Gu[illegible]on, McKelvey		Penetration (cm): 6.0	Sample Time: (local) 22:32:37
Sampling Gear (circle one and size): Double van Veen Single van Veen			

Sample Description

Color: Light Brown Tannish Orange Greenish Gray (Olive Gray) Light Gray Dark Gray Black
Other:

Type: Cobble Gravel Sand (coarse med (fine)) Silt Clay Wood chips Shells or Shell Hash
Other:

Odor: (None) Slight Strong Petroleum H_2S Other:

Density: Hard Solid (Firm) Soft Loose Other:

Debris Present: Yes (No) Type:

Overlying Water Present: (Yes) No

Misc: Biota _____ Detritus _____

Sample Type

Grain Size

Benthic Infauna (indicate # of jars): 1

Grab Number (A= Accepted; R = Rejected)

***Codes: DB** = Debris Interference; **DS** = Disturbed Surface; **NS** = No Sediment in sampler; **OP** = Over Penetration; **OT** = Other*

1	2	3	4	5	6
A					

Field Activities / Comments / Observations:

Field Team Leader Signature and Approval

INSPIRE ENVIRONMENTAL

Sediment Sample Log Form

INSPIRE Project Number: 17C04-1913	Project Name: Sunrise Wind	Date: 18 Aug 2020	Station ID: 414
			Sample ID: A
Vessel: Northstar Challenger		Photograph (Y/N – file) Y	
Sampling Staff: Sturdivant, Gustafson, McKelvy		Penetration (cm): 8.5	Sample Time: (local) 22:55:56
Sampling Gear (circle one and size): Double van Veen Single van Veen			

Sample Description

Color: Light Brown Tannish Orange Greenish Gray (Olive Gray) Light Gray Dark Gray Black
Other:

Type: Cobble Gravel Sand (coarse (med) (fine)) Silt Clay Wood chips Shells or Shell Hash
Other:

Odor: (None) Slight Strong Petroleum H_2S Other:

Density: Hard Solid (Firm) Soft Loose Other:

Debris Present: Yes (No) Type:

Overlying Water Present: (Yes) No

Misc: Biota polychaete _____ Detritus _____

Sample Type

Grain Size

Benthic Infauna (indicate # of jars):

Grab Number (A= Accepted; R = Rejected)

***Codes: DB** = Debris Interference; **DS** = Disturbed Surface; **NS** = No Sediment in sampler; **OP** = Over Penetration; **OT** = Other*

1	2	3	4	5	6
A					

Field Activities / Comments / Observations:

Field Team Leader Signature and Approval

INSPIRE ENVIRONMENTAL

Sediment Sample Log Form

INSPIRE Project Number:	Project Name:	Date:	Station ID:
17C04-1913	Sunrise Wind	18 Aug 2020	414
			Sample ID: B
Vessel: Northstar Challenger		Photograph (Y/N – file) Y	
Sampling Staff: Sturdivant, Gustafson, McKelvey		Penetration (cm): 10.0	Sample Time: (local) 23:10:28
Sampling Gear (circle one and size): ~~Double van Veen~~ Single van Veen			

Sample Description

Color: Light Brown Tannish Orange Greenish Gray (Olive Gray) Light Gray Dark Gray Black
Other:

Type: Cobble Gravel Sand (coarse med (fine)) Silt Clay Wood chips Shells or Shell Hash
Other:

Odor: (None) Slight Strong Petroleum H_2S Other:

Density: Hard Solid (Firm) Soft Loose Other:

Debris Present: Yes (No) Type:

Overlying Water Present: (Yes) No

Misc: Biota polychaete Detritus

Sample Type

Grain Size

Benthic Infauna (indicate # of jars): 1

Grab Number (A= Accepted; R = Rejected)

***Codes: DB** = Debris Interference; **DS** = Disturbed Surface; **NS** = No Sediment in sampler; **OP** = Over Penetration; **OT** = Other*

1	2	3	4	5	6
OT*	A				

Field Activities / Comments / Observations:

* Not enough sediment in sample!

Field Team Leader Signature and Approval

INSPIRE ENVIRONMENTAL

Sediment Sample Log Form

INSPIRE Project Number: 17C04-1913	Project Name: Sunrise Wind	Date: 18 Aug 2020	Station ID: 414
			Sample ID: C
Vessel: Northstar Challenger		Photograph (Y/N – file) Y	
Sampling Staff: Sturdivant, Gustafson, McKelvey		Penetration (cm): 8.0	Sample Time: (local) 23:10:28
Sampling Gear (circle one and size): Double van Veen Single van Veen			

Sample Description

Color: Light Brown Tannish Orange Greenish Gray (Olive Gray) Light Gray Dark Gray Black
Other:

Type: Cobble Gravel Sand (coarse med (fine)) Silt Clay Wood chips Shells or Shell Hash
Other:

Odor: (None) Slight Strong Petroleum H_2S Other:

Density: Hard Solid (Firm) Soft Loose Other:

Debris Present: Yes (No) Type:

Overlying Water Present: (Yes) No

Misc: Biota polychaetes Detritus _____

Sample Type

Grain Size

Benthic Infauna (indicate # of jars): 1

Grab Number (A= Accepted; R = Rejected)

***Codes: DB** = Debris Interference; **DS** = Disturbed Surface; **NS** = No Sediment in sampler; **OP** = Over Penetration; **OT** = Other*

1	2	3	4	5	6
A					

Field Activities / Comments / Observations:

Field Team Leader Signature and Approval

INSPIRE ENVIRONMENTAL

Sediment Sample Log Form

INSPIRE Project Number:	Project Name:	Date:	Station ID:
17C04-1913	Sunrise Wind	18 Aug 2020	412
			Sample ID: A
Vessel: Northstar Challenger		**Photograph (Y/N – file)** Y	
Sampling Staff: Sturdivant, Gustafson, McKelvey		**Penetration** (cm): 6.0	**Sample Time:** (local) 23:32:17
Sampling Gear (circle one and size): Double van Veen Single van Veen			

Sample Description

Color: Light Brown Tannish Orange Greenish Gray (Olive Gray) Light Gray Dark Gray Black
Other:

Type: Cobble Gravel Sand (coarse (med) (fine)) Silt Clay Wood chips Shells or Shell Hash
Other:

Odor: (None) Slight Strong Petroleum H_2S Other:

Density: Hard Solid (Firm) Soft Loose Other:

Debris Present: Yes (No) Type:

Overlying Water Present: (Yes) No

Misc: Biota _____ Detritus _____

Sample Type

~~***Grain Size***~~

Benthic Infauna (indicate # of jars): 1

Grab Number (A= Accepted; R = Rejected)

***Codes: DB** = Debris Interference; **DS** = Disturbed Surface; **NS** = No Sediment in sampler; **OP** = Over Penetration; **OT** = Other*

1	2	3	4	5	6
A					

Field Activities / Comments / Observations:

Field Team Leader Signature and Approval

INSPIRE ENVIRONMENTAL

Sediment Sample Log Form

INSPIRE Project Number: 17C04-1913	Project Name: Sunrise Wind	Date: 18 Aug 2020	Station ID: 412 / Sample ID: B
Vessel: Northstar Challenger		Photograph (Y/N – file) Y	
Sampling Staff: Sturdivant, Gustafson, McKelvey		Penetration (cm): ~~6.0~~ 8.0	Sample Time: (local) ~~23:32:17~~ 23:48:46
Sampling Gear (circle one and size): Double van Veen Single van Veen			

Sample Description

Color: Light Brown Tannish Orange Greenish Gray (Olive) Gray Light Gray Dark Gray Black
Other:

Type: Cobble Gravel Sand (coarse med fine) Silt Clay Wood chips Shells or Shell Hash
Other:

Odor: (None) Slight Strong Petroleum H_2S Other:

Density: Hard Solid (Firm) Soft Loose Other:

Debris Present: Yes (No) Type:

Overlying Water Present: (Yes) No

Misc: Biota Sand Dollar _____ Detritus _____

Sample Type

Grain Size

Benthic Infauna (indicate # of jars): 1

Grab Number (A= Accepted; R = Rejected)

***Codes: DB** = Debris Interference; **DS** = Disturbed Surface; **NS** = No Sediment in sampler; **OP** = Over Penetration; **OT** = Other*

1	2	3	4	5	6
R DB	A				

Field Activities / Comments / Observations:

Field Team Leader Signature and Approval

INSPIRE ENVIRONMENTAL

Sediment Sample Log Form

INSPIRE Project Number:	Project Name:	Date:	Station ID:
17C04-1913	Sunrise Wind	18 Aug 2020	412
			Sample ID: C
Vessel: Northstar Challenger		**Photograph (Y/N – file)** Y	
Sampling Staff: Sturdivant, Gustafson, McKelvey		**Penetration** (cm): 8.0	**Sample Time:** (local) 23:48:46
Sampling Gear (circle one and size): **Double van Veen** **Single van Veen**			

Sample Description

Color: Light Brown Tannish Orange Greenish Gray (Olive Gray) Light Gray Dark Gray Black
Other:

Type: Cobble Gravel Sand (coarse med (fine)) Silt Clay Wood chips Shells or Shell Hash
Other:

Odor: (None) Slight Strong Petroleum H_2S Other:

Density: Hard Solid (Firm) Soft Loose Other:

Debris Present: Yes (No) Type:

Overlying Water Present: (Yes) No

Misc: Biota _____ Detritus _____

Sample Type

Grain Size

Benthic Infauna (indicate # of jars):

Grab Number (A= Accepted; R = Rejected)

***Codes: DB** = Debris Interference; **DS** = Disturbed Surface; **NS** = No Sediment in sampler; **OP** = Over Penetration; **OT** = Other*

1	2	3	4	5	6
A					

Field Activities / Comments / Observations:

Field Team Leader Signature and Approval

_____

INSPIRE ENVIRONMENTAL

Sediment Sample Log Form

INSPIRE Project Number:	Project Name:	Date:	Station ID:
17C04-1913	Sunrise Wind ICW	9/8/2020	802
			Sample ID: A
Vessel: Red Wing		**Photograph (Y/N – file)**	
Sampling Staff: Dan Jackson, Zach McKelvey		**Penetration** (cm): 7cm	**Sample Time:** (local) 13:47:19
Sampling Gear (circle one and size): **Double van Veen** **Single van Veen**			

Sample Description

Color: (Light Brown) Tannish Orange Greenish Gray Olive Gray Light Gray Dark Gray Black
Other:

Type: Cobble Gravel Sand (coarse med fine) Silt Clay Wood chips Shells or Shell Hash
Other:

Odor: (None) Slight Strong Petroleum H_2S Other:

Density: Hard (Solid) Firm Soft Loose Other:

Debris Present: Yes (No) Type:

Overlying Water Present: Yes (No)

Misc: Biota N/A Detritus N/A

Sample Type

Grain Size

Benthic Infauna (indicate # of jars): 2 Jars

Grab Number (A= Accepted; R = Rejected)

***Codes: DB** = Debris Interference; **DS** = Disturbed Surface; **NS** = No Sediment in sampler; **OP** = Over Penetration; **OT** = Other*

1	2	3	4	5	6
Acapt					

Field Activities / Comments / Observations:
Pebbles, coarse Sand

Field Team Leader Signature and Approval

INSPIRE ENVIRONMENTAL

Sediment Sample Log Form

INSPIRE Project Number: 17C04-1913	Project Name: Sunrise Wind ICW	Date: 9/8/20	Station ID: 802
			Sample ID: B
Vessel: Red Wing		Photograph (Y/N – file)	
Sampling Staff: Dan Jackson, Zach McKelvey		Penetration (cm): 7 cm	Sample Time: (local) 14:29:25
Sampling Gear (circle one and size): Double van Veen Single van Veen			

Sample Description

Color: Light Brown Tannish Orange Greenish Gray Olive Gray Light Gray Dark Gray Black
Other:

Type: Cobble Gravel Sand (coarse med fine) Silt Clay Wood chips Shells or Shell Hash
Other:

Odor: None Slight Strong Petroleum H_2S Other:

Density: Hard Solid Firm Soft Loose Other:

Debris Present: Yes No Type:

Overlying Water Present: Yes No

Misc: Biota Polychaete Detritus None

Sample Type

Grain Size

Benthic Infauna (indicate # of jars): 2 Jars

Grab Number (A= Accepted; R = Rejected)

***Codes: DB** = Debris Interference; **DS** = Disturbed Surface; **NS** = No Sediment in sampler; **OP** = Over Penetration; **OT** = Other*

1	2	3	4	5	6
Accept					

Field Activities / Comments / Observations:

Medium Sand, some pebbles

Field Team Leader Signature and Approval

Page ____ of ____

INSPIRE ENVIRONMENTAL

Sediment Sample Log Form

INSPIRE Project Number: 17C04-1913	Project Name: Sunrise Wind ICW	Date: 9/8/2020	Station ID: 802
			Sample ID: C
Vessel: Red Wing		Photograph (Y/N – file)	
Sampling Staff: Dan Jackson, Zach McKelvey		Penetration (cm): 9	Sample Time: (local) 14:55:58
Sampling Gear (circle one and size): Double van Veen Single van Veen			

Sample Description

Color: (Light Brown) Tannish Orange Greenish Gray Olive Gray Light Gray Dark Gray Black
Other:

Type: Cobble Gravel Sand (coarse med fine) Silt Clay Wood chips Shells or Shell Hash
Other:

Odor: (None) Slight Strong Petroleum H_2S Other:

Density: Hard Solid Firm Soft Loose Other:

Debris Present: Yes (No) Type:

Overlying Water Present: Yes (No)

Misc: Biota None Detritus None

Sample Type

Grain Size

Benthic Infauna (indicate # of jars): 2 Jars

Grab Number (A= Accepted; R = Rejected)

***Codes: DB** = Debris Interference; **DS** = Disturbed Surface; **NS** = No Sediment in sampler; **OP** = Over Penetration; **OT** = Other*

1	2	3	4	5	6
Accept					

Field Activities / Comments / Observations:
Coarse Sand, pebbles

Field Team Leader Signature and Approval

INSPIRE ENVIRONMENTAL

Sediment Sample Log Form

INSPIRE Project Number: 17C04-1913	Project Name: Sunrise Wind ICW	Date: 9/8/20	Station ID: 805
			Sample ID: A
Vessel: Red Wing		Photograph (Y/N – file)	
Sampling Staff: Dan Jackson, Zach McKelvey		Penetration (cm): 7	Sample Time: (local) 15:29:34
Sampling Gear (circle one and size): Double van Veen / Single van Veen			

Sample Description

Color: Light Brown Tannish Orange Greenish Gray Olive Gray Light Gray Dark Gray Black
Other:

Type: Cobble Gravel Sand (coarse med fine) Silt Clay Wood chips Shells or Shell Hash
Other:

Odor: None Slight Strong Petroleum H_2S Other:

Density: Hard Solid Firm Soft Loose Other:

Debris Present: Yes No Type:

Overlying Water Present: Yes No

Misc: Biota polychaetes Detritus None

Sample Type

Grain Size

Benthic Infauna (indicate # of jars): 2 Jars

Grab Number (A= Accepted; R = Rejected)

***Codes: DB** = Debris Interference; **DS** = Disturbed Surface; **NS** = No Sediment in sampler; **OP** = Over Penetration; **OT** = Other*

1	2	3	4	5	6
Accept					

Field Activities / Comments / Observations:
Med/coarse sand, some pebble

Field Team Leader Signature and Approval

INSPIRE ENVIRONMENTAL

Sediment Sample Log Form

INSPIRE Project Number: 17C04-1913	Project Name: Sunrise Wind ICW	Date: 9/8/20	Station ID: 805
			Sample ID: B
Vessel: Red Wing		Photograph (Y/N – file)	
Sampling Staff: Dan Jackson, Zach McKelvey		Penetration (cm): 9	Sample Time: (local) 15:50:40
Sampling Gear (circle one and size): Double van Veen Single van Veen			

Sample Description

Color: Light Brown Tannish Orange Greenish Gray Olive Gray Light Gray Dark Gray Black
Other:

Type: Cobble Gravel Sand (coarse med fine) Silt Clay Wood chips Shells or Shell Hash
Other:

Odor: None Slight Strong Petroleum H_2S Other:

Density: Hard Solid Firm Soft Loose Other:

Debris Present: Yes No Type:

Overlying Water Present: Yes No

Misc: Biota polychaete, Isopod Detritus None

Sample Type

Grain Size

Benthic Infauna (indicate # of jars): 2 Jars

Grab Number (A= Accepted; R = Rejected)

***Codes: DB** = Debris Interference; **DS** = Disturbed Surface; **NS** = No Sediment in sampler; **OP** = Over Penetration; **OT** = Other*

1	2	3	4	5	6
Accept					

Field Activities / Comments / Observations:
Coarse Sand, some pebbles

Field Team Leader Signature and Approval

INSPIRE ENVIRONMENTAL

Sediment Sample Log Form

INSPIRE Project Number: 17C04-1913	Project Name: Sunrise Wind ICW	Date: 9/8/20	Station ID: 805
			Sample ID: C
Vessel: Red Wing		Photograph (Y/N – file)	
Sampling Staff: Dan Jackson, Zach McKelvey		Penetration (cm): 7	Sample Time: (local) 16:22:51
Sampling Gear (circle one and size): Double van Veen Single van Veen			

Sample Description

Color: Light Brown Tannish Orange Greenish Gray Olive Gray Light Gray Dark Gray Black
Other:

Type: Cobble Gravel Sand (coarse med fine) Silt Clay Wood chips Shells or Shell Hash
Other:

Odor: None Slight Strong Petroleum H_2S Other:

Density: Hard Solid Firm Soft Loose Other:

Debris Present: Yes No Type:

Overlying Water Present: Yes No

Misc: Biota Arthropod, Sponge Detritus _____

Sample Type

Grain Size

Benthic Infauna (indicate # of jars): 2

Grab Number (A= Accepted; R = Rejected)

***Codes: DB** = Debris Interference; **DS** = Disturbed Surface; **NS** = No Sediment in sampler; **OP** = Over Penetration; **OT** = Other*

1	2	3	4	5	6
Accept					

Field Activities / Comments / Observations:
Coarse/Medium Sand

Field Team Leader Signature and Approval

ATTACHMENT D - Sediment Profile Image Analysis Results

Notes:

IND=Indeterminate

Grain Size: “/” indicates layer of one phi size range over another.

Successional Stage: “on” indicates one Stage is found on top of another Stage (i.e., 1 on 3); “->” indicates one Stage is progressing to another Stage (i.e., 2 -> 3).

SurveyID	StationID	Replicate	Water Depth (m)	Date	Time	Stop Collar Setting (in)	# of Weights (per side)	Image Width (cm)	Grain Size Major Mode (phi)	Grain Size Minimum (phi)	Grain Size Maximum (phi)	Grain Size Range (phi)	Penetration Mean (cm)	Penetration Minimum (cm)	Penetration Maximum (cm)	Over-penetration?	Boundary Roughness (cm)	aRPD Mean (cm)	aRPD > Pen	Methane Present?
SRW_20B2	401	E	26.8	8/12/2020	17:22:52	16	5	14.72	3 to 2	>4	-1	>4 to -1	5.49	5.29	5.86	No	0.58	IND	No	No
SRW_20B2	401	F	26.8	8/12/2020	17:23:33	16	5	14.72	3 to 2	>4	-3	>4 to -3	5.28	4.59	5.93	No	1.34	IND	No	No
SRW_20B2	401	G	26.8	8/12/2020	17:24:13	16	5	14.72	3 to 2	>4	-1	>4 to -1	5.02	4.29	5.75	No	1.46	IND	No	No
SRW_20B2	402	E	25.6	8/12/2020	17:15:19	16	5	14.72	2 to 1	4	-2	4 to -2	6.76	5.80	7.90	No	2.10	IND	No	No
SRW_20B2	402	F	25.6	8/12/2020	17:16:05	16	5	14.72	3 to 2	>4	-2	>4 to -2	3.84	3.03	5.23	No	2.20	IND	No	No
SRW_20B2	402	H	25.6	8/12/2020	17:17:37	16	5	14.72	2 to 1	3	-2	3 to -2	8.11	7.47	8.51	No	1.04	IND	No	No
SRW_20B2	403	E	25.9	8/12/2020	17:08:08	16	5	14.72	3 to 2	>4	0	>4 to 0	4.41	4.12	4.64	No	0.53	IND	No	No
SRW_20B2	403	F	25.9	8/12/2020	17:08:57	16	5	14.72	3 to 2	>4	-1	>4 to -1	4.78	4.00	5.68	No	1.67	IND	No	No
SRW_20B2	403	G	25.9	8/12/2020	17:09:47	16	5	14.72	3 to 2	>4	-1	>4 to -1	5.00	4.24	5.47	No	1.23	IND	No	No
SRW_20B2	404	E	25.9	8/12/2020	17:02:08	16	5	14.72	3 to 2	>4	-1	>4 to -1	3.67	3.41	3.97	No	0.56	IND	No	No
SRW_20B2	404	F	25.9	8/12/2020	17:02:49	16	5	14.72	3 to 2	>4	-1	>4 to -1	4.26	3.76	4.80	No	1.05	IND	No	No
SRW_20B2	404	G	25.9	8/12/2020	17:03:27	16	5	14.72	3 to 2	>4	-2	>4 to -2	4.20	3.71	4.53	No	0.82	IND	No	No
SRW_20B2	405	F	25.6	8/12/2020	16:54:56	16	5	14.72	3 to 2	4	-2	4 to -2	3.48	2.71	4.30	No	1.60	IND	No	No
SRW_20B2	405	G	25.6	8/12/2020	16:55:51	16	5	14.72	3 to 2	4	-2	4 to -2	3.96	3.57	4.51	No	0.93	IND	No	No
SRW_20B2	405	H	25.6	8/12/2020	16:56:42	16	5	14.72	3 to 2	>4	-1	>4 to -1	4.17	3.87	4.46	No	0.59	IND	No	No
SRW_20B2	406	E	25.3	8/12/2020	16:46:15	16	5	14.72	3 to 2	>4	0	>4 to 0	2.47	2.12	2.84	No	0.71	IND	No	No
SRW_20B2	406	G	25.3	8/12/2020	16:48:08	16	5	14.72	3 to 2	>4	0	>4 to 0	2.82	2.50	3.03	No	0.53	IND	No	No
SRW_20B2	406	H	25.3	8/12/2020	16:49:09	16	5	14.72	3 to 2	>4	0	>4 to 0	3.60	2.74	3.93	No	1.19	IND	No	No
SRW_20B2	407	E	24.7	8/12/2020	16:38:39	16	5	14.72	4 to 3	>4	0	>4 to 0	2.38	2.06	2.90	No	0.84	IND	No	No
SRW_20B2	407	F	24.7	8/12/2020	16:39:25	16	5	14.72	4 to 3	>4	-1	>4 to -1	2.63	1.90	3.35	No	1.46	IND	No	No
SRW_20B2	407	G	24.7	8/12/2020	16:40:04	16	5	14.72	4 to 3	>4	0	>4 to 0	3.41	3.03	3.66	No	0.63	IND	No	No
SRW_20B2	408	E	24.4	8/12/2020	16:31:00	16	5	14.72	4 to 3	>4	0	>4 to 0	3.29	2.67	4.00	No	1.33	IND	No	No
SRW_20B2	408	G	24.4	8/12/2020	16:32:27	16	5	14.72	4 to 3	>4	0	>4 to 0	4.19	3.56	4.57	No	1.01	IND	No	No
SRW_20B2	408	H	24.4	8/12/2020	16:33:06	16	5	14.72	4 to 3	>4	0	>4 to 0	3.34	3.08	3.63	No	0.55	IND	No	No

SurveyID	StationID	Replicate	Water Depth (m)	Date	Time	Stop Collar Setting (in)	# of Weights (per side)	Image Width (cm)	Grain Size Major Mode (phi)	Grain Size Minimum (phi)	Grain Size Maximum (phi)	Grain Size Range (phi)	Penetration Mean (cm)	Penetration Minimum (cm)	Penetration Maximum (cm)	Over-penetration?	Boundary Roughness (cm)	aRPD Mean (cm)	aRPD > Pen	Methane Present?
SRW_20B2	409	F	24.4	8/12/2020	16:22:33	16	5	14.72	4 to 3	4	1	4 to 1	3.46	3.01	4.03	No	1.02	IND	No	No
SRW_20B2	409	G	24.4	8/12/2020	16:23:24	16	5	14.72	4 to 3	4	-2	4 to -2	3.64	3.18	3.82	No	0.64	IND	No	No
SRW_20B2	409	I	24.4	8/12/2020	16:24:47	16	5	14.72	4 to 3	>4	-1	>4 to -1	3.95	3.63	4.67	No	1.04	IND	No	No
SRW_20B2	410	E	23.5	8/12/2020	16:14:18	16	5	14.72	4 to 3	>4	0	>4 to 0	3.37	2.47	4.25	No	1.77	IND	No	No
SRW_20B2	410	F	23.5	8/12/2020	16:15:20	16	5	14.72	4 to 3	4	2	4 to 2	2.94	2.27	3.57	No	1.30	IND	No	No
SRW_20B2	410	H	23.5	8/12/2020	16:17:13	16	5	14.72	4 to 3	4	-2	4 to -2	2.86	2.42	3.35	No	0.93	IND	No	No
SRW_20B2	411	E	23.5	8/12/2020	16:00:22	16	5	14.72	4 to 3	4	-1	4 to -1	3.82	3.43	4.33	No	0.89	IND	No	No
SRW_20B2	411	F	23.5	8/12/2020	16:01:13	16	5	14.72	4 to 3	>4	0	>4 to 0	3.50	3.07	4.21	No	1.14	IND	No	No
SRW_20B2	411	G	23.5	8/12/2020	16:01:54	16	5	14.72	4 to 3	4	0	4 to 0	4.03	2.61	5.21	No	2.60	IND	No	No
SRW_20B2	412	A	22.3	8/12/2020	17:55:13	16	5	14.72	4 to 3	>4	1	>4 to 1	3.38	2.20	4.15	No	1.95	IND	No	No
SRW_20B2	412	B	22.3	8/12/2020	17:56:06	16	5	14.72	4 to 3	>4	0	>4 to 0	4.72	4.40	5.02	No	0.62	IND	No	No
SRW_20B2	412	D	22.3	8/12/2020	17:57:44	16	5	14.72	4 to 3	>4	-1	>4 to -1	3.86	3.29	4.36	No	1.07	IND	No	No
SRW_20B2	413	A	22.3	8/12/2020	18:03:17	16	5	14.72	3 to 2	>4	-2	>4 to -2	3.76	2.61	4.39	No	1.77	IND	No	No
SRW_20B2	413	B	22.3	8/12/2020	18:04:04	16	5	14.72	3 to 2	4	-3	4 to -3	4.73	4.38	5.21	No	0.82	IND	No	No
SRW_20B2	413	D	22.3	8/12/2020	18:05:32	16	5	14.72	3 to 2	4	1	4 to 1	3.04	2.58	3.36	No	0.78	IND	No	No
SRW_20B2	414	A	21.3	8/12/2020	18:11:30	16	5	14.72	4 to 3	4	-1	4 to -1	3.17	2.63	3.71	No	1.08	IND	No	No
SRW_20B2	414	B	21.3	8/12/2020	18:12:11	16	5	14.72	4 to 3	>4	0	>4 to 0	3.15	2.33	3.84	No	1.51	IND	No	No
SRW_20B2	414	C	21.3	8/12/2020	18:12:59	16	5	14.72	4 to 3	>4	-1	>4 to -1	3.43	3.10	4.02	No	0.92	IND	No	No
SRW_20B2	415	A	21.0	8/12/2020	18:19:26	16	5	14.72	2 to 1	4	0	4 to 0	4.62	3.31	6.06	No	2.75	IND	No	No
SRW_20B2	415	B	21.0	8/12/2020	18:20:10	16	5	14.72	2 to 1	4	-2	4 to -2	6.45	6.06	6.75	No	0.68	IND	No	No
SRW_20B2	415	C	21.0	8/12/2020	18:20:56	16	5	14.72	2 to 1	4	-1	4 to -1	8.07	7.37	8.68	No	1.30	IND	No	No
SRW_20B2	416	A	19.5	8/12/2020	18:28:33	16	5	14.72	3 to 2	>4	1	>4 to 1	5.67	5.37	6.12	No	0.75	IND	No	No
SRW_20B2	416	B	19.5	8/12/2020	18:29:29	16	5	14.72	3 to 2	>4	-1	>4 to -1	6.46	5.70	7.12	No	1.42	IND	No	No
SRW_20B2	416	C	19.5	8/12/2020	18:30:24	16	5	14.72	3 to 2	>4	-2	>4 to -2	4.55	3.94	5.11	No	1.17	IND	No	No

SurveyID	StationID	Replicate	Water Depth (m)	Date	Time	Stop Collar Setting (in)	# of Weights (per side)	Image Width (cm)	Grain Size Major Mode (phi)	Grain Size Minimum (phi)	Grain Size Maximum (phi)	Grain Size Range (phi)	Penetration Mean (cm)	Penetration Minimum (cm)	Penetration Maximum (cm)	Over-penetration?	Boundary Roughness (cm)	aRPD Mean (cm)	aRPD > Pen	Methane Present?
SRW_20B2	417	B	18.6	8/12/2020	18:35:45	16	5	14.72	3 to 2	>4	0	>4 to 0	4.48	4.17	4.73	No	0.56	IND	No	No
SRW_20B2	417	C	18.6	8/12/2020	18:36:34	16	5	14.72	3 to 2	>4	-1	>4 to -1	4.37	3.07	5.37	No	2.29	IND	No	No
SRW_20B2	417	D	18.6	8/12/2020	18:37:28	16	5	14.72	3 to 2	>4	0	>4 to 0	6.05	5.55	6.39	No	0.85	IND	No	No
SRW_20B2	418	A	17.7	8/12/2020	18:44:00	16	5	14.72	3 to 2	>4	1	>4 to 1	4.14	3.67	4.70	No	1.04	IND	No	No
SRW_20B2	418	B	17.7	8/12/2020	18:44:45	16	5	14.72	3 to 2	>4	-2	>4 to -2	4.48	3.87	4.93	No	1.06	IND	No	No
SRW_20B2	418	C	17.7	8/12/2020	18:45:32	16	5	14.72	3 to 2	>4	-2	>4 to -2	3.92	3.45	4.52	No	1.07	IND	No	No
SRW_20B2	419	A	17.7	8/12/2020	18:51:07	16	5	14.72	4 to 3/>4	>4	0	>4 to 0	11.05	10.47	11.51	No	1.04	5.36	No	No
SRW_20B2	419	B	17.7	8/12/2020	18:51:53	16	5	14.72	4 to 3	>4	-1	>4 to -1	4.08	3.70	4.35	No	0.66	IND	No	No
SRW_20B2	419	D	17.7	8/12/2020	18:53:20	16	5	14.72	>4/4 to 3	>4	0	>4 to 0	5.63	4.69	6.67	No	1.98	IND	No	No
SRW_20B2	420	B	16.8	8/12/2020	18:59:47	16	5	14.72	3 to 2	>4	0	>4 to 0	3.52	2.76	4.19	No	1.43	IND	No	No
SRW_20B2	420	C	16.8	8/12/2020	19:00:32	16	5	14.72	3 to 2	>4	0	>4 to 0	3.16	2.90	3.39	No	0.49	IND	No	No
SRW_20B2	420	E	16.8	8/12/2020	19:02:04	16	5	14.72	4 to 3	>4	-2	>4 to -2	3.71	3.33	3.86	No	0.52	IND	No	No
SRW_20B2	421	B	15.2	8/12/2020	19:08:07	16	5	14.72	2 to 1	>4	-2	>4 to -2	7.25	6.14	7.55	No	1.41	IND	No	No
SRW_20B2	421	C	15.2	8/12/2020	19:08:53	16	5	14.72	2 to 1/3 to 2	>4	-2	>4 to -2	7.11	5.98	8.57	No	2.58	IND	No	No
SRW_20B2	421	D	15.2	8/12/2020	19:09:36	16	5	14.72	4 to 3/2 to 1	>4	-1	>4 to -1	4.25	3.47	5.26	No	1.79	IND	No	No
SRW_20B2	422	A	13.7	8/12/2020	19:31:28	16	5	14.72	4 to 3	>4	0	>4 to 0	3.46	2.93	3.85	No	0.92	IND	No	No
SRW_20B2	422	C	13.7	8/12/2020	19:33:20	16	5	14.72	4 to 3	>4	-3	>4 to -3	2.70	1.63	3.26	No	1.63	IND	No	No
SRW_20B2	422	D	13.7	8/12/2020	19:34:11	16	5	14.72	4 to 3	>4	1	>4 to 1	5.99	5.60	6.66	No	1.06	IND	No	No
SRW_20B2	423	A	12.2	8/12/2020	19:44:16	16	5	14.72	4 to 3	4	-1	4 to -1	5.14	4.02	6.07	No	2.05	IND	No	No
SRW_20B2	423	B	12.2	8/12/2020	19:44:59	16	5	14.72	4 to 3	>4	-1	>4 to -1	4.58	3.98	5.09	No	1.11	IND	No	No

SurveyID	StationID	Replicate	Water Depth (m)	Date	Time	Stop Collar Setting (in)	# of Weights (per side)	Image Width (cm)	Grain Size Major Mode (phi)	Grain Size Minimum (phi)	Grain Size Maximum (phi)	Grain Size Range (phi)	Penetration Mean (cm)	Penetration Minimum (cm)	Penetration Maximum (cm)	Over-penetration?	Boundary Roughness (cm)	aRPD Mean (cm)	aRPD > Pen	Methane Present?
SRW_20B2	423	D	12.2	8/12/2020	19:46:34	16	5	14.72	4 to 3	>4	-1	>4 to -1	5.99	5.54	6.31	No	0.76	IND	No	No
SRW_20B2	424	A	10.7	8/12/2020	19:58:01	16	5	14.72	2 to 1	4	-2	4 to -2	5.87	4.95	6.60	No	1.65	IND	No	No
SRW_20B2	424	C	10.7	8/12/2020	19:59:33	16	5	14.72	2 to 1	>4	-1	>4 to -1	5.96	5.61	6.26	No	0.65	IND	No	No
SRW_20B2	424	D	10.7	8/12/2020	20:00:15	16	5	14.72	2 to 1	>4	-1	>4 to -1	6.46	6.23	6.75	No	0.52	IND	No	No
SRW_20B2	425	A	8.8	8/12/2020	20:04:46	16	5	14.72	3 to 2	4	-1	4 to -1	4.34	3.16	5.64	No	2.47	IND	No	No
SRW_20B2	425	C	8.8	8/12/2020	20:06:39	16	5	14.72	3 to 2	>4	-1	>4 to -1	3.22	1.77	4.47	No	2.70	IND	No	No
SRW_20B2	425	D	8.8	8/12/2020	20:07:29	16	5	14.72	3 to 2	4	0	4 to 0	3.72	1.99	4.79	No	2.80	IND	No	No
SRW_20B2	426	A	7.3	8/12/2020	20:12:17	16	5	14.72	3 to 2	4	-2	4 to -2	2.74	2.33	3.08	No	0.75	IND	No	No
SRW_20B2	426	B	7.3	8/12/2020	20:13:10	16	5	14.72	3 to 2	4	0	4 to 0	3.23	2.57	3.74	No	1.17	IND	No	No
SRW_20B2	426	C	7.3	8/12/2020	20:13:52	16	5	14.72	3 to 2	4	0	4 to 0	3.71	2.75	5.20	No	2.44	IND	No	No
SRW_20B2	427	A	4.6	8/12/2020	20:25:09	16	5	14.72	3 to 2	4	0	4 to 0	4.33	2.47	5.87	No	3.40	IND	No	No
SRW_20B2	427	B	4.6	8/12/2020	20:25:52	16	5	14.72	3 to 2	4	0	4 to 0	7.33	2.27	7.82	No	5.54	IND	No	No
SRW_20B2	427	C	4.6	8/12/2020	20:26:40	16	5	14.72	3 to 2	4	0	4 to 0	3.87	3.01	5.60	No	2.59	IND	No	No
SRW_20B2	428	A	13.1	8/12/2020	19:38:16	16	5	14.72	3 to 2	>4	0	>4 to 0	5.33	4.97	6.11	No	1.14	IND	No	No
SRW_20B2	428	B	13.1	8/12/2020	19:39:12	16	5	14.72	3 to 2	>4	-2	>4 to -2	5.59	4.62	6.29	No	1.67	IND	No	No
SRW_20B2	428	C	13.1	8/12/2020	19:40:06	16	5	14.72	3 to 2	>4	-1	>4 to -1	4.72	3.93	5.38	No	1.45	IND	No	No
SRW_20B2	429	A	11.9	8/12/2020	19:51:40	16	5	14.72	2 to 1	>4	-1	>4 to -1	6.09	5.27	6.78	No	1.51	IND	No	No
SRW_20B2	429	C	11.9	8/12/2020	19:53:15	16	5	14.72	2 to 1	>4	-2	>4 to -2	5.84	5.43	6.11	No	0.67	IND	No	No
SRW_20B2	429	D	11.9	8/12/2020	19:54:06	16	5	14.72	2 to 1	>4	-3	>4 to -3	7.26	5.86	7.86	No	2.00	IND	No	No
SRW_20B2	430	A	11.6	8/12/2020	21:37:35	16	5	14.72	4 to 3	4	-3	4 to -3	2.75	2.23	3.41	No	1.18	IND	No	No
SRW_20B2	430	B	11.6	8/12/2020	21:38:31	16	5	14.72	4 to 3	4	-2	4 to -2	3.79	3.39	4.43	No	1.04	IND	No	No
SRW_20B2	430	C	11.6	8/12/2020	21:39:26	16	5	14.72	4 to 3	>4	-2	>4 to -2	3.43	2.47	4.60	No	2.13	IND	No	No
SRW_20B2	431	A	11.9	8/12/2020	21:30:45	16	5	14.72	4 to 3	>4	0	>4 to 0	3.26	3.06	3.59	No	0.53	IND	No	No

SurveyID	StationID	Replicate	Water Depth (m)	Date	Time	Stop Collar Setting (in)	# of Weights (per side)	Image Width (cm)	Grain Size Major Mode (phi)	Grain Size Minimum (phi)	Grain Size Maximum (phi)	Grain Size Range (phi)	Penetration Mean (cm)	Penetration Minimum (cm)	Penetration Maximum (cm)	Over-penetration?	Boundary Roughness (cm)	aRPD Mean (cm)	aRPD > Pen	Methane Present?
SRW_20B2	431	B	11.9	8/12/2020	21:31:24	16	5	14.72	3 to 2	4	-2	4 to -2	3.52	3.11	3.88	No	0.76	IND	No	No
SRW_20B2	431	C	11.9	8/12/2020	21:32:11	16	5	14.72	3 to 2	4	0	4 to 0	2.25	0.73	3.23	No	2.50	IND	No	No
SRW_20B2	432	A	11.9	8/12/2020	21:21:38	16	5	14.72	2 to 1	4	-2	4 to -2	6.08	4.34	6.82	No	2.48	IND	No	No
SRW_20B2	432	C	11.9	8/12/2020	21:24:04	16	5	14.72	3 to 2	4	-1	4 to -1	7.08	6.25	7.69	No	1.44	IND	No	No
SRW_20B2	432	D	11.9	8/12/2020	21:24:52	16	5	14.72	3 to 2	4	-1	4 to -1	5.10	4.55	5.62	No	1.08	IND	No	No
SRW_20B2	433	A	9.8	8/12/2020	21:12:51	16	5	14.72	4 to 3	>4	-1	>4 to -1	2.77	2.14	3.24	No	1.10	IND	No	No
SRW_20B2	433	B	9.8	8/12/2020	21:13:51	16	5	14.72	3 to 2	>4	-1	>4 to -1	2.84	2.25	3.52	No	1.27	IND	No	No
SRW_20B2	433	D	9.8	8/12/2020	21:15:34	16	5	14.72	4 to 3	>4	0	>4 to 0	1.63	1.10	2.20	No	1.10	IND	No	No
SRW_20B2	434	A	7.6	8/12/2020	20:47:20	16	5	14.72	4 to 3	4	-2	4 to -2	2.07	0.80	3.72	No	2.93	IND	No	No
SRW_20B2	434	B	7.6	8/12/2020	20:48:10	16	5	14.72	4 to 3	4	-3	4 to -3	2.59	1.60	4.32	No	2.72	IND	No	No
SRW_20B2	434	C	7.6	8/12/2020	20:48:53	16	5	14.72	4 to 3	4	-2	4 to -2	2.52	2.11	3.39	No	1.29	IND	No	No
SRW_20B2	435	A	4.6	8/12/2020	20:39:13	16	5	14.72	3 to 2	4	0	4 to 0	3.51	2.53	5.45	No	2.93	IND	No	No
SRW_20B2	435	B	4.6	8/12/2020	20:40:05	16	5	14.72	3 to 2	4	-1	4 to -1	6.27	4.90	7.39	No	2.50	IND	No	No
SRW_20B2	435	C	4.6	8/12/2020	20:40:48	16	5	14.72	3 to 2	4	-1	4 to -1	6.53	6.19	6.63	No	0.44	IND	No	No

SurveyID	StationID	Replicate	Low DO Present?	Sediment Oxygen Demand	Beggiatoa Present?	Type of Sensitive Taxa	Type of Species of Concern	Type of Non-Native Taxa	Tubes Present?	Sessile Epifauna	Mobile Epifauna	Voids Present?	Successional Stage
SRW_20B2	401	E	No	Low	No	None	None	None	No	None	None	No	IND
SRW_20B2	401	F	No	Low	No	None	None	None	No	None	None	No	IND
SRW_20B2	401	G	No	Low	No	None	None	None	No	None	Sand Dollar(s)	No	2 -> 3
SRW_20B2	402	E	No	Low	No	None	None	None	No	None	Sand Dollar(s)	No	IND
SRW_20B2	402	F	No	Low	No	None	None	None	No	None	None	No	IND
SRW_20B2	402	H	No	Low	No	None	None	None	No	None	None	No	IND
SRW_20B2	403	E	No	Low	No	None	None	None	No	None	None	No	IND
SRW_20B2	403	F	No	Low	No	None	None	None	No	None	None	No	IND
SRW_20B2	403	G	No	Low	No	None	None	None	No	None	Sand Dollar(s)	No	IND
SRW_20B2	404	E	No	Low	No	None	None	None	Yes	None	None	No	2
SRW_20B2	404	F	No	Low	No	None	None	None	No	None	Sand Dollar(s)	No	IND
SRW_20B2	404	G	No	Low	No	None	None	None	No	None	Sand Dollar(s)	No	IND
SRW_20B2	405	F	No	Low	No	None	None	None	No	None	Sand Dollar(s)	No	IND
SRW_20B2	405	G	No	Low	No	None	None	None	No	None	Sand Dollar(s)	No	IND
SRW_20B2	405	H	No	Low	No	None	None	None	Yes	None	Sand Dollar(s)	No	2
SRW_20B2	406	E	No	Low	No	None	None	None	Yes	None	None	No	IND
SRW_20B2	406	G	No	Low	No	None	None	None	No	None	Sand Dollar(s)	No	IND
SRW_20B2	406	H	No	Low	No	None	None	None	No	None	Sand Dollar(s)	No	IND
SRW_20B2	407	E	No	Low	No	None	None	None	No	None	Sand Dollar(s)	No	IND
SRW_20B2	407	F	No	Low	No	None	None	None	No	None	Sand Dollar(s)	No	IND
SRW_20B2	407	G	No	Low	No	None	None	None	No	None	Sand Dollar(s)	No	IND
SRW_20B2	408	E	No	Low	No	None	None	None	No	None	Sand Dollar(s)	No	IND
SRW_20B2	408	G	No	Low	No	None	None	None	No	None	Sand Dollar(s)	No	IND
SRW_20B2	408	H	No	Low	No	None	None	None	No	None	None	No	IND

SurveyID	StationID	Replicate	Low DO Present?	Sediment Oxygen Demand	Beggiatoa Present?	Type of Sensitive Taxa	Type of Species of Concern	Type of Non-Native Taxa	Tubes Present?	Sessile Epifauna	Mobile Epifauna	Voids Present?	Successional Stage
SRW_20B2	409	F	No	Low	No	None	None	None	No	None	Sand Dollar(s)	No	IND
SRW_20B2	409	G	No	Low	No	None	None	None	No	None	None	No	IND
SRW_20B2	409	I	No	Low	No	None	None	None	No	None	None	No	IND
SRW_20B2	410	E	No	Low	No	None	None	None	No	None	None	No	IND
SRW_20B2	410	F	No	Low	No	None	None	None	No	None	None	No	IND
SRW_20B2	410	H	No	Low	No	None	None	None	No	None	None	No	IND
SRW_20B2	411	E	No	Low	No	None	None	None	No	None	None	No	IND
SRW_20B2	411	F	No	Low	No	None	None	None	No	None	None	No	IND
SRW_20B2	411	G	No	Low	No	None	None	None	Yes	None	None	No	IND
SRW_20B2	412	A	No	Low	No	None	None	None	No	None	Sand Dollar(s)	No	2 -> 3
SRW_20B2	412	B	No	Low	No	None	None	None	Yes	None	None	No	IND
SRW_20B2	412	D	No	Low	No	None	None	None	Yes	None	None	No	2 -> 3
SRW_20B2	413	A	No	Low	No	None	None	None	Yes	None	Sand Dollar(s)	No	2 -> 3
SRW_20B2	413	B	No	Low	No	None	None	None	No	None	Sand Dollar(s)	No	2
SRW_20B2	413	D	No	Low	No	None	None	None	No	None	None	No	2 -> 3
SRW_20B2	414	A	No	Low	No	None	None	None	No	None	None	No	2 -> 3
SRW_20B2	414	B	No	Low	No	None	None	None	Yes	None	None	No	2 -> 3
SRW_20B2	414	C	No	Low	No	None	None	None	No	None	Sand Dollar(s)	No	2 -> 3
SRW_20B2	415	A	No	Low	No	None	None	None	No	None	None	No	IND
SRW_20B2	415	B	No	Low	No	None	None	None	Yes	None	None	No	1 -> 2
SRW_20B2	415	C	No	Low	No	None	None	None	Yes	None	None	No	2
SRW_20B2	416	A	No	Low	No	None	None	None	Yes	None	None	No	1 -> 2
SRW_20B2	416	B	No	Low	No	None	None	None	Yes	None	None	No	2
SRW_20B2	416	C	No	Low	No	None	None	None	Yes	None	None	No	2

SurveyID	StationID	Replicate	Low DO Present?	Sediment Oxygen Demand	Beggiatoa Present?	Type of Sensitive Taxa	Type of Species of Concern	Type of Non-Native Taxa	Tubes Present?	Sessile Epifauna	Mobile Epifauna	Voids Present?	Successional Stage
SRW_20B2	417	B	No	Low	No	None	None	None	Yes	None	None	No	1 -> 2
SRW_20B2	417	C	No	Low	No	None	None	None	No	None	None	No	1 -> 2
SRW_20B2	417	D	No	Low	No	None	None	None	Yes	None	None	No	1 -> 2
SRW_20B2	418	A	No	Low	No	None	None	None	Yes	None	None	No	1 -> 2
SRW_20B2	418	B	No	Low	No	None	None	None	Yes	None	None		1 -> 2
SRW_20B2	418	C	No	Low	No	None	None	None	Yes	None	Gastropod	No	2
SRW_20B2	419	A	No	Low	No	None	None	None	Yes	None	None	Yes	2 -> 3
SRW_20B2	419	B	No	Low	No	None	None	None	No	None	None	No	1 -> 2
SRW_20B2	419	D	No	Low	No	None	None	None	Yes	None	None	No	2
SRW_20B2	420	B	No	Low	No	None	None	None	Yes	None	None	No	2
SRW_20B2	420	C	No	Low	No	None	None	None	Yes	None	None	No	2
SRW_20B2	420	E	No	Low	No	None	None	None	No	None	None	No	2
SRW_20B2	421	B	No	Low	No	None	None	None	Yes	None	None	No	1 -> 2
SRW_20B2	421	C	No	Low	No	None	None	None	Yes	None	None	No	1 -> 2
SRW_20B2	421	D	No	Low	No	None	None	None	Yes	None	None	No	IND
SRW_20B2	422	A	No	Low	No	None	None	None	Yes	None	None	No	2
SRW_20B2	422	C	No	Low	No	None	None	None	Yes	None	None	No	2
SRW_20B2	422	D	No	Low	No	None	None	None	Yes	None	Hermit Crab(s)	No	2
SRW_20B2	423	A	No	Low	No	None	None	None	Yes	None	Isopod(s)	No	2
SRW_20B2	423	B	No	Low	No	None	None	None	Yes	None	None	No	2

SurveyID	StationID	Replicate	Low DO Present?	Sediment Oxygen Demand	Beggiatoa Present?	Type of Sensitive Taxa	Type of Species of Concern	Type of Non-Native Taxa	Tubes Present?	Sessile Epifauna	Mobile Epifauna	Voids Present?	Successional Stage
SRW_20B2	423	D	No	Low	No	None	None	None	Yes	None	None	No	2
SRW_20B2	424	A	No	Low	No	None	None	None	No	None	Isopod(s)	No	IND
SRW_20B2	424	C	No	Low	No	None	None	None	No	None	None	No	IND
SRW_20B2	424	D	No	Low	No	None	None	None	No	None	None	No	IND
SRW_20B2	425	A	No	Low	No	None	None	None	Yes	None	None	No	2
SRW_20B2	425	C	No	Low	No	None	None	None	Yes	None	None	No	2
SRW_20B2	425	D	No	Low	No	None	None	None	No	None	stropod(s), Isopoc	No	2
SRW_20B2	426	A	No	Low	No	None	None	None	Yes	None	None	No	2
SRW_20B2	426	B	No	Low	No	None	None	None	Yes	None	None	No	IND
SRW_20B2	426	C	No	Low	No	None	None	None	Yes	None	Isopod(s)	No	2
SRW_20B2	427	A	No	Low	No	None	None	None	No	None	None	No	IND
SRW_20B2	427	B	No	Low	No	None	None	None	No	None	None	No	IND
SRW_20B2	427	C	No	Low	No	None	None	None	No	None	None	No	IND
SRW_20B2	428	A	No	Low	No	None	None	None	No	None	None	No	IND
SRW_20B2	428	B	No	Low	No	None	None	None	Yes	None	None	No	2
SRW_20B2	428	C	No	Low	No	None	None	None	Yes	None	None	No	1 -> 2
SRW_20B2	429	A	No	Low	No	None	None	None	No	None	None	No	IND
SRW_20B2	429	C	No	Low	No	None	None	None	Yes	None	None	No	IND
SRW_20B2	429	D	No	Low	No	None	None	None	No	None	None	No	IND
SRW_20B2	430	A	No	Low	No	None	None	None	IND	None	Snail(s)	No	IND
SRW_20B2	430	B	No	Low	No	None	None	None	Yes	None	Hermit Crab(s)	No	2
SRW_20B2	430	C	No	Low	No	None	None	None	No	None	None	No	2
SRW_20B2	431	A	No	Low	No	None	None	None	Yes	None	Hermit Crab(s)	No	2

SurveyID	StationID	Replicate	Low DO Present?	Sediment Oxygen Demand	Beggiatoa Present?	Type of Sensitive Taxa	Type of Species of Concern	Type of Non-Native Taxa	Tubes Present?	Sessile Epifauna	Mobile Epifauna	Voids Present?	Successional Stage
SRW_20B2	431	B	No	Low	No	None	None	None	No	None	Hermit Crab(s)	No	2
SRW_20B2	431	C	No	Low	No	None	None	None	Yes	None	None	No	2
SRW_20B2	432	A	No	Low	No	None	None	None	No	None	None	No	2
SRW_20B2	432	C	No	Low	No	None	None	None	Yes	None	None	No	2
SRW_20B2	432	D	No	Low	No	None	None	None	Yes	None	None	No	2
SRW_20B2	433	A	No	Low	No	None	None	None	Yes	None	None	No	2
SRW_20B2	433	B	No	Low	No	None	None	None	No	None	None	No	IND
SRW_20B2	433	D	No	Low	No	None	None	None	Yes	None	None	No	2
SRW_20B2	434	A	No	Low	No	None	None	None	No	None	None	No	2
SRW_20B2	434	B	No	Low	No	None	None	None	No	None	Isopod(s)	No	IND
SRW_20B2	434	C	No	Low	No	None	None	None	Yes	None	None	No	2
SRW_20B2	435	A	No	Low	No	None	None	None	No	None	Isopod(s)	No	IND
SRW_20B2	435	B	No	Low	No	None	None	None	No	None	None	No	IND
SRW_20B2	435	C	No	Low	No	None	None	None	No	None	None	No	2

SurveyID	StationID	Replicate	Comment
SRW_20B2	401	E	Light whitish tan fine sand with a thin layer of light brown silt/clay, some smearing into the sediment column. A few small shell fragments at SWI.
SRW_20B2	401	F	Light whitish tan fine sand with a streak of rusty brown in the center of the sediment column. A few small shell fragments.
SRW_20B2	401	G	Light whitish tan fine sand with a layer of darker brown very fine sand at SWI. A sand dollar in far field, center. Large pale pink worm at depth, right.
SRW_20B2	402	E	Light whitish tan fine sand. A sand dollar pulled into the sediment column at SWI. A large fecal pellet to the left of the sand dollar.
SRW_20B2	402	F	Shallow penetration. Light whitish tan fine sand with a patch of grayish brown silt/clay dragged down from the SWI on left.
SRW_20B2	402	H	Light whitish tan medium sand with several white shell fragments throughout sediment column. Some darker brown medium sand at surface.
SRW_20B2	403	E	Significant resuspension of fines into the water column. Light whitish tan fine sand with some darker tan fine sand across the surface.
SRW_20B2	403	F	Light whitish tan fine sand with some darker tan fine sand across surface. SWI slopes down in the center.
SRW_20B2	403	G	Light whitish tan fine sand. Sand dollar fragment on right, likely impacted by SPI prism.
SRW_20B2	404	E	Light grayish tan fine sand with some light brown very fine sand across surface. Tube with emerging organism on left, far field. Small worm at depth center, right.
SRW_20B2	404	F	Light grayish tan fine sand with a thin layer of light brown fine sand across surface. Several sand dollars in far field.
SRW_20B2	404	G	Light grayish tan fine sand with a thin layer of light brown fine sand across surface. A sand dollar and a sand dollar shell in far field.
SRW_20B2	405	F	Light grayish tan fine sand with a thin layer of light brown fine sand at surface. A few sand dollars on surface, far field. Sand dollar fragments just below the surface from SPI chop. Small patch of dark brown fine sand at depth, right.
SRW_20B2	405	G	Light gray fine sand throughout. Sand dollar vertically positioned at the SWI and a few on the surface, far field.
SRW_20B2	405	H	Light grayish tan fine sand with small shallow burrows at SWI, left. Small tube on surface, far field left. Sand dollar on surface, far field, right.
SRW_20B2	406	E	Shallow penetration. Light brown fine sand overlying light grayish tan fine sand. Tube in far field, left.
SRW_20B2	406	G	Shallow penetration. Rusty light brown fine sand overlying light grayish tan fine sand. Sand dollar dragged into sediment column at SWI. Burrow just below surface, left. A few sand dollars in far field.
SRW_20B2	406	H	Shallow penetration. Thin layer of rusty light brown fine sand overlying light grayish tan fine sand. Sand dollar dragged into sediment column on left and another on surface, far field. A white worm just below the surface, center.
SRW_20B2	407	E	Very shallow penetration. Thin layer of light brown fine sand overlying light grayish tan fine sand. Some resuspension into water column. A few half-buried sand dollars on surface, far field.
SRW_20B2	407	F	Very shallow suspension. Homogenous light tan fine sand. Some resuspension. Several sand dollars on surface, far field.
SRW_20B2	407	G	Very shallow penetration. Thin layer of light brown very fine sand overlying light grayish tan fine sand. Sand dollar pulled vertical and dragged into sediment column on far left. Numerous sand dollars on surface, far field.
SRW_20B2	408	E	Shallow penetration. Light brown fine sand overlying light grayish tan fine sand. A few sand dollars in far field.
SRW_20B2	408	G	Light grayish tan fine sand throughout. A few sand dollars on surface, far field.
SRW_20B2	408	H	Very shallow penetration. Light grayish tan fine sand. A patch of darker brown fine sand on far right.

SurveyID	StationID	Replicate	Comment
SRW_20B2	409	F	Very shallow penetration. Thin layer of light brown fine sand overlying light grayish tan fine sand. A sand dollar on surface right, far field.
SRW_20B2	409	G	Very shallow penetration. Light grayish tan fine sand. A few small pieces of shell.
SRW_20B2	409	I	Significant resuspension of fines. Thin layer oof rusty light brown fine sand overlying light grayish tan fine sand with some streaks of darker gray at depth, center.
SRW_20B2	410	E	Shallow penetration. Some resuspension. Light grayish tan fine sand throughout.
SRW_20B2	410	F	Very shallow penetration. Homogenous grayish tan fine sand throughout.
SRW_20B2	410	H	Very shallow penetration. Thin layer of light brown fine sand overlying grayish tan fine sand. A few small shell fragments on surface, far field.
SRW_20B2	411	E	Very shallow penetration. Thin layer of light rusty brown fine sand overlying grayish tan fine sand.
SRW_20B2	411	F	Very shallow penetration. Homogenous grayish brown fine sand with a patch of rusty brown silt/clay just below surface, center left.
SRW_20B2	411	G	Shallow penetration. Homogenous grayish tan fine sand throughout. A small tube a SWI left and another larger tube in far field, center.
SRW_20B2	412	A	Shallow penetration. Grayish tan fine sand with some darker gray fine sand at depth, left. A few sand dollars on surface, far field. Cerianthids in PV.
SRW_20B2	412	B	Shallow penetration. Thin layer of rusty light brown fine sand overlying grayish tan fine sand. Small tubes on surface, far field, left.
SRW_20B2	412	D	Shallow penetration. Thin layer of rusty light brown fine sand overlying grayish tan fine sand mixed with some gray silt/clay. Cerianthid and several small tubes on surface, right.
SRW_20B2	413	A	Shallow penetration. Light brown fine sand mixed with spots of dark gray and black fine sand dragged down into the sediment column. Small white shell fragments throughout. A sand dollar test on surface far field, left and a live sand dollar on surface far field, right. Small tube at SWI center, left. Cerianthid in PV.
SRW_20B2	413	B	Grayish tan fine sand/ Several sand dollars on surface, far field. Sand dollar shell fragment on surface left. Oxidized burrow at left.
SRW_20B2	413	D	Very shallow penetration. Thin layer of rusty brown fine sand overlying grayish tan fine sand. Cerianthid in PV.
SRW_20B2	414	A	Very shallow penetration. Homogenous grayish tan fine sand throughout with a patch of dark gray fine sand at depth left and center. Cerianthid in PV.
SRW_20B2	414	B	Very shallow penetration. Light brown fine sand mixed with some light grayish brown very fine sand and silt/clay. Patches of dark gray very fine sand at depth left and right. Diopatra worm tube in far field.
SRW_20B2	414	C	Very shallow penetration. Light grayish brown fine sand mixed with some silt/clay and several small patches of dark gray fine sand. Mud clasts at SWI, right. Sand dollar in far field. Small burrow from SWI in center. Cerianthid in PV.
SRW_20B2	415	A	Shallow penetration. Homogenous tan medium sand. A small burrow at the SWI left.
SRW_20B2	415	B	Tan medium sand throughout. Small tubes in far field, right and center. Some shell hash half way down sediment column, right. Small tubes in background.
SRW_20B2	415	C	Homogenous tan medium sand throughout. Diopatra tube covered in shell fragments on surface, left.
SRW_20B2	416	A	Grayish tan fine sand with a thin layer of light brown fine sand and very fine sand across SWI and a patch of dark gray fine sand on right and another at depth, center. Small tubes on surface far field.
SRW_20B2	416	B	Light grayish tan fine sand with some light brown very fine sand across SWI on left. Some small tubes on surface, far field. Diopatra worm tube in PV.
SRW_20B2	416	C	Whitish tan fine sand with some brown very fine sand and small tubes across the surface. Some shell hash and a patch of dark gray fine sand in sediment column on right. Diopatra worm tube in PV.

SurveyID	StationID	Replicate	Comment
SRW_20B2	417	B	Whitish tan fine sand with a patch of brown fine sand and very fine sand at SWI, right. Some small tubes on surface, far field center.
SRW_20B2	417	C	Shallow penetration. Light tan fine sand throughout. Small tubes at SWI.
SRW_20B2	417	D	Light grayish tan fine sand with a thin layer of brown very fine sand and silt/clay across surface. Some small tubes on surface, far field.
SRW_20B2	418	A	Shallow penetration and significant resuspension of fines. Thin layer of rusty light brown fine sand overlying grayish tan fine sand. Small tubes on surface, far field.
SRW_20B2	418	B	Shallow penetration. Grayish tan fine sand with some small tubes on surface, far field. A large crumbled shell just below the surface, center right. Small tubes at SWI.
SRW_20B2	418	C	Shallow penetration and some resuspension. Thin layer of rusty brown fine sand overlying grayish tan fine sand, patch of dark gray fine sand at depth far right. Small tubes and a diopatra tube covered in shell fragments on surface, far field. Shelled gastropod on surface, far field center.
SRW_20B2	419	A	Small layer of tan fine sand overlying darker brown very fine sand transitioning to dark gray and black silt/clay at depth. Several large tubes on surface, far field. Some small tubes far field. Small voids within the dark gray layer at depth. Deep oxidized burrow just out of frame at right.
SRW_20B2	419	B	Shallow penetration. Grayish tan fine sand with streaks of dark gray and black very fine sand. Several small black mud clasts on surface. Small tubes at SWI.
SRW_20B2	419	D	Significant resuspension. Grayish brown silt/clay on left and right overlying dark gray and black fine sand. Small burrows at SWI, left. Tube on surface, right.
SRW_20B2	420	B	Very shallow penetration. Light grayish tan fine sand with some darker brown fine sand across surface. Small tubes on surface, far field. Large tube at SWI at left.
SRW_20B2	420	C	Very shallow penetration. Light gray very fine sand mixed with fine sand overlying grayish tan fine sand. Some small tubes on surface, far field. Large tubes at SWI in PV.
SRW_20B2	420	E	Very shallow penetration. Light grayish brown very fine sand with some dark gray streaks at depth. Large tubes at SWI in PV.
SRW_20B2	421	B	Thin layer of brown medium sand overlying grayish tan medium sand. Some small tubes on surface, far field.
SRW_20B2	421	C	Grayish tan fine sand with some darker grayish brown very fine sand and silt/clay dragged from surface into sediment column on right half of image. Small tubes dragged to just below SWI, center. Small tubes in background.
SRW_20B2	421	D	Shallow penetration. Grayish brown very fine sand mixed with silt clay dragged down from surface and overlying grayish tan fine sand. Small tubes on surface, far field. White shell hash at depth, center.
SRW_20B2	422	A	Shallow penetration. Light brown fine sand overlying grayish tan fine sand with a few small patches of dark gray fine sand. A diopatra worm tube on surface, center. Several clusters of tubes on surface, far field.
SRW_20B2	422	C	Very shallow penetration. Light grayish brown fine sand. Several clusters of tubes on surface far field, likely diopatra tubes.
SRW_20B2	422	D	Thin layer of rusty brown fine sand overlying grayish tan fine sand. With some streaks of dark gray fine sand at depth. Several large tubes on surface, far field. Hermit crab in far field. An unidentified infauna just below the surface, left.
SRW_20B2	423	A	Light brown fine sand overlying grayish tan fine sand with some darker gray fine sand at depth. Several clusters of white shell fragments on surface, far field. A large tube center, far field. An unidentified gray copepod burrowed at SWI, center, right.
SRW_20B2	423	B	Shallow penetration, significant resuspension. Light brown very fine sand mixed transitioning to gray very fine sand and silt/clay overlying gray fine sand at depth with a patch of dark gray fine sand in bottom right corner. Large tube at SWI, center, with shell hash buried beneath it.

SurveyID	StationID	Replicate	Comment
SRW_20B2	423	D	Grayish brown very fine sand overlying grayish tan fine sand with a patch of black fine sand at depth, right. Collapsed tube at SWI, left with rusty brown very fine sand buried beneath it. Several clusters of tubes and mud clasts across surface, far field.
SRW_20B2	424	A	Very light tan medium sand throughout with small shell white shell fragments. Crustacean (copepod) suspended into water column just above SWI, left.
SRW_20B2	424	C	Shallow penetration. Significant resuspension. Brown very fine sand and silt clay dragged down from surface into light grayish tan fine sand.
SRW_20B2	424	D	Light grayish tan medium sand. With some streaks of darker brown medium sand extending down from SWI. Possible small fragment of green macroalgae at SWI, left.
SRW_20B2	425	A	Light grayish tan fine sand throughout. SWI slopes up into the middle. Diopatra tube in far field, left and other clusters of likely tubes on surface, far field.
SRW_20B2	425	C	Shallow penetration. Grayish brown fine sand. Large tube at SWI on left as well as a Diopatra tube in center. Several other clusters of shells in far field.
SRW_20B2	425	D	Shallow penetration. SWI slopes up to the left. Grayish tan fine sand. Snail at SWI, left. Small isopod at SWI, center. Diopatra tubes in PV.
SRW_20B2	426	A	Very shallow penetration. Gray fine sand throughout. Diopatra tube worm on surface covered in white shell fragments.
SRW_20B2	426	B	Very shallow penetration. Gray fine sand with some darker gray fine sand at depth, right. Small. Tube in center at SWI.
SRW_20B2	426	C	Shallow penetration. Gray fine sand throughout. Diopatra tube covered in small shell fragments on surface, right. Several other clusters of shell fragments on surface, far field. Isopod on surface, far field, left.
SRW_20B2	427	A	White fine sand. SWI slopes up to the left.
SRW_20B2	427	B	Homogenous whitish tan sand throughout.
SRW_20B2	427	C	Homogenous white sand throughout. SWI slopes up from center to the right.
SRW_20B2	428	A	Significant resuspension. Thin layer of light brown silt/clay across surface and some dragged down to just below the SWI in center. Light brown fine sand transitioning to whitish gray fine sand at depth.
SRW_20B2	428	B	Thin layer of light brown silt/clay mixed with fine sand overlying grayish tan fine sand. Diopatra tube worm on far right. A few smaller tubes on surface, far field left.
SRW_20B2	428	C	Some very fine sand and silt/clay at surface overlying grayish tan fine sand. Cluster of small tubes on surface, left far field.
SRW_20B2	429	A	Thin layer of light brown medium sand overlying whitish tan medium sand.
SRW_20B2	429	C	Thin layer of brown very fine sand and silt/clay overlying grayish tan medium sand. Small tubes on surface, far field.
SRW_20B2	429	D	Light tan medium sand with some brown silt/clay dragged down from surface. Several small white shell fragments on surface.
SRW_20B2	430	A	Very shallow penetration. Light brown fine sand overlying light gray fine sand. Several shell fragments, possible diopatra tubes, and a snail on surface, far field. A patch of shell fragments and small burrow just below SWI, right.
SRW_20B2	430	B	Shallow penetration. Light brown fine sand overlying light gray fine sand. Hermit crab on surface, center. Two diopatra tubes covered in small shell fragments on surface, right. Another crustacean, possible hermit crab on surface, far field, left. Small burrows just below the surface, right. Cluster of shell hash in sediment column, center.
SRW_20B2	430	C	Very shallow penetration. Homogenous grayish tan fine sand. Diopatra tubes in background of SPI and on surface in PV.
SRW_20B2	431	A	Very shallow penetration. Mix of light grayish tan fine sand and gray very fine sand. Tube at SWI right. Hermit crab on surface far field, right.

SurveyID	StationID	Replicate	Comment
SRW_20B2	431	B	Very shallow penetration. Thin layer of light brown fine sand overlying grayish tan fine sand. Hermit crab in far field, left. Several shell fragments across surface, far field. Diopatra tubes in PV.
SRW_20B2	431	C	Very shallow penetration. Homogenous light grayish tan fine sand. Diopatra worm tube covered in white shell fragments on surface far field. Other small white shell fragments in far field.
SRW_20B2	432	A	Significant resuspension of fines into water column. Thin layer of rusty brown medium sand overlying light gray medium sand. Patch of darker brown medium sand at depth, center. Several small white shell fragments in sediment column. Diopatra tubes in PV.
SRW_20B2	432	C	Thin layer of dark brown medium sand overlying light grayish tan fine sand with some shell hash. Diopatra worm tube on surface, right.
SRW_20B2	432	D	Shallow penetration. Thin layer of rusty brown fine sand overlying grayish tan fine sand mixed with some white shell hash. Several diopatra worm tubes covered in small shell fragments across surface.
SRW_20B2	433	A	Very shallow penetration. Thin layer of brown very fine sand overlying gray and dark gray fine sand. A few diopatra worm tubes covered in small white shell fragments on surface, center.
SRW_20B2	433	B	Very shallow penetration. Homogenous light grayish tan fine sand.
SRW_20B2	433	D	Very shallow penetration. Grayish tan fine sand throughout. Large tube on surface, right. Several large shell fragments on surface, far field.
SRW_20B2	434	A	Very shallow penetration. Light grayish tan fine sand with a thin layer of dark gray fine sand across surface on right. Some small shell fragments across surface and in sediment column. Shallow oxidized burrow.
SRW_20B2	434	B	Very shallow penetration. Significant resuspension. Light gray fine sand throughout. Cluster of small shell fragments at SWI, center. Isopod on surface, far field, left.
SRW_20B2	434	C	Very shallow penetration. Grayish tan fine sand with a patch of dark gray fine sand center. Two diopatra worm tubes covered in shell fragments on surface.
SRW_20B2	435	A	Shallow penetration. Light gray fine sand throughout. Half buried isopod at SWI, right. Another isopod on surface, center far field.
SRW_20B2	435	B	Homogenous light gray fine sand throughout.
SRW_20B2	435	C	Homogenous light gray fine sand throughout. Diopatra tubes in PV.

ATTACHMENT E - Plan View Image Analysis Results

Notes:

IND=Indeterminate

N/A=Not Applicable

SurveyID	StationID	Replicate	Water Depth (m)	Date	Time	Image Width (cm)	Image Height (cm)	Field of View	Substrate Group	Substrate Subgroup	Minimum Gravel Size Category	Maximum Gravel Size Category	Bedforms	Substrate Description	Type of Sensitive Taxa	Type of Species of Concern Observed	Type of Common Taxa
SRW_20B2	401	A	26.8	8/12/2020	12:38:12	51.28	34.19	0.18	Muddy Sand	Muddy Sand	N/A	N/A	None	N/A	None	None	None
SRW_20B2	401	C	26.8	8/12/2020	12:39:52	65.71	43.81	0.29	Sand	Sand	N/A	N/A	None	N/A	None	None	None
SRW_20B2	401	D	26.8	8/12/2020	12:40:45	63.31	42.21	0.27	Sand	Sand	N/A	N/A	Small ripples	Mobile	None	None	Diopatra and Sand Dollar(s)
SRW_20B2	402	A	25.6	8/12/2020	12:50:07	61.06	40.70	0.25	Muddy Sand	Muddy Sand	N/A	N/A	None	N/A	None	None	Sand Dollar(s)
SRW_20B2	402	B	25.6	8/12/2020	12:50:59	61.42	40.94	0.25	Muddy Sand	Muddy Sand	N/A	N/A	None	N/A	None	None	Sand Dollar(s)
SRW_20B2	402	C	25.6	8/12/2020	12:51:44	51.93	34.62	0.18	Sand	Sand	N/A	N/A	None	N/A	None	None	Sand Dollar(s)
SRW_20B2	403	A	25.9	8/12/2020	12:57:55	62.60	41.73	0.26	Muddy Sand	Muddy Sand	N/A	N/A	None	N/A	None	None	Sand Dollar(s)
SRW_20B2	403	B	25.9	8/12/2020	12:58:50	51.88	34.59	0.18	Sand	Sand	N/A	N/A	None	N/A	None	None	Sand Dollar(s)
SRW_20B2	403	D	25.9	8/12/2020	13:00:35	63.91	42.61	0.27	Sand	Sand	N/A	N/A	IND	N/A	None	None	None
SRW_20B2	404	A	25.9	8/12/2020	13:05:11	63.11	42.07	0.27	Muddy Sand	Muddy Sand	N/A	N/A	None	N/A	None	None	Sand Dollar(s)
SRW_20B2	404	B	25.9	8/12/2020	13:05:59	54.55	36.36	0.20	Muddy Sand	Muddy Sand	N/A	N/A	None	N/A	None	None	Sand Dollar(s)
SRW_20B2	404	C	25.9	8/12/2020	13:06:52	53.72	35.81	0.19	Muddy Sand	Muddy Sand	N/A	N/A	None	N/A	None	None	Sand Dollar(s)
SRW_20B2	405	A	25.6	8/12/2020	13:12:48	58.12	38.75	0.23	Muddy Sand	Muddy Sand	N/A	N/A	None	N/A	None	None	Cerianthid(s) and Sand Dollar(s)
SRW_20B2	405	B	25.6	8/12/2020	13:13:38	48.28	32.19	0.16	Muddy Sand	Muddy Sand	N/A	N/A	None	N/A	None	None	Sand Dollar(s)
SRW_20B2	405	D	25.6	8/12/2020	13:15:23	62.08	41.38	0.26	Muddy Sand	Muddy Sand	N/A	N/A	None	N/A	None	None	Cerianthid(s) and Sand Dollar(s)
SRW_20B2	406	A	25.3	8/12/2020	13:20:23	59.86	39.91	0.24	Muddy Sand	Muddy Sand	N/A	N/A	None	N/A	None	None	Cerianthid(s) and Sand Dollar(s)
SRW_20B2	406	B	25.3	8/12/2020	13:21:06	60.16	40.11	0.24	Muddy Sand	Muddy Sand	N/A	N/A	None	N/A	None	None	Cerianthid(s) and Sand Dollar(s)
SRW_20B2	406	D	25.3	8/12/2020	13:22:37	59.09	39.39	0.23	Muddy Sand	Muddy Sand	N/A	N/A	None	N/A	None	None	Sand Dollar(s)
SRW_20B2	407	B	24.7	8/12/2020	13:28:37	53.79	35.86	0.19	Muddy Sand	Muddy Sand	N/A	N/A	None	N/A	None	None	Cerianthid(s) and Sand Dollar(s)
SRW_20B2	407	C	24.7	8/12/2020	13:29:28	64.65	43.10	0.28	Muddy Sand	Muddy Sand	N/A	N/A	None	N/A	None	None	Sand Dollar(s)
SRW_20B2	407	D	24.7	8/12/2020	13:30:19	60.87	40.58	0.25	Muddy Sand	Muddy Sand	N/A	N/A	None	N/A	None	None	Sand Dollar(s)
SRW_20B2	408	A	24.4	8/12/2020	13:35:47	57.23	38.15	0.22	Muddy Sand	Muddy Sand	N/A	N/A	None	N/A	None	None	Cerianthid(s) and Sand Dollar(s)
SRW_20B2	408	B	24.4	8/12/2020	13:36:33	58.01	38.68	0.22	Muddy Sand	Muddy Sand	N/A	N/A	None	N/A	None	None	Cerianthid(s) and Sand Dollar(s)
SRW_20B2	408	D	24.4	8/12/2020	13:38:15	61.86	41.24	0.26	Sand	Sand	N/A	N/A	Small isolated (linguoid) ripples	Mobile	None	None	Sand Dollar(s)
SRW_20B2	409	A	24.4	8/12/2020	13:42:54	50.03	33.35	0.17	Muddy Sand	Muddy Sand	N/A	N/A	None	N/A	None	None	Sand Dollar(s)

SurveyID	StationID	Replicate	Water Depth (m)	Date	Time	Image Width (cm)	Image Height (cm)	Field of View	Substrate Group	Substrate Subgroup	Minimum Gravel Size Category	Maximum Gravel Size Category	Bedforms	Substrate Description	Type of Sensitive Taxa	Type of Species of Concern Observed	Type of Common Taxa
SRW_20B2	409	B	24.4	8/12/2020	13:44:04	59.14	39.42	0.23	Muddy Sand	Muddy Sand	N/A	N/A	None	N/A	None	None	Cerianthid(s) and Sand Dollar(s)
SRW_20B2	409	C	24.4	8/12/2020	13:44:53	68.54	45.69	0.31	Muddy Sand	Muddy Sand	N/A	N/A	Small isolated (linguoid) ripples	Mobile	None	None	Cerianthid(s) and Sand Dollar(s)
SRW_20B2	410	A	23.5	8/12/2020	13:51:27	63.67	42.45	0.27	Muddy Sand	Muddy Sand	N/A	N/A	None	N/A	None	None	Sand Dollar(s)
SRW_20B2	410	B	23.5	8/12/2020	13:52:23	56.71	37.80	0.21	Muddy Sand	Muddy Sand	N/A	N/A	None	N/A	None	None	Cerianthid(s) and Sand Dollar(s)
SRW_20B2	410	D	23.5	8/12/2020	13:54:05	60.21	40.14	0.24	Muddy Sand	Muddy Sand	N/A	N/A	None	N/A	None	None	Sand Dollar(s)
SRW_20B2	411	A	23.5	8/12/2020	13:58:33	55.32	36.88	0.20	Muddy Sand	Muddy Sand	N/A	N/A	None	N/A	None	None	Sand Dollar(s)
SRW_20B2	411	B	23.5	8/12/2020	13:59:21	58.08	38.72	0.22	Muddy Sand	Muddy Sand	N/A	N/A	None	N/A	None	None	Cerianthid(s) and Sand Dollar(s)
SRW_20B2	411	D	23.5	8/12/2020	14:00:57	59.27	39.51	0.23	Muddy Sand	Muddy Sand	N/A	N/A	Small isolated (linguoid) ripples	Mobile	None	None	Cerianthid(s) and Sand Dollar(s)
SRW_20B2	412	A	22.3	8/12/2020	17:53:28	66.90	44.60	0.30	Muddy Sand	Muddy Sand	N/A	N/A	None	N/A	None	None	Cerianthid(s) and Sand Dollar(s)
SRW_20B2	412	B	22.3	8/12/2020	17:54:21	57.86	38.58	0.22	Muddy Sand	Muddy Sand	N/A	N/A	None	N/A	None	None	Sand Dollar(s)
SRW_20B2	412	D	22.3	8/12/2020	17:55:59	59.88	39.92	0.24	Muddy Sand	Muddy Sand	N/A	N/A	None	N/A	None	None	Cerianthid(s) and Sand Dollar(s)
SRW_20B2	413	A	22.3	8/12/2020	18:01:32	58.89	39.26	0.23	Muddy Sand	Muddy Sand	N/A	N/A	None	N/A	None	None	Cerianthid(s) and Sand Dollar(s)
SRW_20B2	413	B	22.3	8/12/2020	18:02:19	54.89	36.59	0.20	Muddy Sand	Muddy Sand	N/A	N/A	None	N/A	None	None	Sand Dollar(s)
SRW_20B2	413	D	22.3	8/12/2020	18:03:47	59.63	39.76	0.24	Muddy Sand	Muddy Sand	N/A	N/A	None	N/A	None	None	Cerianthid(s) and Sand Dollar(s)
SRW_20B2	414	A	21.3	8/12/2020	18:09:45	57.37	38.25	0.22	Muddy Sand	Muddy Sand	N/A	N/A	None	N/A	None	None	Cerianthid(s)
SRW_20B2	414	B	21.3	8/12/2020	18:10:26	61.37	40.91	0.25	Muddy Sand	Muddy Sand	N/A	N/A	None	N/A	None	None	Cerianthid(s) and Sand Dollar(s)
SRW_20B2	414	C	21.3	8/12/2020	18:11:14	57.91	38.60	0.22	Muddy Sand	Muddy Sand	N/A	N/A	None	N/A	None	None	Cerianthid(s) and Sand Dollar(s)
SRW_20B2	415	A	21.0	8/12/2020	18:17:40	64.97	43.32	0.28	Muddy Sand	Muddy Sand	N/A	N/A	None	N/A	None	None	None
SRW_20B2	415	B	21.0	8/12/2020	18:18:24	60.02	40.02	0.24	Muddy Sand	Muddy Sand	N/A	N/A	None	N/A	None	None	Sand Dollar(s)
SRW_20B2	415	C	21.0	8/12/2020	18:19:11	59.41	39.60	0.24	Muddy Sand	Muddy Sand	N/A	N/A	None	N/A	None	None	Sand Dollar(s)

SurveyID	StationID	Replicate	Water Depth (m)	Date	Time	Image Width (cm)	Image Height (cm)	Field of View	Substrate Group	Substrate Subgroup	Minimum Gravel Size Category	Maximum Gravel Size Category	Bedforms	Substrate Description	Type of Sensitive Taxa	Type of Species of Concern Observed	Type of Common Taxa
SRW_20B2	416	A	19.5	8/12/2020	18:26:48	57.31	38.21	0.22	Muddy Sand	Muddy Sand	N/A	N/A	None	N/A	None	None	Sand Dollar(s)
SRW_20B2	416	B	19.5	8/12/2020	18:27:44	64.20	42.80	0.27	Muddy Sand	Muddy Sand	N/A	N/A	None	N/A	None	None	None
SRW_20B2	416	D	19.5	8/12/2020	18:29:26	62.63	41.75	0.26	Muddy Sand	Muddy Sand	N/A	N/A	None	N/A	None	None	Sand Dollar(s)
SRW_20B2	417	A	18.6	8/12/2020	18:33:59	62.88	41.92	0.26	Muddy Sand	Muddy Sand	N/A	N/A	None	N/A	None	None	None
SRW_20B2	417	B	18.6	8/12/2020	18:34:49	56.28	37.52	0.21	Muddy Sand	Muddy Sand	N/A	N/A	None	N/A	None	None	None
SRW_20B2	417	C	18.6	8/12/2020	18:35:43	62.18	41.45	0.26	Muddy Sand	Muddy Sand	N/A	N/A	None	N/A	None	None	None
SRW_20B2	418	A	17.7	8/12/2020	18:42:15	58.36	38.91	0.23	Muddy Sand	Muddy Sand	N/A	N/A	None	N/A	None	None	None
SRW_20B2	418	B	17.7	8/12/2020	18:43:00	54.97	36.65	0.20	Muddy Sand	Muddy Sand	N/A	N/A	None	N/A	None	None	Sand Dollar(s)
SRW_20B2	418	C	17.7	8/12/2020	18:43:47	62.13	41.42	0.26	Muddy Sand	Muddy Sand	N/A	N/A	None	N/A	None	None	None
SRW_20B2	419	A	17.7	8/12/2020	18:49:22	63.18	42.12	0.27	Muddy Sand	Muddy Sand	N/A	N/A	None	N/A	None	None	Diopatra
SRW_20B2	419	B	17.7	8/12/2020	18:50:08	61.88	41.25	0.26	Muddy Sand	Muddy Sand	N/A	N/A	None	N/A	None	None	None
SRW_20B2	419	D	17.7	8/12/2020	18:51:35	IND	IND	IND	Muddy Sand	Muddy Sand	N/A	N/A	None	N/A	None	None	None
SRW_20B2	420	B	16.8	8/12/2020	18:58:02	63.21	42.14	0.27	Muddy Sand	Muddy Sand	N/A	N/A	Small isolated (linguoid) ripples	Mobile	None	None	Sand Dollar(s)
SRW_20B2	420	C	16.8	8/12/2020	18:58:46	58.89	39.26	0.23	Muddy Sand	Muddy Sand	N/A	N/A	None	N/A	None	None	Sand Dollar(s)
SRW_20B2	420	E	16.8	8/12/2020	19:00:19	61.56	41.04	0.25	Muddy Sand	Muddy Sand	N/A	N/A	None	N/A	None	None	Sand Dollar(s)
SRW_20B2	421	A	15.2	8/12/2020	19:05:28	55.97	37.32	0.21	Muddy Sand	Muddy Sand	N/A	N/A	None	N/A	None	None	None
SRW_20B2	421	C	15.2	8/12/2020	19:07:08	IND	IND	IND	Muddy Sand	Muddy Sand	N/A	N/A	None	N/A	None	None	None
SRW_20B2	421	D	15.2	8/12/2020	19:07:51	59.32	39.54	0.23	Muddy Sand	Muddy Sand	N/A	N/A	None	N/A	None	None	None
SRW_20B2	422	A	13.7	8/12/2020	19:29:43	61.95	41.30	0.26	Muddy Sand	Muddy Sand	N/A	N/A	Small ripples	Mobile	None	None	None
SRW_20B2	422	C	13.7	8/12/2020	19:31:34	IND	IND	IND	Muddy Sand	Muddy Sand	N/A	N/A	Small ripples	Mobile	None	None	Sand Dollar(s)
SRW_20B2	422	D	13.7	8/12/2020	19:32:26	58.96	39.30	0.23	Muddy Sand	Muddy Sand	N/A	N/A	None	N/A	None	None	None
SRW_20B2	423	A	12.2	8/12/2020	19:42:32	54.95	36.63	0.20	Muddy Sand	Muddy Sand	N/A	N/A	None	N/A	None	None	Diopatra
SRW_20B2	423	B	12.2	8/12/2020	19:43:14	IND	IND	IND	Muddy Sand	Muddy Sand	N/A	N/A	None	N/A	None	None	None
SRW_20B2	423	D	12.2	8/12/2020	19:44:49	IND	IND	IND	Muddy Sand	Muddy Sand	N/A	N/A	None	N/A	None	None	None

SurveyID	StationID	Replicate	Water Depth (m)	Date	Time	Image Width (cm)	Image Height (cm)	Field of View	Substrate Group	Substrate Subgroup	Minimum Gravel Size Category	Maximum Gravel Size Category	Bedforms	Substrate Description	Type of Sensitive Taxa	Type of Species of Concern Observed	Type of Common Taxa
SRW_20B2	424	A	10.7	8/12/2020	19:56:17	IND	IND	IND	Muddy Sand	Muddy Sand	N/A	N/A	IND	IND	IND	IND	IND
SRW_20B2	424	C	10.7	8/12/2020	19:57:47	IND	IND	IND	Muddy Sand	Muddy Sand	N/A	N/A	IND	IND	IND	IND	IND
SRW_20B2	424	D	10.7	8/12/2020	19:58:29	IND	IND	IND	Muddy Sand	Muddy Sand	N/A	N/A	IND	IND	IND	IND	IND
SRW_20B2	425	A	8.8	8/12/2020	20:03:01	IND	IND	IND	Sand	Sand	N/A	N/A	Small ripples	Mobile	IND	IND	IND
SRW_20B2	425	C	8.8	8/12/2020	20:04:54	IND	IND	IND	Sand	Sand	N/A	N/A	Small ripples	Mobile	IND	IND	IND
SRW_20B2	425	D	8.8	8/12/2020	20:05:44	IND	IND	IND	Sand	Sand	N/A	N/A	Small ripples	Mobile	IND	IND	Diopatra
SRW_20B2	426	C	7.3	8/12/2020	20:12:07	IND	IND	IND	Sand	Sand	N/A	N/A	Small ripples	Mobile	IND	IND	IND
SRW_20B2	427	A	4.6	8/12/2020	20:23:25	IND	IND	IND	Sand	Sand	N/A	N/A	Large ripples	Mobile	None	None	None
SRW_20B2	427	B	4.6	8/12/2020	20:24:06	IND	IND	IND	Sand	Sand	N/A	N/A	Large ripples	Mobile	None	None	None
SRW_20B2	427	C	4.6	8/12/2020	20:24:56	IND	IND	IND	Sand	Sand	N/A	N/A	Large ripples	Mobile	None	None	None
SRW_20B2	428	A	13.1	8/12/2020	19:36:31	62.55	41.70	0.26	Muddy Sand	Muddy Sand	N/A	N/A	Small ripples	Mobile	IND	IND	IND
SRW_20B2	428	B	13.1	8/12/2020	19:37:27	65.60	43.73	0.29	Muddy Sand	Muddy Sand	N/A	N/A	Small ripples	Mobile	IND	IND	IND
SRW_20B2	428	C	13.1	8/12/2020	19:38:21	IND	IND	IND	Muddy Sand	Muddy Sand	N/A	N/A	Small ripples	Mobile	IND	IND	IND
SRW_20B2	429	A	11.9	8/12/2020	19:49:55	IND	IND	IND	Muddy Sand	Muddy Sand	N/A	N/A	IND	IND	IND	IND	IND
SRW_20B2	429	D	11.9	8/12/2020	19:52:18	IND	IND	IND	Muddy Sand	Muddy Sand	N/A	N/A	IND	IND	IND	IND	IND
SRW_20B2	430	A	11.6	8/12/2020	21:35:50	63.00	42.00	0.26	Muddy Sand	Muddy Sand	N/A	N/A	Small ripples	Mobile	None	None	None
SRW_20B2	430	C	11.6	8/12/2020	21:37:41	56.69	37.79	0.21	Muddy Sand	Muddy Sand	N/A	N/A	Small ripples	Mobile	None	None	Diopatra
SRW_20B2	430	D	11.6	8/12/2020	21:38:35	IND	IND	IND	Muddy Sand	Muddy Sand	N/A	N/A	Small ripples	Mobile	IND	IND	IND
SRW_20B2	431	A	11.9	8/12/2020	21:29:00	62.35	41.57	0.26	Muddy Sand	Muddy Sand	N/A	N/A	Small isolated (linguoid) ripples	Mobile	None	None	None
SRW_20B2	431	B	11.9	8/12/2020	21:29:39	IND	IND	IND	Muddy Sand	Muddy Sand	N/A	N/A	IND	IND	IND	IND	IND
SRW_20B2	431	C	11.9	8/12/2020	21:30:25	IND	IND	IND	Muddy Sand	Muddy Sand	N/A	N/A	Small isolated (linguoid) ripples	Mobile	None	None	None
SRW_20B2	432	A	11.9	8/12/2020	21:21:33	60.65	40.44	0.25	Muddy Sand	Muddy Sand	N/A	N/A	Small isolated (linguoid) ripples	Mobile	None	None	Diopatra
SRW_20B2	432	B	11.9	8/12/2020	21:22:19	55.56	37.04	0.21	Muddy Sand	Muddy Sand	N/A	N/A	Small isolated (linguoid) ripples	Mobile	None	None	None

SurveyID	StationID	Replicate	Water Depth (m)	Date	Time	Image Width (cm)	Image Height (cm)	Field of View	Substrate Group	Substrate Subgroup	Minimum Gravel Size Category	Maximum Gravel Size Category	Bedforms	Substrate Description	Type of Sensitive Taxa	Type of Species of Concern Observed	Type of Common Taxa
SRW_20B2	432	C	11.9	8/12/2020	21:23:06	IND	IND	IND	Muddy Sand	Muddy Sand	N/A	N/A	IND	IND	IND	IND	IND
SRW_20B2	433	D	9.8	8/12/2020	21:13:49	IND	IND	IND	Muddy Sand	Muddy Sand	N/A	N/A	IND	IND	IND	IND	Sand Dollar(s)
SRW_20B2	435	A	4.6	8/12/2020	20:37:28	IND	IND	IND	Sand	Sand	N/A	N/A	Large ripples	Mobile	None	None	Sand Dollar(s)
SRW_20B2	435	C	4.6	8/12/2020	20:39:02	60.05	40.03	0.24	Sand	Sand	N/A	N/A	Large ripples	Mobile	None	None	Diopatra
SRW_20B2	435	D	4.6	8/12/2020	20:39:47	57.63	38.42	0.22	Sand	Sand	N/A	N/A	Large ripples	Mobile	None	None	Diopatra
SRW_20B3	801	B	-	9/7/2020	13:37:21	IND	IND	IND	Sand	Sand	N/A	N/A	None	Non-mobile	None	None	None
SRW_20B3	801	E	-	9/7/2020	13:38:19	IND	IND	IND	Sand	Sand	N/A	N/A	None	Non-mobile	None	None	None
SRW_20B3	801	F	-	9/7/2020	13:57:12	IND	IND	IND	Sand	Sand	N/A	N/A	None	Non-mobile	None	None	None
SRW_20B3	802	A	-	9/7/2020	14:42:47	IND	IND	IND	Gravel Mixes	Sandy Gravel	IND	IND	None	N/A	None	None	None
SRW_20B3	802	E	-	9/7/2020	14:44:03	IND	IND	IND	Gravel Mixes	Sandy Gravel	IND	IND	None	N/A	None	None	None
SRW_20B3	802	K	-	9/7/2020	14:56:55	IND	IND	IND	Gravel Mixes	Sandy Gravel	IND	IND	None	N/A	None	None	None
SRW_20B3	803	A	-	9/7/2020	14:17:18	IND	IND	IND	Sand	Sand	N/A	N/A	Small ripples	Mobile	None	None	None
SRW_20B3	803	B	-	9/7/2020	14:17:35	IND	IND	IND	Sand	Sand	N/A	N/A	Small ripples	Mobile	None	None	None
SRW_20B3	803	C	-	9/7/2020	14:17:56	IND	IND	IND	Sand	Sand	N/A	N/A	Small ripples	Mobile	None	None	None
SRW_20B3	804	D	-	9/7/2020	13:53:52	IND	IND	IND	Sand	Sand	N/A	N/A	None	Non-mobile	None	None	None
SRW_20B3	804	E	-	9/7/2020	13:54:04	IND	IND	IND	Sand	Sand	N/A	N/A	None	Non-mobile	None	None	None
SRW_20B3	804	F	-	9/7/2020	13:54:15	IND	IND	IND	Sand	Sand	N/A	N/A	None	Non-mobile	None	None	None
SRW_20B3	805	A	-	9/7/2020	14:36:12	IND	IND	IND	Gravel Mixes	Sandy Gravel	IND	IND	None	N/A	None	None	None
SRW_20B3	805	B	-	9/7/2020	14:36:28	IND	IND	IND	Gravel Mixes	Sandy Gravel	IND	IND	None	N/A	None	None	None
SRW_20B3	805	D	-	9/7/2020	14:37:00	IND	IND	IND	Gravel Mixes	Sandy Gravel	IND	IND	None	N/A	None	None	None
SRW_20B3	806	A	-	9/7/2020	14:11:39	IND	IND	IND	Sand	Sand	N/A	N/A	Small ripples	Mobile	None	None	None
SRW_20B3	806	B	-	9/7/2020	14:11:56	IND	IND	IND	Sand	Sand	N/A	N/A	Small ripples	Mobile	None	None	None

SurveyID	StationID	Replicate	Water Depth (m)	Date	Time	Image Width (cm)	Image Height (cm)	Field of View	Substrate Group	Substrate Subgroup	Minimum Gravel Size Category	Maximum Gravel Size Category	Bedforms	Substrate Description	Type of Sensitive Taxa	Type of Species of Concern Observed	Type of Common Taxa
SRW_20B3	806	C	-	9/7/2020	14:12:13	IND	IND	IND	Sand	Sand	N/A	N/A	Small ripples	Mobile	None	None	None
SRW_20B3	807	C	-	9/7/2020	15:25:51	IND	IND	IND	Sand	Sand	N/A	N/A	None	Non-mobile	None	None	None
SRW_20B3	807	E	-	9/7/2020	15:29:48	IND	IND	IND	Sand	Sand	N/A	N/A	None	Non-mobile	None	None	None
SRW_20B3	807	F	-	9/7/2020	15:30:00	IND	IND	IND	Sand	Sand	N/A	N/A	None	Non-mobile	None	None	None
SRW_20B3	808	E	-	9/7/2020	15:08:22	IND	IND	IND	Gravelly	Gravelly Sand	IND	IND	None	N/A	None	None	None
SRW_20B3	808	F	-	9/7/2020	15:10:21	IND	IND	IND	Gravelly	Gravelly Sand	IND	IND	None	N/A	None	None	None
SRW_20B3	808	G	-	9/7/2020	15:10:41	IND	IND	IND	Shell Substrate	Shell Rubble	IND	IND	None	N/A	None	None	None

SurveyID	StationID	Replicate	Type of Non-Native Taxa	Biotic Subclass	Co-occurring Biotic Subclass	Percent Cover of All Attached Fauna	Percent Cover of Emergent Taxa	Percent Cover of Macroalgae and/or SAV	Tubes	Burrows	Tracks	Eggs	Infauna	Sessile Epifauna	Mobile Epifauna
SRW_20B2	401	A	None	Soft Sediment Fauna	Inferred Fauna	None	None	None	No	Yes	Yes	None	None	None	None
SRW_20B2	401	C	None	Soft Sediment Fauna	None	None	None	None	Yes	No	No	None	None	Ampelisca Amphipod(s)	Hermit Crab(s), Shrimp
SRW_20B2	401	D	None	Soft Sediment Fauna	None	None	None	None	Yes	No	No	None	Diopatra	None	Hermit Crab(s), Sand Dollar(s)
SRW_20B2	402	A	None	Soft Sediment Fauna	Inferred Fauna	None	None	None	No	No	Yes	None	None	None	Hermit Crab(s), Sand Dollar(s)
SRW_20B2	402	B	None	Soft Sediment Fauna	Inferred Fauna	None	None	None	No	No	Yes	None	None	None	Sand Dollar(s)
SRW_20B2	402	C	None	Soft Sediment Fauna	None	None	None	None	No	No	No	None	None	None	Hermit Crab(s), Sand Dollar(s)
SRW_20B2	403	A	None	Soft Sediment Fauna	Inferred Fauna	None	None	None	No	No	Yes	None	None	None	Sand Dollar(s)
SRW_20B2	403	B	None	Soft Sediment Fauna	None	None	None	None	No	No	No	None	None	None	Sand Dollar(s)
SRW_20B2	403	D	None	Soft Sediment Fauna	IND	IND	IND	IND	IND	IND	IND	IND	IND	IND	Hermit Crab(s)
SRW_20B2	404	A	None	Soft Sediment Fauna	Inferred Fauna	None	None	None	No	No	Yes	None	None	None	Hermit Crab(s), Sand Dollar(s)
SRW_20B2	404	B	None	Soft Sediment Fauna	Inferred Fauna	None	None	None	No	No	No	None	None	None	Sand Dollar(s)
SRW_20B2	404	C	None	Soft Sediment Fauna	Inferred Fauna	None	None	None	No	No	Yes	None	None	None	Sand Dollar(s)
SRW_20B2	405	A	None	Soft Sediment Fauna	Inferred Fauna	None	None	None	No	Yes	Yes	None	Cerianthid	None	Sand Dollar(s)
SRW_20B2	405	B	None	Soft Sediment Fauna	Inferred Fauna	None	None	None	No	Yes	Yes	None	None	None	Sand Dollar(s)
SRW_20B2	405	D	None	Soft Sediment Fauna	Inferred Fauna	None	None	None	No	Yes	Yes	None	Cerianthid	None	Hermit Crab(s), Sand Dollar(s)
SRW_20B2	406	A	None	Soft Sediment Fauna	Inferred Fauna	None	None	None	No	Yes	Yes	None	Cerianthid	None	Sand Dollar(s)
SRW_20B2	406	B	None	Soft Sediment Fauna	Inferred Fauna	None	None	None	No	Yes	Yes	None	Cerianthid	None	Sand Dollar(s)
SRW_20B2	406	D	None	Soft Sediment Fauna	None	None	None	None	No	No	No	None	None	None	Hermit Crab(s), Sand Dollar(s)
SRW_20B2	407	B	None	Soft Sediment Fauna	Inferred Fauna	None	None	None	No	Yes	Yes	None	Cerianthid	None	Sand Dollar(s)
SRW_20B2	407	C	None	Soft Sediment Fauna	None	None	None	None	No	Yes	Yes	None	None	None	Hermit Crab(s), Sand Dollar(s)
SRW_20B2	407	D	None	Soft Sediment Fauna	None	None	None	None	No	No	No	None	None	None	Sand Dollar(s)
SRW_20B2	408	A	None	Soft Sediment Fauna	Inferred Fauna	None	None	None	No	Yes	Yes	None	Cerianthid	None	Hermit Crab(s), Sand Dollar(s)
SRW_20B2	408	B	None	Soft Sediment Fauna	Inferred Fauna	None	None	None	No	Yes	Yes	None	Cerianthid	None	Hermit Crab(s), Sand Dollar(s)
SRW_20B2	408	D	None	Soft Sediment Fauna	None	None	None	None	No	No	No	None	None	None	Sand Dollar(s)
SRW_20B2	409	A	None	Soft Sediment Fauna	Inferred Fauna	None	None	None	No	No	Yes	None	None	None	Sand Dollar(s)

SurveyID	StationID	Replicate	Type of Non-Native Taxa	Biotic Subclass	Co-occurring Biotic Subclass	Percent Cover of All Attached Fauna	Percent Cover of Emergent Taxa	Percent Cover of Macroalgae and/or SAV	Tubes	Burrows	Tracks	Eggs	Infauna	Sessile Epifauna	Mobile Epifauna
SRW_20B2	409	B	None	Soft Sediment Fauna	None	None	None	None	No	Yes	No	None	Cerianthid	None	Sand Dollar(s)
SRW_20B2	409	C	None	Soft Sediment Fauna	None	None	None	None	No	Yes	No	None	Cerianthid	None	Hermit Crab(s), Sand Dollar(s)
SRW_20B2	410	A	None	Soft Sediment Fauna	Inferred Fauna	None	None	None	No	No	Yes	None	None	None	Sand Dollar(s)
SRW_20B2	410	B	None	Soft Sediment Fauna	Inferred Fauna	None	None	None	No	Yes	Yes	None	Cerianthid	None	Sand Dollar(s)
SRW_20B2	410	D	None	Soft Sediment Fauna	None	None	None	None	No	No	No	None	None	None	Sand Dollar(s)
SRW_20B2	411	A	None	Soft Sediment Fauna	Inferred Fauna	None	None	None	No	No	Yes	None	None	None	Sand Dollar(s)
SRW_20B2	411	B	None	Soft Sediment Fauna	Inferred Fauna	None	None	None	No	Yes	Yes	None	Cerianthid	None	Sand Dollar(s)
SRW_20B2	411	D	None	Soft Sediment Fauna	None	None	None	None	No	Yes	No	None	Cerianthid	None	Sand Dollar(s)
SRW_20B2	412	A	None	Soft Sediment Fauna	Inferred Fauna	None	None	None	No	Yes	Yes	None	Cerianthid	None	Hermit Crab(s), Sand Dollar(s)
SRW_20B2	412	B	None	Soft Sediment Fauna	Inferred Fauna	None	None	None	No	No	Yes	None	None	None	Hermit Crab(s), Sand Dollar(s)
SRW_20B2	412	D	None	Soft Sediment Fauna	Inferred Fauna	None	None	None	No	Yes	Yes	None	Cerianthid	None	Sand Dollar(s)
SRW_20B2	413	A	None	Soft Sediment Fauna	Inferred Fauna	None	None	None	No	Yes	Yes	None	Cerianthid	None	Hermit Crab(s), Sand Dollar(s)
SRW_20B2	413	B	None	Soft Sediment Fauna	None	None	None	None	No	Yes	No	None	None	None	Sand Dollar(s)
SRW_20B2	413	D	None	Soft Sediment Fauna	Inferred Fauna	None	None	None	No	Yes	No	None	Cerianthid	None	Hermit Crab(s), Sand Dollar(s)
SRW_20B2	414	A	None	Soft Sediment Fauna	Inferred Fauna	None	None	None	Yes	Yes	Yes	None	Cerianthid	None	None
SRW_20B2	414	B	None	Soft Sediment Fauna	None	None	None	None	No	Yes	No	None	Cerianthid	None	Hermit Crab(s), Sand Dollar(s)
SRW_20B2	414	C	None	Soft Sediment Fauna	None	None	None	None	No	Yes	No	None	Cerianthid	None	Sand Dollar(s)
SRW_20B2	415	A	None	Inferred Fauna	None	None	None	None	No	No	Yes	None	None	None	None
SRW_20B2	415	B	None	Soft Sediment Fauna	Inferred Fauna	None	None	None	No	No	Yes	None	None	None	Hermit Crab(s), Sand Dollar(s)
SRW_20B2	415	C	None	Soft Sediment Fauna	Inferred Fauna	None	None	None	No	No	Yes	None	None	None	Hermit Crab(s), Sand Dollar(s)

SurveyID	StationID	Replicate	Type of Non-Native Taxa	Biotic Subclass	Co-occurring Biotic Subclass	Percent Cover of All Attached Fauna	Percent Cover of Emergent Taxa	Percent Cover of Macroalgae and/or SAV	Tubes	Burrows	Tracks	Eggs	Infauna	Sessile Epifauna	Mobile Epifauna
SRW_20B2	416	A	None	Soft Sediment Fauna	Inferred Fauna	None	None	None	No	No	Yes	None	None	None	Hermit Crab(s), Sand Dollar(s)
SRW_20B2	416	B	None	Soft Sediment Fauna	Inferred Fauna	None	None	None	No	No	Yes	None	None	None	Hermit Crab(s)
SRW_20B2	416	D	None	Soft Sediment Fauna	Inferred Fauna	None	None	None	No	No	Yes	None	None	None	Sand Dollar(s)
SRW_20B2	417	A	None	None	None	None	None	None	No	No	No	None	None	None	None
SRW_20B2	417	B	None	Soft Sediment Fauna	None	None	None	None	No	No	No	None	None	None	Hermit Crab(s)
SRW_20B2	417	C	None	None	None	None	None	None	No	No	No	None	None	None	None
SRW_20B2	418	A	None	Soft Sediment Fauna	Inferred Fauna	None	None	None	Yes	No	Yes	None	None	None	None
SRW_20B2	418	B	None	Soft Sediment Fauna	None	None	None	None	No	No	No	None	None	None	Sand Dollar(s)
SRW_20B2	418	C	None	Soft Sediment Fauna	Inferred Fauna	None	None	None	No	No	Yes	None	None	None	Hermit Crab(s), Snail(s)
SRW_20B2	419	A	None	Soft Sediment Fauna	None	None	None	None	Yes	No	No	None	Diopatra	None	Hermit Crab(s), Snail(s)
SRW_20B2	419	B	None	Soft Sediment Fauna	None	None	None	None	No	No	No	None	None	None	Hermit Crab(s)
SRW_20B2	419	D	None	Soft Sediment Fauna	None	None	None	None	No	No	No	None	None	None	Hermit Crab(s)
SRW_20B2	420	B	None	Soft Sediment Fauna	None	None	None	None	No	No	No	None	None	None	Hermit Crab(s), Sand Dollar(s)
SRW_20B2	420	C	None	Soft Sediment Fauna	Inferred Fauna	None	None	None	Yes	No	Yes	None	None	None	Hermit Crab(s), Sand Dollar(s)
SRW_20B2	420	E	None	Soft Sediment Fauna	Inferred Fauna	None	None	None	Yes	No	Yes	None	None	None	Sand Dollar(s), Snail(s)
SRW_20B2	421	A	None	Soft Sediment Fauna	None	None	None	None	IND	IND	IND	None	None	None	Hermit Crab(s)
SRW_20B2	421	C	None	Soft Sediment Fauna	None	None	None	None	IND	IND	IND	None	None	None	Hermit Crab(s)
SRW_20B2	421	D	None	Soft Sediment Fauna	None	None	None	None	IND	IND	IND	None	None	None	None
SRW_20B2	422	A	None	Soft Sediment Fauna	None	None	None	None	Yes	No	No	None	None	None	Hermit Crab(s)
SRW_20B2	422	C	None	Soft Sediment Fauna	None	None	None	None	Yes	No	No	None	None	None	Sand Dollar(s)
SRW_20B2	422	D	None	Soft Sediment Fauna	None	None	None	None	Yes	No	No	None	None	None	Hermit Crab(s)
SRW_20B2	423	A	None	Soft Sediment Fauna	None	None	None	None	Yes	No	No	None	Diopatra	None	Hermit Crab(s), Snail(s)
SRW_20B2	423	B	None	Soft Sediment Fauna	None	None	None	None	Yes	IND	IND	None	None	None	Hermit Crab(s)
SRW_20B2	423	D	None	Soft Sediment Fauna	None	None	None	None	Yes	IND	IND	None	None	None	None

SurveyID	StationID	Replicate	Type of Non-Native Taxa	Biotic Subclass	Co-occurring Biotic Subclass	Percent Cover of All Attached Fauna	Percent Cover of Emergent Taxa	Percent Cover of Macroalgae and/or SAV	Tubes	Burrows	Tracks	Eggs	Infauna	Sessile Epifauna	Mobile Epifauna
SRW_20B2	424	A	IND	IND	IND	IND	IND	IND	IND	IND	IND	IND	IND	IND	IND
SRW_20B2	424	C	IND	IND	IND	IND	IND	IND	IND	IND	IND	IND	IND	IND	IND
SRW_20B2	424	D	IND	Soft Sediment Fauna	IND	IND	IND	IND	IND	IND	IND	IND	IND	IND	Hermit Crab(s)
SRW_20B2	425	A	IND	IND	IND	IND	IND	IND	IND	IND	IND	IND	IND	IND	IND
SRW_20B2	425	C	IND	IND	IND	IND	IND	IND	IND	IND	IND	IND	IND	IND	IND
SRW_20B2	425	D	IND	Soft Sediment Fauna	IND	IND	IND	IND	Yes	IND	IND	IND	Diopatra	IND	Hermit Crab(s)
SRW_20B2	426	C	IND	IND	IND	IND	IND	IND	IND	IND	IND	IND	IND	IND	IND
SRW_20B2	427	A	None	Soft Sediment Fauna	None	None	None	None	No	No	No	None	None	None	Hermit Crab(s)
SRW_20B2	427	B	None	None	None	None	None	None	No	No	No	None	None	None	None
SRW_20B2	427	C	None	None	None	None	None	None	No	No	No	None	None	None	Hermit Crab(s)
SRW_20B2	428	A	IND	Soft Sediment Fauna	IND	IND	IND	IND	IND	IND	IND	IND	IND	IND	Hermit Crab(s)
SRW_20B2	428	B	IND	IND	IND	IND	IND	IND	IND	IND	IND	IND	IND	IND	IND
SRW_20B2	428	C	IND	IND	IND	IND	IND	IND	IND	IND	IND	IND	IND	IND	IND
SRW_20B2	429	A	IND	IND	IND	IND	IND	IND	IND	IND	IND	IND	IND	IND	IND
SRW_20B2	429	D	IND	IND	IND	IND	IND	IND	IND	IND	IND	IND	IND	IND	IND
SRW_20B2	430	A	None	Soft Sediment Fauna	None	None	None	None	No	No	No	None	None	None	Hermit Crab(s)
SRW_20B2	430	C	None	Soft Sediment Fauna	None	None	None	None	Yes	No	No	None	Diopatra	None	None
SRW_20B2	430	D	IND	IND	IND	IND	IND	IND	IND	IND	IND	IND	IND	IND	IND
SRW_20B2	431	A	None	Soft Sediment Fauna	None	None	None	None	Yes	No	No	None	None	None	None
SRW_20B2	431	B	IND	Soft Sediment Fauna	IND	IND	IND	IND	Yes	IND	IND	IND	IND	IND	IND
SRW_20B2	431	C	None	Soft Sediment Fauna	None	None	None	None	Yes	No	No	None	None	None	None
SRW_20B2	432	A	None	Soft Sediment Fauna	None	None	None	None	Yes	No	No	None	Diopatra	None	None
SRW_20B2	432	B	None	Soft Sediment Fauna	None	None	None	None	Yes	No	No	None	None	None	Hermit Crab(s)

SurveyID	StationID	Replicate	Type of Non-Native Taxa	Biotic Subclass	Co-occurring Biotic Subclass	Percent Cover of All Attached Fauna	Percent Cover of Emergent Taxa	Percent Cover of Macroalgae and/or SAV	Tubes	Burrows	Tracks	Eggs	Infauna	Sessile Epifauna	Mobile Epifauna
SRW_20B2	432	C	IND	IND	IND	IND	IND	IND	IND	IND	IND	IND	IND	IND	IND
SRW_20B2	433	D	IND	Soft Sediment Fauna	IND	IND	IND	IND	IND	IND	IND	IND	IND	IND	Hermit Crab(s), Sand Dollar(s)
SRW_20B2	435	A	IND	IND	IND	IND	IND	IND	IND	IND	IND	IND	IND	IND	Sand Dollar(s)
SRW_20B2	435	C	None	Soft Sediment Fauna	None	None	None	None	Yes	No	No	None	Diopatra	None	Hermit Crab(s)
SRW_20B2	435	D	None	Soft Sediment Fauna	None	None	None	None	Yes	No	No	None	Diopatra	None	Hermit Crab(s)
SRW_20B3	801	B	None	Soft Sediment Fauna	Attached Fauna	Trace (<1%)	None	Trace (<1%)	Yes	No	No	None	None	None	None
SRW_20B3	801	E	None	Soft Sediment Fauna	None	None	None	Sparse (1 to <30%)	Yes	No	No	None	None	None	Unidentified Crab
SRW_20B3	801	F	None	Soft Sediment Fauna	None	None	None	Sparse (1 to <30%)	Yes	No	No	None	None	None	None
SRW_20B3	802	A	None	Attached Fauna	None	Trace (<1%)	None	None	No	No	No	None	None	None	Hermit Crab(s)
SRW_20B3	802	E	None	Attached Fauna	Soft Sediment Fauna	Sparse (1 to <30%)	None	None	No	No	No	None	None	Bryozoan(s), Serpulid(s)	None
SRW_20B3	802	K	None	Attached Fauna	None	Trace (<1%)	None	None	No	No	No	None	None	Bryozoan(s), Serpulid(s)	None
SRW_20B3	803	A	None	Inferred Fauna	None	None	None	None	No	No	Yes	None	None	None	None
SRW_20B3	803	B	None	None	None	None	None	Trace (<1%)	No	No	No	None	None	None	None
SRW_20B3	803	C	None	Soft Sediment Fauna	None	None	None	None	No	No	No	None	None	None	None
SRW_20B3	804	D	None	Soft Sediment Fauna	None	None	None	None	Yes	No	No	None	None	None	None
SRW_20B3	804	E	None	Soft Sediment Fauna	None	None	None	Trace (<1%)	Yes	No	No	None	None	None	None
SRW_20B3	804	F	None	Soft Sediment Fauna	None	None	None	Sparse (1 to <30%)	Yes	No	No	None	None	None	None
SRW_20B3	805	A	None	Attached Fauna	None	Trace (<1%)	None	Sparse (1 to <30%)	No	No	No	None	None	Bryozoan(s)	None
SRW_20B3	805	B	None	Attached Fauna	None	Trace (<1%)	None	Trace (<1%)	No	No	No	None	None	Bryozoan(s)	None
SRW_20B3	805	D	None	Attached Fauna	None	Trace (<1%)	None	Sparse (1 to <30%)	No	No	No	None	None	Bryozoan(s)	None
SRW_20B3	806	A	None	None	None	None	None	None	No	No	No	None	None	None	None
SRW_20B3	806	B	None	None	None	None	None	Trace (<1%)	No	No	No	None	None	None	None

SurveyID	StationID	Replicate	Type of Non-Native Taxa	Biotic Subclass	Co-occurring Biotic Subclass	Percent Cover of All Attached Fauna	Percent Cover of Emergent Taxa	Percent Cover of Macroalgae and/or SAV	Tubes	Burrows	Tracks	Eggs	Infauna	Sessile Epifauna	Mobile Epifauna
SRW_20B3	806	C	None	None	None	None	None	None	No	No	No	None	None	None	None
SRW_20B3	807	C	None	Soft Sediment Fauna	None	None	None	Trace (<1%)	No	No	No	None	None	None	None
SRW_20B3	807	E	None	None	None	None	None	Trace (<1%)	No	No	No	None	None	None	None
SRW_20B3	807	F	None	None	None	None	None	Trace (<1%)	No	No	No	None	None	None	None
SRW_20B3	808	E	None	None	None	None	None	None	No	No	No	None	None	None	None
SRW_20B3	808	F	None	None	None	None	None	Trace (<1%)	No	No	No	None	None	None	None
SRW_20B3	808	G	None	Attached Fauna	None	Trace (<1%)	None	None	No	No	No	None	None	Bryozoan(s)	None

SurveyID	StationID	Replicate	Flora	Fish	Comments
SRW_20B2	401	A	None	None	Yellow-brown sand with patchy mud drape and <5% gravels. Few small burrow mounds.
SRW_20B2	401	C	None	None	Yellow brown sand with trace granules. Hermit carb at upper edge of image. Two small shrimp at right edge of image. Few small flat tubes in upper left.
SRW_20B2	401	D	None	None	Yellow-brown sand with slightly rippled seafloor. Material accumulating in ripple troughs. Shelly Diopatra tube in upper right. Single sand dollar. Large hermit crab in lower left corner.
SRW_20B2	402	A	None	None	Thin mud drape with two patches of pale gray sand exposed. Few faint tracks. Single sand dollar. Hermit crab between lasers and at right edge of image.
SRW_20B2	402	B	None	None	Yellow-brown sand with thin mud drape with faint tracks. Two sand dollars along left side of image.
SRW_20B2	402	C	None	None	Yellow-brown sand with uniform texture. Two hermit crabs. Sand dollar near left laser.
SRW_20B2	403	A	None	None	Pale brown sand with very thin drape of yellow-brown mud. Faint tracks in muddy sediment. Sand dollar in upper left corner.
SRW_20B2	403	B	None	None	Pale brown sand with single sand dollar in upper right corner. Slightly turbid water column.
SRW_20B2	403	D	None	None	Very turbid water column. Pale brown sand. Hermit crab at center of image.
SRW_20B2	404	A	None	None	Dark brown muddy sand with few faint tracks. Sand dollars throughout image. Small hermit crab in lower left corner.
SRW_20B2	404	B	None	None	Yellow-brown muddy sand with pale gray sand in patchy distribution. Sand dollars throughout image. Trace shell hash in upper right.
SRW_20B2	404	C	None	None	Slightly turbid water column. Dark brown muddy sand with dense sand dollars. Faint tracks
SRW_20B2	405	A	None	None	Yellow-brown muddy sand with faint tracks. Several sand dollars. Two large cerianthids along upper edge of image.
SRW_20B2	405	B	None	None	Yellow-brown muddy sand with trace shell fragments and several sand dollars.
SRW_20B2	405	D	None	None	Yellow-brown muddy sand with faint tracks. Several sand dollars. Four cerianthids at image center and upper right. Hermit crab at top edge of image.
SRW_20B2	406	A	None	None	Yellow-brown muddy sand with many tracks. Several sand dollars and cerianthids throughout image. Shell fragments at image center.
SRW_20B2	406	B	None	None	Yellow-brown muddy sand with many tracks. Several sand dollars at lower edge of image. Cerianthid above left laser. Few large burrow openings.
SRW_20B2	406	D	None	None	Yellow-brown muddy sand with sand dollars throughout image. Single hermit crab in lower right corner of image on top of a sand dollar. Slightly turbid.
SRW_20B2	407	B	None	None	Yellow-brown muddy sand with small repeating tracks faintly visible. Many sand dollars. Cerianthid near right laser.
SRW_20B2	407	C	None	None	Yellow-brown muddy sand with many sand dollars. Three hermit crabs, right side of image, near laser and at top edge.
SRW_20B2	407	D	None	None	Yellow-brown muddy sand with many sand dollars.
SRW_20B2	408	A	None	None	Yellow-brown muddy sand with faint tracks. Small cluster of shell fragments near two hermit crabs in lower left. Three cerianthids. Four sand dollars.
SRW_20B2	408	B	None	None	Yellow-brown muddy sand with very faint tracks, few small mounds of pale grey sand. Several sand dollars. Two cerianthids near left laser. Hermit crab with sponge encrusted shell near right laser.
SRW_20B2	408	D	None	None	Turbid water column. Yellow-brown sand with few sand dollars.
SRW_20B2	409	A	None	None	Yellow-brown muddy sand with faint tracks. Several sand dollars. Sediment is slightly paler grey In right half of image.

SurveyID	StationID	Replicate	Flora	Fish	Comments
SRW_20B2	409	B	None	None	Yellow-brown muddy sand with many sand dollars. Two cerianthids above right laser and at lower edge of image.
SRW_20B2	409	C	None	None	Yellow-brown muddy sand with few sand dollars and cerianthids. Hermit crab between lasers. Shell fragment above right laser.
SRW_20B2	410	A	None	None	Yellow-brown muddy sand with many long thin tracks. Several sand dollars, single sand dollar test.
SRW_20B2	410	B	None	None	Yellow-brown muddy sand with few tracks. Cerianthids below left laser and in upper right corner. Three sand dollars, one mostly covered by sediment in lower right.
SRW_20B2	410	D	None	None	Turbid water column. Yellow-brown muddy sand with many sand dollars.
SRW_20B2	411	A	None	None	Yellow-brown muddy sand with sets of repeating tracks. Few small mounds of pale gray sand in upper right corner and near lasers. Several sand dollars. Sand dollar test at upper edge of image.
SRW_20B2	411	B	None	None	Yellow-brown muddy sand with few sand dollars in upper right corner. Cerianthid above left laser. Small tracks at middle right edge.
SRW_20B2	411	D	None	None	Yellow-brown muddy sand with accumulated drifts of loose fines and trace shell hash. Cerianthid at far right edge of image. Single sand dollar in upper left corner.
SRW_20B2	412	A	None	None	Yellow-brown muddy sand with many tracks of various type. Sand dollars throughout image. Cerianthid to right of lasers. Large hermit crab near left laser.
SRW_20B2	412	B	None	None	Yellow-brown muddy sand with plumes of resuspended sediment just above seafloor. Two sand dollars. Small hermit crab near left laser. Very small and thin trails.
SRW_20B2	412	D	None	None	Yellow-brown muddy sand with faint tracks throughout image. Several sand dollars above lasers. Few cerianthids.
SRW_20B2	413	A	None	None	Yellow-brown muddy sand with patch of shell hash and dark sand in upper half of image. Many faint tracks. Several sand dollars and tests. Cerianthid at left laser. Hermit crab at upper left corner and lower right.
SRW_20B2	413	B	None	None	Reddish-brown muddy sand with abundant sand dollars. Small accumulation of pellets throughout image. Ctenophore in water column.
SRW_20B2	413	D	None	None	Reddish-brown muddy sand with many faint tracks throughout image. Sand dollars and cerianthids at lower edge of image. Very small hermit crab in upper left. Many small pellets, few larger pellets.
SRW_20B2	414	A	None	None	Yellow-brown muddy sand with faint tracks and line of pale gray sand mounds along right edge of image. Two cerianthids. Very large tube above lasers. Small pellets throughout image.
SRW_20B2	414	B	None	None	Yellow-brown muddy sand with few areas of paler gray sand. Several cerianthids near image center. Partially buried sand dollar at lower edge of image. Two hermit crabs along right edge. Small shell fragment in upper left.
SRW_20B2	414	C	None	None	Yellow-brown muddy sand with gray mud clasts, likely camera artifacts. Cerianthids and few partially buried sand dollars. Cluster of shell fragments, possible collapsed Diopatra tube, above lasers.
SRW_20B2	415	A	None	None	Yellow-brown muddy sand with faint tracks and fecal casts.
SRW_20B2	415	B	None	None	Yellow-brown muddy sand with faint tracks and fecal casts. Small sand dollar and test at lower edge of image. Small hermit crab in lower right. Scant shell hash.
SRW_20B2	415	C	None	None	Yellow-brown muddy sand with faint tracks and fecal casts. Two sand dollars at upper edge of image. Hermit crab in lower right.

SurveyID	StationID	Replicate	Flora	Fish	Comments
SRW_20B2	416	A	None	None	Yellow-brown muddy sand with faint tracks and fecal casts. Hermit crab at upper edge of image. Partially buried sand dollar near right laser.
SRW_20B2	416	B	None	None	Yellow-brown muddy sand with very thin drape of fines. Large collapsed Diopatra tube at upper edge of image. Very small hermit crab to left of tube. Scant shell hash. Faint tracks in lower right corner.
SRW_20B2	416	D	None	None	Yellow-brown muddy sand with faint repeating tracks. Collapsed Diopatra tube fragments above left laser. Sand dollar in upper right corner.
SRW_20B2	417	A	None	None	Yellow-brown muddy sand with thin drape of fines. Sediment is partially resuspending above left laser. No fauna visible.
SRW_20B2	417	B	None	None	Yellow-brown sand with thin drape of fines. Three hermit crabs in upper right and lower left.
SRW_20B2	417	C	None	None	Yellow-brown sand with thin drape of fines. No fauna visible.
SRW_20B2	418	A	None	None	Yellow-brown sand with thin drape of fines. Small thin tracks in left side of image. Single tube at right edge of image.
SRW_20B2	418	B	None	None	Yellow-brown sand with very thin drape of fines. Mound near right laser. Single sand dollar at upper right corner.
SRW_20B2	418	C	None	None	Yellow-brown muddy sand with faint thin tracks. Snail above left laser. Hermit crab in upper right.
SRW_20B2	419	A	None	None	Yellow-brown muddy sand with smooth texture. Several Diopatra tubes in lower left and upper right. Small shell below lasers.
SRW_20B2	419	B	None	None	Yellow-brown muddy sand with slightly turbid water column. Two hermit crabs in upper and lower left corners.
SRW_20B2	419	D	None	None	Yellow-brown muddy sand with turbid water column. Hermit crab in upper half of image, right of center.
SRW_20B2	420	B	None	None	Yellow-brown muddy sand with smooth texture, few small ridges. Hermit crab above right laser. Sand dollar in upper left.
SRW_20B2	420	C	None	None	Yellow-brown muddy sand with smooth texture. Large tubes in lower right corner of image. Few small thin trails. Sand dollar at left edge.
SRW_20B2	420	E	None	None	Yellow-brown muddy sand with small repeating tracks through image center. Two sand dollars between lasers. Few small tubes in upper right. Snails. Small shell fragment in lower right corner.
SRW_20B2	421	A	None	None	Turbid water column. Yellow-brown muddy sand. Hermit crab above left laser.
SRW_20B2	421	C	None	None	Turbid water column. Yellow-brown muddy sand. Hermit crab above right laser.
SRW_20B2	421	D	None	None	Turbid water column. Yellow-brown muddy sand. No fauna visible.
SRW_20B2	422	A	None	None	Slightly turbid water column. Yellow-brown muddy sand with smooth texture and small scale rippling. Many tubes (perhaps Diopatra) along ripples. Hermit crab at upper edge of image.
SRW_20B2	422	C	None	None	Slightly turbid water column. Yellow-brown muddy sand with slight rippling, rounded ripple crests. Many tubes (perhaps Diopatra) along ripple troughs. Partially buried sand dollar at lower edge of image. Shell fragment in upper left.
SRW_20B2	422	D	None	None	Slightly turbid water column. Hummocky yellow brown muddy sand with many large tubes (perhaps Diopatra) . Two hermit crabs along lower edge of image.
SRW_20B2	423	A	None	None	Slightly turbid water column. Yellow-brown muddy sand with many large tubes, mostly Diopatra, in upper right corner. Small mussel shells and shell fragments throughout image. Hermit crab between lasers and in upper right.
SRW_20B2	423	B	None	None	Very turbid water column. Yellow-brown muddy sand. Hermit crab at image center. Large tubes along right edge of image.
SRW_20B2	423	D	None	None	Very turbid water column. Yellow-brown muddy sand. Large tubes in upper left and lower right.

SurveyID	StationID	Replicate	Flora	Fish	Comments
SRW_20B2	424	A	IND	IND	Very turbid water column. Seafloor features not visible.
SRW_20B2	424	C	IND	IND	Very turbid water column. Seafloor features not visible.
SRW_20B2	424	D	IND	IND	Very turbid water column. Seafloor features mostly not visible. Single hermit crab at image center.
SRW_20B2	425	A	IND	IND	Very turbid water column. Sandy seafloor with rippling. No fauna visible.
SRW_20B2	425	C	IND	IND	Very turbid water column. Sandy seafloor with rippling. Ctenophore in water column.
SRW_20B2	425	D	IND	IND	Very turbid water column. Sandy seafloor with rippling. Few large Diopatra tubes faintly visible through resuspended sediment. Small hermit crab near lower edge of image.
SRW_20B2	426	C	IND	IND	Very turbid water column. Sandy seafloor with rippling.
SRW_20B2	427	A	None	None	Slightly turbid water column. Pale yellow sand with large scale ripples. Small hermit crab in ripple trough, between lasers.
SRW_20B2	427	B	None	None	Slightly turbid water column. Pale yellow sand with large scale ripples.
SRW_20B2	427	C	None	None	Slightly turbid water column. Pale yellow sand with large scale ripples. Small hermit crab to left of lasers.
SRW_20B2	428	A	IND	IND	Very turbid water column. Muddy sand seafloor with slight rippling. Small hermit crab at image center.
SRW_20B2	428	B	IND	IND	Very turbid water column. Muddy sand seafloor with slight rippling. No fauna visible.
SRW_20B2	428	C	IND	IND	Very turbid water column. Muddy sand seafloor with slight rippling. No fauna visible.
SRW_20B2	429	A	IND	IND	Very turbid water column. Muddy sand seafloor. No fauna visible.
SRW_20B2	429	D	IND	IND	Very turbid water column. Muddy sand seafloor. No fauna visible. Scant shell hash.
SRW_20B2	430	A	None	None	Slightly turbid water column. Dark brown muddy sand with small scale rippling. Scant shell hash. Two hermit crabs near image center.
SRW_20B2	430	C	None	None	Slightly turbid water column. Dark brown muddy sand with small scale rippling. Few large Diopatra tubes in clusters at lower and upper edge of image. Scant shell hash.
SRW_20B2	430	D	IND	IND	Turbid water column. Slightly rippled dark brown muddy sand. Few small shell fragments. No fauna visible.
SRW_20B2	431	A	None	None	Slightly turbid water column. Dark brown muddy sand with few large tubes (perhaps Diopatra) and shell fragments, especially in lower left corner.
SRW_20B2	431	B	IND	IND	Turbid water column. Dark brown muddy sand with few tubes. Two large shell fragments in upper right corner.
SRW_20B2	431	C	None	None	Turbid water column. Slightly rippled dark brown muddy sand. Few tubes. Scant shell hash.
SRW_20B2	432	A	None	None	Turbid water column. Slightly rippled dark brown muddy sand. Few tubes, one Diopatra tube in upper right. Scant shell hash.
SRW_20B2	432	B	None	None	Slightly turbid water column. Dark brown muddy sand with small scale ripples. Hermit crab near right laser. Few tubes in lower right.

SurveyID	StationID	Replicate	Flora	Fish	Comments
SRW_20B2	432	C	IND	IND	Very turbid water column. Dark brown muddy sand. No features visible through resuspended sediment.
SRW_20B2	433	D	IND	IND	Very turbid water column. Dark brown muddy sand. Few small shell fragments. Hermit crab in upper right and sand dollar at lower edge just left of center.
SRW_20B2	435	A	IND	IND	Very turbid water column. Yellow-brown sand with large ripples. Sand dollar in upper left.
SRW_20B2	435	C	None	None	Slightly turbid water column. Yellow-brown sand with large ripples. Diopatra tubes in upper left corner. Hermit crab along bottom edge of image.
SRW_20B2	435	D	None	None	Slightly turbid water column. Yellow-brown sand with large ripples. Diopatra tubes in upper left corner. Hermit crab in lower right and upper right corners of image.
SRW_20B3	801	B	Spermothamnium	None	Slightly turbid water column. Pale brown fines with dense carpet of tubes. Red drift algae settled onto seafloor. Object with encrusting growth in upper right corner. No lasers visible.
SRW_20B3	801	E	Spermothamnium, Ulva Spp.	None	Slightly turbid water column. Pale brown fines with dense carpet of tubes. Red drift algae settled onto seafloor. Green ulna algae along upper edge of image and in lower left corner. Possible crab at middle right. No lasers visible.
SRW_20B3	801	F	Spermothamnium	None	Slightly turbid water column. Pale brown fines with dense carpet of tubes. Red drift algae settled onto seafloor. No lasers visible.
SRW_20B3	802	A	None	None	Pale brown sand and gravel with few small shell fragments. Larger gravel along right edge of image encrusted with reddish bryozoans. Small hermit crab in lower left. No lasers visible.
SRW_20B3	802	E	None	None	Pale brown sand with few gravels, including two larger gravels covered with red encrusting growth. Large flat debris covered with serpulids and bryozoans. No lasers visible.
SRW_20B3	802	K	None	None	Pale brown sand with many small gravels. Largest gravel along right edge is bright red with encrusting growth. Serpulids cover smaller gravels along right edge of image. No lasers visible.
SRW_20B3	803	A	None	None	Pale brown sand with shallow ripples. Many small shell fragments in ripple troughs. Repeating small tracks, especially in right half of image. No lasers visible.
SRW_20B3	803	B	Spermothamnium	None	Pale brown sand with shallow ripples. Few small shell fragments in ripple troughs. Red drift algae settled on seafloor in lower left corner of image. No lasers visible.
SRW_20B3	803	C	None	None	Pale brown sand with shallow ripples. Few small shell fragments in ripple troughs. Dark colored algae along lower edge of image, likely decaying red drift algae. No lasers visible.
SRW_20B3	804	D	None	None	Pale brown sand with dense carpet of small tubes. No lasers visible.
SRW_20B3	804	E	Spermothamnium	None	Pale brown sand with dense carpet of small tubes. Small piece of red drift algae near image center. No lasers visible.
SRW_20B3	804	F	Spermothamnium	None	Pale brown sand with dense carpet of small tubes. Red drift algae settled onto seafloor in upper left corner. No lasers visible.
SRW_20B3	805	A	Spermothamnium, Ulva spp.	None	Dark brown sandy gravel . Green algae at image center. Red drift algae settled onto seafloor at image center. Few larger gravels with encrusting growth. No lasers visible.
SRW_20B3	805	B	Ulva spp.	None	Dark brown sandy gravel with few larger gravels hosting encrusting growth. Green algae along upper edge of image. No lasers visible.
SRW_20B3	805	D	Spermothamnium	None	Dark brown sandy gravel with few larger gravels encrusted with serpulids and bryozoan growth. Large piece of red drift algae in left half of image. No lasers visible.
SRW_20B3	806	A	None	None	Pale brown sand with very small ripples. Few shell fragments and darker clasts in ripple troughs. No lasers visible.
SRW_20B3	806	B	Spermothamnium	None	Pale brown sand with very small ripples. Few shell fragments and darker clasts in ripple troughs. Red drift algae in lower left corner. No lasers visible.

SurveyID	StationID	Replicate	Flora	Fish	Comments
SRW_20B3	806	C	None	None	Pale brown sand with very small ripples. Few shell fragments and darker clasts in ripple troughs. No lasers visible.
SRW_20B3	807	C	Ulva spp.	None	Pale brown sand with few gravels and small shell fragments. Green algae in lower right corner. No lasers visible.
SRW_20B3	807	E	Spermothamnium, Ulva Spp.	None	Pale brown sand with few gravels and small shell fragments. Green algae fragment at image center. Red drift algae along upper edge of image. No lasers visible.
SRW_20B3	807	F	Spermothamnium	None	Pale brown sand with few gravels and many small shell hash fragments. Red drift algae in water column.
SRW_20B3	808	E	None	None	Pale brown sand and gravels with many small shell fragments. Few small clusters of decaying drift algae along upper edge of image. No lasers visible.
SRW_20B3	808	F	Spermothamnium	None	Pale brown sand with many small gravels and shell fragments. Small piece of red drift algae settled onto seafloor at lower edge of image. No lasers visible.
SRW_20B3	808	G	None	None	Shell hash and gravels with patchy sand, especially in lower right Larger shells and gravels covered with encrusting growth. Decaying algae in lower left corner. No lasers visible.

ATTACHMENT F – Benthic Community Analysis Results

Phylum	Class	Order	Family	Taxa	Total Number of Stations Taxa Found	Number of SRWEC--NYS Stations Taxa Found	Number of ICW HDD Stations Taxa Found	Sum of Individuals at SRWEC-NYS	Sum of Individuals at ICW HDD
Annelida	Polychaeta	Archiannelida	Polygordiidae	Polygordius (LPIL)	19	17	2	3702	10
Annelida	Polychaeta	Scolecida	Capitellidae	Mediomastus (LPIL)	18	16	2	2452	276
Arthropoda	Malacostraca	Amphipoda	Haustoriidae	Protohaustorius wigleyi	15	15		1019	
Annelida	Oligochaeta	Tubificida	Naididae	Naididae (LPIL)	16	14	2	784	1397
Annelida	Polychaeta	Scolecida	Paraonidae	Aricidea wassi	12	12		545	
Annelida	Polychaeta	Phyllodocida	Nephtyidae	Nephtyidae (LPIL)	9	9		159	
Mollusca	Bivalvia	Veneroida	Mactridae	Spisula solidissima	15	15		105	
Mollusca	Bivalvia	Veneroida	Tellinidae	Tellina (LPIL)	16	16		99	
Annelida	Polychaeta	Phyllodocida	Nephtyidae	Nephtys picta	15	15		88	
Arthropoda	Malacostraca	Amphipoda	Phoxocephalidae	Rhepoxynius hudsoni	11	11		74	
Annelida	Oligochaeta	Enchytraeida	Enchytraeidae	Enchytraeidae (LPIL)	6	4	2	70	12
Arthropoda	Malacostraca	Amphipoda	Haustoriidae	Acanthohaustorius (LPIL)	7	7		69	
Annelida	Polychaeta	Terebellida	Cirratulidae	Caulleriella sp. J	11	11		60	
Annelida	Polychaeta	Terebellida	Ampharetidae	Ampharete oculata	6	6		56	
Annelida	Polychaeta	Orbiniida	Orbiniidae	Leitoscoloplos (LPIL)	13	11	2	44	24
Arthropoda	Malacostraca	Amphipoda	Lysianassidae	Orchomenella (LPIL)	4	4		42	
Arthropoda	Malacostraca	Amphipoda	Haustoriidae	Parahaustorius longimerus	2	2		41	
Annelida	Polychaeta	Phyllodocida	Sigalionidae	Sthenelais boa	10	10		34	
Arthropoda	Malacostraca	Isopoda	Sphaeromatidae	Ancinus (LPIL)	8	7	1	33	1
Annelida	Polychaeta	Spionida	Spionidae	Spiophanes bombyx	11	11		31	
Nemertea				Nemertea (LPIL)	13	11	2	30	23
Echinodermata	Echinoidea	Clypeasteroida	Echinarachniidae	Echinarachnius parma	10	10		30	
Annelida	Polychaeta	Terebellida	Cirratulidae	Cirratulidae (LPIL)	9	7	2	26	141
Annelida	Polychaeta	Phyllodocida	Goniadidae	Goniada littorea	1	1		24	
Arthropoda	Malacostraca	Amphipoda	Aoridae	Pseudunciola obliquua	7	7		23	
Mollusca	Bivalvia	Nuculida	Nuculidae	Nucula proxima	8	8		23	
Annelida	Polychaeta	Phyllodocida	Glyceridae	Glyceridae (LPIL)	5	5		18	
Annelida	Polychaeta	Scolecida	Paraonidae	Paraonis fulgens	3	3		16	
Annelida	Polychaeta	Phyllodocida	Nephtyidae	Nephtys incisa	1	1		15	
Arthropoda	Malacostraca	Amphipoda	Aoridae	Unciola irrorata	6	6		14	
Annelida	Polychaeta	Terebellida	Ampharetidae	Ampharetidae (LPIL)	6	6		13	
Annelida	Polychaeta	Terebellida	Cirratulidae	Tharyx acutus	3	3		12	
Arthropoda	Malacostraca	Amphipoda	Ampeliscidae	Byblis serrata	4	4		12	
Arthropoda	Malacostraca	Amphipoda	Haustoriidae	Acanthohaustorius millsi	1	1		11	
Annelida	Polychaeta	Phyllodocida	Syllidae	Exogone hebes	2	2		10	
Arthropoda	Malacostraca	Amphipoda	Ampeliscidae	Ampelisca verrilli	5	5		10	
Arthropoda	Malacostraca	Amphipoda	Oedicerotidae	Americhelidium americanum	5	5		10	
Arthropoda	Malacostraca	Cumacea	Bodotriidae	Pseudoleptocuma minus	3	3		10	
Mollusca	Bivalvia	Nuculanida	Yoldiidae	Yoldia limatula	3	3		9	
Annelida	Polychaeta	Scolecida	Maldanidae	Maldanidae (LPIL)	3	3		8	
Annelida	Polychaeta	Spionida	Spionidae	Apoprionospio pygmaea	6	6		8	
Arthropoda	Malacostraca	Isopoda	Idoteidae	Edotia triloba	4	4		7	
Annelida	Polychaeta	Eunicida	Oenonidae	Drilonereis longa	6	4	2	6	8
Annelida	Polychaeta	Scolecida	Paraonidae	Cirrophorus lyra	1	1		6	
Annelida	Polychaeta	Spionida	Magelonidae	Magelona papillicornis	5	5		6	
Annelida	Polychaeta	Eunicida	Lumbrineridae	Lumbrineridae (LPIL)	5	3	2	5	11
Annelida	Polychaeta	Phyllodocida	Phyllodocidae	Eumida sanguinea	3	1	2	5	11
Annelida	Polychaeta	Phyllodocida	Hesionidae	Microphthalmus (LPIL)	4	3	1	5	2
Annelida	Polychaeta	Eunicida	Lumbrineridae	Lumbrineris acicularum	5	5		5	
Annelida	Polychaeta	Phyllodocida	Glyceridae	Glycera americana	5	5		5	
Arthropoda	Malacostraca	Amphipoda	Haustoriidae	Lepidactylus (LPIL)	2	2		5	
Arthropoda	Malacostraca	Cumacea	Diastylidae	Diastylis polita	2	2		5	
Annelida	Polychaeta	Eunicida	Oenonidae	Arabella iricolor	5	3	2	4	188
Arthropoda	Malacostraca	Tanaidacea	Nototanaidae	Nototanaidae (LPIL)	3	2	1	4	1
Mollusca	Bivalvia			Bivalvia (LPIL)	3	2	1	4	1
Annelida	Polychaeta	Scolecida	Maldanidae	Clymenella torquata	2	2		4	

Phylum	Class	Order	Family	Taxa	Total Number of Stations Taxa Found	Number of SRWEC--NYS Stations Taxa Found	Number of ICW HDD Stations Taxa Found	Sum of Individuals at SRWEC-NYS	Sum of Individuals at ICW HDD
Annelida	Polychaeta	Spionida	Chaetopteridae	Spiochaetopterus oculatus	3	3		4	
Nemertea	Anopla	Heteronemertea	Lineidae	Lineidae (LPIL)	3	3		4	
Annelida	Polychaeta	Scolecida	Capitellidae	Capitellidae (LPIL)	4	3	1	3	2
Arthropoda	Malacostraca	Decapoda	Xanthidae	Xanthidae (LPIL)	2	2		3	
Arthropoda	Malacostraca	Isopoda	Chaetiliidae	Chiridotea tuftsii	3	3		3	
Mollusca	Bivalvia	Veneroida	Solenidae	Ensis directus	2	2		3	
Cnidaria	Anthozoa	Actiniaria		Actiniaria (LPIL)	3	1	2	2	22
Annelida	Polychaeta	Spionida	Spionidae	Spionidae (LPIL)	3	2	1	2	6
Annelida	Polychaeta	Eunicida	Dorvilleidae	Parougia caeca	2	2		2	
Annelida	Polychaeta	Eunicida	Onuphidae	Onuphis eremita	2	2		2	
Annelida	Polychaeta	Opheliida	Scalibregmatidae	Scalibregma inflatum	2	2		2	
Annelida	Polychaeta	Spionida	Spionidae	Scolelepis texana	1	1		2	
Annelida	Polychaeta	Terebellida	Ampharetidae	Ampharete finmarchica	2	2		2	
Arthropoda	Malacostraca	Amphipoda		Amphipoda (LPIL)	2	2		2	
Arthropoda	Malacostraca	Amphipoda	Pontoporeiidae	Bathyporeia quoddyensis	1	1		2	
Arthropoda	Malacostraca	Decapoda	Paguridae	Pagurus (LPIL)	2	2		2	
Echinodermata				Echinodermata (LPIL)	2	2		2	
Mollusca	Bivalvia	Mytiloida	Mytilidae	Mytilidae (LPIL)	2	2		2	
Mollusca	Bivalvia	Venerida	Veneridae	Veneridae (LPIL)	2	2		2	
Mollusca	Bivalvia	Veneroida	Solenidae	Solenidae (LPIL)	1	1		2	
Mollusca	Gastropoda			Gastropoda (LPIL)	2	2		2	
Mollusca	Gastropoda	Neogastropoda	Nassariidae	Nassariidae (LPIL)	2	2		2	
Mollusca	Gastropoda	Neotaenioglossa	Naticidae	Natica (LPIL)	2	2		2	
Echinodermata	Holothuroidea	Apodida	Synaptidae	Synaptidae (LPIL)	3	1	2	1	35
Arthropoda	Malacostraca	Amphipoda	Ampeliscidae	Ampelisca (LPIL)	3	1	2	1	23
Annelida	Polychaeta	Phyllodocida	Syllidae	Streptosyllis pettiboneae	3	1	2	1	13
Annelida	Polychaeta	Phyllodocida	Syllidae	Syllidae (LPIL)	3	1	2	1	5
Mollusca	Gastropoda	Mesogastropoda	Calyptraeidae	Crepidula (LPIL)	2	1	1	1	4
Annelida	Polychaeta	Eunicida	Onuphidae	Diopatra cuprea	1	1		1	
Annelida	Polychaeta	Flabelligerida	Flabelligeridae	Pherusa affinis	1	1		1	
Annelida	Polychaeta	Phyllodocida	Polynoidae	Lepidonotus sublevis	1	1		1	
Annelida	Polychaeta	Scolecida	Paraonidae	Paraonidae (LPIL)	1	1		1	
Annelida	Polychaeta	Spionida	Magelonidae	Magelona pettiboneae	1	1		1	
Arthropoda	Malacostraca	Amphipoda	Ampeliscidae	Ampelisca abdita	1	1		1	
Arthropoda	Malacostraca	Amphipoda	Lysianassidae	Hippomedon serratus	1	1		1	
Arthropoda	Malacostraca	Decapoda	Callianassidae	Callianassidae (LPIL)	1	1		1	
Arthropoda	Malacostraca	Decapoda	Crangonidae	Crangon septemspinosa	1	1		1	
Arthropoda	Malacostraca	Mysida	Mysidae	Mysidopsis (LPIL)	1	1		1	
Platyhelminthes				Platyhelminthes (LPIL)	1	1		1	
Arthropoda	Malacostraca	Amphipoda	Phoxocephalidae	Eobrolgus spinosus	2		2		639
Annelida	Polychaeta	Phyllodocida	Syllidae	Exogone dispar	2		2		489
Arthropoda	Malacostraca	Amphipoda	Melitidae	Elasmopus levis	2		2		299
Arthropoda	Malacostraca	Amphipoda	Photidae	Gammaropsis (LPIL)	2		2		284
Arthropoda	Malacostraca	Amphipoda	Aoridae	Unciola (LPIL)	2		2		182
Annelida	Polychaeta	Phyllodocida	Syllidae	Brania wellfleetensis	2		2		139
Arthropoda	Malacostraca	Amphipoda	Bateidae	Batea catharinensis	2		2		132
Arthropoda	Malacostraca	Amphipoda	Corophiidae	Monocorophium tuberculatum	1		1		107
Arthropoda	Malacostraca	Amphipoda	Isaeidae	Microprotopus raneyi	2		2		77
Arthropoda	Malacostraca	Amphipoda	Lysianassidae	Lysianopsis alba	2		2		69
Annelida	Polychaeta	Phyllodocida	Syllidae	Grubeosyllis clavata	2		2		46
Annelida	Polychaeta	Phyllodocida	Syllidae	Syllis gracilis	1		1		44
Annelida	Polychaeta	Sabellida	Serpulidae	Hydroides dianthus	2		2		39
Annelida	Polychaeta	Spionida	Spionidae	Prionospio (LPIL)	2		2		29
Annelida	Polychaeta	Eunicida	Dorvilleidae	Schistomeringos rudolphi	2		2		28
Arthropoda	Malacostraca	Isopoda		Isopoda (LPIL)	2		2		28
Annelida	Polychaeta	Phyllodocida	Syllidae	Parapionosyllis longicirrata	2		2		25

Phylum	Class	Order	Family	Taxa	Total Number of Stations Taxa Found	Number of SRWEC--NYS Stations Taxa Found	Number of ICW HDD Stations Taxa Found	Sum of Individuals at SRWEC-NYS	Sum of Individuals at ICW HDD
Arthropoda	Malacostraca	Amphipoda	Caprellidae	Caprellidae (LPIL)	2		2		25
Arthropoda	Malacostraca	Amphipoda	Corophiidae	Corophiidae (LPIL)	1		1		21
Mollusca	Gastropoda	Mesogastropoda	Calyptraeidae	Crepidula convexa	1		1		20
Annelida	Polychaeta	Phyllodocida	Hesionidae	Podarke obscura	2		2		18
Arthropoda	Malacostraca	Decapoda	Xanthidae	Rhithropanopeus harrisii	2		2		17
Arthropoda	Malacostraca	Amphipoda	Aoridae	Globosolembos smithi	1		1		13
Arthropoda	Malacostraca	Amphipoda	Ischyroceridae	Ericthonius brasiliensis	1		1		11
Annelida	Polychaeta	Phyllodocida	Nereididae	Nereididae (LPIL)	2		2		8
Annelida	Polychaeta	Sabellida	Sabellidae	Sabellidae (LPIL)	2		2		8
Arthropoda	Malacostraca	Amphipoda	Ischyroceridae	Cerapus tubularis	1		1		4
Annelida	Polychaeta	Orbiniida	Orbiniidae	Scoloplos armiger	1		1		3
Annelida	Polychaeta	Phyllodocida	Syllidae	Autolytus (LPIL)	1		1		3
Arthropoda	Malacostraca	Cumacea	Diastylidae	Oxyurostylis smithi	2		2		3
Annelida	Polychaeta	Spionida	Spionidae	Dipolydora socialis	2		2		2
Arthropoda	Malacostraca	Amphipoda	Corophiidae	Apocorophium (LPIL)	1		1		2
Annelida	Polychaeta	Eunicida	Eunicidae	Eunicidae (LPIL)	1		1		1
Annelida	Polychaeta	Phyllodocida	Phyllodocidae	Phyllodocidae (LPIL)	1		1		1
Annelida	Polychaeta	Phyllodocida	Sigalionidae	Fimbriosthenelais minor	1		1		1
Annelida	Polychaeta	Scolecida	Paraonidae	Aricidea (LPIL)	1		1		1
Annelida	Polychaeta	Spionida	Spionidae	Prionospio heterobranchia	1		1		1
Arthropoda	Malacostraca	Amphipoda	Ampeliscidae	Ampelisca vadorum	1		1		1
Mollusca	Bivalvia	Arcoida	Arcidae	Arcidae (LPIL)	1		1		1
Mollusca	Bivalvia	Venerida	Veneridae	Mercenaria mercenaria	1		1		1
Mollusca	Gastropoda	Mesogastropoda	Calyptraeidae	Crepidula plana	1		1		1
Mollusca	Gastropoda	Neogastropoda	Muricidae	Urosalpinx cinerea	1		1		1

Station Name	Phylum	Class	Order	Family	Taxa	Rep 1	Rep 2	Rep 3	Total
402	Annelida	Oligochaeta	Tubificida	Naididae	Naididae (LPIL)	0	25	0	25
402	Annelida	Polychaeta	Archiannelida	Polygordiidae	Polygordius (LPIL)	355	885	220	1460
402	Annelida	Polychaeta	Eunicida	Lumbrineridae	Lumbrineridae (LPIL)	0	0	1	1
402	Annelida	Polychaeta	Eunicida	Lumbrineridae	Lumbrineris acicularum	0	1	0	1
402	Annelida	Polychaeta	Phyllodocida	Glyceridae	Glyceridae (LPIL)	2	4	5	11
402	Annelida	Polychaeta	Phyllodocida	Goniadidae	Goniada littorea	20	2	2	24
402	Annelida	Polychaeta	Phyllodocida	Nephtyidae	Nephtyidae (LPIL)	0	1	0	1
402	Annelida	Polychaeta	Phyllodocida	Nephtyidae	Nephtys picta	0	0	1	1
402	Annelida	Polychaeta	Phyllodocida	Syllidae	Syllidae (LPIL)	0	0	1	1
402	Annelida	Polychaeta	Scolecida	Capitellidae	Capitellidae (LPIL)	0	1	0	1
402	Annelida	Polychaeta	Scolecida	Paraonidae	Cirrophorus lyra	4	1	1	6
402	Annelida	Polychaeta	Spionida	Spionidae	Scolelepis texana	0	2	0	2
402	Annelida	Polychaeta	Terebellida	Cirratulidae	Cirratulidae (LPIL)	4	5	7	16
402	Arthropoda	Malacostraca	Amphipoda	Ampeliscidae	Byblis serrata	0	3	1	4
402	Arthropoda	Malacostraca	Amphipoda	Aoridae	Pseudunciola obliquua	1	6	0	7
402	Arthropoda	Malacostraca	Amphipoda	Phoxocephalidae	Rhepoxynius hudsoni	0	1	0	1
402	Arthropoda	Malacostraca	Tanaidacea	Nototanaidae	Nototanaidae (LPIL)	1	2	0	3
402	Mollusca	Bivalvia	Veneroida	Mactridae	Spisula solidissima	3	1	0	4
402	Mollusca	Gastropoda	Neotaenioglossa	Naticidae	Natica (LPIL)	1	0	0	1
402	Mollusca	Gastropoda			Gastropoda (LPIL)	0	1	0	1
402	Nemertea	Anopla	Heteronemertea	Lineidae	Lineidae (LPIL)	1	0	0	1
404	Annelida	Oligochaeta	Tubificida	Naididae	Naididae (LPIL)	1	0	3	4
404	Annelida	Polychaeta	Archiannelida	Polygordiidae	Polygordius (LPIL)	48	67	33	148
404	Annelida	Polychaeta	Eunicida	Lumbrineridae	Lumbrineris acicularum	0	1	0	1
404	Annelida	Polychaeta	Eunicida	Onuphidae	Onuphis eremita	1	0	0	1
404	Annelida	Polychaeta	Orbiniida	Orbiniidae	Leitoscoloplos (LPIL)	0	3	1	4
404	Annelida	Polychaeta	Phyllodocida	Glyceridae	Glyceridae (LPIL)	0	1	0	1
404	Annelida	Polychaeta	Phyllodocida	Nephtyidae	Nephtys picta	2	1	1	4
404	Annelida	Polychaeta	Phyllodocida	Sigalionidae	Sthenelais boa	1	1	0	2
404	Annelida	Polychaeta	Scolecida	Capitellidae	Mediomastus (LPIL)	5	9	4	18
404	Annelida	Polychaeta	Scolecida	Maldanidae	Clymenella torquata	3	0	0	3
404	Annelida	Polychaeta	Scolecida	Maldanidae	Maldanidae (LPIL)	1	3	2	6
404	Annelida	Polychaeta	Scolecida	Paraonidae	Aricidea wassi	17	47	20	84
404	Annelida	Polychaeta	Spionida	Spionidae	Spiophanes bombyx	2	0	2	4
404	Annelida	Polychaeta	Terebellida	Ampharetidae	Ampharete finmarchica	0	1	0	1
404	Annelida	Polychaeta	Terebellida	Cirratulidae	Caulleriella sp. J	1	0	0	1

Station Name	Phylum	Class	Order	Family	Taxa	Rep 1	Rep 2	Rep 3	Total
404	Arthropoda	Malacostraca	Amphipoda	Ampeliscidae	Ampelisca verrilli	0	1	0	1
404	Arthropoda	Malacostraca	Amphipoda	Ampeliscidae	Byblis serrata	1	0	0	1
404	Arthropoda	Malacostraca	Amphipoda	Aoridae	Unciola irrorata	1	0	0	1
404	Arthropoda	Malacostraca	Amphipoda	Haustoriidae	Protohaustorius wigleyi	3	7	2	12
404	Arthropoda	Malacostraca	Amphipoda	Phoxocephalidae	Rhepoxynius hudsoni	4	10	4	18
404	Echinodermata	Echinoidea	Clypeasteroida	Echinarachniidae	Echinarachnius parma	2	1	2	5
404	Mollusca	Bivalvia	Nuculida	Nuculidae	Nucula proxima	2	3	0	5
404	Mollusca	Bivalvia	Veneroida	Mactridae	Spisula solidissima	1	3	1	5
404	Mollusca	Bivalvia	Veneroida	Tellinidae	Tellina (LPIL)	2	4	3	9
404	Mollusca	Gastropoda	Neogastropoda	Nassariidae	Nassariidae (LPIL)	0	1	0	1
404	Nemertea				Nemertea (LPIL)	0	1	0	1
406	Annelida	Oligochaeta	Tubificida	Naididae	Naididae (LPIL)	3	7	3	13
406	Annelida	Polychaeta	Archiannelida	Polygordiidae	Polygordius (LPIL)	12	23	49	84
406	Annelida	Polychaeta	Eunicida	Lumbrineridae	Lumbrineridae (LPIL)	0	0	1	1
406	Annelida	Polychaeta	Eunicida	Lumbrineridae	Lumbrineris acicularum	1	0	0	1
406	Annelida	Polychaeta	Eunicida	Oenonidae	Arabella iricolor	0	1	0	1
406	Annelida	Polychaeta	Opheliida	Scalibregmatidae	Scalibregma inflatum	0	1	0	1
406	Annelida	Polychaeta	Orbiniida	Orbiniidae	Leitoscoloplos (LPIL)	1	3	2	6
406	Annelida	Polychaeta	Phyllodocida	Glyceridae	Glycera americana	0	0	1	1
406	Annelida	Polychaeta	Phyllodocida	Nephtyidae	Nephtys picta	1	5	4	10
406	Annelida	Polychaeta	Phyllodocida	Sigalionidae	Sthenelais boa	0	2	10	12
406	Annelida	Polychaeta	Phyllodocida	Syllidae	Streptosyllis pettiboneae	0	1	0	1
406	Annelida	Polychaeta	Scolecida	Capitellidae	Mediomastus (LPIL)	38	65	14	117
406	Annelida	Polychaeta	Scolecida	Maldanidae	Clymenella torquata	1	0	0	1
406	Annelida	Polychaeta	Scolecida	Paraonidae	Aricidea wassi	21	20	32	73
406	Annelida	Polychaeta	Spionida	Spionidae	Apoprionospio pygmaea	1	0	0	1
406	Annelida	Polychaeta	Spionida	Spionidae	Spiophanes bombyx	2	1	0	3
406	Annelida	Polychaeta	Terebellida	Ampharetidae	Ampharetidae (LPIL)	0	0	1	1
406	Annelida	Polychaeta	Terebellida	Cirratulidae	Caulleriella sp. J	6	5	6	17
406	Annelida	Polychaeta	Terebellida	Cirratulidae	Cirratulidae (LPIL)	1	2	0	3
406	Arthropoda	Malacostraca	Amphipoda	Haustoriidae	Protohaustorius wigleyi	0	7	0	7
406	Arthropoda	Malacostraca	Amphipoda	Oedicerotidae	Americhelidium americanum	0	0	1	1
406	Arthropoda	Malacostraca	Amphipoda	Phoxocephalidae	Rhepoxynius hudsoni	0	7	4	11
406	Arthropoda	Malacostraca	Decapoda	Paguridae	Pagurus (LPIL)	1	0	0	1
406	Echinodermata	Echinoidea	Clypeasteroida	Echinarachniidae	Echinarachnius parma	2	1	1	4
406	Mollusca	Bivalvia	Nuculanida	Yoldiidae	Yoldia limatula	2	1	2	5

Station Name	Phylum	Class	Order	Family	Taxa	Rep 1	Rep 2	Rep 3	Total
406	Mollusca	Bivalvia	Nuculida	Nuculidae	Nucula proxima	0	0	2	2
406	Mollusca	Bivalvia	Venerida	Veneridae	Veneridae (LPIL)	0	0	1	1
406	Mollusca	Bivalvia	Veneroida	Mactridae	Spisula solidissima	0	1	1	2
406	Mollusca	Bivalvia	Veneroida	Tellinidae	Tellina (LPIL)	1	4	3	8
406	Nemertea				Nemertea (LPIL)	0	1	1	2
408	Annelida	Oligochaeta	Tubificida	Naididae	Naididae (LPIL)	0	7	8	15
408	Annelida	Polychaeta	Archiannelida	Polygordiidae	Polygordius (LPIL)	116	174	103	393
408	Annelida	Polychaeta	Eunicida	Lumbrineridae	Lumbrineridae (LPIL)	1	1	1	3
408	Annelida	Polychaeta	Flabelligerida	Flabelligeridae	Pherusa affinis	1	0	0	1
408	Annelida	Polychaeta	Orbiniida	Orbiniidae	Leitoscoloplos (LPIL)	2	2	1	5
408	Annelida	Polychaeta	Phyllodocida	Glyceridae	Glycera americana	0	0	1	1
408	Annelida	Polychaeta	Phyllodocida	Nephtyidae	Nephtys picta	4	4	5	13
408	Annelida	Polychaeta	Phyllodocida	Sigalionidae	Sthenelais boa	2	3	0	5
408	Annelida	Polychaeta	Scolecida	Capitellidae	Mediomastus (LPIL)	1	13	7	21
408	Annelida	Polychaeta	Scolecida	Paraonidae	Aricidea wassi	28	47	24	99
408	Annelida	Polychaeta	Spionida	Spionidae	Spiophanes bombyx	0	1	0	1
408	Annelida	Polychaeta	Terebellida	Ampharetidae	Ampharete finmarchica	0	0	1	1
408	Annelida	Polychaeta	Terebellida	Ampharetidae	Ampharetidae (LPIL)	0	1	0	1
408	Annelida	Polychaeta	Terebellida	Cirratulidae	Caulleriella sp. J	0	6	7	13
408	Annelida	Polychaeta	Terebellida	Cirratulidae	Cirratulidae (LPIL)	1	1	0	2
408	Arthropoda	Malacostraca	Amphipoda	Ampeliscidae	Ampelisca verrilli	1	0	0	1
408	Arthropoda	Malacostraca	Amphipoda	Aoridae	Unciola irrorata	1	1	2	4
408	Arthropoda	Malacostraca	Amphipoda	Haustoriidae	Acanthohaustorius (LPIL)	1	0	1	2
408	Arthropoda	Malacostraca	Amphipoda	Haustoriidae	Protohaustorius wigleyi	3	5	15	23
408	Arthropoda	Malacostraca	Amphipoda	Oedicerotidae	Americhelidium americanum	1	0	2	3
408	Arthropoda	Malacostraca	Amphipoda	Phoxocephalidae	Rhepoxynius hudsoni	6	4	8	18
408	Arthropoda	Malacostraca	Cumacea	Bodotriidae	Pseudoleptocuma minus	1	7	0	8
408	Arthropoda	Malacostraca	Cumacea	Diastylidae	Diastylis polita	1	3	0	4
408	Arthropoda	Malacostraca	Isopoda	Idoteidae	Edotia triloba	2	1	0	3
408	Arthropoda	Malacostraca	Isopoda	Sphaeromatidae	Ancinus (LPIL)	0	1	0	1
408	Cnidaria	Anthozoa	Actiniaria		Actiniaria (LPIL)	1	1	0	2
408	Echinodermata	Echinoidea	Clypeasteroida	Echinarachniidae	Echinarachnius parma	2	1	1	4
408	Mollusca	Bivalvia	Nuculida	Nuculidae	Nucula proxima	3	2	4	9
408	Mollusca	Bivalvia	Venerida	Veneridae	Veneridae (LPIL)	0	1	0	1
408	Mollusca	Bivalvia	Veneroida	Mactridae	Spisula solidissima	1	1	2	4
408	Mollusca	Bivalvia	Veneroida	Tellinidae	Tellina (LPIL)	4	2	5	11

Station Name	Phylum	Class	Order	Family	Taxa	Rep 1	Rep 2	Rep 3	Total
408	Mollusca	Bivalvia			Bivalvia (LPIL)	0	2	0	2
408	Mollusca	Gastropoda	Neogastropoda	Nassariidae	Nassariidae (LPIL)	1	0	0	1
408	Nemertea	Anopla	Heteronemertea	Lineidae	Lineidae (LPIL)	1	0	0	1
408	Nemertea				Nemertea (LPIL)	1	1	1	3
410	Annelida	Oligochaeta	Tubificida	Naididae	Naididae (LPIL)	6	2	9	17
410	Annelida	Polychaeta	Archiannelida	Polygordiidae	Polygordius (LPIL)	24	11	12	47
410	Annelida	Polychaeta	Eunicida	Lumbrineridae	Lumbrineris acicularum	0	0	1	1
410	Annelida	Polychaeta	Eunicida	Oenonidae	Arabella iricolor	1	0	1	2
410	Annelida	Polychaeta	Orbiniida	Orbiniidae	Leitoscoloplos (LPIL)	0	3	1	4
410	Annelida	Polychaeta	Phyllodocida	Glyceridae	Glycera americana	0	0	1	1
410	Annelida	Polychaeta	Phyllodocida	Nephtyidae	Nephtys picta	3	4	4	11
410	Annelida	Polychaeta	Phyllodocida	Sigalionidae	Sthenelais boa	2	1	0	3
410	Annelida	Polychaeta	Scolecida	Capitellidae	Capitellidae (LPIL)	1	0	0	1
410	Annelida	Polychaeta	Scolecida	Capitellidae	Mediomastus (LPIL)	75	72	74	221
410	Annelida	Polychaeta	Scolecida	Maldanidae	Maldanidae (LPIL)	0	1	0	1
410	Annelida	Polychaeta	Scolecida	Paraonidae	Aricidea wassi	12	21	28	61
410	Annelida	Polychaeta	Spionida	Spionidae	Apoprionospio pygmaea	1	1	0	2
410	Annelida	Polychaeta	Spionida	Spionidae	Spiophanes bombyx	0	1	2	3
410	Annelida	Polychaeta	Terebellida	Cirratulidae	Caulleriella sp. J	2	2	0	4
410	Annelida	Polychaeta	Terebellida	Cirratulidae	Cirratulidae (LPIL)	0	1	0	1
410	Annelida	Polychaeta	Terebellida	Cirratulidae	Tharyx acutus	2	3	0	5
410	Arthropoda	Malacostraca	Amphipoda	Ampeliscidae	Ampelisca verrilli	1	0	1	2
410	Arthropoda	Malacostraca	Amphipoda	Haustoriidae	Protohaustorius wigleyi	1	0	1	2
410	Arthropoda	Malacostraca	Amphipoda	Phoxocephalidae	Rhepoxynius hudsoni	5	4	1	10
410	Arthropoda	Malacostraca	Cumacea	Diastylidae	Diastylis polita	0	0	1	1
410	Arthropoda	Malacostraca	Isopoda	Idoteidae	Edotia triloba	1	0	0	1
410	Echinodermata	Echinoidea	Clypeasteroida	Echinarachniidae	Echinarachnius parma	1	3	0	4
410	Mollusca	Bivalvia	Nuculanida	Yoldiidae	Yoldia limatula	1	0	0	1
410	Mollusca	Bivalvia	Veneroida	Mactridae	Spisula solidissima	4	1	0	5
410	Mollusca	Bivalvia	Veneroida	Tellinidae	Tellina (LPIL)	1	0	2	3
410	Nemertea				Nemertea (LPIL)	1	0	0	1
412	Annelida	Oligochaeta	Tubificida	Naididae	Naididae (LPIL)	35	11	20	66
412	Annelida	Polychaeta	Archiannelida	Polygordiidae	Polygordius (LPIL)	29	22	50	101
412	Annelida	Polychaeta	Opheliida	Scalibregmatidae	Scalibregma inflatum	0	0	1	1
412	Annelida	Polychaeta	Orbiniida	Orbiniidae	Leitoscoloplos (LPIL)	0	1	1	2

Station Name	Phylum	Class	Order	Family	Taxa	Rep 1	Rep 2	Rep 3	Total
412	Annelida	Polychaeta	Phyllodocida	Glyceridae	Glycera americana	0	1	0	1
412	Annelida	Polychaeta	Phyllodocida	Glyceridae	Glyceridae (LPIL)	1	0	0	1
412	Annelida	Polychaeta	Phyllodocida	Nephtyidae	Nephtys incisa	6	8	1	15
412	Annelida	Polychaeta	Phyllodocida	Sigalionidae	Sthenelais boa	0	2	2	4
412	Annelida	Polychaeta	Scolecida	Capitellidae	Mediomastus (LPIL)	175	83	70	328
412	Annelida	Polychaeta	Scolecida	Paraonidae	Aricidea wassi	7	40	85	132
412	Annelida	Polychaeta	Spionida	Spionidae	Apoprionospio pygmaea	2	0	0	2
412	Annelida	Polychaeta	Spionida	Spionidae	Spiophanes bombyx	0	1	0	1
412	Annelida	Polychaeta	Terebellida	Cirratulidae	Caulleriella sp. J	1	3	0	4
412	Annelida	Polychaeta	Terebellida	Cirratulidae	Tharyx acutus	2	1	3	6
412	Arthropoda	Malacostraca	Amphipoda	Ampeliscidae	Ampelisca (LPIL)	0	1	0	1
412	Arthropoda	Malacostraca	Amphipoda	Ampeliscidae	Ampelisca verrilli	1	2	1	4
412	Arthropoda	Malacostraca	Amphipoda	Haustoriidae	Protohaustorius wigleyi	0	2	0	2
412	Arthropoda	Malacostraca	Amphipoda	Oedicerotidae	Americhelidium americanum	0	1	0	1
412	Arthropoda	Malacostraca	Amphipoda	Phoxocephalidae	Rhepoxynius hudsoni	3	0	1	4
412	Arthropoda	Malacostraca	Cumacea	Bodotriidae	Pseudoleptocuma minus	0	0	1	1
412	Arthropoda	Malacostraca	Isopoda	Idoteidae	Edotia triloba	1	1	0	2
412	Echinodermata	Echinoidea	Clypeasteroida	Echinarachniidae	Echinarachnius parma	1	1	2	4
412	Mollusca	Bivalvia	Nuculanida	Yoldiidae	Yoldia limatula	2	1	0	3
412	Mollusca	Bivalvia	Nuculida	Nuculidae	Nucula proxima	1	1	1	3
412	Mollusca	Bivalvia	Veneroida	Mactridae	Spisula solidissima	1	0	0	1
412	Mollusca	Bivalvia	Veneroida	Tellinidae	Tellina (LPIL)	3	1	1	5
414	Annelida	Oligochaeta	Tubificida	Naididae	Naididae (LPIL)	140	70	85	295
414	Annelida	Polychaeta	Archiannelida	Polygordiidae	Polygordius (LPIL)	75	30	50	155
414	Annelida	Polychaeta	Eunicida	Lumbrineridae	Lumbrineris acicularum	1	0	0	1
414	Annelida	Polychaeta	Eunicida	Oenonidae	Arabella iricolor	1	0	0	1
414	Annelida	Polychaeta	Eunicida	Onuphidae	Diopatra cuprea	0	0	1	1
414	Annelida	Polychaeta	Orbiniida	Orbiniidae	Leitoscoloplos (LPIL)	5	3	1	9
414	Annelida	Polychaeta	Phyllodocida	Nephtyidae	Nephtyidae (LPIL)	0	1	0	1
414	Annelida	Polychaeta	Phyllodocida	Nephtyidae	Nephtys picta	4	6	2	12
414	Annelida	Polychaeta	Phyllodocida	Sigalionidae	Sthenelais boa	0	2	0	2
414	Annelida	Polychaeta	Scolecida	Capitellidae	Mediomastus (LPIL)	215	80	148	443
414	Annelida	Polychaeta	Scolecida	Paraonidae	Aricidea wassi	32	16	15	63
414	Annelida	Polychaeta	Spionida	Magelonidae	Magelona pettiboneae	1	0	0	1
414	Annelida	Polychaeta	Spionida	Spionidae	Apoprionospio pygmaea	0	1	0	1
414	Annelida	Polychaeta	Spionida	Spionidae	Spiophanes bombyx	1	1	1	3

Station Name	Phylum	Class	Order	Family	Taxa	Rep 1	Rep 2	Rep 3	Total
414	Annelida	Polychaeta	Terebellida	Cirratulidae	Caulleriella sp. J	0	0	3	3
414	Annelida	Polychaeta	Terebellida	Cirratulidae	Tharyx acutus	0	1	0	1
414	Arthropoda	Malacostraca	Amphipoda	Ampeliscidae	Ampelisca verrilli	1	1	0	2
414	Arthropoda	Malacostraca	Amphipoda	Ampeliscidae	Byblis serrata	0	2	0	2
414	Arthropoda	Malacostraca	Amphipoda	Lysianassidae	Hippomedon serratus	0	1	0	1
414	Echinodermata	Echinoidea	Clypeasteroida	Echinarachniidae	Echinarachnius parma	3	0	0	3
414	Mollusca	Bivalvia	Nuculida	Nuculidae	Nucula proxima	0	1	0	1
414	Mollusca	Bivalvia	Veneroida	Mactridae	Spisula solidissima	0	2	0	2
414	Mollusca	Bivalvia	Veneroida	Tellinidae	Tellina (LPIL)	1	5	1	7
414	Nemertea				Nemertea (LPIL)	1	0	0	1
416	Annelida	Oligochaeta	Enchytraeida	Enchytraeidae	Enchytraeidae (LPIL)	0	0	55	55
416	Annelida	Oligochaeta	Tubificida	Naididae	Naididae (LPIL)	8	31	25	64
416	Annelida	Polychaeta	Archiannelida	Polygordiidae	Polygordius (LPIL)	77	185	276	538
416	Annelida	Polychaeta	Orbiniida	Orbiniidae	Leitoscoloplos (LPIL)	0	0	1	1
416	Annelida	Polychaeta	Phyllodocida	Glyceridae	Glyceridae (LPIL)	0	2	0	2
416	Annelida	Polychaeta	Phyllodocida	Nephtyidae	Nephtys picta	1	0	1	2
416	Annelida	Polychaeta	Phyllodocida	Sigalionidae	Sthenelais boa	0	2	0	2
416	Annelida	Polychaeta	Phyllodocida	Syllidae	Exogone hebes	2	1	4	7
416	Annelida	Polychaeta	Scolecida	Capitellidae	Capitellidae (LPIL)	0	1	0	1
416	Annelida	Polychaeta	Scolecida	Capitellidae	Mediomastus (LPIL)	3	1	2	6
416	Annelida	Polychaeta	Scolecida	Maldanidae	Maldanidae (LPIL)	0	0	1	1
416	Annelida	Polychaeta	Spionida	Magelonidae	Magelona papillicornis	0	1	0	1
416	Annelida	Polychaeta	Terebellida	Ampharetidae	Ampharetidae (LPIL)	1	0	0	1
416	Annelida	Polychaeta	Terebellida	Cirratulidae	Caulleriella sp. J	0	3	3	6
416	Annelida	Polychaeta	Terebellida	Cirratulidae	Cirratulidae (LPIL)	1	0	0	1
416	Arthropoda	Malacostraca	Amphipoda	Ampeliscidae	Byblis serrata	1	4	0	5
416	Arthropoda	Malacostraca	Amphipoda	Aoridae	Pseudunciola obliquua	0	1	2	3
416	Arthropoda	Malacostraca	Amphipoda	Aoridae	Unciola irrorata	0	0	2	2
416	Arthropoda	Malacostraca	Amphipoda	Haustoriidae	Protohaustorius wigleyi	0	0	1	1
416	Arthropoda	Malacostraca	Amphipoda	Oedicerotidae	Americhelidium americanum	1	0	0	1
416	Arthropoda	Malacostraca	Amphipoda	Phoxocephalidae	Rhepoxynius hudsoni	0	0	1	1
416	Arthropoda	Malacostraca	Amphipoda		Amphipoda (LPIL)	1	0	0	1
416	Arthropoda	Malacostraca	Cumacea	Bodotriidae	Pseudoleptocuma minus	1	0	0	1
416	Echinodermata	Echinoidea	Clypeasteroida	Echinarachniidae	Echinarachnius parma	1	1	0	2
416	Echinodermata				Echinodermata (LPIL)	0	0	1	1
416	Mollusca	Bivalvia	Nuculida	Nuculidae	Nucula proxima	1	0	0	1

Station Name	Phylum	Class	Order	Family	Taxa	Rep 1	Rep 2	Rep 3	Total
416	Mollusca	Bivalvia	Veneroida	Mactridae	Spisula solidissima	3	1	7	11
416	Mollusca	Bivalvia	Veneroida	Tellinidae	Tellina (LPIL)	0	1	0	1
416	Mollusca	Gastropoda	Neotaenioglossa	Naticidae	Natica (LPIL)	1	0	0	1
416	Nemertea				Nemertea (LPIL)	0	1	1	2
416	Platyhelminthes				Platyhelminthes (LPIL)	1	0	0	1
418	Annelida	Oligochaeta	Enchytraeida	Enchytraeidae	Enchytraeidae (LPIL)	2	7	3	12
418	Annelida	Oligochaeta	Tubificida	Naididae	Naididae (LPIL)	5	8	13	26
418	Annelida	Polychaeta	Archiannelida	Polygordiidae	Polygordius (LPIL)	54	99	68	221
418	Annelida	Polychaeta	Eunicida	Oenonidae	Drilonereis longa	1	1	0	2
418	Annelida	Polychaeta	Orbiniida	Orbiniidae	Leitoscoloplos (LPIL)	0	1	1	2
418	Annelida	Polychaeta	Phyllodocida	Nephtyidae	Nephtys picta	2	1	4	7
418	Annelida	Polychaeta	Phyllodocida	Syllidae	Exogone hebes	1	1	1	3
418	Annelida	Polychaeta	Scolecida	Capitellidae	Mediomastus (LPIL)	4	2	0	6
418	Annelida	Polychaeta	Scolecida	Paraonidae	Aricidea wassi	2	3	3	8
418	Annelida	Polychaeta	Spionida	Magelonidae	Magelona papillicornis	0	1	0	1
418	Annelida	Polychaeta	Spionida	Spionidae	Apoprionospio pygmaea	0	1	0	1
418	Annelida	Polychaeta	Spionida	Spionidae	Spiophanes bombyx	0	1	1	2
418	Annelida	Polychaeta	Terebellida	Cirratulidae	Caulleriella sp. J	2	0	2	4
418	Annelida	Polychaeta	Terebellida	Cirratulidae	Cirratulidae (LPIL)	0	1	0	1
418	Arthropoda	Malacostraca	Amphipoda	Ampeliscidae	Ampelisca abdita	0	1	0	1
418	Arthropoda	Malacostraca	Amphipoda	Aoridae	Pseudunciola obliquua	0	0	3	3
418	Arthropoda	Malacostraca	Amphipoda	Aoridae	Unciola irrorata	0	0	1	1
418	Arthropoda	Malacostraca	Amphipoda	Haustoriidae	Protohaustorius wigleyi	3	4	3	10
418	Arthropoda	Malacostraca	Amphipoda	Phoxocephalidae	Rhepoxynius hudsoni	2	1	1	4
418	Arthropoda	Malacostraca	Decapoda	Paguridae	Pagurus (LPIL)	1	0	0	1
418	Arthropoda	Malacostraca	Isopoda	Chaetiliidae	Chiridotea tuftsii	0	0	1	1
418	Echinodermata	Echinoidea	Clypeasteroida	Echinarachniidae	Echinarachnius parma	0	0	1	1
418	Mollusca	Bivalvia	Veneroida	Mactridae	Spisula solidissima	1	7	3	11
418	Mollusca	Bivalvia	Veneroida	Solenidae	Ensis directus	0	1	0	1
418	Mollusca	Bivalvia	Veneroida	Tellinidae	Tellina (LPIL)	0	0	1	1
418	Nemertea				Nemertea (LPIL)	5	2	1	8
420	Annelida	Oligochaeta	Tubificida	Naididae	Naididae (LPIL)	105	80	60	245
420	Annelida	Polychaeta	Archiannelida	Polygordiidae	Polygordius (LPIL)	20	15	38	73
420	Annelida	Polychaeta	Eunicida	Dorvilleidae	Parougia caeca	1	0	0	1
420	Annelida	Polychaeta	Eunicida	Oenonidae	Drilonereis longa	0	1	0	1

Station Name	Phylum	Class	Order	Family	Taxa	Rep 1	Rep 2	Rep 3	Total
420	Annelida	Polychaeta	Orbiniida	Orbiniidae	Leitoscoloplos (LPIL)	3	0	1	4
420	Annelida	Polychaeta	Phyllodocida	Nephtyidae	Nephtyidae (LPIL)	0	1	0	1
420	Annelida	Polychaeta	Phyllodocida	Nephtyidae	Nephtys picta	7	3	0	10
420	Annelida	Polychaeta	Scolecida	Capitellidae	Mediomastus (LPIL)	240	230	145	615
420	Annelida	Polychaeta	Scolecida	Paraonidae	Aricidea wassi	0	0	1	1
420	Annelida	Polychaeta	Spionida	Spionidae	Apoprionospio pygmaea	0	1	0	1
420	Arthropoda	Malacostraca	Isopoda	Idoteidae	Edotia triloba	0	0	1	1
420	Arthropoda	Malacostraca	Isopoda	Sphaeromatidae	Ancinus (LPIL)	1	0	0	1
420	Arthropoda	Malacostraca	Mysida	Mysidae	Mysidopsis (LPIL)	0	1	0	1
420	Echinodermata	Echinoidea	Clypeasteroida	Echinarachniidae	Echinarachnius parma	1	0	0	1
420	Mollusca	Bivalvia	Nuculida	Nuculidae	Nucula proxima	1	0	0	1
420	Mollusca	Bivalvia	Veneroida	Mactridae	Spisula solidissima	6	12	0	18
420	Mollusca	Bivalvia	Veneroida	Solenidae	Ensis directus	0	2	0	2
420	Mollusca	Bivalvia	Veneroida	Tellinidae	Tellina (LPIL)	1	4	1	6
422	Annelida	Oligochaeta	Enchytraeida	Enchytraeidae	Enchytraeidae (LPIL)	0	1	0	1
422	Annelida	Oligochaeta	Tubificida	Naididae	Naididae (LPIL)	10	0	0	10
422	Annelida	Polychaeta	Archiannelida	Polygordiidae	Polygordius (LPIL)	47	60	70	177
422	Annelida	Polychaeta	Eunicida	Oenonidae	Drilonereis longa	0	2	0	2
422	Annelida	Polychaeta	Orbiniida	Orbiniidae	Leitoscoloplos (LPIL)	4	1	0	5
422	Annelida	Polychaeta	Phyllodocida	Nephtyidae	Nephtyidae (LPIL)	10	18	12	40
422	Annelida	Polychaeta	Phyllodocida	Nephtyidae	Nephtys picta	0	2	3	5
422	Annelida	Polychaeta	Phyllodocida	Sigalionidae	Sthenelais boa	0	2	0	2
422	Annelida	Polychaeta	Scolecida	Capitellidae	Mediomastus (LPIL)	68	125	270	463
422	Annelida	Polychaeta	Scolecida	Paraonidae	Aricidea wassi	7	7	5	19
422	Annelida	Polychaeta	Spionida	Magelonidae	Magelona papillicornis	1	1	0	2
422	Annelida	Polychaeta	Spionida	Spionidae	Spiophanes bombyx	0	1	2	3
422	Annelida	Polychaeta	Terebellida	Ampharetidae	Ampharete oculata	1	5	2	8
422	Annelida	Polychaeta	Terebellida	Ampharetidae	Ampharetidae (LPIL)	5	1	0	6
422	Annelida	Polychaeta	Terebellida	Cirratulidae	Caulleriella sp. J	4	0	1	5
422	Arthropoda	Malacostraca	Amphipoda	Aoridae	Pseudunciola obliquua	0	0	1	1
422	Arthropoda	Malacostraca	Amphipoda	Aoridae	Unciola irrorata	1	2	1	4
422	Arthropoda	Malacostraca	Amphipoda	Haustoriidae	Acanthohaustorius (LPIL)	1	0	0	1
422	Arthropoda	Malacostraca	Amphipoda	Haustoriidae	Protohaustorius wigleyi	4	9	2	15
422	Arthropoda	Malacostraca	Amphipoda	Lysianassidae	Orchomenella (LPIL)	3	4	4	11
422	Arthropoda	Malacostraca	Amphipoda	Phoxocephalidae	Rhepoxynius hudsoni	1	0	1	2
422	Arthropoda	Malacostraca	Decapoda	Xanthidae	Xanthidae (LPIL)	0	1	1	2

Station Name	Phylum	Class	Order	Family	Taxa	Rep 1	Rep 2	Rep 3	Total
422	Echinodermata	Echinoidea	Clypeasteroida	Echinarachniidae	Echinarachnius parma	0	2	0	2
422	Echinodermata	Holothuroidea	Apodida	Synaptidae	Synaptidae (LPIL)	1	0	0	1
422	Mollusca	Bivalvia	Nuculida	Nuculidae	Nucula proxima	1	0	0	1
422	Mollusca	Bivalvia	Veneroida	Mactridae	Spisula solidissima	2	6	8	16
422	Mollusca	Bivalvia	Veneroida	Tellinidae	Tellina (LPIL)	4	10	3	17
423	Annelida	Oligochaeta	Tubificida	Naididae	Naididae (LPIL)	1	0	0	1
423	Annelida	Polychaeta	Archiannelida	Polygordiidae	Polygordius (LPIL)	31	33	6	70
423	Annelida	Polychaeta	Eunicida	Onuphidae	Onuphis eremita	0	1	0	1
423	Annelida	Polychaeta	Phyllodocida	Hesionidae	Microphthalmus (LPIL)	3	0	0	3
423	Annelida	Polychaeta	Phyllodocida	Nephtyidae	Nephtyidae (LPIL)	3	6	9	18
423	Annelida	Polychaeta	Phyllodocida	Nephtyidae	Nephtys picta	3	0	0	3
423	Annelida	Polychaeta	Phyllodocida	Phyllodocidae	Eumida sanguinea	4	1	0	5
423	Annelida	Polychaeta	Phyllodocida	Polynoidae	Lepidonotus sublevis	1	0	0	1
423	Annelida	Polychaeta	Phyllodocida	Sigalionidae	Sthenelais boa	0	1	0	1
423	Annelida	Polychaeta	Scolecida	Capitellidae	Mediomastus (LPIL)	23	42	30	95
423	Annelida	Polychaeta	Scolecida	Paraonidae	Paraonis fulgens	7	5	0	12
423	Annelida	Polychaeta	Spionida	Chaetopteridae	Spiochaetopterus oculatus	0	1	0	1
423	Annelida	Polychaeta	Spionida	Spionidae	Spiophanes bombyx	1	3	0	4
423	Annelida	Polychaeta	Terebellida	Ampharetidae	Ampharete oculata	6	5	20	31
423	Annelida	Polychaeta	Terebellida	Ampharetidae	Ampharetidae (LPIL)	0	1	0	1
423	Annelida	Polychaeta	Terebellida	Cirratulidae	Caulleriella sp. J	1	1	0	2
423	Arthropoda	Malacostraca	Amphipoda	Aoridae	Unciola irrorata	1	0	1	2
423	Arthropoda	Malacostraca	Amphipoda	Haustoriidae	Acanthohaustorius (LPIL)	0	1	0	1
423	Arthropoda	Malacostraca	Amphipoda	Haustoriidae	Protohaustorius wigleyi	18	15	2	35
423	Arthropoda	Malacostraca	Amphipoda	Lysianassidae	Orchomenella (LPIL)	13	6	0	19
423	Arthropoda	Malacostraca	Amphipoda		Amphipoda (LPIL)	1	0	0	1
423	Arthropoda	Malacostraca	Isopoda	Chaetiliidae	Chiridotea tuftsii	1	0	0	1
423	Mollusca	Bivalvia	Mytiloida	Mytilidae	Mytilidae (LPIL)	0	1	0	1
423	Mollusca	Bivalvia	Veneroida	Mactridae	Spisula solidissima	4	2	0	6
423	Mollusca	Bivalvia	Veneroida	Solenidae	Solenidae (LPIL)	1	1	0	2
423	Mollusca	Bivalvia	Veneroida	Tellinidae	Tellina (LPIL)	10	1	1	12
423	Nemertea	Anopla	Heteronemertea	Lineidae	Lineidae (LPIL)	1	0	1	2
423	Nemertea				Nemertea (LPIL)	0	2	0	2
425	Annelida	Polychaeta	Archiannelida	Polygordiidae	Polygordius (LPIL)	3	0	4	7
425	Annelida	Polychaeta	Orbiniida	Orbiniidae	Leitoscoloplos (LPIL)	0	2	0	2

Station Name	Phylum	Class	Order	Family	Taxa	Rep 1	Rep 2	Rep 3	Total
425	Annelida	Polychaeta	Phyllodocida	Nephtyidae	Nephtyidae (LPIL)	2	1	0	3
425	Annelida	Polychaeta	Phyllodocida	Nephtyidae	Nephtys picta	0	0	3	3
425	Annelida	Polychaeta	Scolecida	Capitellidae	Mediomastus (LPIL)	1	3	1	5
425	Annelida	Polychaeta	Scolecida	Paraonidae	Paraonis fulgens	1	0	2	3
425	Annelida	Polychaeta	Spionida	Chaetopteridae	Spiochaetopterus oculatus	1	1	0	2
425	Annelida	Polychaeta	Terebellida	Ampharetidae	Ampharete oculata	1	2	0	3
425	Arthropoda	Malacostraca	Amphipoda	Aoridae	Pseudunciola obliquua	0	1	0	1
425	Arthropoda	Malacostraca	Amphipoda	Haustoriidae	Acanthohaustorius (LPIL)	34	11	13	58
425	Arthropoda	Malacostraca	Amphipoda	Haustoriidae	Protohaustorius wigleyi	351	93	91	535
425	Arthropoda	Malacostraca	Amphipoda	Lysianassidae	Orchomenella (LPIL)	7	0	0	7
425	Arthropoda	Malacostraca	Decapoda	Callianassidae	Callianassidae (LPIL)	1	0	0	1
425	Arthropoda	Malacostraca	Decapoda	Crangonidae	Crangon septemspinosa	1	0	0	1
425	Arthropoda	Malacostraca	Isopoda	Sphaeromatidae	Ancinus (LPIL)	0	0	3	3
425	Mollusca	Bivalvia	Veneroida	Tellinidae	Tellina (LPIL)	1	2	2	5
425	Mollusca	Bivalvia			Bivalvia (LPIL)	1	1	0	2
425	Mollusca	Gastropoda	Mesogastropoda	Calyptraeidae	Crepidula (LPIL)	1	0	0	1
425	Nemertea				Nemertea (LPIL)	0	1	0	1
427	Annelida	Polychaeta	Archiannelida	Polygordiidae	Polygordius (LPIL)	0	1	0	1
427	Annelida	Polychaeta	Phyllodocida	Nephtyidae	Nephtys picta	4	0	1	5
427	Annelida	Polychaeta	Scolecida	Capitellidae	Mediomastus (LPIL)	0	0	1	1
427	Annelida	Polychaeta	Scolecida	Paraonidae	Paraonidae (LPIL)	0	1	0	1
427	Annelida	Polychaeta	Terebellida	Ampharetidae	Ampharete oculata	0	0	1	1
427	Arthropoda	Malacostraca	Amphipoda	Haustoriidae	Acanthohaustorius (LPIL)	2	0	0	2
427	Arthropoda	Malacostraca	Amphipoda	Haustoriidae	Lepidactylus (LPIL)	1	1	1	3
427	Arthropoda	Malacostraca	Amphipoda	Haustoriidae	Parahaustorius longimerus	7	4	8	19
427	Arthropoda	Malacostraca	Amphipoda	Haustoriidae	Protohaustorius wigleyi	15	3	39	57
427	Arthropoda	Malacostraca	Isopoda	Sphaeromatidae	Ancinus (LPIL)	2	2	3	7
427	Mollusca	Bivalvia	Veneroida	Tellinidae	Tellina (LPIL)	0	0	1	1
429	Annelida	Oligochaeta	Enchytraeida	Enchytraeidae	Enchytraeidae (LPIL)	1	0	1	2
429	Annelida	Polychaeta	Archiannelida	Polygordiidae	Polygordius (LPIL)	95	46	39	180
429	Annelida	Polychaeta	Eunicida	Dorvilleidae	Parougia caeca	1	0	0	1
429	Annelida	Polychaeta	Eunicida	Oenonidae	Drilonereis longa	1	0	0	1
429	Annelida	Polychaeta	Phyllodocida	Glyceridae	Glyceridae (LPIL)	1	1	1	3
429	Annelida	Polychaeta	Phyllodocida	Nephtyidae	Nephtys picta	0	1	0	1
429	Annelida	Polychaeta	Scolecida	Capitellidae	Mediomastus (LPIL)	1	0	0	1

Station Name	Phylum	Class	Order	Family	Taxa	Rep 1	Rep 2	Rep 3	Total
429	Annelida	Polychaeta	Scolecida	Paraonidae	Aricidea wassi	2	0	0	2
429	Annelida	Polychaeta	Scolecida	Paraonidae	Paraonis fulgens	1	0	0	1
429	Annelida	Polychaeta	Spionida	Spionidae	Spionidae (LPIL)	1	0	0	1
429	Annelida	Polychaeta	Terebellida	Cirratulidae	Cirratulidae (LPIL)	1	0	1	2
429	Arthropoda	Malacostraca	Amphipoda	Aoridae	Pseudunciola obliquua	5	0	1	6
429	Arthropoda	Malacostraca	Amphipoda	Haustoriidae	Protohaustorius wigleyi	1	1	0	2
429	Arthropoda	Malacostraca	Amphipoda	Phoxocephalidae	Rhepoxynius hudsoni	1	1	2	4
429	Arthropoda	Malacostraca	Isopoda	Chaetiliidae	Chiridotea tuftsii	0	0	1	1
429	Arthropoda	Malacostraca	Isopoda	Sphaeromatidae	Ancinus (LPIL)	10	0	1	11
429	Arthropoda	Malacostraca	Tanaidacea	Nototanaidae	Nototanaidae (LPIL)	1	0	0	1
429	Mollusca	Bivalvia	Veneroida	Mactridae	Spisula solidissima	1	0	0	1
429	Mollusca	Bivalvia	Veneroida	Tellinidae	Tellina (LPIL)	2	0	1	3
431	Annelida	Oligochaeta	Tubificida	Naididae	Naididae (LPIL)	1	0	1	2
431	Annelida	Polychaeta	Archiannelida	Polygordiidae	Polygordius (LPIL)	11	11	17	39
431	Annelida	Polychaeta	Phyllodocida	Hesionidae	Microphthalmus (LPIL)	0	0	1	1
431	Annelida	Polychaeta	Phyllodocida	Nephtyidae	Nephtyidae (LPIL)	9	9	13	31
431	Annelida	Polychaeta	Phyllodocida	Sigalionidae	Sthenelais boa	0	0	1	1
431	Annelida	Polychaeta	Scolecida	Capitellidae	Mediomastus (LPIL)	0	2	3	5
431	Annelida	Polychaeta	Scolecida	Paraonidae	Aricidea wassi	1	0	0	1
431	Annelida	Polychaeta	Spionida	Chaetopteridae	Spiochaetopterus oculatus	1	0	0	1
431	Annelida	Polychaeta	Spionida	Magelonidae	Magelona papillicornis	0	0	1	1
431	Annelida	Polychaeta	Spionida	Spionidae	Spiophanes bombyx	3	0	1	4
431	Annelida	Polychaeta	Terebellida	Ampharetidae	Ampharete oculata	0	0	8	8
431	Annelida	Polychaeta	Terebellida	Cirratulidae	Caulleriella sp. J	0	0	1	1
431	Arthropoda	Malacostraca	Amphipoda	Aoridae	Pseudunciola obliquua	1	0	1	2
431	Arthropoda	Malacostraca	Amphipoda	Haustoriidae	Acanthohaustorius (LPIL)	0	1	3	4
431	Arthropoda	Malacostraca	Amphipoda	Haustoriidae	Protohaustorius wigleyi	36	33	82	151
431	Arthropoda	Malacostraca	Amphipoda	Phoxocephalidae	Rhepoxynius hudsoni	0	0	1	1
431	Arthropoda	Malacostraca	Decapoda	Xanthidae	Xanthidae (LPIL)	0	0	1	1
431	Arthropoda	Malacostraca	Isopoda	Sphaeromatidae	Ancinus (LPIL)	0	1	0	1
431	Echinodermata				Echinodermata (LPIL)	0	1	0	1
431	Mollusca	Bivalvia	Veneroida	Mactridae	Spisula solidissima	1	3	0	4
431	Mollusca	Bivalvia	Veneroida	Tellinidae	Tellina (LPIL)	3	1	4	8
431	Nemertea				Nemertea (LPIL)	3	0	2	5
433	Annelida	Oligochaeta	Tubificida	Naididae	Naididae (LPIL)	0	1	0	1

Station Name	Phylum	Class	Order	Family	Taxa	Rep 1	Rep 2	Rep 3	Total
433	Annelida	Polychaeta	Archiannelida	Polygordiidae	Polygordius (LPIL)	2	1	5	8
433	Annelida	Polychaeta	Phyllodocida	Glyceridae	Glycera americana	0	0	1	1
433	Annelida	Polychaeta	Phyllodocida	Hesionidae	Microphthalmus (LPIL)	0	0	1	1
433	Annelida	Polychaeta	Phyllodocida	Nephtyidae	Nephtyidae (LPIL)	24	22	11	57
433	Annelida	Polychaeta	Phyllodocida	Nephtyidae	Nephtys picta	1	0	0	1
433	Annelida	Polychaeta	Scolecida	Capitellidae	Mediomastus (LPIL)	32	25	50	107
433	Annelida	Polychaeta	Scolecida	Paraonidae	Aricidea wassi	0	1	1	2
433	Annelida	Polychaeta	Spionida	Magelonidae	Magelona papillicornis	0	1	0	1
433	Annelida	Polychaeta	Spionida	Spionidae	Spionidae (LPIL)	1	0	0	1
433	Annelida	Polychaeta	Spionida	Spionidae	Spiophanes bombyx	3	0	0	3
433	Annelida	Polychaeta	Terebellida	Ampharetidae	Ampharete oculata	1	4	0	5
433	Annelida	Polychaeta	Terebellida	Ampharetidae	Ampharetidae (LPIL)	1	1	1	3
433	Arthropoda	Malacostraca	Amphipoda	Haustoriidae	Acanthohaustorius (LPIL)	1	0	0	1
433	Arthropoda	Malacostraca	Amphipoda	Haustoriidae	Protohaustorius wigleyi	58	41	21	120
433	Arthropoda	Malacostraca	Amphipoda	Lysianassidae	Orchomenella (LPIL)	1	3	1	5
433	Arthropoda	Malacostraca	Amphipoda	Oedicerotidae	Americhelidium americanum	0	1	3	4
433	Mollusca	Bivalvia	Mytiloida	Mytilidae	Mytilidae (LPIL)	0	0	1	1
433	Mollusca	Bivalvia	Veneroida	Mactridae	Spisula solidissima	4	6	5	15
433	Mollusca	Bivalvia	Veneroida	Tellinidae	Tellina (LPIL)	1	0	1	2
433	Mollusca	Gastropoda			Gastropoda (LPIL)	0	1	0	1
433	Nemertea				Nemertea (LPIL)	4	0	0	4
435	Annelida	Polychaeta	Phyllodocida	Nephtyidae	Nephtyidae (LPIL)	4	1	2	7
435	Arthropoda	Malacostraca	Amphipoda	Haustoriidae	Acanthohaustorius millsi	0	4	7	11
435	Arthropoda	Malacostraca	Amphipoda	Haustoriidae	Lepidactylus (LPIL)	1	1	0	2
435	Arthropoda	Malacostraca	Amphipoda	Haustoriidae	Parahaustorius longimerus	8	8	6	22
435	Arthropoda	Malacostraca	Amphipoda	Haustoriidae	Protohaustorius wigleyi	30	13	4	47
435	Arthropoda	Malacostraca	Amphipoda	Pontoporeiidae	Bathyporeia quoddyensis	1	0	1	2
435	Arthropoda	Malacostraca	Isopoda	Sphaeromatidae	Ancinus (LPIL)	2	1	6	9
802	Annelida	Oligochaeta	Enchytraeida	Enchytraeidae	Enchytraeidae (LPIL)	11	0	0	11
802	Annelida	Oligochaeta	Tubificida	Naididae	Naididae (LPIL)	41	325	249	615
802	Annelida	Polychaeta	Archiannelida	Polygordiidae	Polygordius (LPIL)	0	5	2	7
802	Annelida	Polychaeta	Eunicida	Dorvilleidae	Schistomeringos rudolphi	12	3	7	22
802	Annelida	Polychaeta	Eunicida	Lumbrineridae	Lumbrineridae (LPIL)	4	1	0	5
802	Annelida	Polychaeta	Eunicida	Oenonidae	Arabella iricolor	17	26	36	79
802	Annelida	Polychaeta	Eunicida	Oenonidae	Drilonereis longa	2	0	4	6

Station Name	Phylum	Class	Order	Family	Taxa	Rep 1	Rep 2	Rep 3	Total
802	Annelida	Polychaeta	Orbiniida	Orbiniidae	Leitoscoloplos (LPIL)	6	4	7	17
802	Annelida	Polychaeta	Orbiniida	Orbiniidae	Scoloplos armiger	2	1	0	3
802	Annelida	Polychaeta	Phyllodocida	Hesionidae	Podarke obscura	6	3	2	11
802	Annelida	Polychaeta	Phyllodocida	Nereididae	Nereididae (LPIL)	1	1	2	4
802	Annelida	Polychaeta	Phyllodocida	Phyllodocidae	Eumida sanguinea	1	4	0	5
802	Annelida	Polychaeta	Phyllodocida	Phyllodocidae	Phyllodocidae (LPIL)	0	1	0	1
802	Annelida	Polychaeta	Phyllodocida	Syllidae	Autolytus (LPIL)	0	3	0	3
802	Annelida	Polychaeta	Phyllodocida	Syllidae	Brania wellfleetensis	29	38	17	84
802	Annelida	Polychaeta	Phyllodocida	Syllidae	Exogone dispar	64	182	42	288
802	Annelida	Polychaeta	Phyllodocida	Syllidae	Grubeosyllis clavata	0	35	1	36
802	Annelida	Polychaeta	Phyllodocida	Syllidae	Parapionosyllis longicirrata	2	5	5	12
802	Annelida	Polychaeta	Phyllodocida	Syllidae	Streptosyllis pettiboneae	0	2	2	4
802	Annelida	Polychaeta	Phyllodocida	Syllidae	Syllidae (LPIL)	0	2	0	2
802	Annelida	Polychaeta	Sabellida	Sabellidae	Sabellidae (LPIL)	0	3	2	5
802	Annelida	Polychaeta	Sabellida	Serpulidae	Hydroides dianthus	0	0	8	8
802	Annelida	Polychaeta	Scolecida	Capitellidae	Capitellidae (LPIL)	2	0	0	2
802	Annelida	Polychaeta	Scolecida	Capitellidae	Mediomastus (LPIL)	15	35	40	90
802	Annelida	Polychaeta	Scolecida	Paraonidae	Aricidea (LPIL)	1	0	0	1
802	Annelida	Polychaeta	Spionida	Spionidae	Dipolydora socialis	0	1	0	1
802	Annelida	Polychaeta	Spionida	Spionidae	Prionospio (LPIL)	1	4	3	8
802	Annelida	Polychaeta	Spionida	Spionidae	Prionospio heterobranchia	1	0	0	1
802	Annelida	Polychaeta	Spionida	Spionidae	Spionidae (LPIL)	5	0	1	6
802	Annelida	Polychaeta	Terebellida	Cirratulidae	Cirratulidae (LPIL)	14	18	30	62
802	Arthropoda	Malacostraca	Amphipoda	Ampeliscidae	Ampelisca (LPIL)	2	0	3	5
802	Arthropoda	Malacostraca	Amphipoda	Aoridae	Unciola (LPIL)	0	4	4	8
802	Arthropoda	Malacostraca	Amphipoda	Bateidae	Batea catharinensis	6	52	6	64
802	Arthropoda	Malacostraca	Amphipoda	Caprellidae	Caprellidae (LPIL)	0	11	0	11
802	Arthropoda	Malacostraca	Amphipoda	Corophiidae	Apocorophium (LPIL)	0	1	1	2
802	Arthropoda	Malacostraca	Amphipoda	Corophiidae	Corophiidae (LPIL)	5	14	2	21
802	Arthropoda	Malacostraca	Amphipoda	Isaeidae	Microprotopus raneyi	1	2	3	6
802	Arthropoda	Malacostraca	Amphipoda	Lysianassidae	Lysianopsis alba	3	27	20	50
802	Arthropoda	Malacostraca	Amphipoda	Melitidae	Elasmopus levis	1	198	0	199
802	Arthropoda	Malacostraca	Amphipoda	Photidae	Gammaropsis (LPIL)	5	11	34	50
802	Arthropoda	Malacostraca	Amphipoda	Phoxocephalidae	Eobrolgus spinosus	53	111	65	229
802	Arthropoda	Malacostraca	Cumacea	Diastylidae	Oxyurostylis smithi	1	0	1	2
802	Arthropoda	Malacostraca	Decapoda	Xanthidae	Rhithropanopeus harrisii	2	5	0	7
802	Arthropoda	Malacostraca	Isopoda	Sphaeromatidae	Ancinus (LPIL)	0	0	1	1

Station Name	Phylum	Class	Order	Family	Taxa	Rep 1	Rep 2	Rep 3	Total
802	Arthropoda	Malacostraca	Isopoda		Isopoda (LPIL)	0	4	0	4
802	Arthropoda	Malacostraca	Tanaidacea	Nototanaidae	Nototanaidae (LPIL)	0	1	0	1
802	Cnidaria	Anthozoa	Actiniaria		Actiniaria (LPIL)	1	4	10	15
802	Echinodermata	Holothuroidea	Apodida	Synaptidae	Synaptidae (LPIL)	11	9	8	28
802	Mollusca	Bivalvia	Venerida	Veneridae	Mercenaria mercenaria	0	1	0	1
802	Mollusca	Gastropoda	Mesogastropoda	Calyptraeidae	Crepidula (LPIL)	3	1	0	4
802	Mollusca	Gastropoda	Neogastropoda	Muricidae	Urosalpinx cinerea	0	1	0	1
802	Nemertea				Nemertea (LPIL)	5	14	1	20
805	Annelida	Oligochaeta	Enchytraeida	Enchytraeidae	Enchytraeidae (LPIL)	1	0	0	1
805	Annelida	Oligochaeta	Tubificida	Naididae	Naididae (LPIL)	294	280	208	782
805	Annelida	Polychaeta	Archiannelida	Polygordiidae	Polygordius (LPIL)	2	1	0	3
805	Annelida	Polychaeta	Eunicida	Dorvilleidae	Schistomeringos rudolphi	1	4	1	6
805	Annelida	Polychaeta	Eunicida	Eunicidae	Eunicidae (LPIL)	1	0	0	1
805	Annelida	Polychaeta	Eunicida	Lumbrineridae	Lumbrineridae (LPIL)	3	2	1	6
805	Annelida	Polychaeta	Eunicida	Oenonidae	Arabella iricolor	39	37	33	109
805	Annelida	Polychaeta	Eunicida	Oenonidae	Drilonereis longa	0	1	1	2
805	Annelida	Polychaeta	Orbiniida	Orbiniidae	Leitoscoloplos (LPIL)	1	3	3	7
805	Annelida	Polychaeta	Phyllodocida	Hesionidae	Microphthalmus (LPIL)	0	1	1	2
805	Annelida	Polychaeta	Phyllodocida	Hesionidae	Podarke obscura	2	4	1	7
805	Annelida	Polychaeta	Phyllodocida	Nereididae	Nereididae (LPIL)	1	3	0	4
805	Annelida	Polychaeta	Phyllodocida	Phyllodocidae	Eumida sanguinea	1	3	2	6
805	Annelida	Polychaeta	Phyllodocida	Sigalionidae	Fimbriosthenelais minor	0	0	1	1
805	Annelida	Polychaeta	Phyllodocida	Syllidae	Brania wellfleetensis	20	34	1	55
805	Annelida	Polychaeta	Phyllodocida	Syllidae	Exogone dispar	27	63	111	201
805	Annelida	Polychaeta	Phyllodocida	Syllidae	Grubeosyllis clavata	2	3	5	10
805	Annelida	Polychaeta	Phyllodocida	Syllidae	Parapionosyllis longicirrata	4	8	1	13
805	Annelida	Polychaeta	Phyllodocida	Syllidae	Streptosyllis pettiboneae	0	8	1	9
805	Annelida	Polychaeta	Phyllodocida	Syllidae	Syllidae (LPIL)	0	0	3	3
805	Annelida	Polychaeta	Phyllodocida	Syllidae	Syllis gracilis	0	0	44	44
805	Annelida	Polychaeta	Sabellida	Sabellidae	Sabellidae (LPIL)	0	1	2	3
805	Annelida	Polychaeta	Sabellida	Serpulidae	Hydroides dianthus	10	7	14	31
805	Annelida	Polychaeta	Scolecida	Capitellidae	Mediomastus (LPIL)	71	75	40	186
805	Annelida	Polychaeta	Spionida	Spionidae	Dipolydora socialis	0	0	1	1
805	Annelida	Polychaeta	Spionida	Spionidae	Prionospio (LPIL)	8	5	8	21
805	Annelida	Polychaeta	Terebellida	Cirratulidae	Cirratulidae (LPIL)	36	28	15	79
805	Arthropoda	Malacostraca	Amphipoda	Ampeliscidae	Ampelisca (LPIL)	8	6	4	18

Station Name	Phylum	Class	Order	Family	Taxa	Rep 1	Rep 2	Rep 3	Total
805	Arthropoda	Malacostraca	Amphipoda	Ampeliscidae	Ampelisca vadorum	0	0	1	1
805	Arthropoda	Malacostraca	Amphipoda	Aoridae	Globosolembos smithi	0	0	13	13
805	Arthropoda	Malacostraca	Amphipoda	Aoridae	Unciola (LPIL)	15	48	111	174
805	Arthropoda	Malacostraca	Amphipoda	Bateidae	Batea catharinensis	27	24	17	68
805	Arthropoda	Malacostraca	Amphipoda	Caprellidae	Caprellidae (LPIL)	1	6	7	14
805	Arthropoda	Malacostraca	Amphipoda	Corophiidae	Monocorophium tuberculatum	12	32	63	107
805	Arthropoda	Malacostraca	Amphipoda	Isaeidae	Microprotopus raneyi	11	24	36	71
805	Arthropoda	Malacostraca	Amphipoda	Ischyroceridae	Cerapus tubularis	0	3	1	4
805	Arthropoda	Malacostraca	Amphipoda	Ischyroceridae	Ericthonius brasiliensis	0	0	11	11
805	Arthropoda	Malacostraca	Amphipoda	Lysianassidae	Lysianopsis alba	5	7	7	19
805	Arthropoda	Malacostraca	Amphipoda	Melitidae	Elasmopus levis	3	30	67	100
805	Arthropoda	Malacostraca	Amphipoda	Photidae	Gammaropsis (LPIL)	109	52	73	234
805	Arthropoda	Malacostraca	Amphipoda	Phoxocephalidae	Eobrolgus spinosus	119	122	169	410
805	Arthropoda	Malacostraca	Cumacea	Diastylidae	Oxyurostylis smithi	1	0	0	1
805	Arthropoda	Malacostraca	Decapoda	Xanthidae	Rhithropanopeus harrisii	0	3	7	10
805	Arthropoda	Malacostraca	Isopoda		Isopoda (LPIL)	3	7	14	24
805	Cnidaria	Anthozoa	Actiniaria		Actiniaria (LPIL)	4	2	1	7
805	Echinodermata	Holothuroidea	Apodida	Synaptidae	Synaptidae (LPIL)	4	1	2	7
805	Mollusca	Bivalvia	Arcoida	Arcidae	Arcidae (LPIL)	0	0	1	1
805	Mollusca	Bivalvia			Bivalvia (LPIL)	1	0	0	1
805	Mollusca	Gastropoda	Mesogastropoda	Calyptraeidae	Crepidula convexa	2	9	9	20
805	Mollusca	Gastropoda	Mesogastropoda	Calyptraeidae	Crepidula plana	1	0	0	1
805	Nemertea				Nemertea (LPIL)	1	2	0	3

ATTACHMENT G – Grain Size Analysis Results

GeoTesting EXPRESS

Technologies to manage risk for infrastructure

Boston
Atlanta
Chicago
Los Angeles
New York
www.geotesting.com

Geotechnical Test Report **9/21/2020**

GTX-312302

SRW

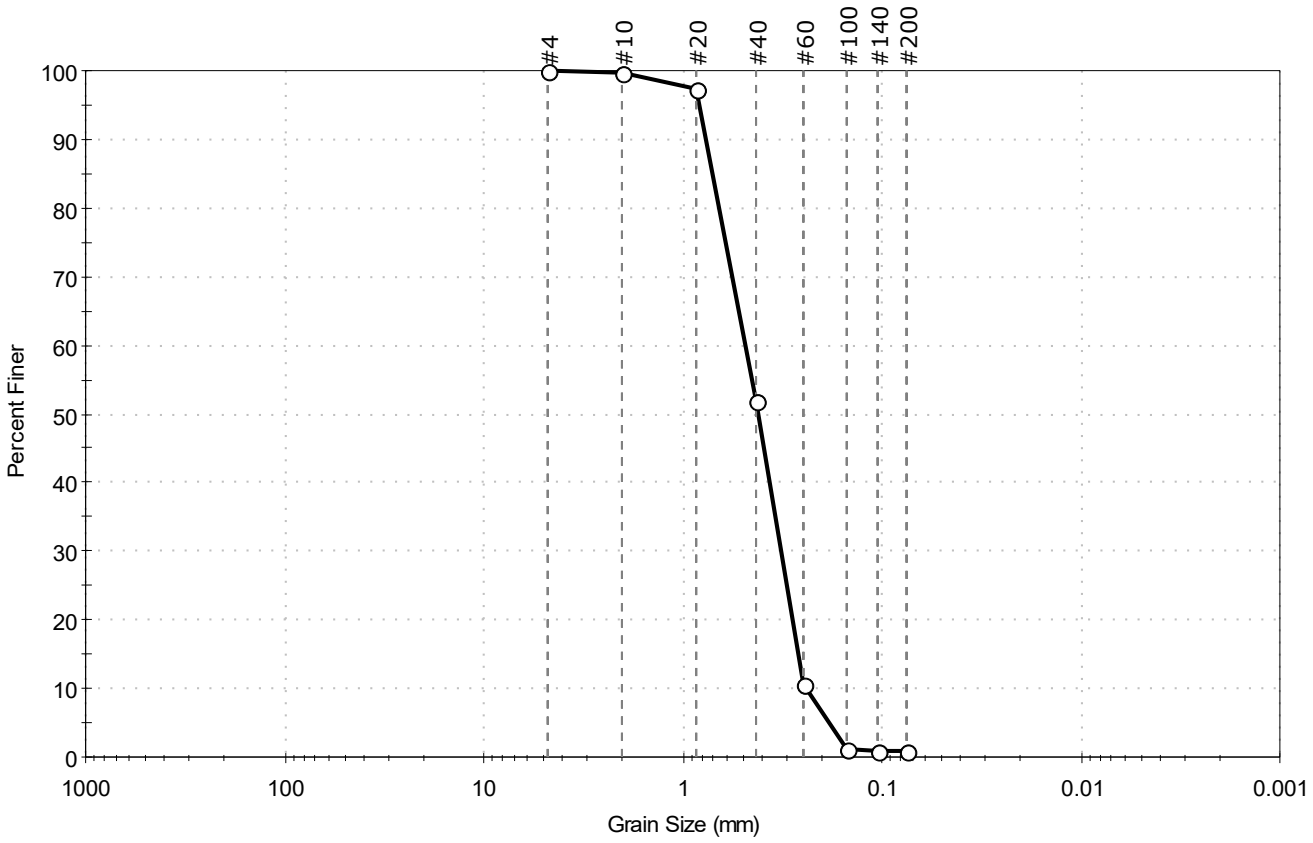
offshore New York

Prepared for:

Inspire Environmental

Client:	Inspire Environmental				
Project:	SRW				
Location:	offshore New York			Project No:	GTX-312302
Boring ID:	---	Sample Type:	bag	Tested By:	ckg
Sample ID:	402 A	Test Date:	09/10/20	Checked By:	bfs
Depth :	---	Test Id:	577506		
Test Comment:	---				
Visual Description:	Moist, gray sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
--	0.0	99.2	0.8

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	97		
#40	0.42	52		
#60	0.25	11		
#100	0.15	1		
#140	0.11	1		
#200	0.075	0.8		

Coefficients

D_{85} = 0.7046 mm	D_{30} = 0.3210 mm
D_{60} = 0.4814 mm	D_{15} = 0.2647 mm
D_{50} = 0.4152 mm	D_{10} = 0.2423 mm
C_u = 1.987	C_c = 0.883

Classification

ASTM Poorly graded SAND (SP)

AASHTO Fine Sand (A-3 (1))

Sample/Test Description

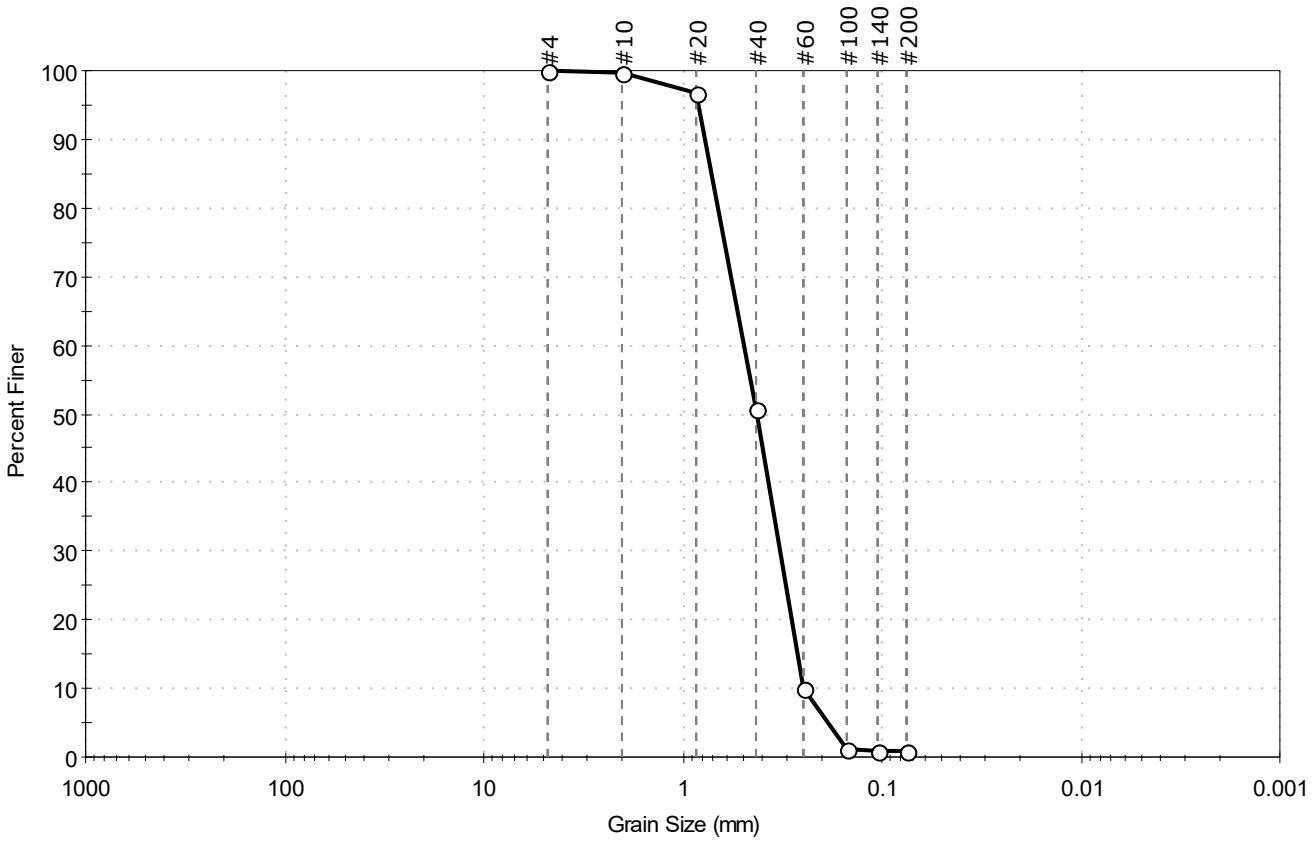
Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

GeoTesting EXPRESS

Client:	Inspire Environmental				
Project:	SRW				
Location:	offshore New York			Project No:	GTX-312302
Boring ID:	---	Sample Type:	bag	Tested By:	ckg
Sample ID:	402 B	Test Date:	09/11/20	Checked By:	bfs
Depth :	---	Test Id:	577507		
Test Comment:	---				
Visual Description:	Moist, dark grayish brown sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
--	0.0	99.2	0.8

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	97		
#40	0.42	51		
#60	0.25	10		
#100	0.15	1		
#140	0.11	1		
#200	0.075	0.8		

Coefficients

D_{85} = 0.7128 mm	D_{30} = 0.3247 mm
D_{60} = 0.4895 mm	D_{15} = 0.2669 mm
D_{50} = 0.4216 mm	D_{10} = 0.2500 mm
C_u = 1.958	C_c = 0.862

Classification

ASTM Poorly graded SAND (SP)

AASHTO Fine Sand (A-3 (1))

Sample/Test Description

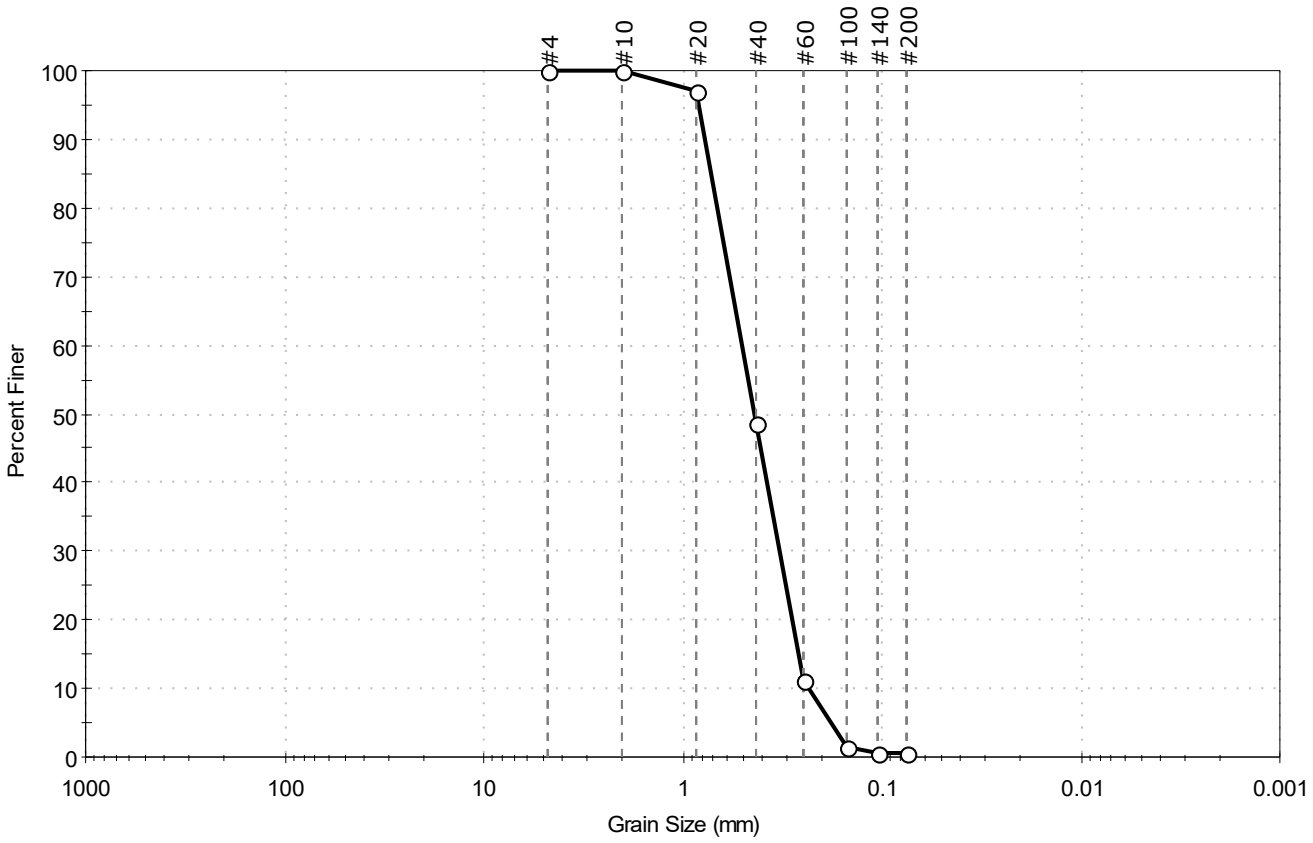
Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

GeoTesting EXPRESS

Client:	Inspire Environmental				
Project:	SRW				
Location:	offshore New York			Project No:	GTX-312302
Boring ID:	---	Sample Type:	bag	Tested By:	ckg
Sample ID:	402 C	Test Date:	09/11/20	Checked By:	bfs
Depth :	---	Test Id:	577508		
Test Comment:	---				
Visual Description:	Moist, grayish brown sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
--	0.1	99.3	0.6

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	97		
#40	0.42	49		
#60	0.25	11		
#100	0.15	1		
#140	0.11	1		
#200	0.075	0.6		

Coefficients

D_{85} =0.7158 mm	D_{30} =0.3261 mm
D_{60} =0.5003 mm	D_{15} =0.2634 mm
D_{50} =0.4335 mm	D_{10} =0.2333 mm
C_u =2.144	C_c =0.911

Classification

ASTM: Poorly graded SAND (SP)

AASHTO: Stone Fragments, Gravel and Sand (A-1-b (1))

Sample/Test Description

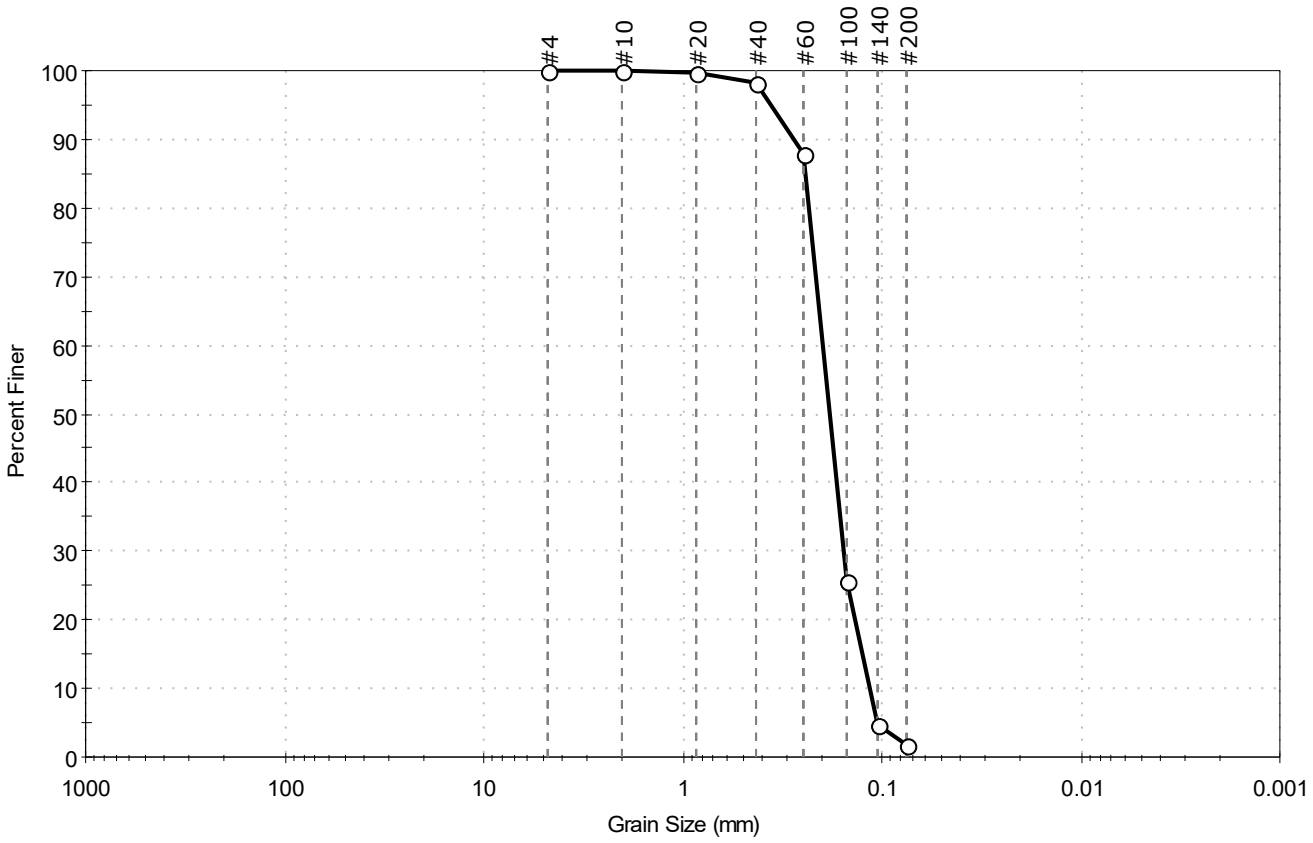
Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

GeoTesting EXPRESS

Client:	Inspire Environmental				
Project:	SRW				
Location:	offshore New York			Project No:	GTX-312302
Boring ID:	---	Sample Type:	bag	Tested By:	ckg
Sample ID:	404 A	Test Date:	09/11/20	Checked By:	bfs
Depth :	---	Test Id:	577509		
Test Comment:	---				
Visual Description:	Moist, olive gray sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
--	0.1	98.1	1.8

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	98		
#60	0.25	88		
#100	0.15	26		
#140	0.11	5		
#200	0.075	1.8		

Coefficients

D_{85} =0.2441 mm	D_{30} =0.1554 mm
D_{60} =0.1988 mm	D_{15} =0.1256 mm
D_{50} =0.1832 mm	D_{10} =0.1155 mm
C_u =1.721	C_c =1.052

Classification

ASTM Poorly graded SAND (SP)

AASHTO Fine Sand (A-3 (1))

Sample/Test Description

Sand/Gravel Particle Shape : ---

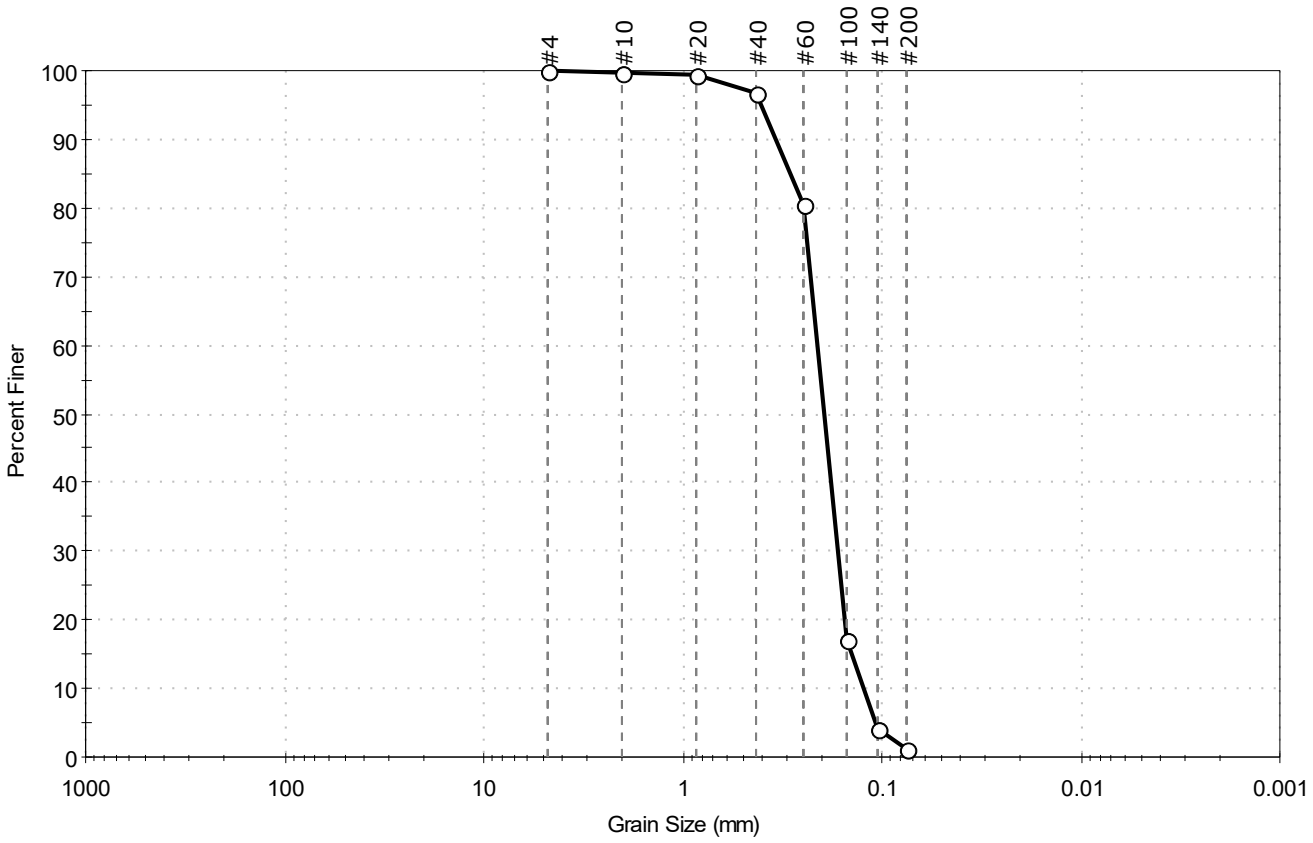
Sand/Gravel Hardness : ---

printed 9/15/2020 3:59:56 PM

GeoTesting EXPRESS

Client:	Inspire Environmental				
Project:	SRW				
Location:	offshore New York			Project No:	GTX-312302
Boring ID:	---	Sample Type:	bag	Tested By:	ckg
Sample ID:	404 B	Test Date:	09/10/20	Checked By:	bfs
Depth :	---	Test Id:	577510		
Test Comment:	---				
Visual Description:	Moist, gray sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
--	0.1	98.6	1.3

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	99		
#40	0.42	97		
#60	0.25	81		
#100	0.15	17		
#140	0.11	4		
#200	0.075	1.3		

Coefficients

D_{85} =0.2893 mm	D_{30} =0.1663 mm
D_{60} =0.2118 mm	D_{15} =0.1414 mm
D_{50} =0.1954 mm	D_{10} =0.1240 mm
C_u =1.708	C_c =1.053

Classification

ASTM Poorly graded SAND (SP)

AASHTO Fine Sand (A-3 (1))

Sample/Test Description

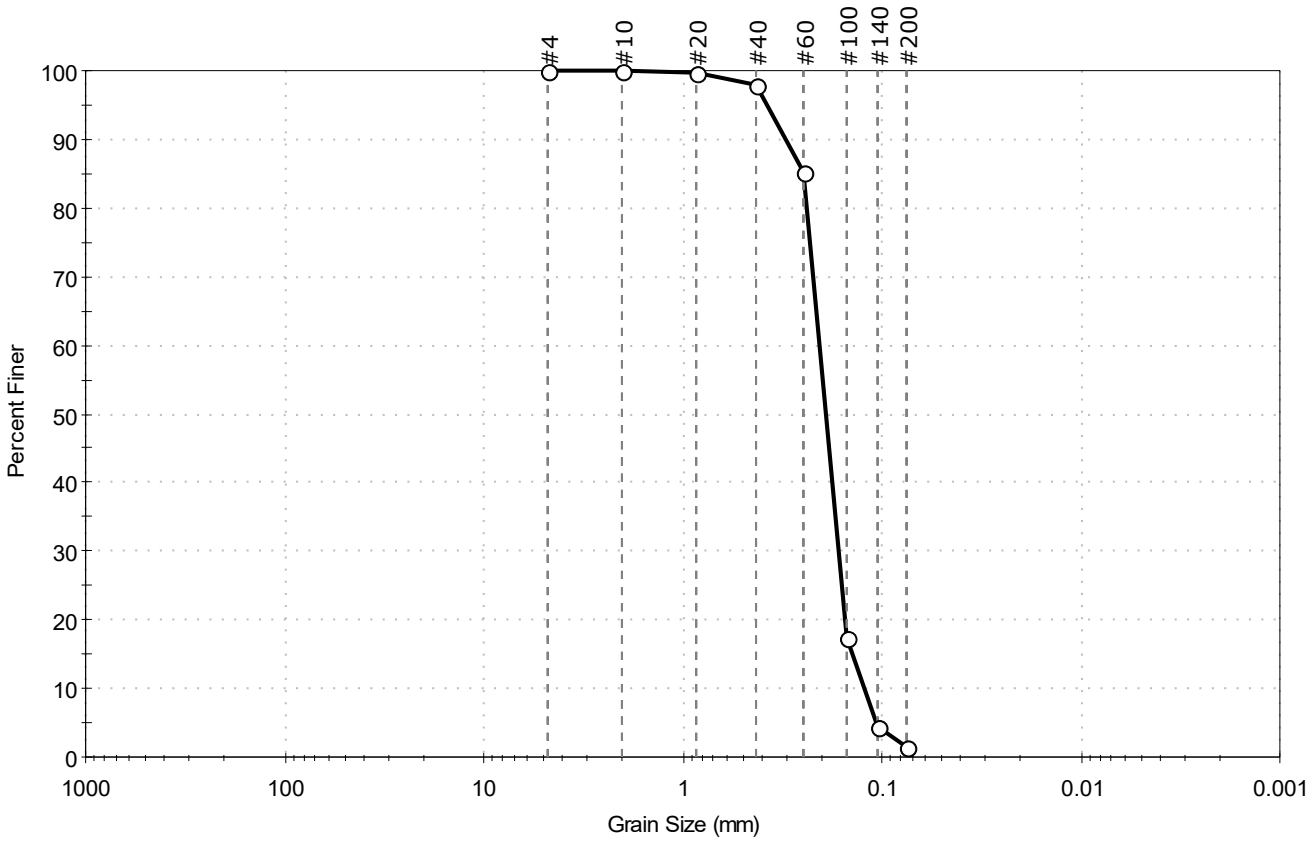
Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

printed 9/15/2020 3:59:58 PM

Client:	Inspire Environmental				
Project:	SRW				
Location:	offshore New York			Project No:	GTX-312302
Boring ID:	---	Sample Type:	bag	Tested By:	ckg
Sample ID:	404 C	Test Date:	09/11/20	Checked By:	bfs
Depth :	---	Test Id:	577511		
Test Comment:	---				
Visual Description:	Moist, olive gray sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
--	0.1	98.4	1.5

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	98		
#60	0.25	85		
#100	0.15	18		
#140	0.11	4		
#200	0.075	1.5		

Coefficients

D_{85} =0.2494 mm	D_{30} =0.1648 mm
D_{60} =0.2066 mm	D_{15} =0.1403 mm
D_{50} =0.1916 mm	D_{10} =0.1229 mm
C_u =1.681	C_c =1.070

Classification

ASTM Poorly graded SAND (SP)

AASHTO Fine Sand (A-3 (1))

Sample/Test Description

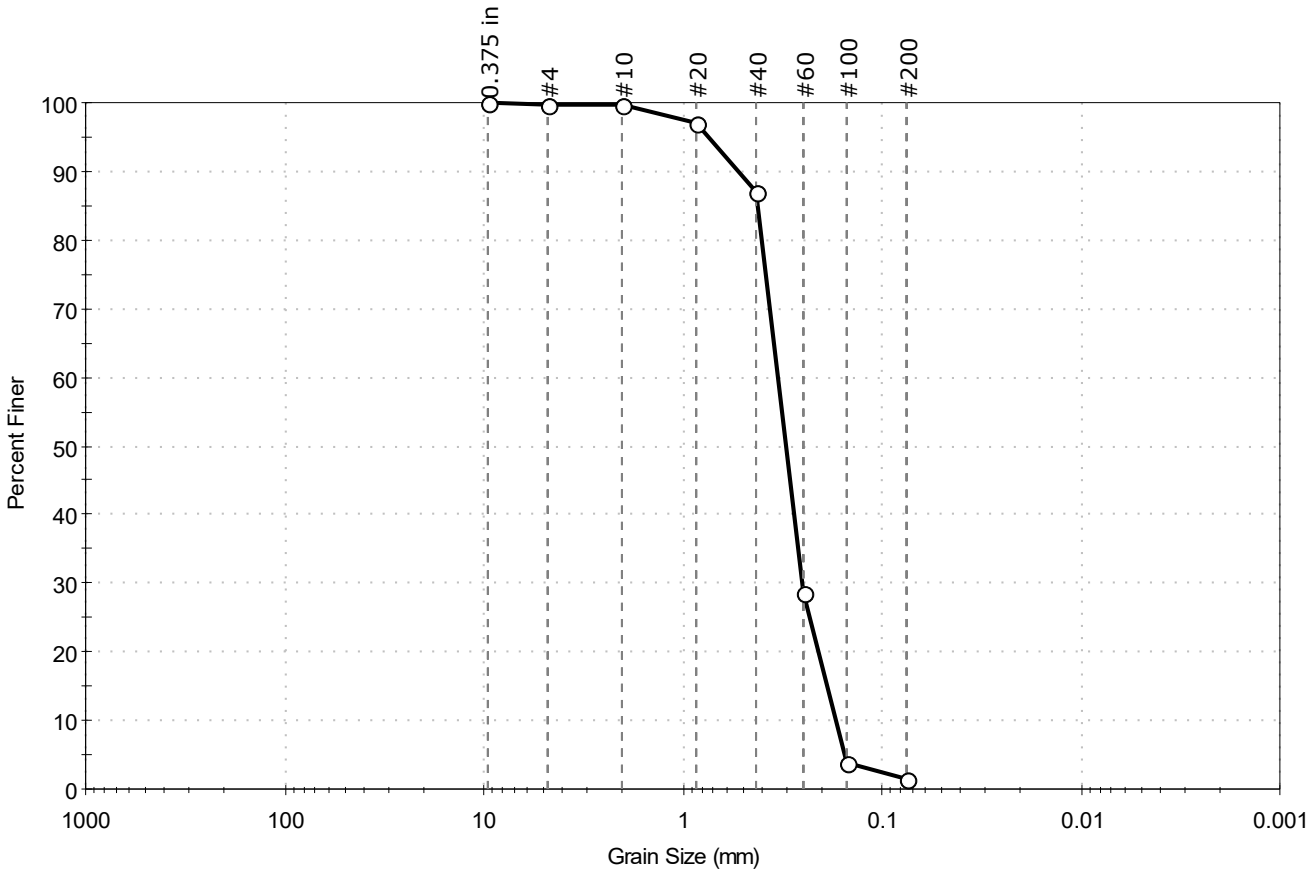
Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

printed 9/15/2020 3:59:59 PM

Client:	Inspire Environmental				
Project:	SRW				
Location:	offshore New York			Project No:	GTX-312302
Boring ID:	---	Sample Type:	bag	Tested By:	ckg
Sample ID:	406 A	Test Date:	09/10/20	Checked By:	bfs
Depth :	---	Test Id:	577512		
Test Comment:	---				
Visual Description:	Moist, very dark olive gray sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
--	0.3	98.1	1.6

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
0.375 in	9.50	100		
#4	4.75	100		
#10	2.00	100		
#20	0.85	97		
#40	0.42	87		
#60	0.25	29		
#100	0.15	4		
#200	0.075	1.6		

Coefficients

D_{85} = 0.4178 mm	D_{30} = 0.2533 mm
D_{60} = 0.3328 mm	D_{15} = 0.1886 mm
D_{50} = 0.3039 mm	D_{10} = 0.1700 mm
C_u = 1.958	C_c = 1.134

Classification

ASTM Poorly graded SAND (SP)

AASHTO Fine Sand (A-3 (1))

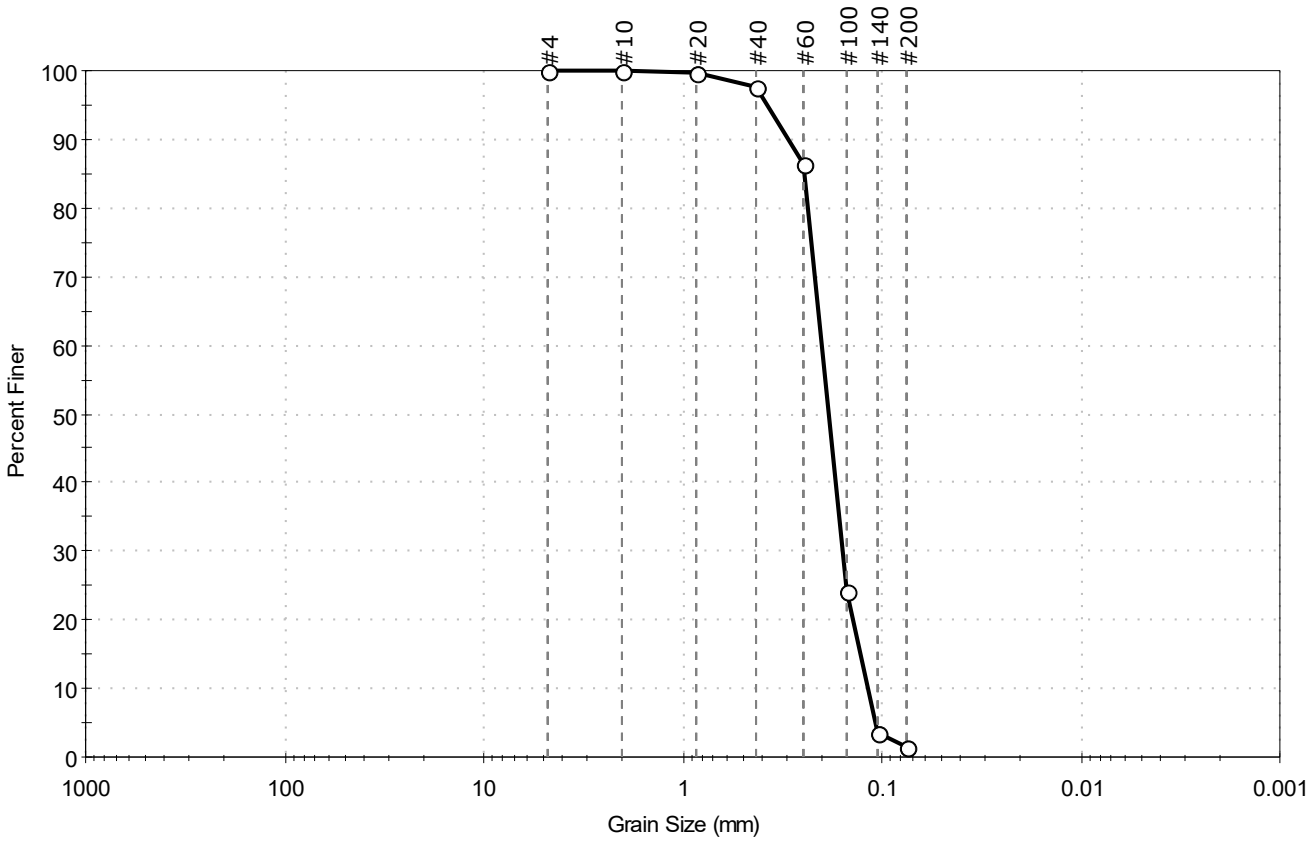
Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Client:	Inspire Environmental				
Project:	SRW				
Location:	offshore New York			Project No:	GTX-312302
Boring ID:	---	Sample Type:	bag	Tested By:	ckg
Sample ID:	406 B	Test Date:	09/11/20	Checked By:	bfs
Depth :	---	Test Id:	577513		
Test Comment:	---				
Visual Description:	Moist, dark olive gray sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
--	0.0	98.4	1.6

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	98		
#60	0.25	86		
#100	0.15	24		
#140	0.11	4		
#200	0.075	1.6		

Coefficients

D_{85} =0.2471 mm	D_{30} =0.1573 mm
D_{60} =0.2012 mm	D_{15} =0.1284 mm
D_{50} =0.1854 mm	D_{10} =0.1180 mm
C_u =1.705	C_c =1.042

Classification

ASTM Poorly graded SAND (SP)

AASHTO Fine Sand (A-3 (1))

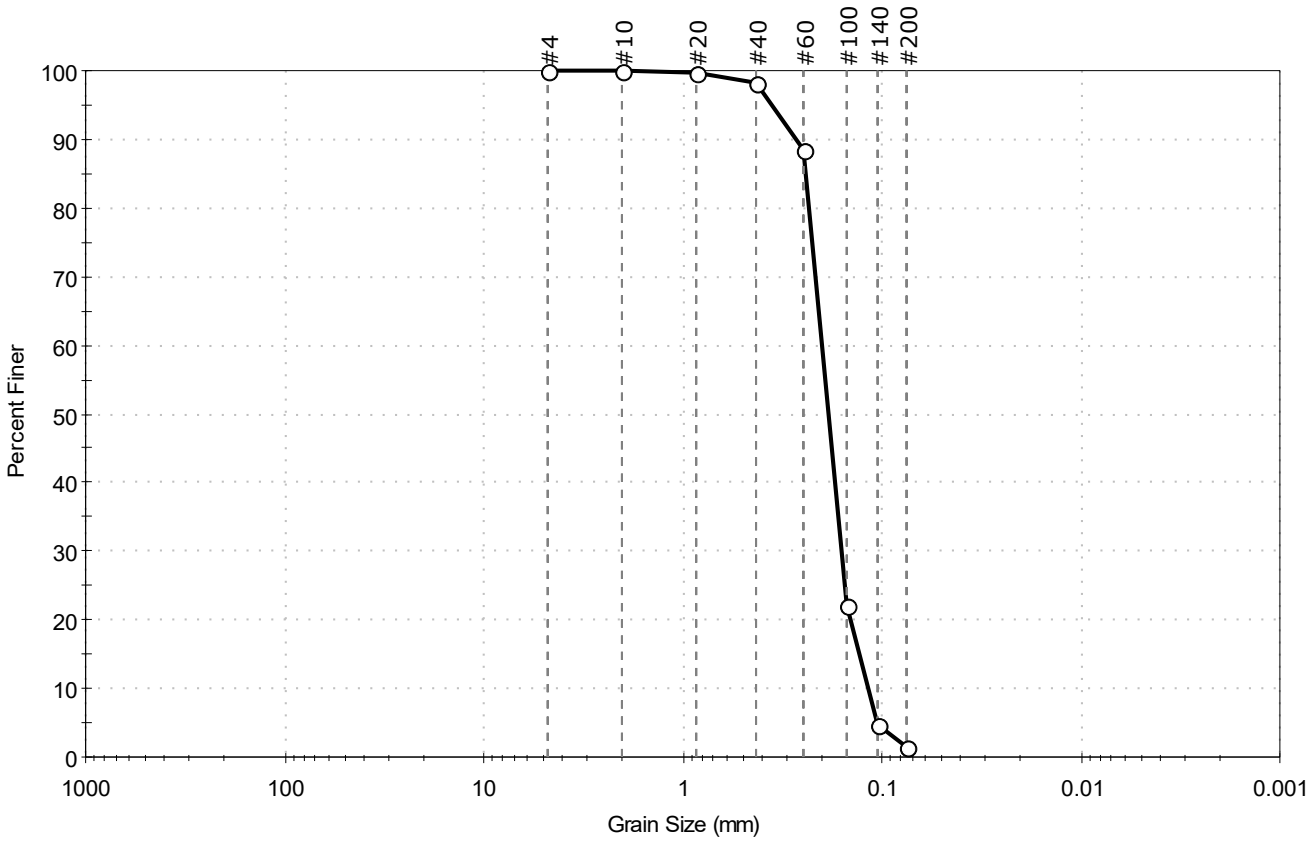
Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Client:	Inspire Environmental				
Project:	SRW				
Location:	offshore New York			Project No:	GTX-312302
Boring ID:	---	Sample Type:	bag	Tested By:	ckg
Sample ID:	406 C	Test Date:	09/10/20	Checked By:	bfs
Depth :	---	Test Id:	577514		
Test Comment:	---				
Visual Description:	Moist, olive gray sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
--	0.0	98.4	1.6

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	98		
#60	0.25	88		
#100	0.15	22		
#140	0.11	5		
#200	0.075	1.6		

Coefficients

D_{85} =0.2436 mm	D_{30} =0.1593 mm
D_{60} =0.2008 mm	D_{15} =0.1299 mm
D_{50} =0.1859 mm	D_{10} =0.1176 mm
C_u =1.707	C_c =1.075

Classification

ASTM Poorly graded SAND (SP)

AASHTO Fine Sand (A-3 (1))

Sample/Test Description

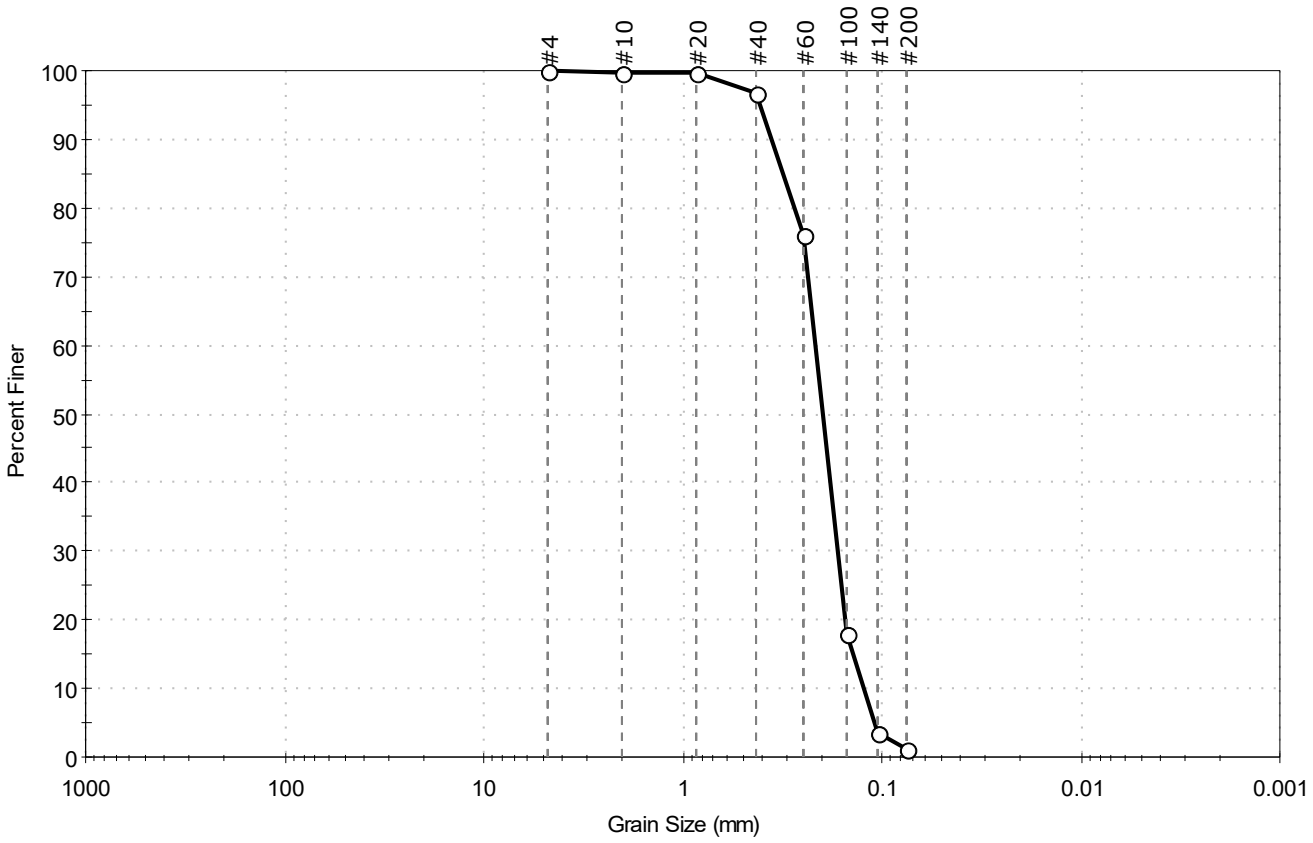
Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

printed 9/15/2020 4:00:04 PM

Client:	Inspire Environmental				
Project:	SRW				
Location:	offshore New York			Project No:	GTX-312302
Boring ID:	---	Sample Type:	bag	Tested By:	ckg
Sample ID:	408 A	Test Date:	09/11/20	Checked By:	bfs
Depth :	---	Test Id:	577515		
Test Comment:	---				
Visual Description:	Moist, olive gray sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
--	0.1	98.6	1.3

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	97		
#60	0.25	76		
#100	0.15	18		
#140	0.11	4		
#200	0.075	1.3		

Coefficients

D_{85} =0.3135 mm	D_{30} =0.1668 mm
D_{60} =0.2170 mm	D_{15} =0.1399 mm
D_{50} =0.1988 mm	D_{10} =0.1239 mm
C_u =1.751	C_c =1.035

Classification

ASTM Poorly graded SAND (SP)

AASHTO Fine Sand (A-3 (1))

Sample/Test Description

Sand/Gravel Particle Shape : ---

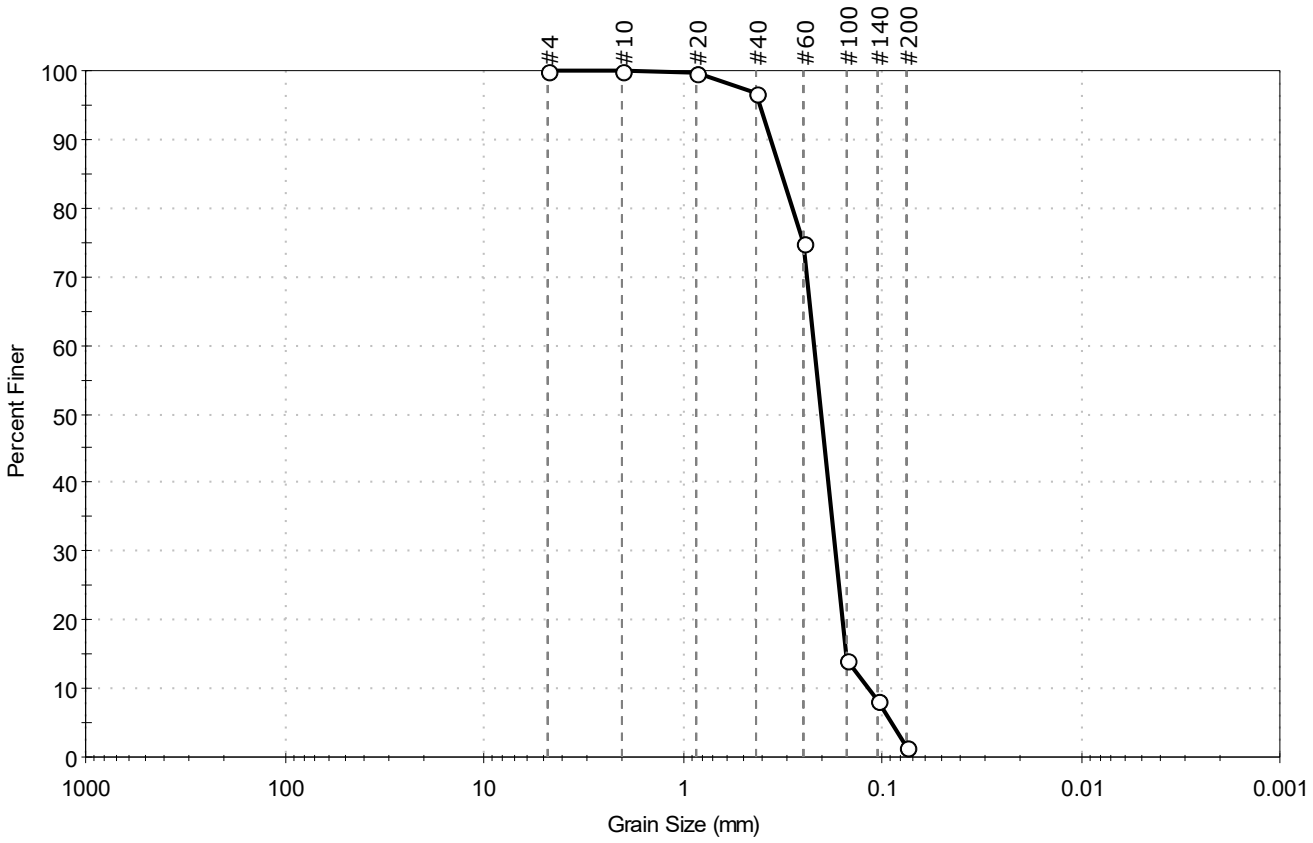
Sand/Gravel Hardness : ---

printed 9/15/2020 4:00:08 PM

GeoTesting EXPRESS

Client:	Inspire Environmental				
Project:	SRW				
Location:	offshore New York			Project No:	GTX-312302
Boring ID:	---	Sample Type:	bag	Tested By:	ckg
Sample ID:	408 B	Test Date:	09/11/20	Checked By:	bfs
Depth :	---	Test Id:	577516		
Test Comment:	---				
Visual Description:	Moist, olive gray sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
--	0.0	98.5	1.5

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	97		
#60	0.25	75		
#100	0.15	14		
#140	0.11	8		
#200	0.075	1.5		

Coefficients

D_{85} =0.3194 mm	D_{30} =0.1713 mm
D_{60} =0.2205 mm	D_{15} =0.1510 mm
D_{50} =0.2027 mm	D_{10} =0.1172 mm
C_u =1.881	C_c =1.135

Classification

ASTM Poorly graded SAND (SP)

AASHTO Fine Sand (A-3 (1))

Sample/Test Description

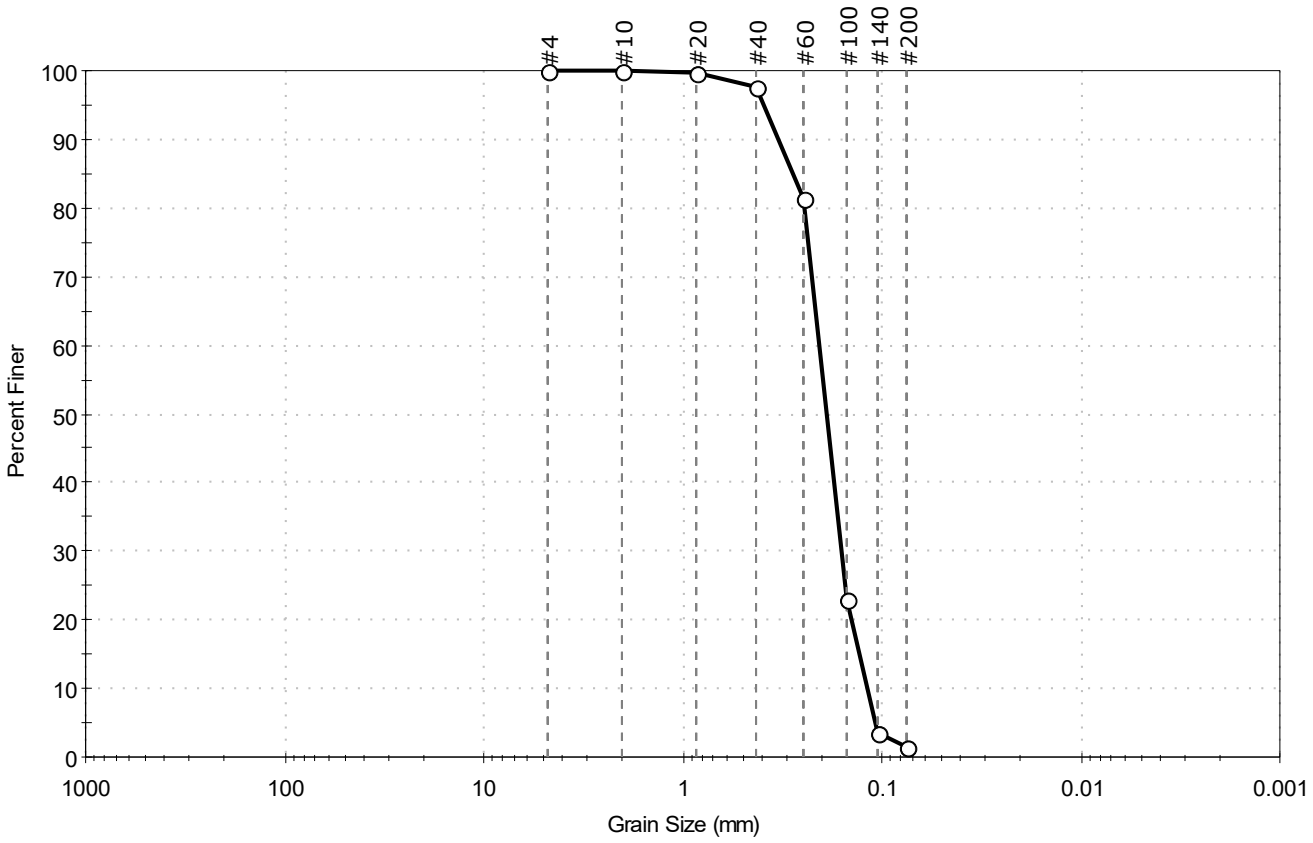
Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

printed 9/15/2020 4:00:15 PM

Client:	Inspire Environmental				
Project:	SRW				
Location:	offshore New York			Project No:	GTX-312302
Boring ID:	---	Sample Type:	bag	Tested By:	ckg
Sample ID:	408 C	Test Date:	09/11/20	Checked By:	bfs
Depth :	---	Test Id:	577517		
Test Comment:	---				
Visual Description:	Moist, olive gray sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
--	0.1	98.4	1.5

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	98		
#60	0.25	82		
#100	0.15	23		
#140	0.11	4		
#200	0.075	1.5		

Coefficients

D_{85} =0.2800 mm	D_{30} =0.1593 mm
D_{60} =0.2071 mm	D_{15} =0.1299 mm
D_{50} =0.1897 mm	D_{10} =0.1189 mm
C_u =1.742	C_c =1.031

Classification

ASTM Poorly graded SAND (SP)

AASHTO Fine Sand (A-3 (1))

Sample/Test Description

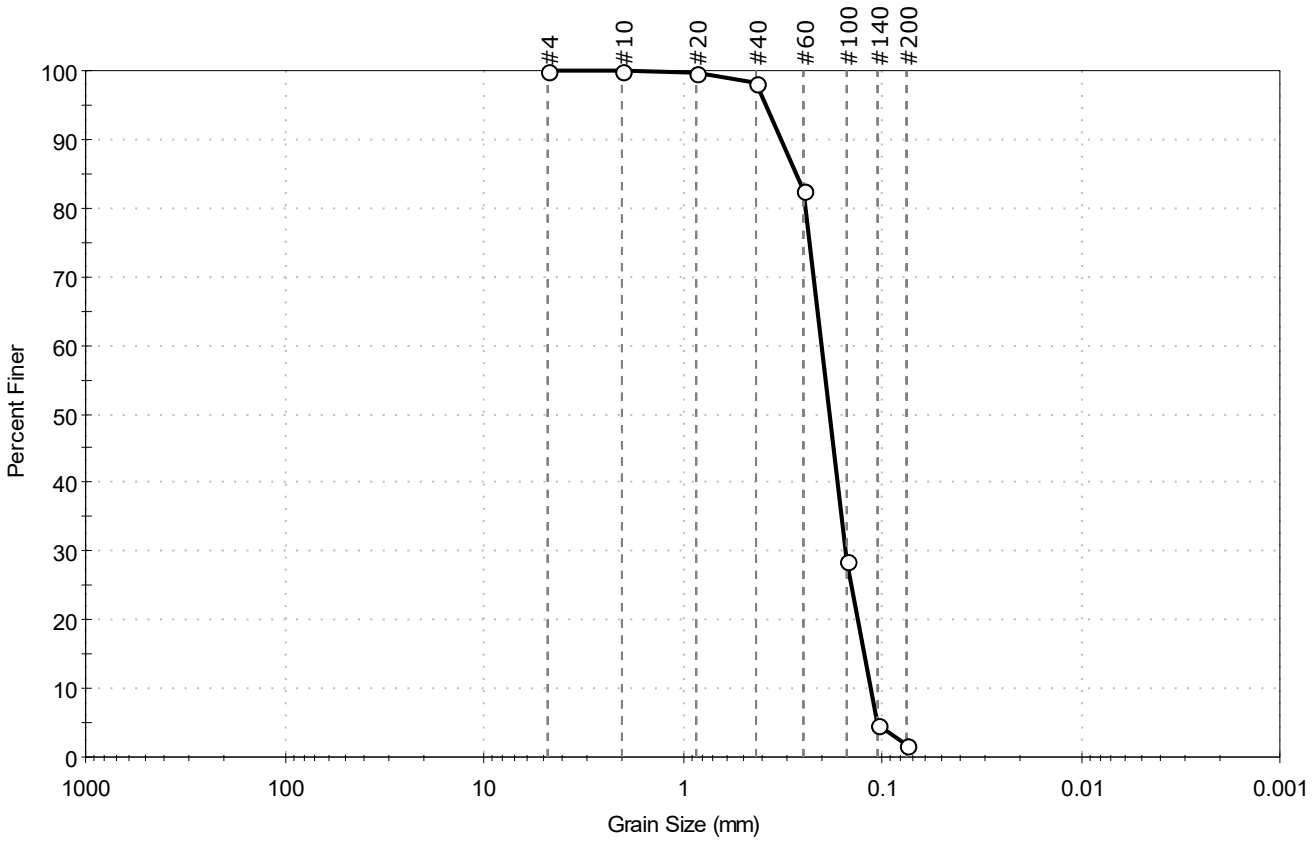
Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

printed 9/15/2020 4:00:19 PM

Client:	Inspire Environmental				
Project:	SRW				
Location:	offshore New York			Project No:	GTX-312302
Boring ID:	---	Sample Type:	bag	Tested By:	ckg
Sample ID:	410 A	Test Date:	09/10/20	Checked By:	bfs
Depth :	---	Test Id:	577518		
Test Comment:	---				
Visual Description:	Moist, olive gray sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
--	0.0	98.3	1.7

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	98		
#60	0.25	83		
#100	0.15	29		
#140	0.11	5		
#200	0.075	1.7		

Coefficients

D_{85} =0.2704 mm	D_{30} =0.1518 mm
D_{60} =0.2016 mm	D_{15} =0.1229 mm
D_{50} =0.1834 mm	D_{10} =0.1144 mm
C_u =1.762	C_c =0.999

Classification

ASTM Poorly graded SAND (SP)

AASHTO Fine Sand (A-3 (1))

Sample/Test Description

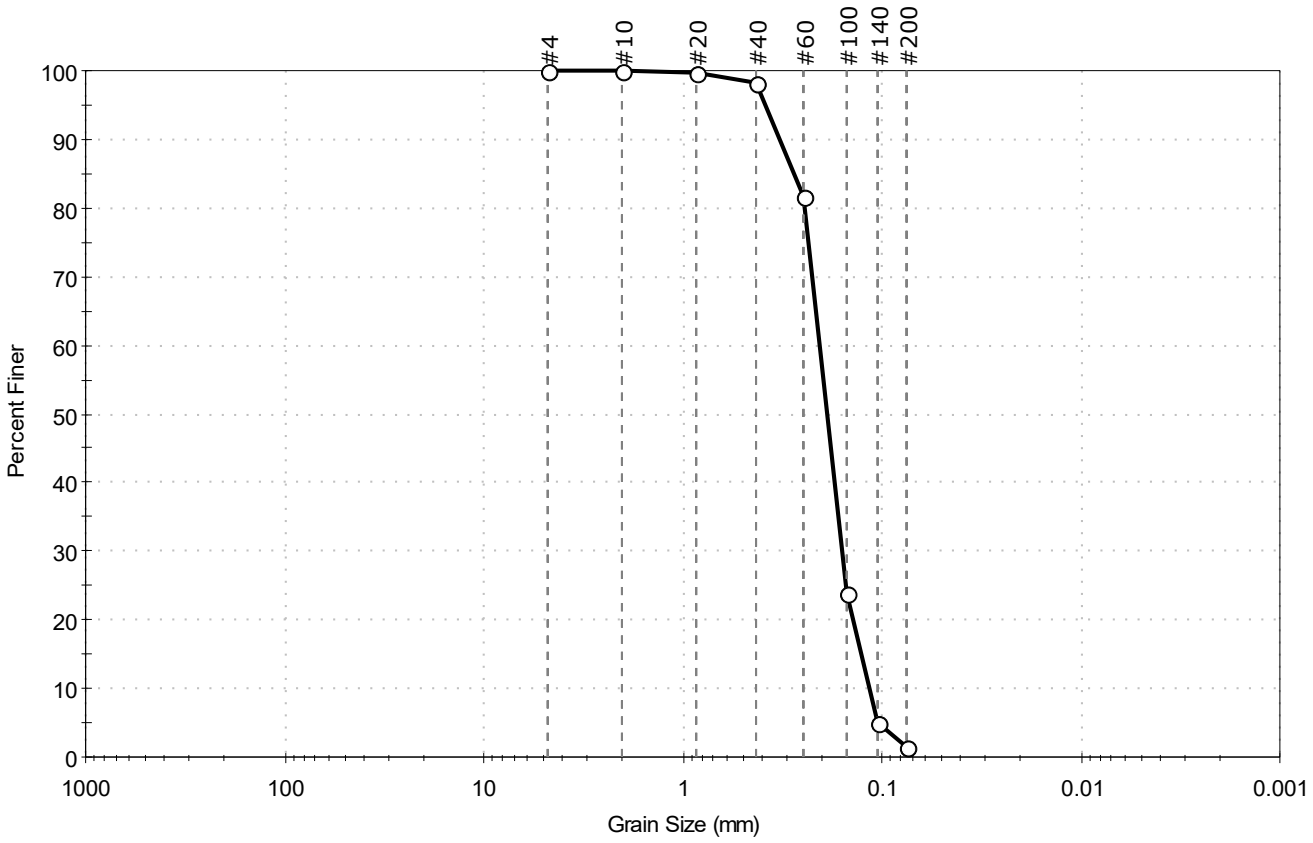
Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

GeoTesting EXPRESS

Client:	Inspire Environmental				
Project:	SRW				
Location:	offshore New York			Project No:	GTX-312302
Boring ID:	---	Sample Type:	bag	Tested By:	ckg
Sample ID:	410 B	Test Date:	09/10/20	Checked By:	bfs
Depth :	---	Test Id:	577519		
Test Comment:	---				
Visual Description:	Moist, olive gray sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
--	0.1	98.5	1.4

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	98		
#60	0.25	82		
#100	0.15	24		
#140	0.11	5		
#200	0.075	1.4		

Coefficients

D_{85} =0.2781 mm	D_{30} =0.1584 mm
D_{60} =0.2065 mm	D_{15} =0.1275 mm
D_{50} =0.1890 mm	D_{10} =0.1163 mm
C_u =1.776	C_c =1.045

Classification

ASTM Poorly graded SAND (SP)

AASHTO Fine Sand (A-3 (1))

Sample/Test Description

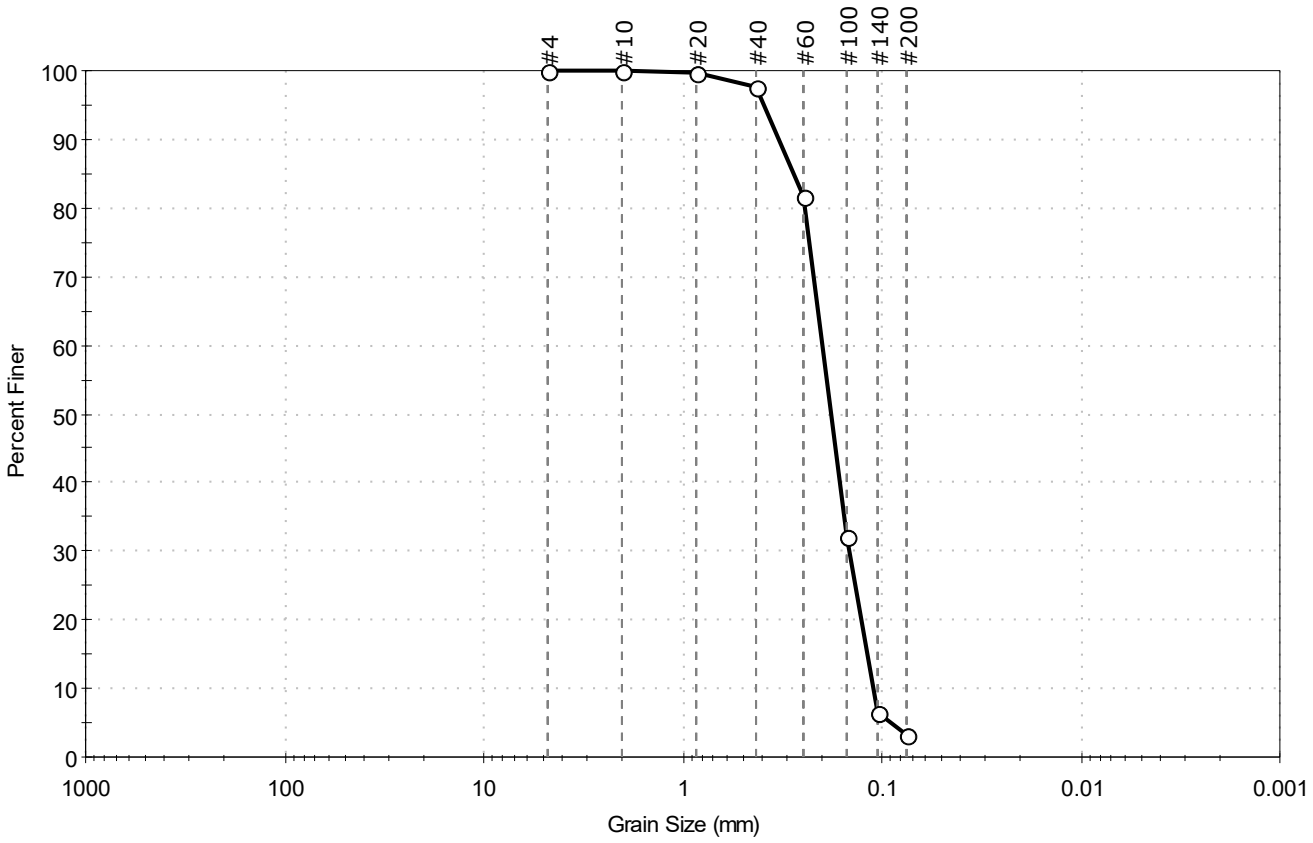
Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

GeoTesting EXPRESS

Client:	Inspire Environmental				
Project:	SRW				
Location:	offshore New York			Project No:	GTX-312302
Boring ID:	---	Sample Type:	bag	Tested By:	ckg
Sample ID:	410 C	Test Date:	09/11/20	Checked By:	bfs
Depth :	---	Test Id:	577520		
Test Comment:	---				
Visual Description:	Moist, dark olive gray sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
--	0.0	96.9	3.1

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	98		
#60	0.25	82		
#100	0.15	32		
#140	0.11	7		
#200	0.075	3.1		

Coefficients

D_{85} = 0.2781 mm	D_{30} = 0.1455 mm
D_{60} = 0.1997 mm	D_{15} = 0.1188 mm
D_{50} = 0.1801 mm	D_{10} = 0.1110 mm
C_u = 1.799	C_c = 0.955

Classification

ASTM Poorly graded SAND (SP)

AASHTO Fine Sand (A-3 (1))

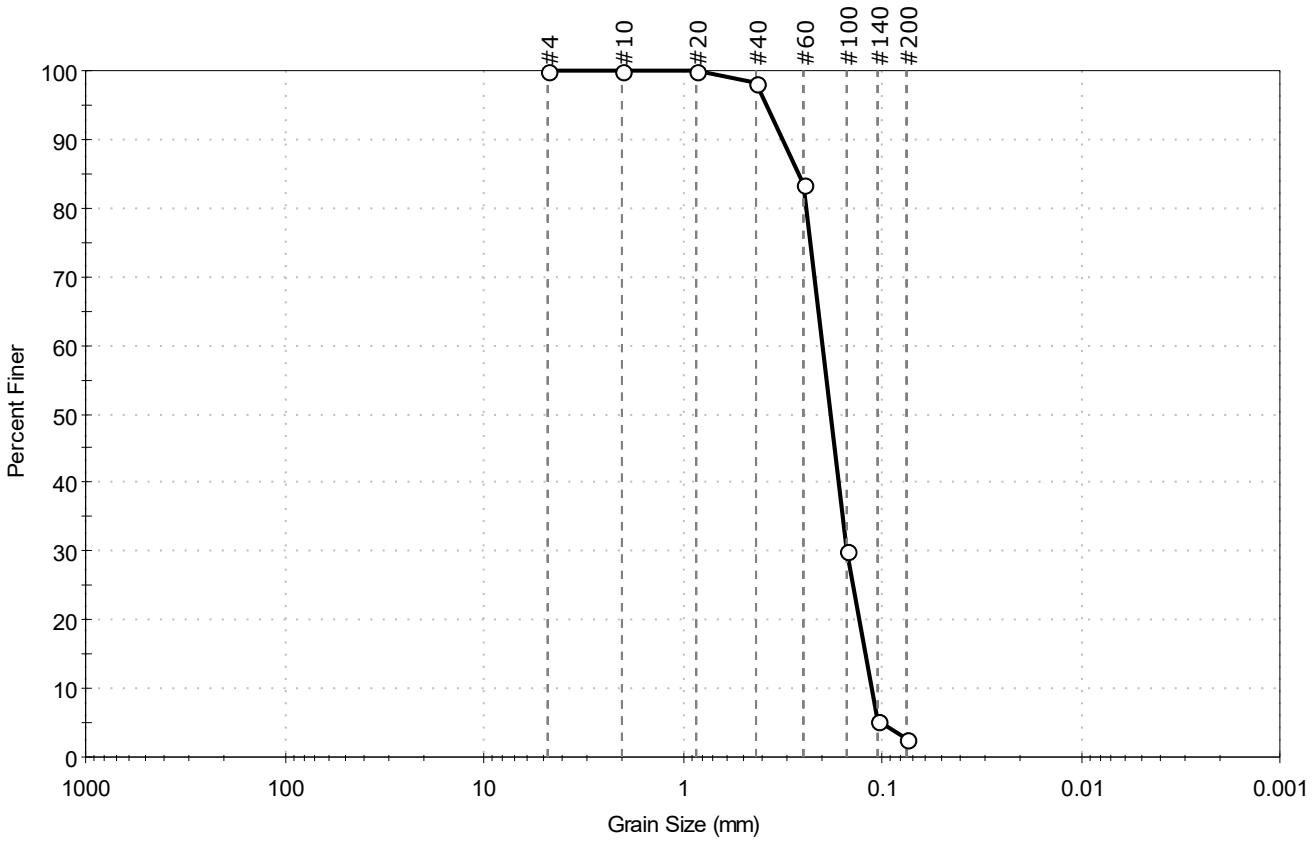
Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Client:	Inspire Environmental				
Project:	SRW				
Location:	offshore New York			Project No:	GTX-312302
Boring ID:	---	Sample Type:	bag	Tested By:	ckg
Sample ID:	412 A	Test Date:	09/14/20	Checked By:	bfs
Depth :	---	Test Id:	577557		
Test Comment:	---				
Visual Description:	Moist, dark olive gray sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
--	0.1	97.3	2.6

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	98		
#60	0.25	83		
#100	0.15	30		
#140	0.11	5		
#200	0.075	2.6		

Coefficients

D_{85} =0.2642 mm	D_{30} =0.1501 mm
D_{60} =0.1998 mm	D_{15} =0.1216 mm
D_{50} =0.1816 mm	D_{10} =0.1134 mm
C_u =1.762	C_c =0.994

Classification

ASTM Poorly graded SAND (SP)

AASHTO Fine Sand (A-3 (1))

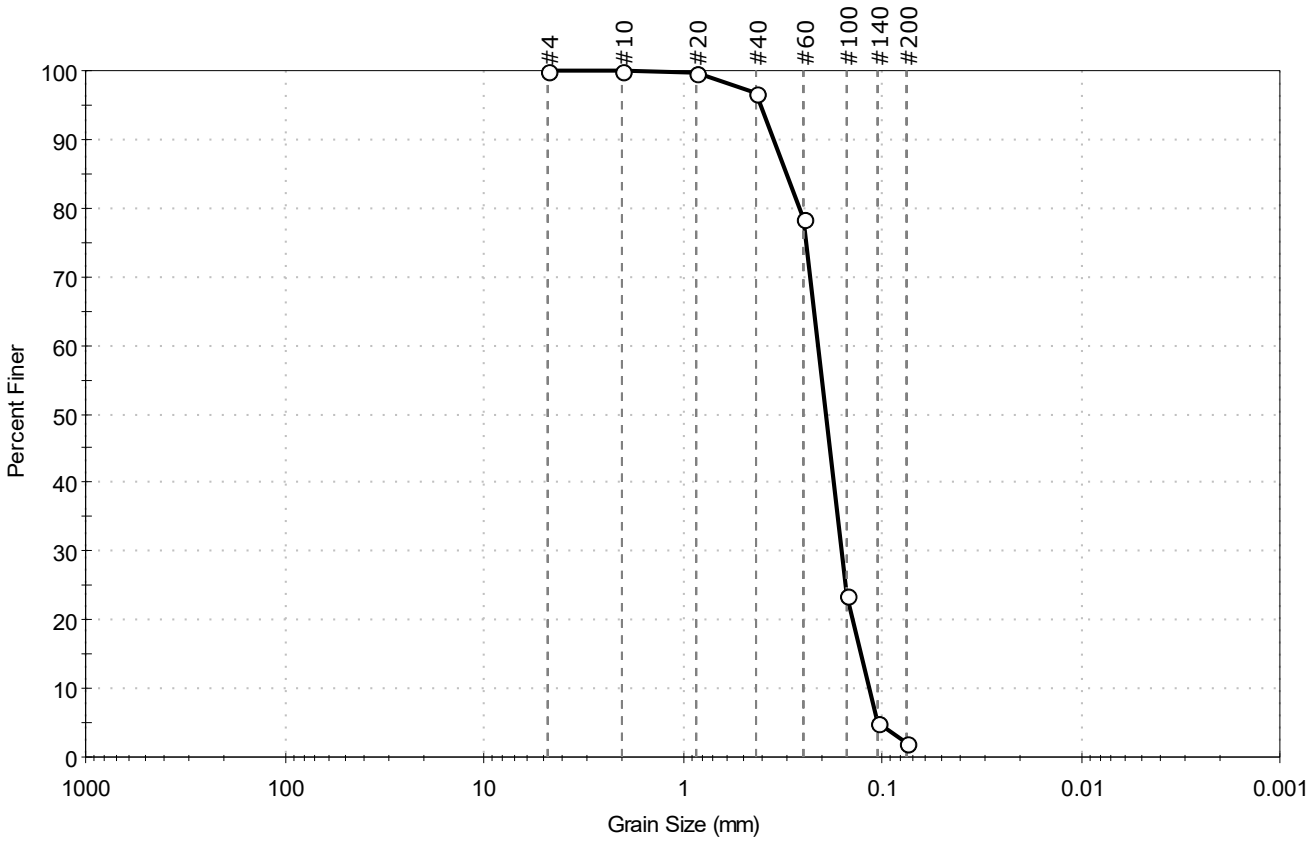
Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Client:	Inspire Environmental				
Project:	SRW				
Location:	offshore New York			Project No:	GTX-312302
Boring ID:	---	Sample Type:	bag	Tested By:	ckg
Sample ID:	412 B	Test Date:	09/10/20	Checked By:	bfs
Depth :	---	Test Id:	577558		
Test Comment:	---				
Visual Description:	Moist, olive gray sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
--	0.1	97.8	2.1

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	97		
#60	0.25	78		
#100	0.15	24		
#140	0.11	5		
#200	0.075	2.1		

Coefficients

D_{85} =0.3030 mm	D_{30} =0.1592 mm
D_{60} =0.2107 mm	D_{15} =0.1278 mm
D_{50} =0.1919 mm	D_{10} =0.1165 mm
C_u =1.809	C_c =1.033

Classification

ASTM Poorly graded SAND (SP)

AASHTO Fine Sand (A-3 (1))

Sample/Test Description

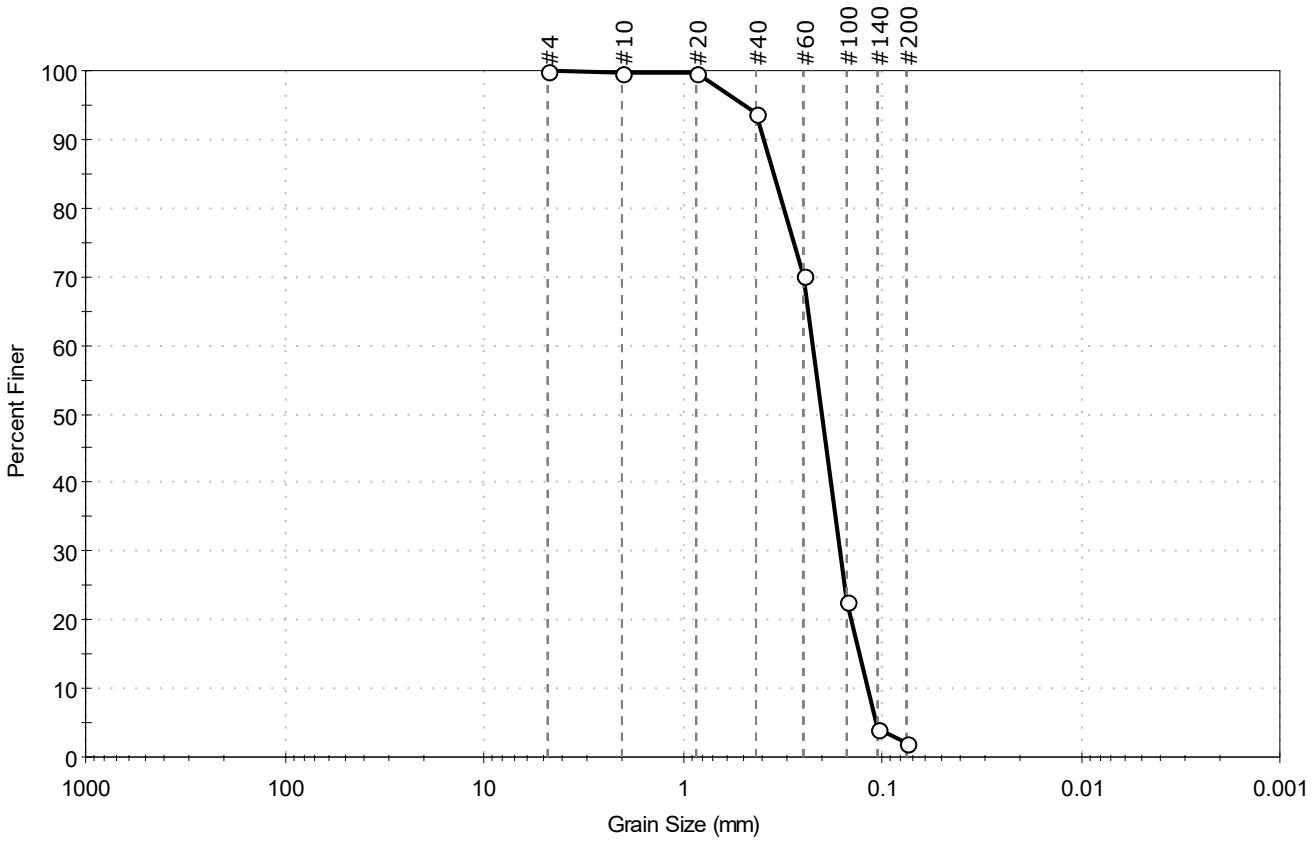
Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

printed 9/15/2020 4:00:43 PM

Client:	Inspire Environmental				
Project:	SRW				
Location:	offshore New York			Project No:	GTX-312302
Boring ID:	---	Sample Type:	bag	Tested By:	ckg
Sample ID:	412 C	Test Date:	09/10/20	Checked By:	bfs
Depth :	---	Test Id:	577559		
Test Comment:	---				
Visual Description:	Moist, very dark olive gray sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
--	0.1	97.8	2.1

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	94		
#60	0.25	70		
#100	0.15	23		
#140	0.11	4		
#200	0.075	2.1		

Coefficients

D_{85} =0.3485 mm	D_{30} =0.1621 mm
D_{60} =0.2242 mm	D_{15} =0.1297 mm
D_{50} =0.2012 mm	D_{10} =0.1181 mm
C_u =1.898	C_c =0.992

Classification

ASTM Poorly graded SAND (SP)

AASHTO Fine Sand (A-3 (1))

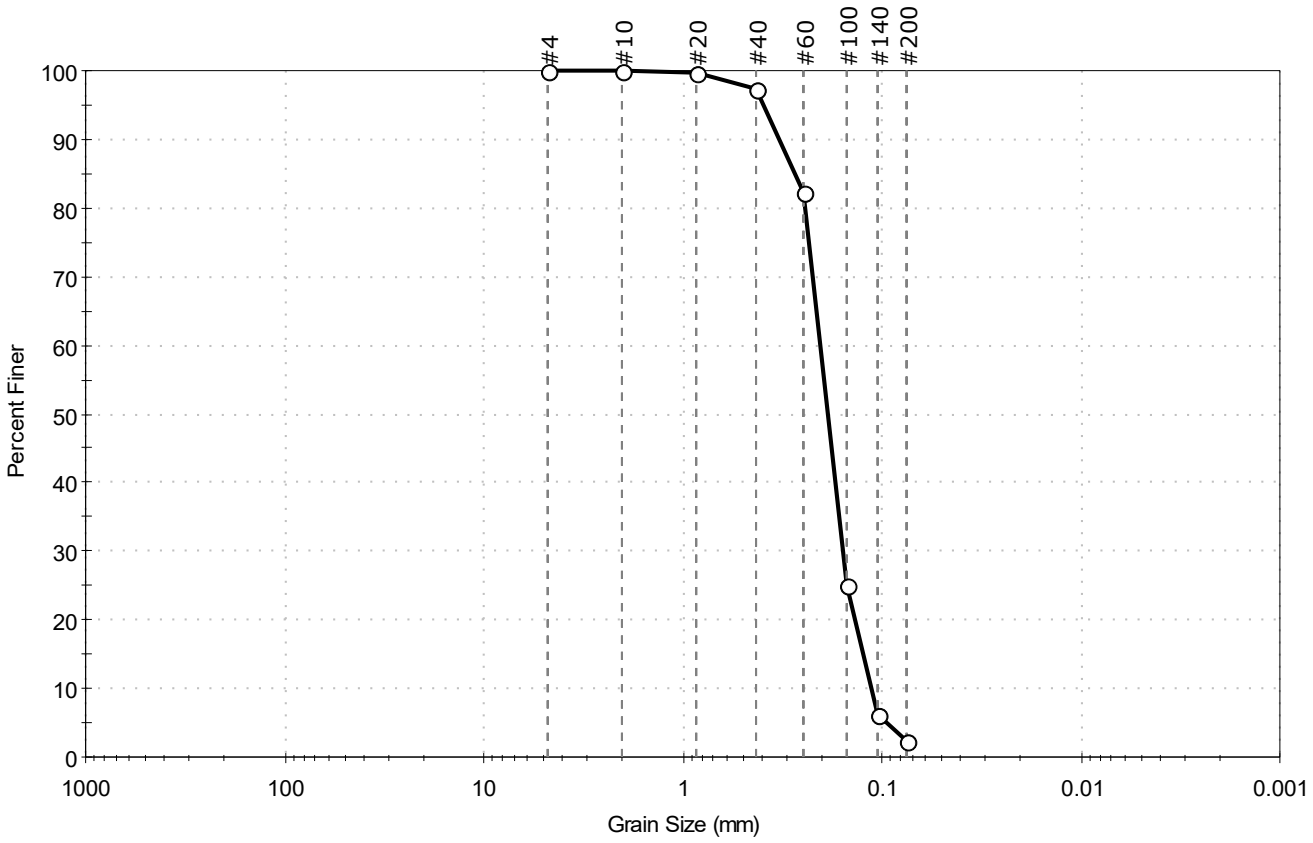
Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Client:	Inspire Environmental				
Project:	SRW				
Location:	offshore New York			Project No:	GTX-312302
Boring ID:	---	Sample Type:	bag	Tested By:	ckg
Sample ID:	414 A	Test Date:	09/10/20	Checked By:	bfs
Depth :	---	Test Id:	577554		
Test Comment:	---				
Visual Description:	Moist, dark olive gray sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
--	0.0	97.7	2.3

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	97		
#60	0.25	82		
#100	0.15	25		
#140	0.11	6		
#200	0.075	2.3		

Coefficients

D_{85} =0.2742 mm	D_{30} =0.1568 mm
D_{60} =0.2048 mm	D_{15} =0.1246 mm
D_{50} =0.1874 mm	D_{10} =0.1137 mm
C_u =1.801	C_c =1.056

Classification

ASTM Poorly graded SAND (SP)

AASHTO Fine Sand (A-3 (1))

Sample/Test Description

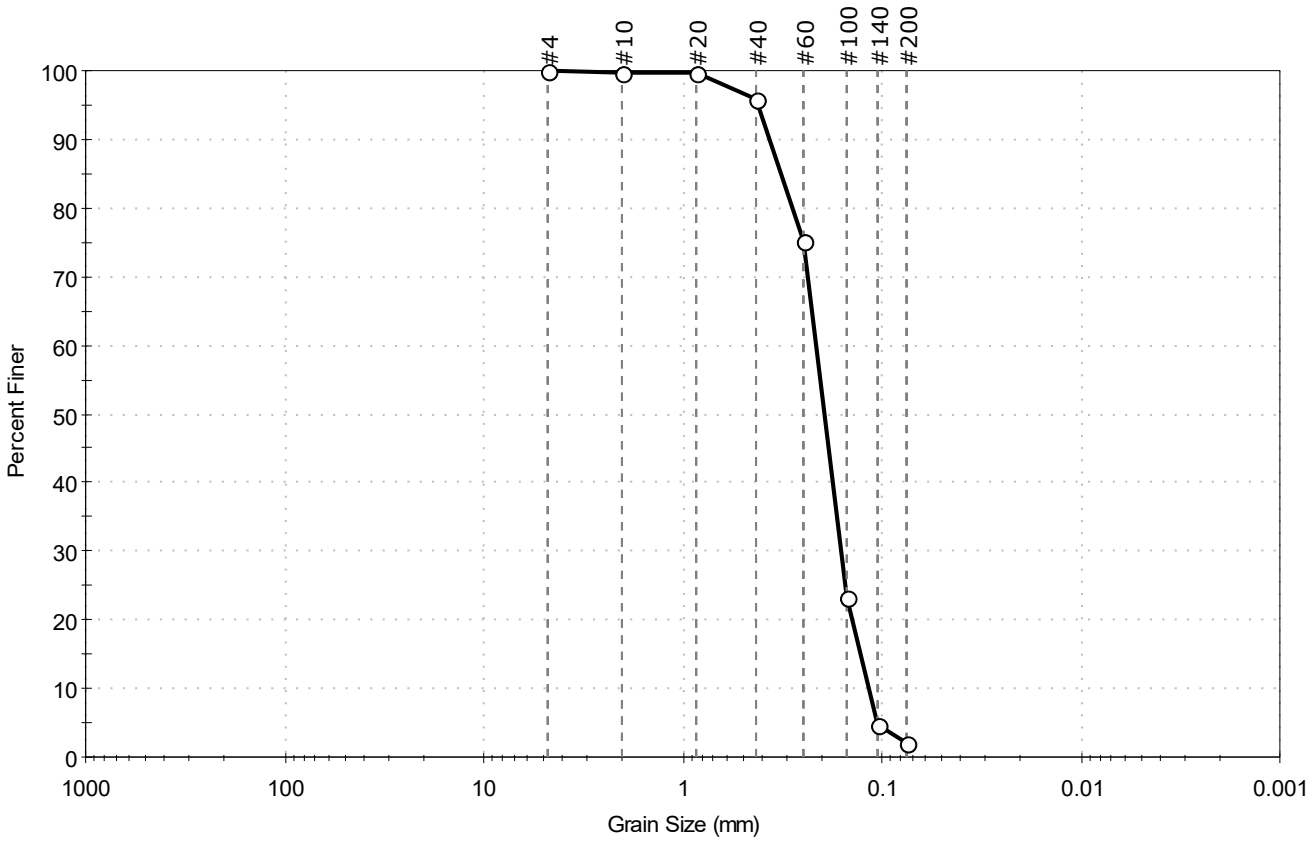
Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

GeoTesting EXPRESS

Client:	Inspire Environmental				
Project:	SRW				
Location:	offshore New York			Project No:	GTX-312302
Boring ID:	---	Sample Type:	bag	Tested By:	ckg
Sample ID:	414 B	Test Date:	09/10/20	Checked By:	bfs
Depth :	---	Test Id:	577555		
Test Comment:	---				
Visual Description:	Moist, olive gray sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
--	0.0	98.0	2.0

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	96		
#60	0.25	75		
#100	0.15	23		
#140	0.11	5		
#200	0.075	2.0		

Coefficients

D_{85} =0.3210 mm	D_{30} =0.1603 mm
D_{60} =0.2151 mm	D_{15} =0.1285 mm
D_{50} =0.1950 mm	D_{10} =0.1169 mm
C_u =1.840	C_c =1.022

Classification

ASTM Poorly graded SAND (SP)

AASHTO Fine Sand (A-3 (1))

Sample/Test Description

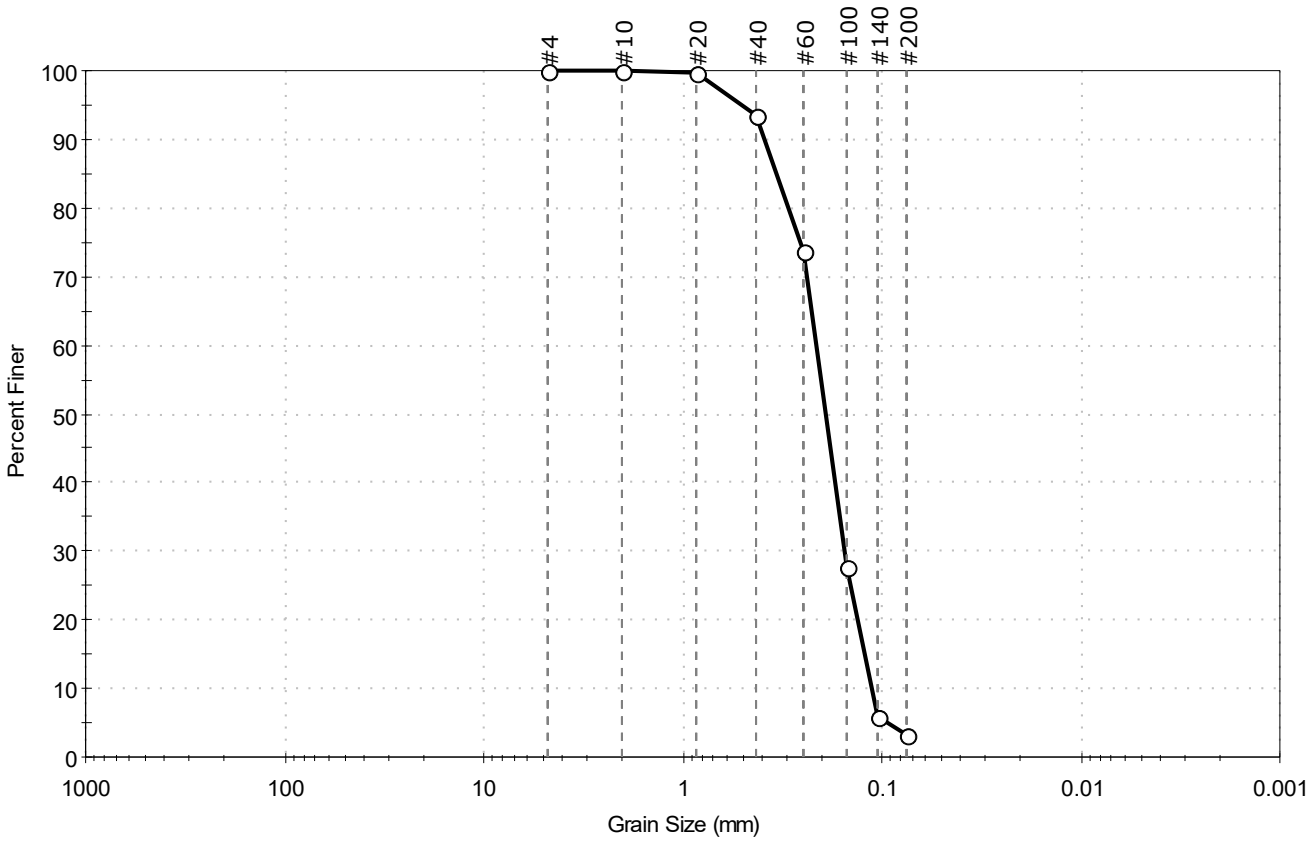
Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

printed 9/15/2020 4:00:54 PM

Client:	Inspire Environmental				
Project:	SRW				
Location:	offshore New York			Project No:	GTX-312302
Boring ID:	---	Sample Type:	bag	Tested By:	ckg
Sample ID:	414 C	Test Date:	09/10/20	Checked By:	bfs
Depth :	---	Test Id:	577556		
Test Comment:	---				
Visual Description:	Moist, dark olive gray sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
--	0.1	96.7	3.2

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	94		
#60	0.25	74		
#100	0.15	28		
#140	0.11	6		
#200	0.075	3.2		

Coefficients

D_{85} =0.3375 mm	D_{30} =0.1538 mm
D_{60} =0.2144 mm	D_{15} =0.1226 mm
D_{50} =0.1919 mm	D_{10} =0.1132 mm
C_u =1.894	C_c =0.975

Classification

ASTM Poorly graded SAND (SP)

AASHTO Fine Sand (A-3 (1))

Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

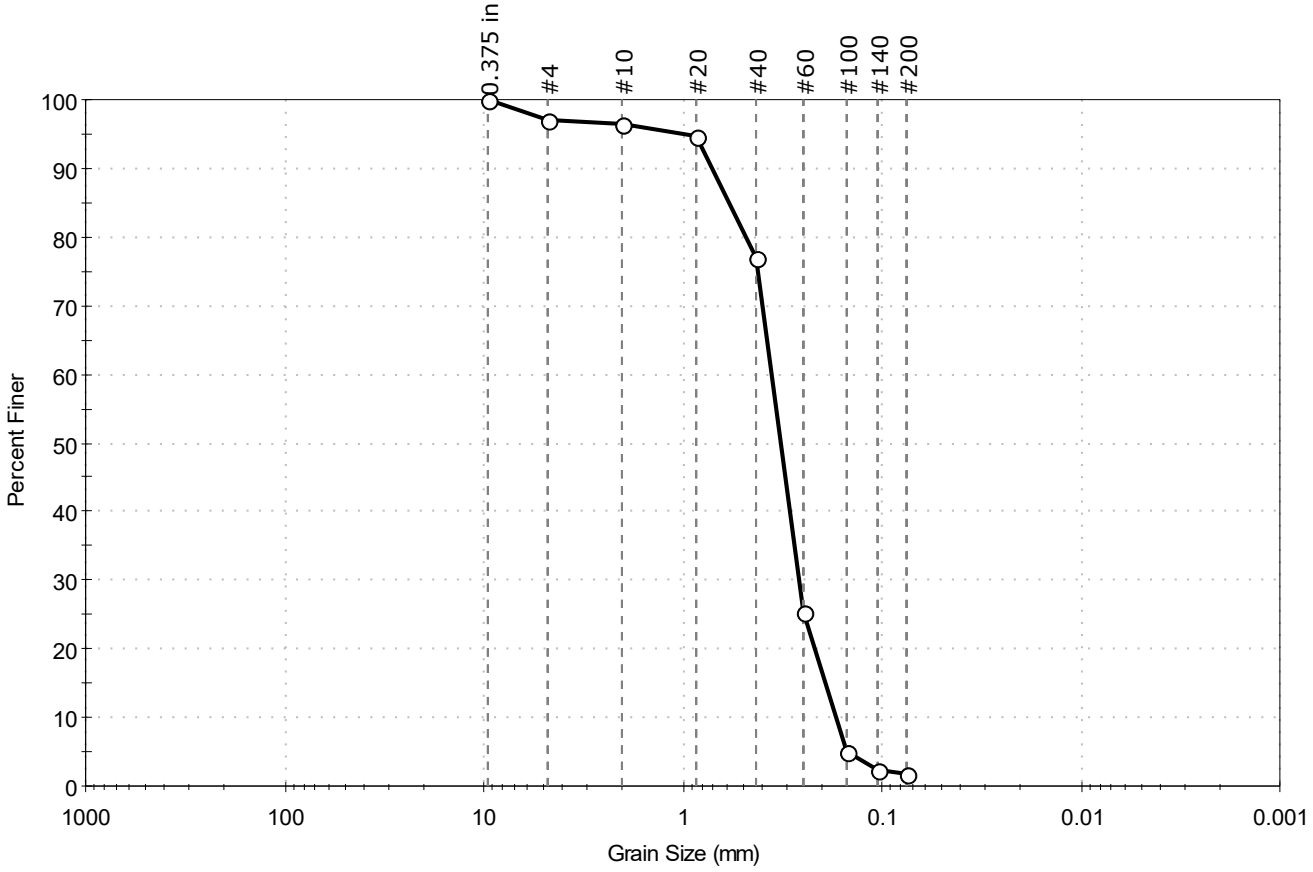
printed 9/15/2020 4:00:57 PM

GeoTesting EXPRESS

Client:	Inspire Environmental				
Project:	SRW				
Location:	offshore New York			Project No:	GTX-312302
Boring ID:	---	Sample Type:	bag	Tested By:	ckg
Sample ID:	416 A	Test Date:	09/10/20	Checked By:	bfs
Depth :	---	Test Id:	577551		

Test Comment: ---
Visual Description: Moist, olive gray sand
Sample Comment: ---

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
--	3.1	95.3	1.6

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
0.375 in	9.50	100		
#4	4.75	97		
#10	2.00	96		
#20	0.85	95		
#40	0.42	77		
#60	0.25	25		
#100	0.15	5		
#140	0.11	2		
#200	0.075	1.6		

Coefficients

D_{85} = 0.5804 mm D_{30} = 0.2619 mm
D_{60} = 0.3566 mm D_{15} = 0.1924 mm
D_{50} = 0.3217 mm D_{10} = 0.1698 mm
C_u = 2.100 C_c = 1.133

Classification

ASTM Poorly graded SAND (SP)

AASHTO Fine Sand (A-3 (1))

Sample/Test Description

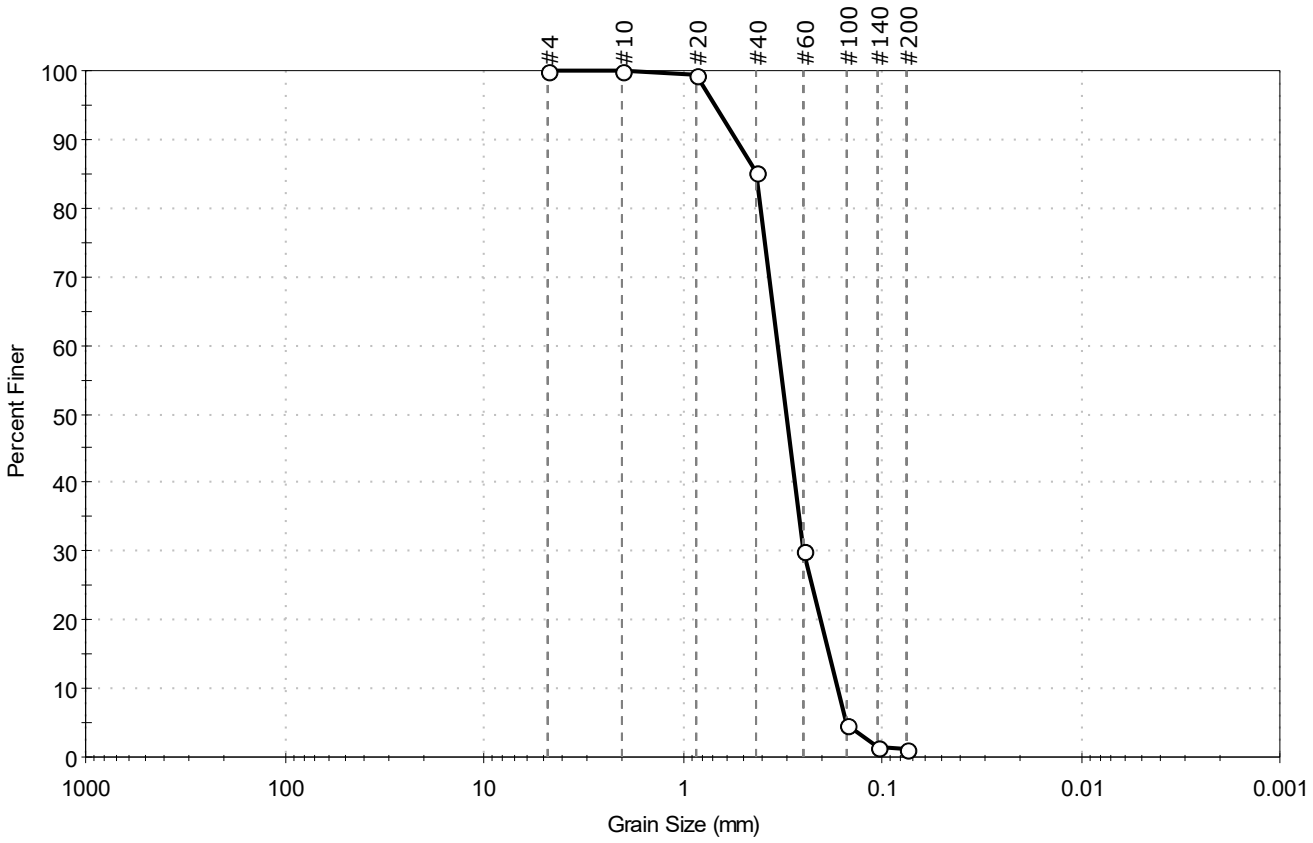
Sand/Gravel Particle Shape : ---
Sand/Gravel Hardness : ---

printed 9/15/2020 4:01:01 PM

GeoTesting EXPRESS

Client:	Inspire Environmental				
Project:	SRW				
Location:	offshore New York			Project No:	GTX-312302
Boring ID:	---	Sample Type:	bag	Tested By:	ckg
Sample ID:	416 B	Test Date:	09/10/20	Checked By:	bfs
Depth :	---	Test Id:	577552		
Test Comment:	---				
Visual Description:	Moist, light brownish gray sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
--	0.1	98.8	1.1

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	99		
#40	0.42	85		
#60	0.25	30		
#100	0.15	5		
#140	0.11	2		
#200	0.075	1.1		

Coefficients

D_{85} = 0.4236 mm	D_{30} = 0.2499 mm
D_{60} = 0.3333 mm	D_{15} = 0.1848 mm
D_{50} = 0.3028 mm	D_{10} = 0.1671 mm
C_u = 1.995	C_c = 1.121

Classification

ASTM Poorly graded SAND (SP)

AASHTO Fine Sand (A-3 (1))

Sample/Test Description

Sand/Gravel Particle Shape : ---

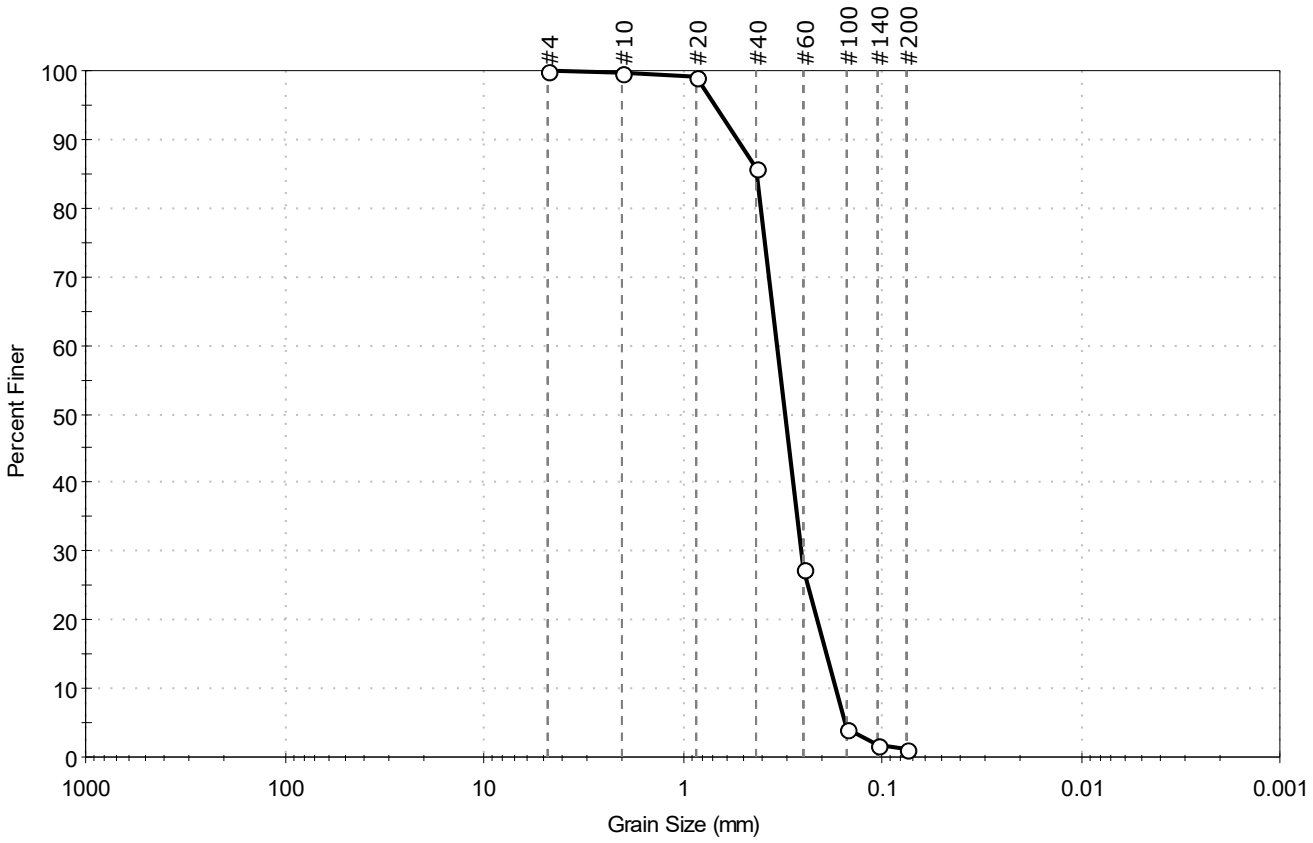
Sand/Gravel Hardness : ---

GeoTesting EXPRESS

Client:	Inspire Environmental				
Project:	SRW				
Location:	offshore New York			Project No:	GTX-312302
Boring ID:	---	Sample Type:	bag	Tested By:	ckg
Sample ID:	416 C	Test Date:	09/14/20	Checked By:	bfs
Depth :	---	Test Id:	577553		

Test Comment: ---
Visual Description: Moist, dark grayish brown sand
Sample Comment: ---

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
--	0.0	98.7	1.3

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	99		
#40	0.42	86		
#60	0.25	27		
#100	0.15	4		
#140	0.11	2		
#200	0.075	1.3		

Coefficients

D_{85} =0.4222 mm	D_{30} =0.2559 mm
D_{60} =0.3363 mm	D_{15} =0.1902 mm
D_{50} =0.3070 mm	D_{10} =0.1704 mm
C_u =1.974	C_c =1.143

Classification

ASTM Poorly graded SAND (SP)

AASHTO Fine Sand (A-3 (1))

Sample/Test Description

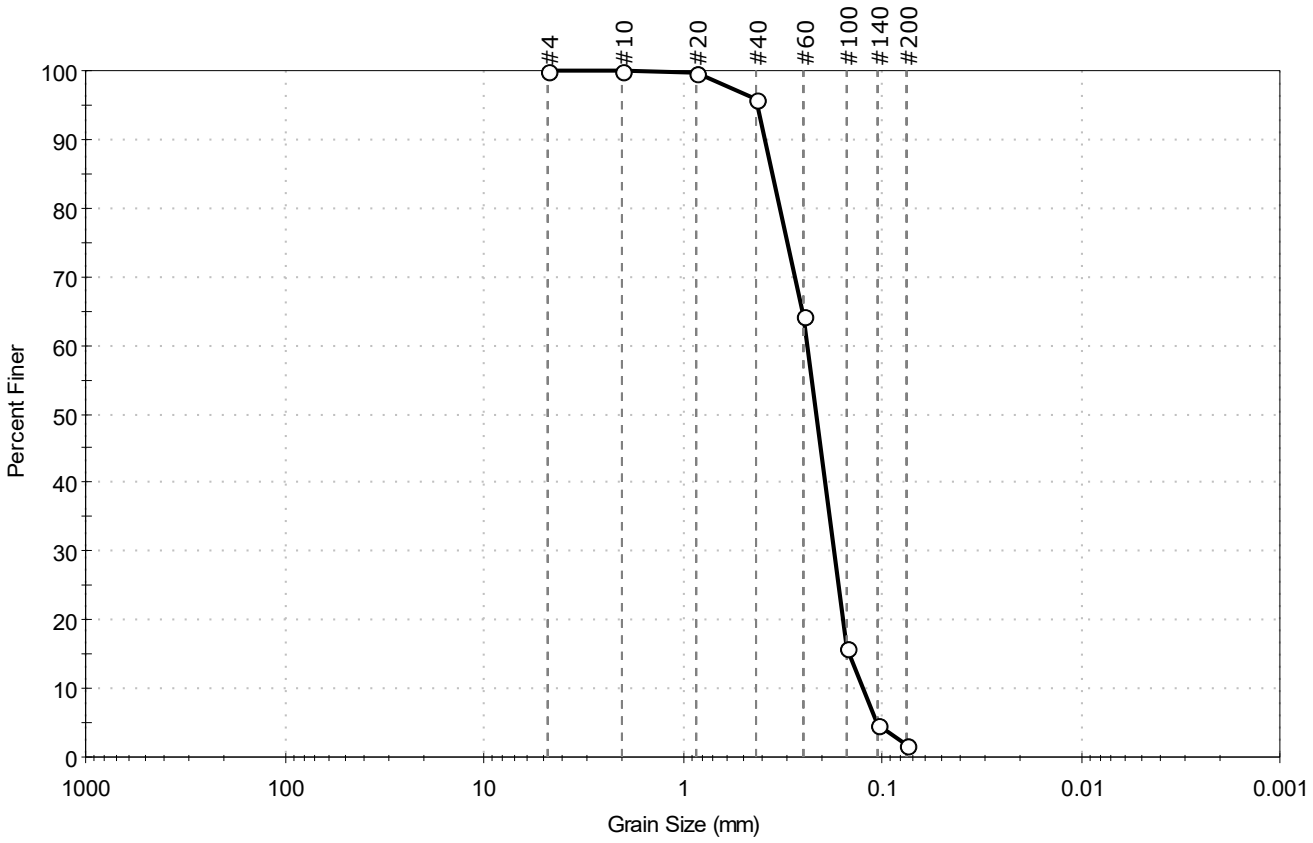
Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

GeoTesting EXPRESS

Client:	Inspire Environmental				
Project:	SRW				
Location:	offshore New York			Project No:	GTX-312302
Boring ID:	---	Sample Type:	bag	Tested By:	ckg
Sample ID:	418 A	Test Date:	09/14/20	Checked By:	bfs
Depth :	---	Test Id:	577548		
Test Comment:	---				
Visual Description:	Moist, olive gray sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
--	0.1	98.2	1.7

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	96		
#60	0.25	64		
#100	0.15	16		
#140	0.11	5		
#200	0.075	1.7		

Coefficients

D_{85} =0.3543 mm	D_{30} =0.1739 mm
D_{60} =0.2390 mm	D_{15} =0.1453 mm
D_{50} =0.2150 mm	D_{10} =0.1248 mm
C_u =1.915	C_c =1.014

Classification

ASTM Poorly graded SAND (SP)

AASHTO Fine Sand (A-3 (1))

Sample/Test Description

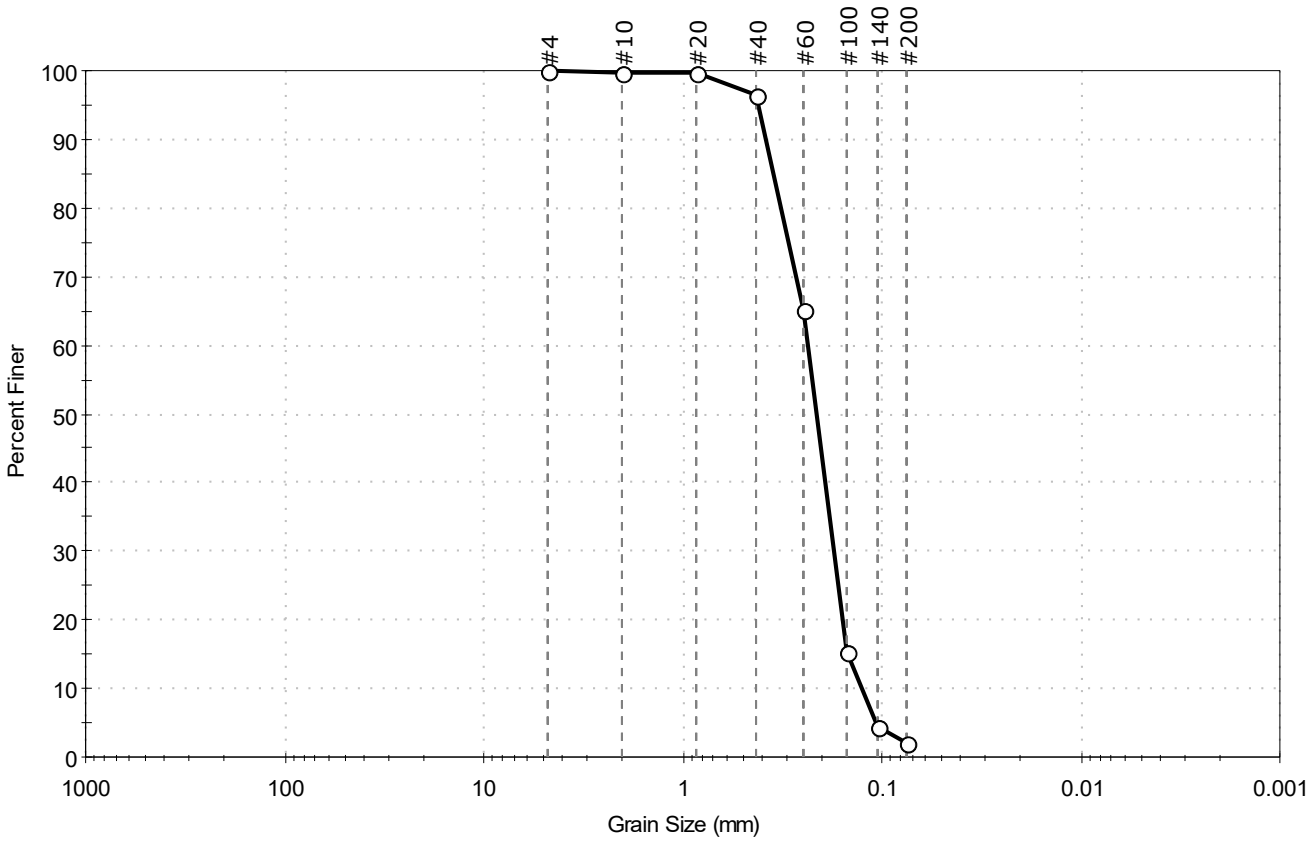
Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

printed 9/15/2020 4:01:10 PM

Client:	Inspire Environmental				
Project:	SRW				
Location:	offshore New York			Project No:	GTX-312302
Boring ID:	---	Sample Type:	bag	Tested By:	ckg
Sample ID:	418 B	Test Date:	09/10/20	Checked By:	bfs
Depth :	---	Test Id:	577549		
Test Comment:	---				
Visual Description:	Moist, dark olive gray sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
--	0.0	97.8	2.2

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	96		
#60	0.25	65		
#100	0.15	15		
#140	0.11	4		
#200	0.075	2.2		

Coefficients

D_{85} =0.3503 mm	D_{30} =0.1743 mm
D_{60} =0.2372 mm	D_{15} =0.1481 mm
D_{50} =0.2140 mm	D_{10} =0.1265 mm
C_u =1.875	C_c =1.012

Classification

ASTM Poorly graded SAND (SP)

AASHTO Fine Sand (A-3 (1))

Sample/Test Description

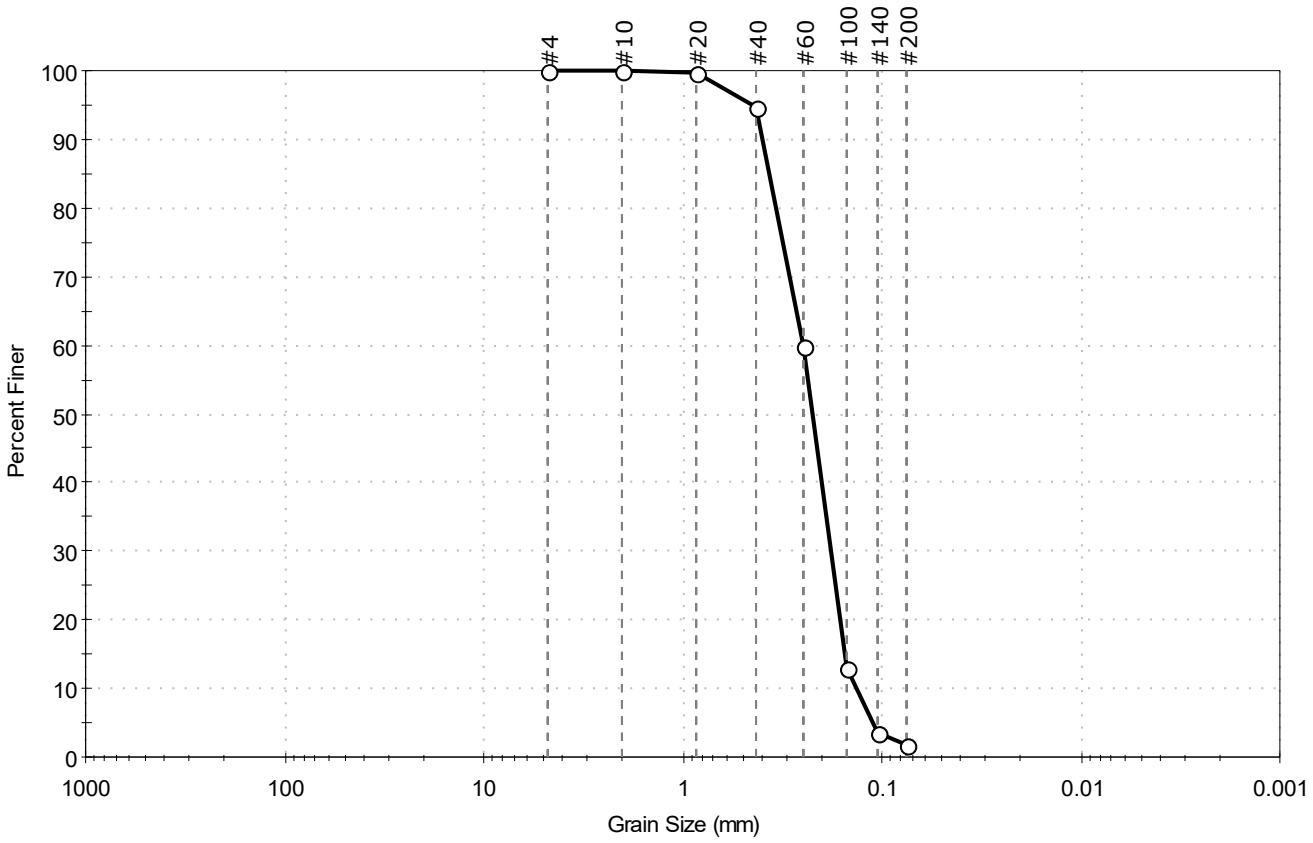
Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

GeoTesting EXPRESS

Client:	Inspire Environmental				
Project:	SRW				
Location:	offshore New York			Project No:	GTX-312302
Boring ID:	---	Sample Type:	bag	Tested By:	ckg
Sample ID:	418 C	Test Date:	09/14/20	Checked By:	bfs
Depth :	---	Test Id:	577550		
Test Comment:	---				
Visual Description:	Moist, dark grayish brown sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
--	0.1	98.2	1.7

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	95		
#60	0.25	60		
#100	0.15	13		
#140	0.11	4		
#200	0.075	1.7		

Coefficients

D_{85} =0.3660 mm	D_{30} =0.1806 mm
D_{60} =0.2502 mm	D_{15} =0.1534 mm
D_{50} =0.2244 mm	D_{10} =0.1346 mm
C_u =1.859	C_c =0.969

Classification

ASTM Poorly graded SAND (SP)

AASHTO Fine Sand (A-3 (1))

Sample/Test Description

Sand/Gravel Particle Shape : ---

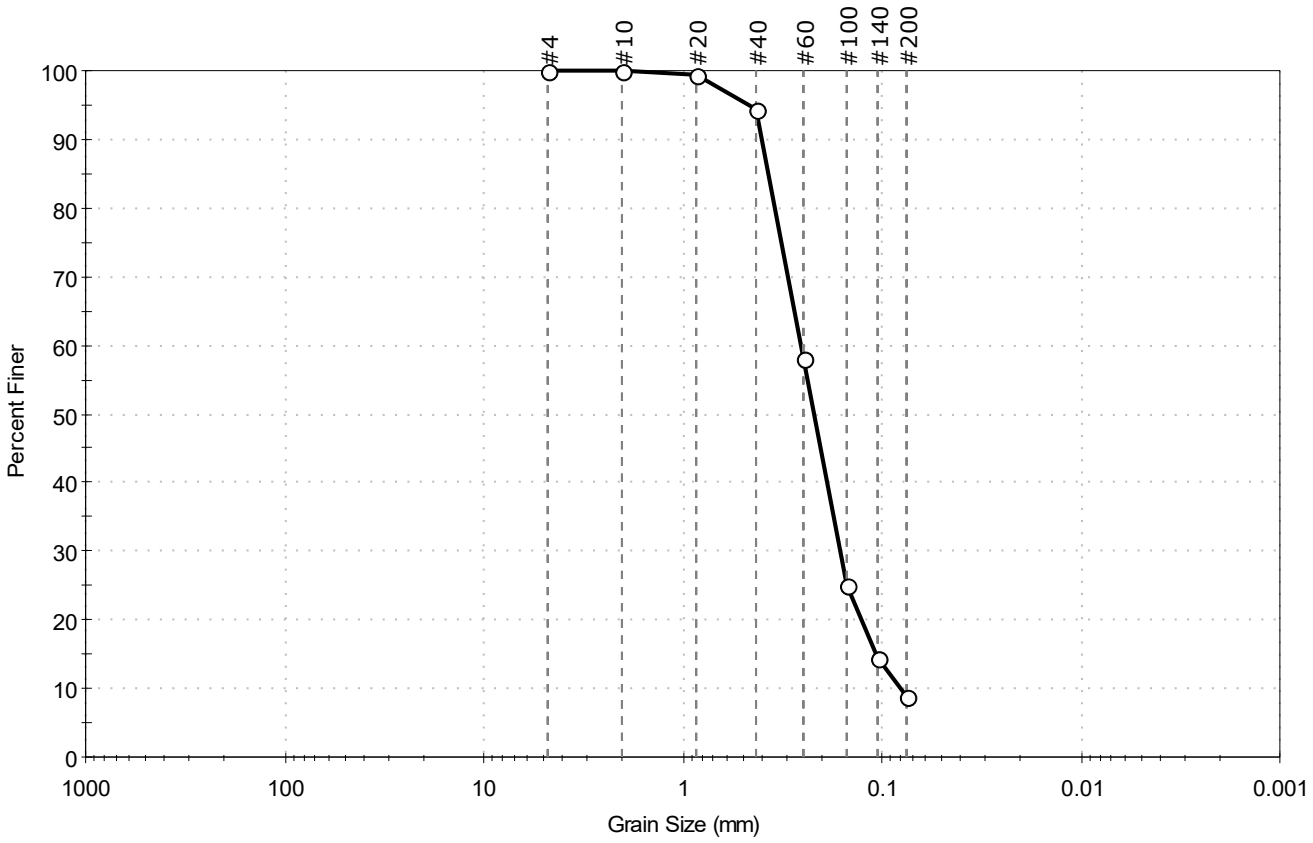
Sand/Gravel Hardness : ---

GeoTesting EXPRESS

Client:	Inspire Environmental				
Project:	SRW				
Location:	offshore New York			Project No:	GTX-312302
Boring ID:	---	Sample Type:	bag	Tested By:	ckg
Sample ID:	420 A	Test Date:	09/10/20	Checked By:	bfs
Depth :	---	Test Id:	577545		

Test Comment: ---
Visual Description: Moist, very dark gray sand with silt
Sample Comment: ---

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
--	0.1	91.1	8.8

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	99		
#40	0.42	94		
#60	0.25	58		
#100	0.15	25		
#140	0.11	14		
#200	0.075	8.8		

Coefficients

D_{85} = 0.3701 mm D_{30} = 0.1619 mm
D_{60} = 0.2567 mm D_{15} = 0.1078 mm
D_{50} = 0.2203 mm D_{10} = 0.0806 mm
C_u = 3.185 C_c = 1.267

Classification

ASTM N/A

AASHTO Fine Sand (A-3 (1))

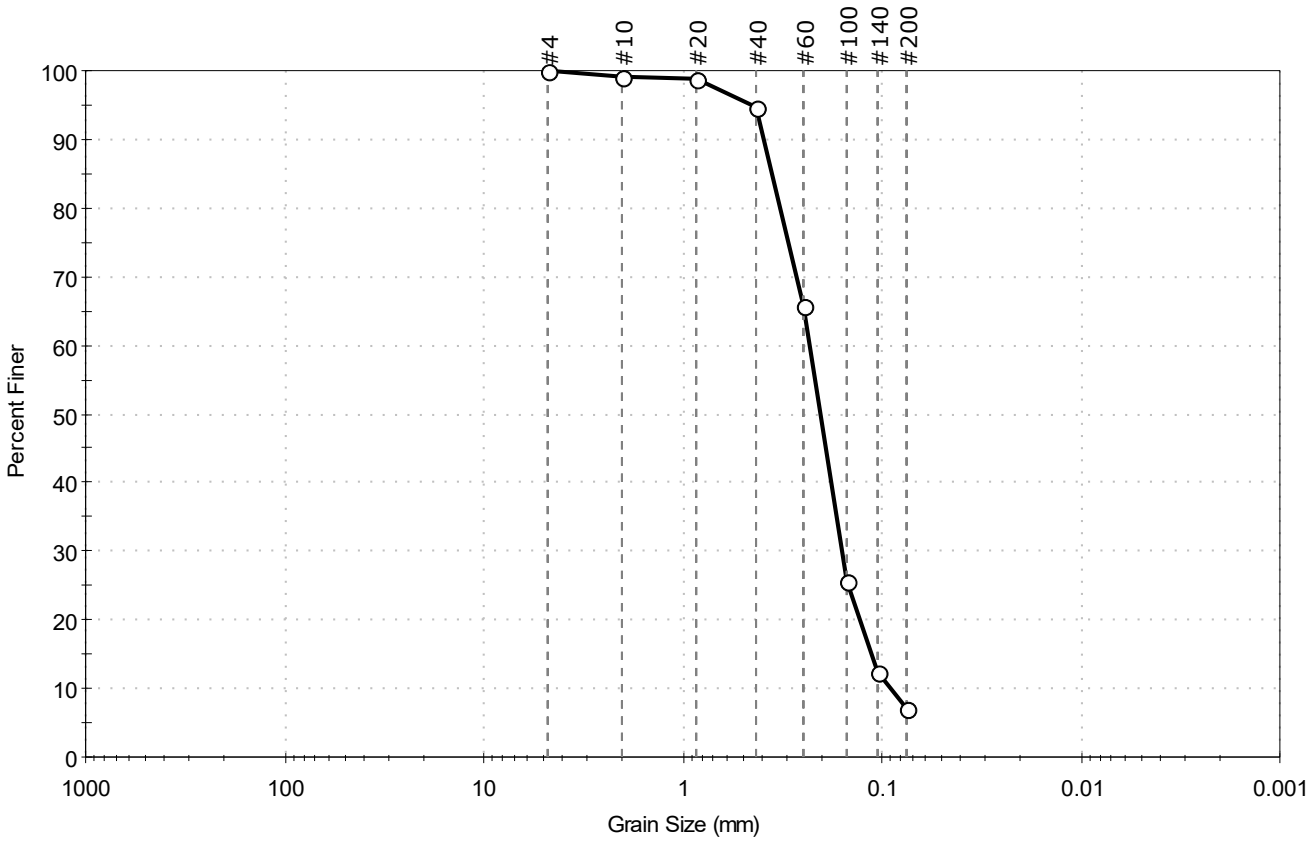
Sample/Test Description

Sand/Gravel Particle Shape : ---
Sand/Gravel Hardness : ---

GeoTesting EXPRESS

Client:	Inspire Environmental				
Project:	SRW				
Location:	offshore New York			Project No:	GTX-312302
Boring ID:	---	Sample Type:	bag	Tested By:	ckg
Sample ID:	420 B	Test Date:	09/10/20	Checked By:	bfs
Depth :	---	Test Id:	577546		
Test Comment:	---				
Visual Description:	Moist, dark gray sand with silt				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
--	0.1	92.7	7.2

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	99		
#20	0.85	99		
#40	0.42	95		
#60	0.25	66		
#100	0.15	26		
#140	0.11	12		
#200	0.075	7.2		

Coefficients

D_{85} =0.3557 mm	D_{30} =0.1586 mm
D_{60} =0.2324 mm	D_{15} =0.1135 mm
D_{50} =0.2046 mm	D_{10} =0.0904 mm
C_u =2.571	C_c =1.197

Classification

ASTM N/A

AASHTO Fine Sand (A-3 (1))

Sample/Test Description

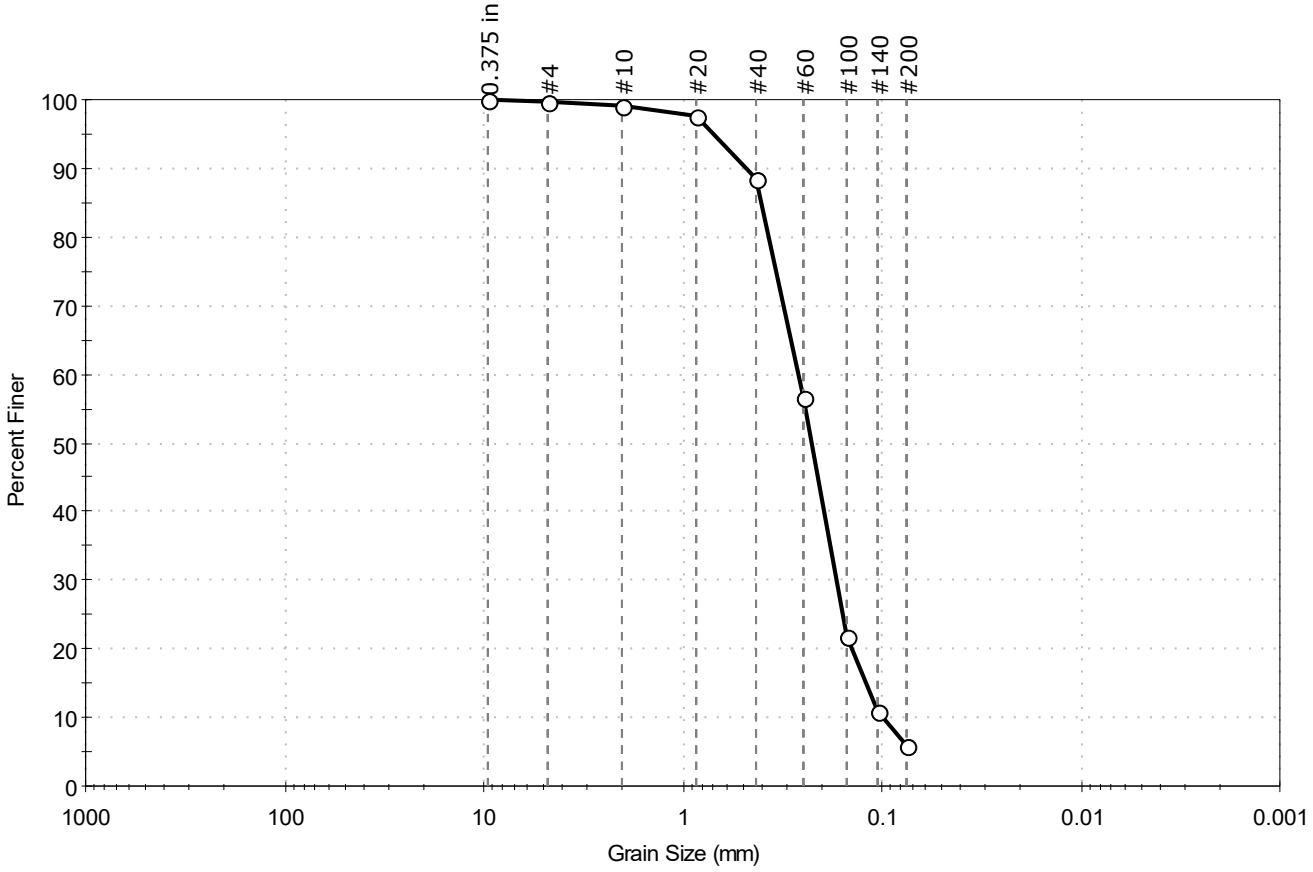
Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

printed 9/15/2020 4:01:16 PM

Client:	Inspire Environmental				
Project:	SRW				
Location:	offshore New York			Project No:	GTX-312302
Boring ID:	---	Sample Type:	bag	Tested By:	ckg
Sample ID:	420 C	Test Date:	09/14/20	Checked By:	bfs
Depth :	---	Test Id:	577547		
Test Comment:	---				
Visual Description:	Moist, dark olive gray sand with silt				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
--	0.4	93.7	5.9

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
0.375 in	9.50	100		
#4	4.75	100		
#10	2.00	99		
#20	0.85	98		
#40	0.42	88		
#60	0.25	57		
#100	0.15	22		
#140	0.11	11		
#200	0.075	5.9		

Coefficients

D_{85} = 0.4012 mm D_{30} = 0.1692 mm

D_{60} = 0.2641 mm D_{15} = 0.1206 mm

D_{50} = 0.2266 mm D_{10} = 0.0989 mm

C_u = 2.670 C_c = 1.096

Classification

ASTM N/A

AASHTO Fine Sand (A-3 (1))

Sample/Test Description

Sand/Gravel Particle Shape : ---

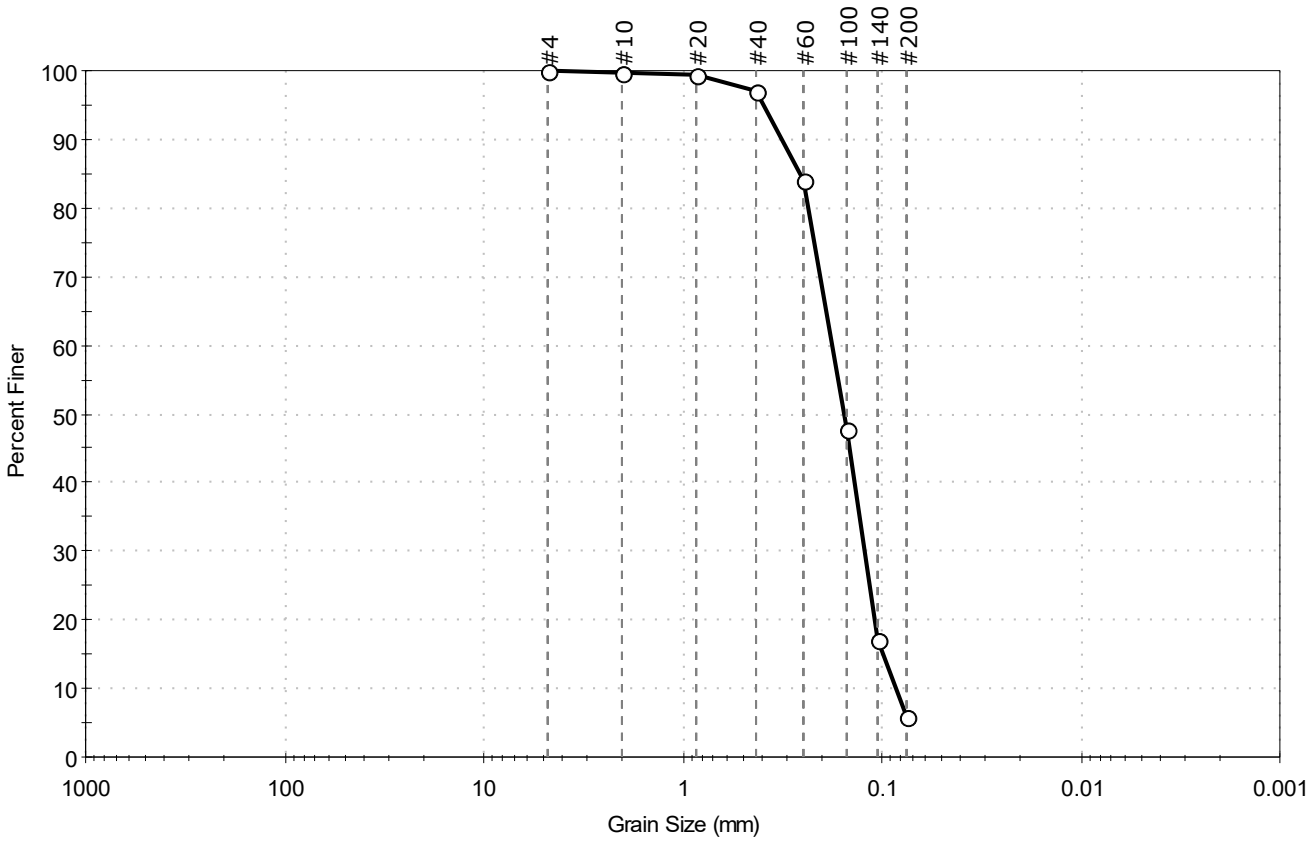
Sand/Gravel Hardness : ---

GeoTesting EXPRESS

Client:	Inspire Environmental				
Project:	SRW				
Location:	offshore New York			Project No:	GTX-312302
Boring ID:	---	Sample Type:	bag	Tested By:	ckg
Sample ID:	422 A	Test Date:	09/10/20	Checked By:	bfs
Depth :	---	Test Id:	577542		

Test Comment: ---
Visual Description: Moist, dark gray sand with silt
Sample Comment: ---

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
--	0.1	93.9	6.0

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	99		
#40	0.42	97		
#60	0.25	84		
#100	0.15	48		
#140	0.11	17		
#200	0.075	6.0		

Coefficients

D_{85} = 0.2602 mm
D_{30} = 0.1225 mm
D_{60} = 0.1779 mm
D_{15} = 0.0990 mm
D_{50} = 0.1545 mm
D_{10} = 0.0849 mm
C_u = 2.095
C_c = 0.994

Classification

ASTM N/A

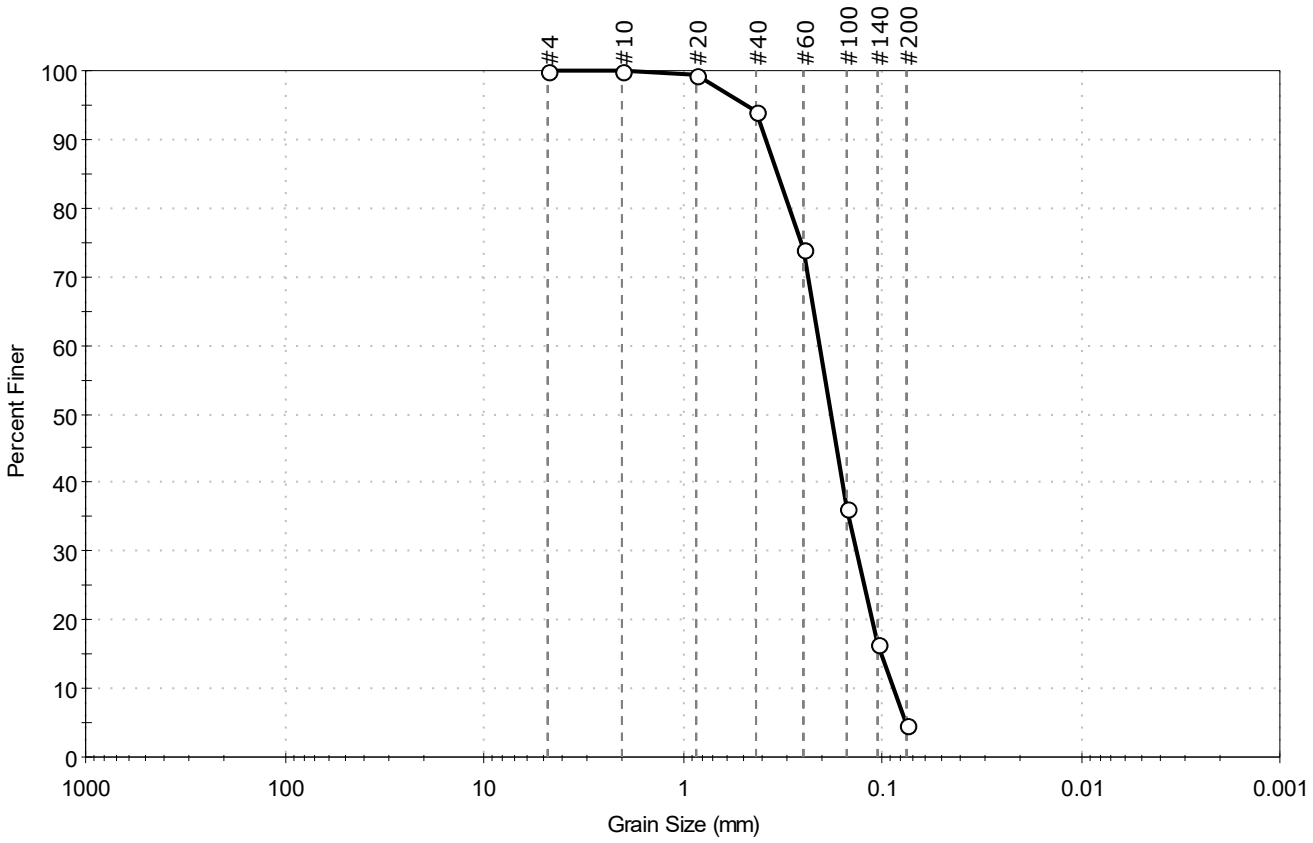
AASHTO Fine Sand (A-3 (1))

Sample/Test Description

Sand/Gravel Particle Shape : ---
Sand/Gravel Hardness : ---

Client:	Inspire Environmental				
Project:	SRW				
Location:	offshore New York			Project No:	GTX-312302
Boring ID:	---	Sample Type:	bag	Tested By:	ckg
Sample ID:	422 B	Test Date:	09/10/20	Checked By:	bfs
Depth :	---	Test Id:	577543		
Test Comment:	---				
Visual Description:	Moist, dark olive gray sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
--	0.0	95.2	4.8

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	99		
#40	0.42	94		
#60	0.25	74		
#100	0.15	36		
#140	0.11	16		
#200	0.075	4.8		

Coefficients

D_{85} =0.3340 mm	D_{30} =0.1342 mm
D_{60} =0.2069 mm	D_{15} =0.1015 mm
D_{50} =0.1806 mm	D_{10} =0.0876 mm
C_u =2.362	C_c =0.994

Classification

ASTM Poorly graded SAND (SP)

AASHTO Fine Sand (A-3 (1))

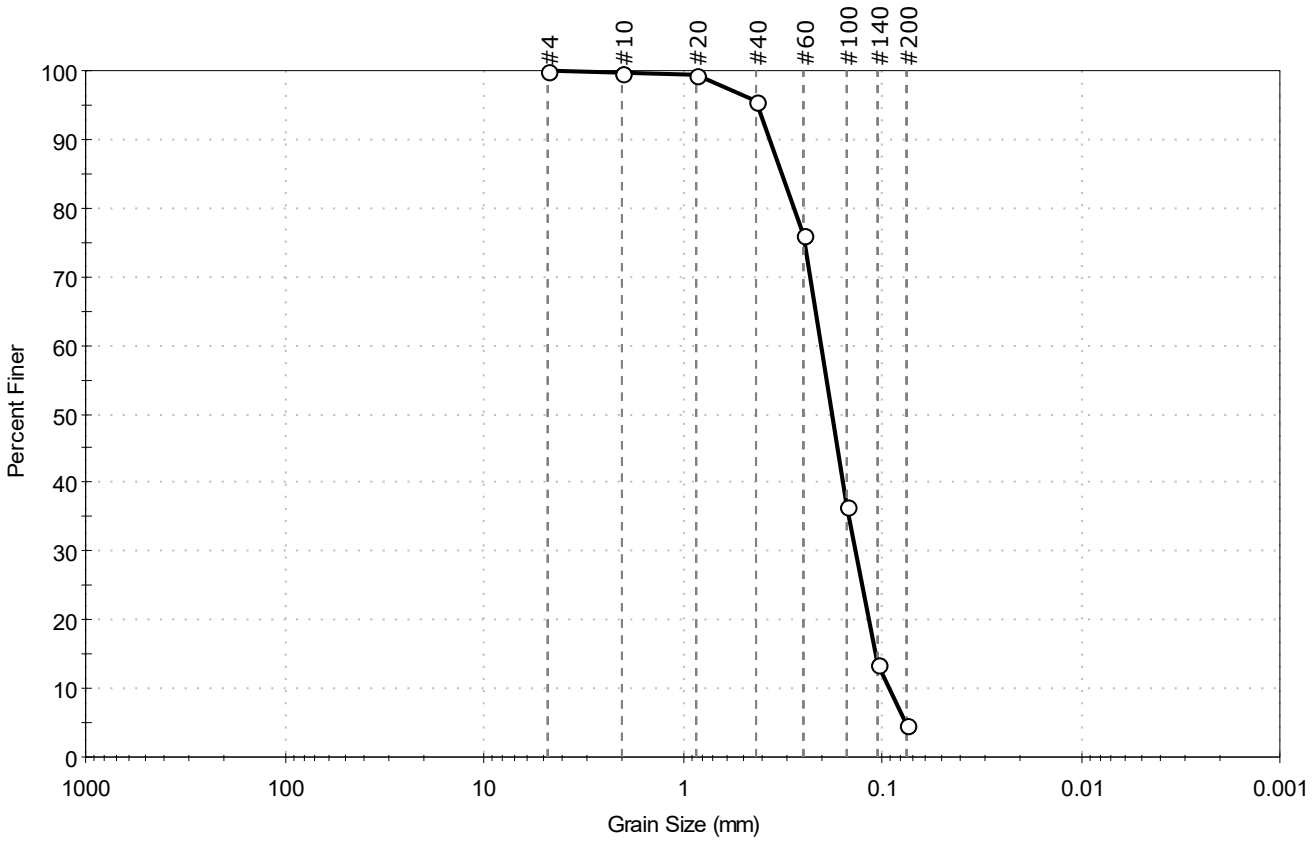
Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Client:	Inspire Environmental				
Project:	SRW				
Location:	offshore New York			Project No:	GTX-312302
Boring ID:	---	Sample Type:	bag	Tested By:	ckg
Sample ID:	422 C	Test Date:	09/10/20	Checked By:	bfs
Depth :	---	Test Id:	577544		
Test Comment:	---				
Visual Description:	Moist, dark olive gray sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.0	95.4	4.6

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	99		
#40	0.42	96		
#60	0.25	76		
#100	0.15	36		
#140	0.11	14		
#200	0.075	4.6		

Coefficients

D_{85} =0.3178 mm	D_{30} =0.1360 mm
D_{60} =0.2030 mm	D_{15} =0.1084 mm
D_{50} =0.1785 mm	D_{10} =0.0925 mm
C_u =2.195	C_c =0.985

Classification

ASTM Poorly graded SAND (SP)

AASHTO Fine Sand (A-3 (1))

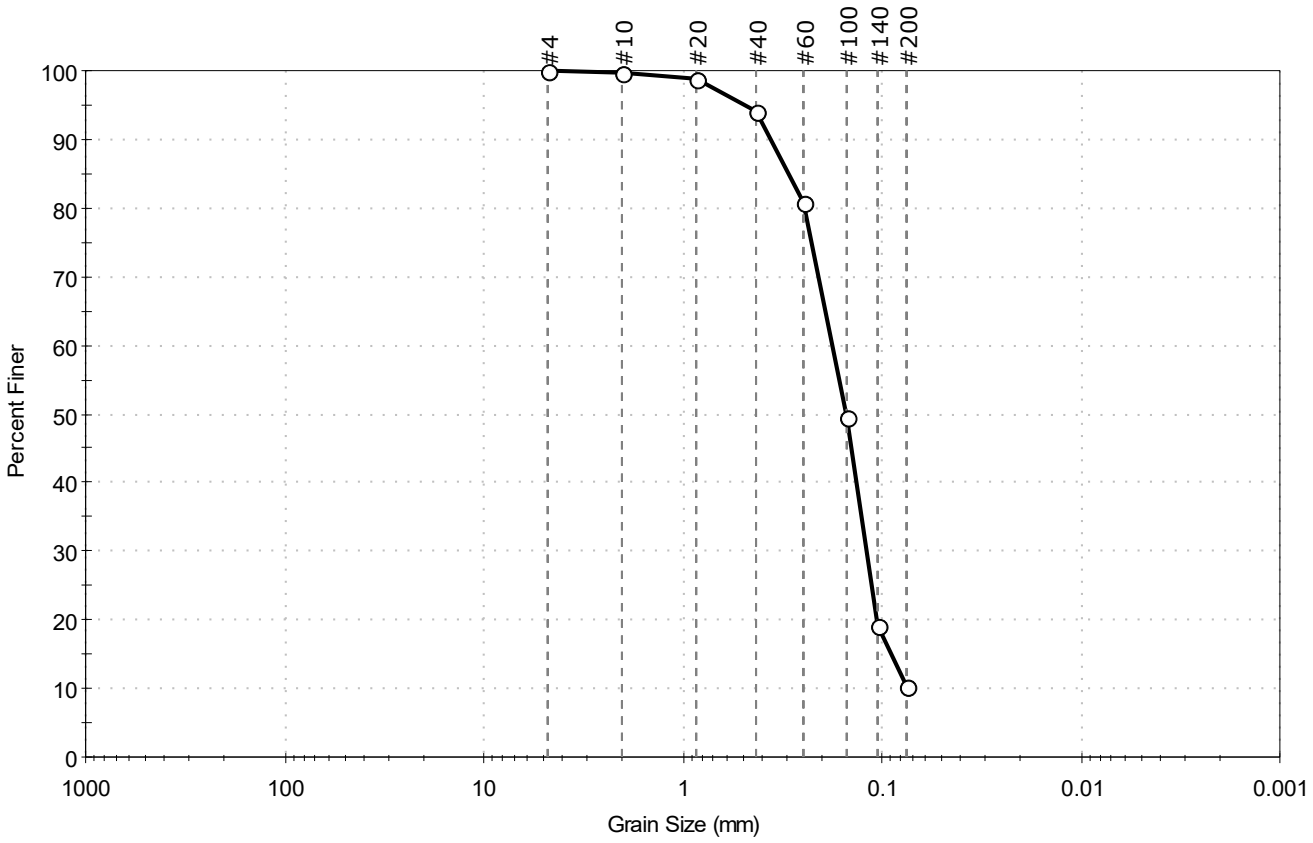
Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Client:	Inspire Environmental				
Project:	SRW				
Location:	offshore New York			Project No:	GTX-312302
Boring ID:	---	Sample Type:	bag	Tested By:	ckg
Sample ID:	423 A	Test Date:	09/10/20	Checked By:	bfs
Depth :	---	Test Id:	577539		
Test Comment:	---				
Visual Description:	Moist, dark olive gray sand with silt				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
--	0.0	89.6	10.4

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	99		
#40	0.42	94		
#60	0.25	81		
#100	0.15	50		
#140	0.11	19		
#200	0.075	10		

Coefficients

D_{85} =0.2954 mm	D_{30} =0.1201 mm
D_{60} =0.1781 mm	D_{15} =0.0902 mm
D_{50} =0.1512 mm	D_{10} =N/A
C_u =N/A	C_c =N/A

Classification

ASTM N/A

AASHTO Silty Gravel and Sand (A-2-4 (0))

Sample/Test Description

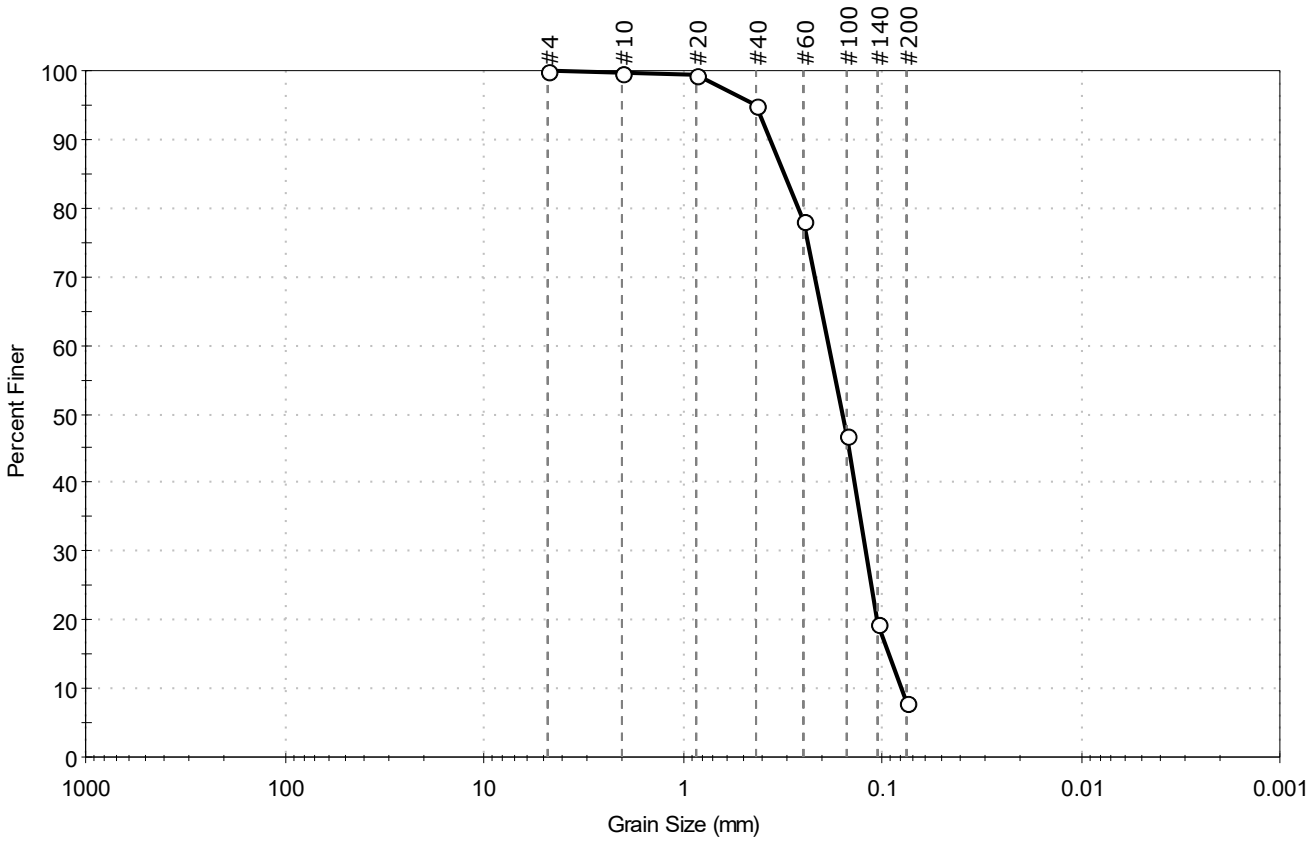
Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

printed 9/15/2020 4:01:24 PM

Client:	Inspire Environmental				
Project:	SRW				
Location:	offshore New York			Project No:	GTX-312302
Boring ID:	---	Sample Type:	bag	Tested By:	ckg
Sample ID:	423 B	Test Date:	09/14/20	Checked By:	bfs
Depth :	---	Test Id:	577540		
Test Comment:	---				
Visual Description:	Moist, dark olive gray sand with silt				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
--	0.1	91.9	8.0

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	99		
#40	0.42	95		
#60	0.25	78		
#100	0.15	47		
#140	0.11	19		
#200	0.075	8.0		

Coefficients

D_{85} =0.3100 mm	D_{30} =0.1211 mm
D_{60} =0.1856 mm	D_{15} =0.0926 mm
D_{50} =0.1577 mm	D_{10} =0.0796 mm
C_u =2.332	C_c =0.993

Classification

ASTM N/A

AASHTO Fine Sand (A-3 (1))

Sample/Test Description

Sand/Gravel Particle Shape : ---

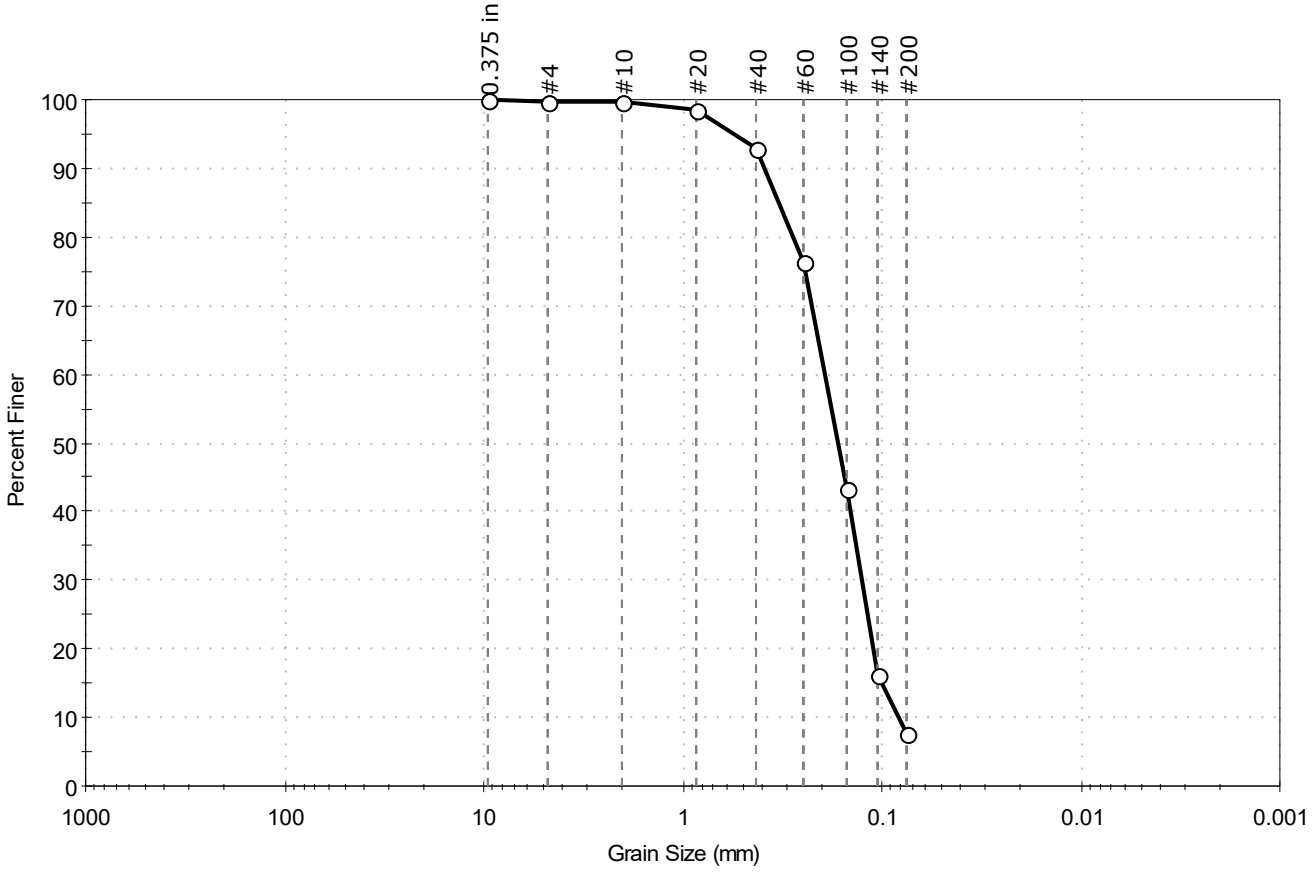
Sand/Gravel Hardness : ---

GeoTesting EXPRESS

Client:	Inspire Environmental				
Project:	SRW				
Location:	offshore New York			Project No:	GTX-312302
Boring ID:	---	Sample Type:	bag	Tested By:	ckg
Sample ID:	423 C	Test Date:	09/14/20	Checked By:	bfs
Depth :	---	Test Id:	577541		

Test Comment: ---
Visual Description: Moist, olive gray sand with silt
Sample Comment: ---

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
--	0.2	92.1	7.7

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
0.375 in	9.50	100		
#4	4.75	100		
#10	2.00	100		
#20	0.85	98		
#40	0.42	93		
#60	0.25	76		
#100	0.15	43		
#140	0.11	16		
#200	0.075	7.7		

Coefficients

D_{85} = 0.3297 mm
D_{30} = 0.1264 mm
D_{60} = 0.1938 mm
D_{15} = 0.1008 mm
D_{50} = 0.1661 mm
D_{10} = 0.0824 mm
C_u = 2.352
C_c = 1.000

Classification

ASTM N/A

AASHTO Fine Sand (A-3 (1))

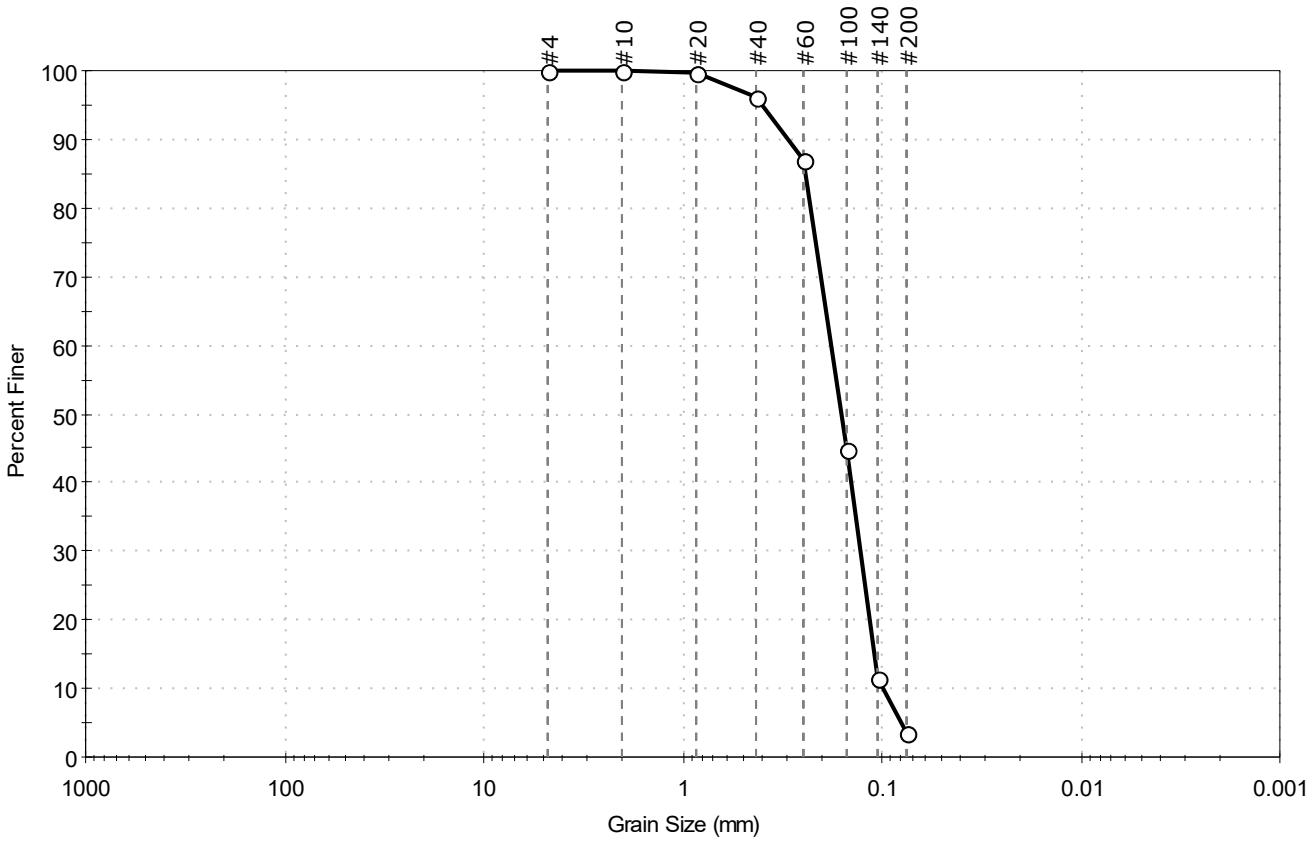
Sample/Test Description

Sand/Gravel Particle Shape : ---
Sand/Gravel Hardness : ---

printed 9/15/2020 4:01:28 PM

Client:	Inspire Environmental				
Project:	SRW				
Location:	offshore New York			Project No:	GTX-312302
Boring ID:	---	Sample Type:	bag	Tested By:	ckg
Sample ID:	425 A	Test Date:	09/11/20	Checked By:	bfs
Depth :	---	Test Id:	577524		
Test Comment:	---				
Visual Description:	Moist, dark olive gray sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
--	0.1	96.4	3.5

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	96		
#60	0.25	87		
#100	0.15	45		
#140	0.11	11		
#200	0.075	3.5		

Coefficients

D_{85} =0.2440 mm	D_{30} =0.1287 mm
D_{60} =0.1804 mm	D_{15} =0.1101 mm
D_{50} =0.1599 mm	D_{10} =0.0997 mm
C_u =1.809	C_c =0.921

Classification

ASTM Poorly graded SAND (SP)

AASHTO Fine Sand (A-3 (1))

Sample/Test Description

Sand/Gravel Particle Shape : ---

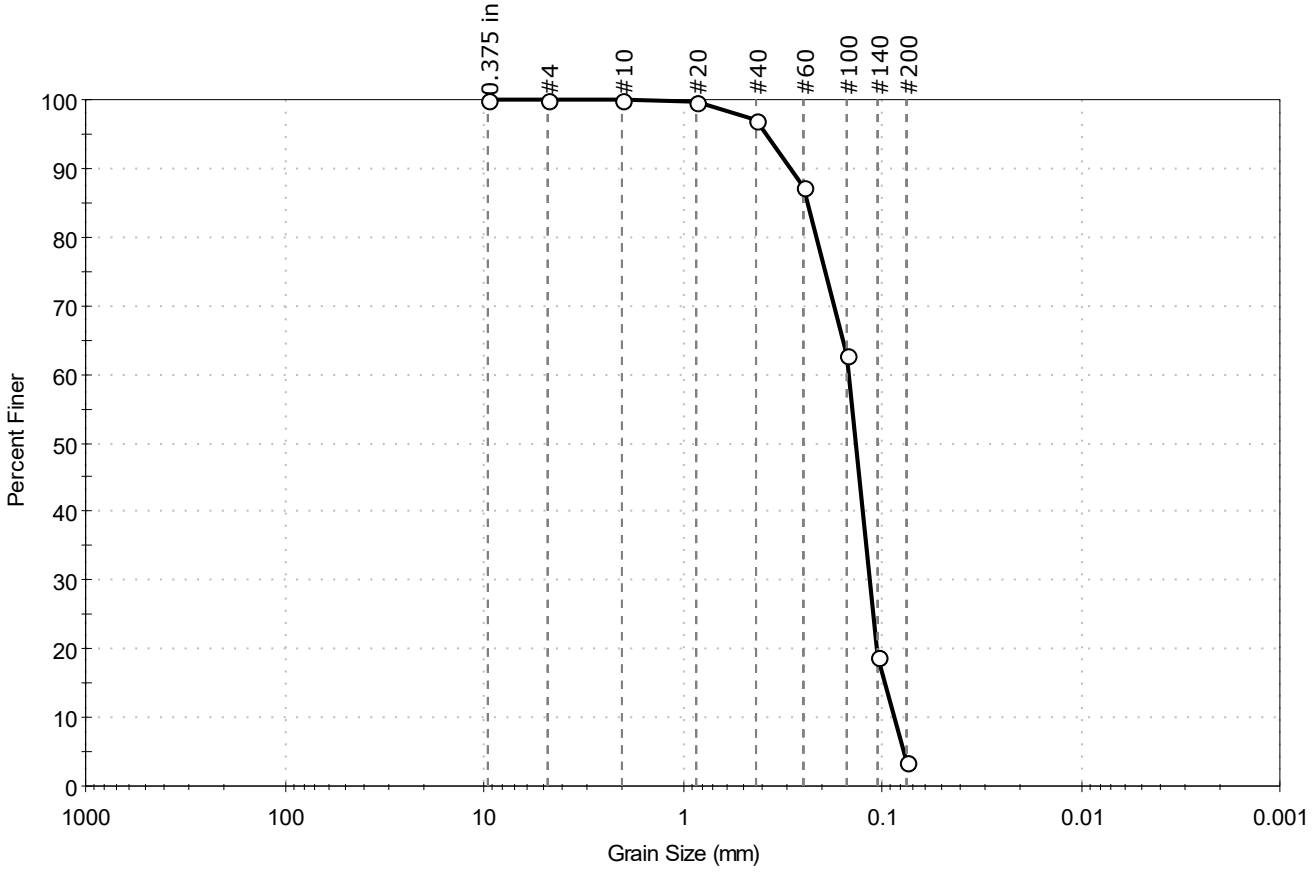
Sand/Gravel Hardness : ---

printed 9/15/2020 4:01:29 PM

GeoTesting EXPRESS

Client:	Inspire Environmental				
Project:	SRW				
Location:	offshore New York			Project No:	GTX-312302
Boring ID:	---	Sample Type:	bag	Tested By:	ckg
Sample ID:	425 B	Test Date:	09/11/20	Checked By:	bfs
Depth :	---	Test Id:	577525		
Test Comment:	---				
Visual Description:	Moist, olive gray sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
--	0.0	96.4	3.6

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
0.375 in	9.50	100		
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	97		
#60	0.25	87		
#100	0.15	63		
#140	0.11	19		
#200	0.075	3.6		

Coefficients

D_{85} = 0.2383 mm	D_{30} = 0.1159 mm
D_{60} = 0.1468 mm	D_{15} = 0.0973 mm
D_{50} = 0.1357 mm	D_{10} = 0.0869 mm
C_u = 1.689	C_c = 1.053

Classification

ASTM Poorly graded SAND (SP)

AASHTO Fine Sand (A-3 (1))

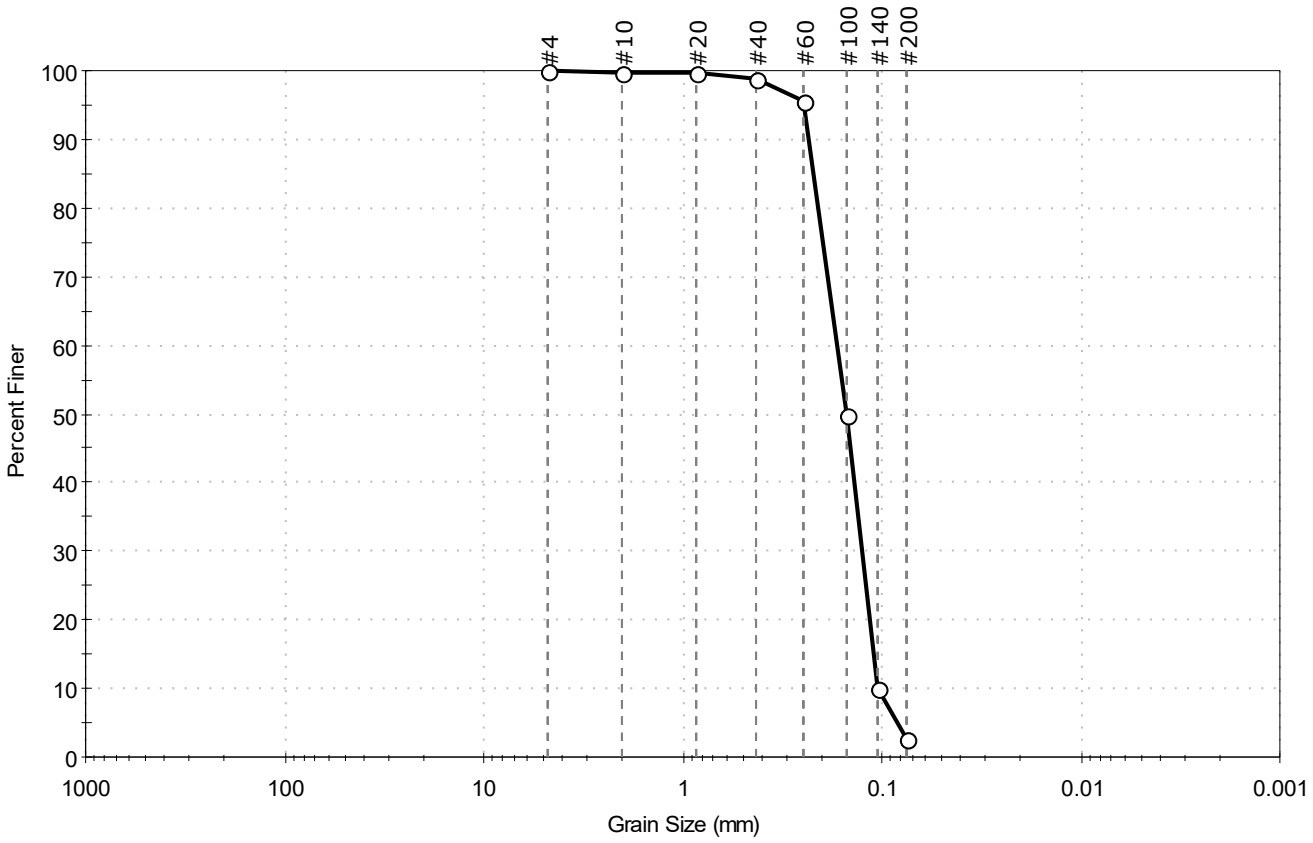
Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Client:	Inspire Environmental				
Project:	SRW				
Location:	offshore New York			Project No:	GTX-312302
Boring ID:	---	Sample Type:	bag	Tested By:	ckg
Sample ID:	425 C	Test Date:	09/11/20	Checked By:	bfs
Depth :	---	Test Id:	577526		
Test Comment:	---				
Visual Description:	Moist, olive gray sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
--	0.1	97.3	2.6

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	99		
#60	0.25	95		
#100	0.15	50		
#140	0.11	10		
#200	0.075	2.6		

Coefficients

D_{85} =0.2222 mm	D_{30} =0.1261 mm
D_{60} =0.1679 mm	D_{15} =0.1107 mm
D_{50} =0.1500 mm	D_{10} =0.1060 mm
C_u =1.584	C_c =0.893

Classification

ASTM Poorly graded SAND (SP)

AASHTO Fine Sand (A-3 (1))

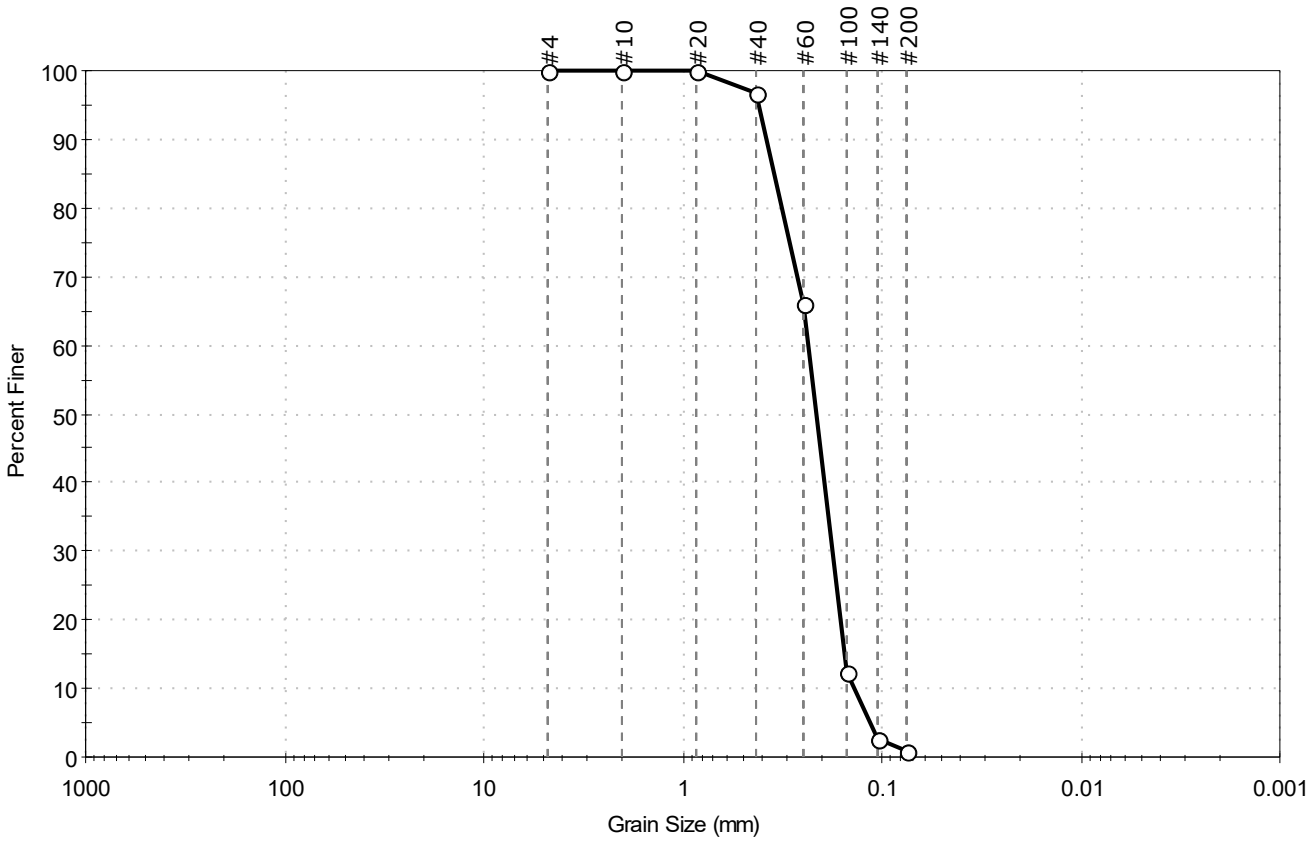
Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Client:	Inspire Environmental				
Project:	SRW				
Location:	offshore New York			Project No:	GTX-312302
Boring ID:	---	Sample Type:	bag	Tested By:	ckg
Sample ID:	427 A	Test Date:	09/11/20	Checked By:	bfs
Depth :	---	Test Id:	577527		
Test Comment:	---				
Visual Description:	Moist, gray sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
--	0.1	99.0	0.9

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	97		
#60	0.25	66		
#100	0.15	12		
#140	0.11	3		
#200	0.075	0.9		

Coefficients

D_{85} = 0.3462 mm	D_{30} = 0.1772 mm
D_{60} = 0.2359 mm	D_{15} = 0.1536 mm
D_{50} = 0.2144 mm	D_{10} = 0.1375 mm
C_u = 1.716	C_c = 0.968

Classification

ASTM Poorly graded SAND (SP)

AASHTO Fine Sand (A-3 (1))

Sample/Test Description

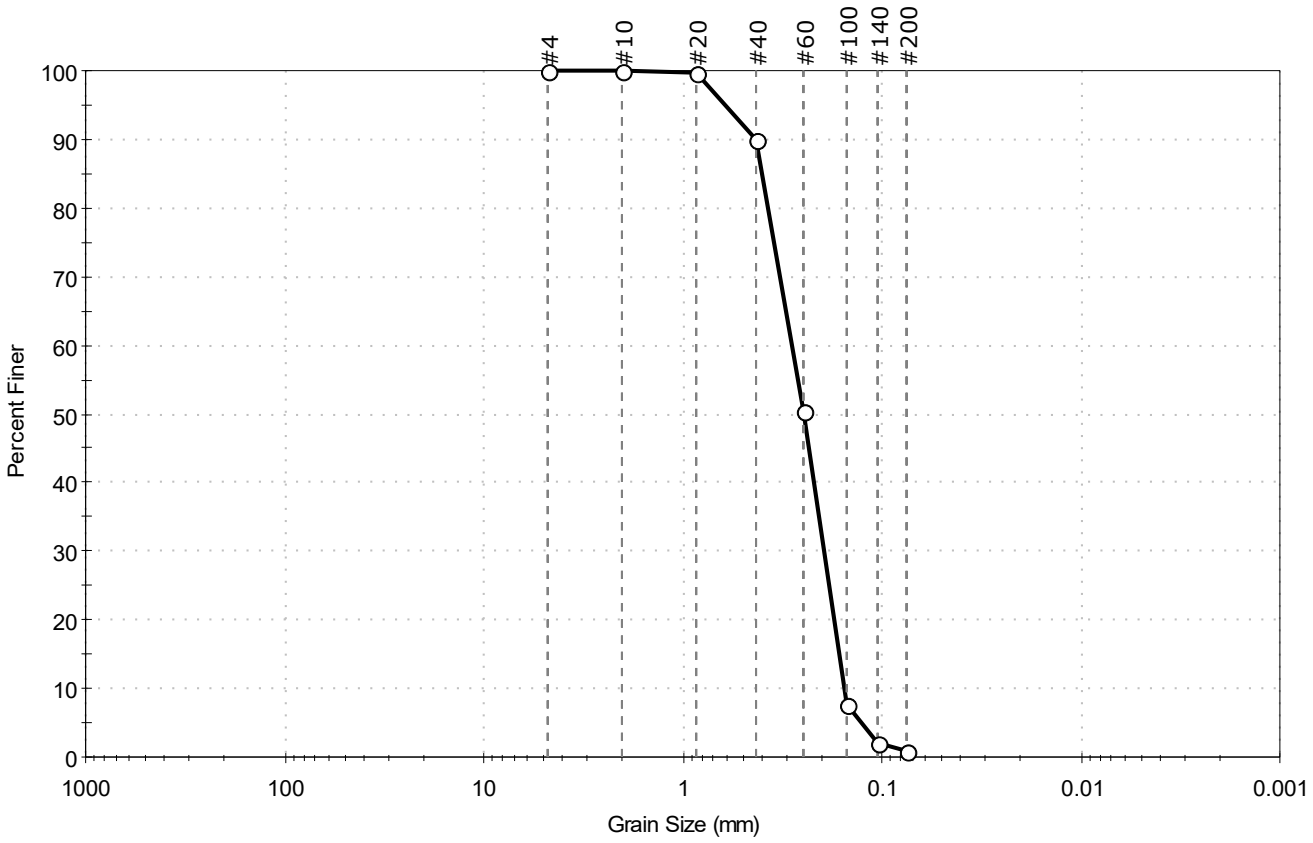
Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

GeoTesting EXPRESS

Client:	Inspire Environmental				
Project:	SRW				
Location:	offshore New York			Project No:	GTX-312302
Boring ID:	---	Sample Type:	bag	Tested By:	ckg
Sample ID:	427 B	Test Date:	09/11/20	Checked By:	bfs
Depth :	---	Test Id:	577528		
Test Comment:	---				
Visual Description:	Moist, gray sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
--	0.0	99.1	0.9

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	90		
#60	0.25	50		
#100	0.15	8		
#140	0.11	2		
#200	0.075	0.9		

Coefficients

D_{85} =0.3972 mm	D_{30} =0.1960 mm
D_{60} =0.2844 mm	D_{15} =0.1638 mm
D_{50} =0.2490 mm	D_{10} =0.1543 mm
C_u =1.843	C_c =0.875

Classification

ASTM Poorly graded SAND (SP)

AASHTO Fine Sand (A-3 (1))

Sample/Test Description

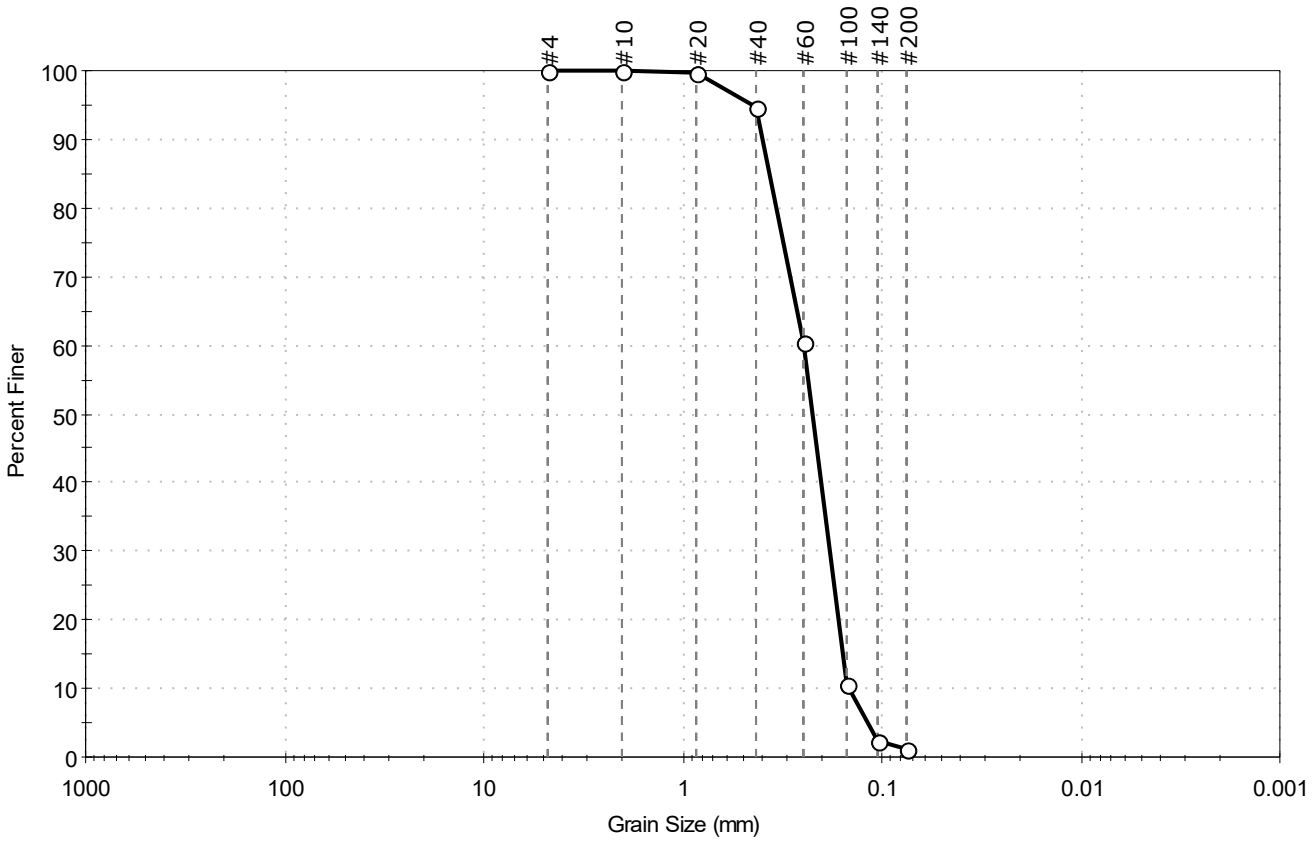
Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

printed 9/15/2020 4:01:36 PM

Client:	Inspire Environmental				
Project:	SRW				
Location:	offshore New York			Project No:	GTX-312302
Boring ID:	---	Sample Type:	bag	Tested By:	ckg
Sample ID:	427 C	Test Date:	09/11/20	Checked By:	bfs
Depth :	---	Test Id:	577529		
Test Comment:	---				
Visual Description:	Moist, light brownish gray sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
--	0.1	98.9	1.0

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	95		
#60	0.25	60		
#100	0.15	11		
#140	0.11	2		
#200	0.075	1.0		

Coefficients

D_{85} =0.3652 mm	D_{30} =0.1829 mm
D_{60} =0.2489 mm	D_{15} =0.1569 mm
D_{50} =0.2246 mm	D_{10} =0.1460 mm
C_u =1.705	C_c =0.921

Classification

ASTM Poorly graded SAND (SP)

AASHTO Fine Sand (A-3 (1))

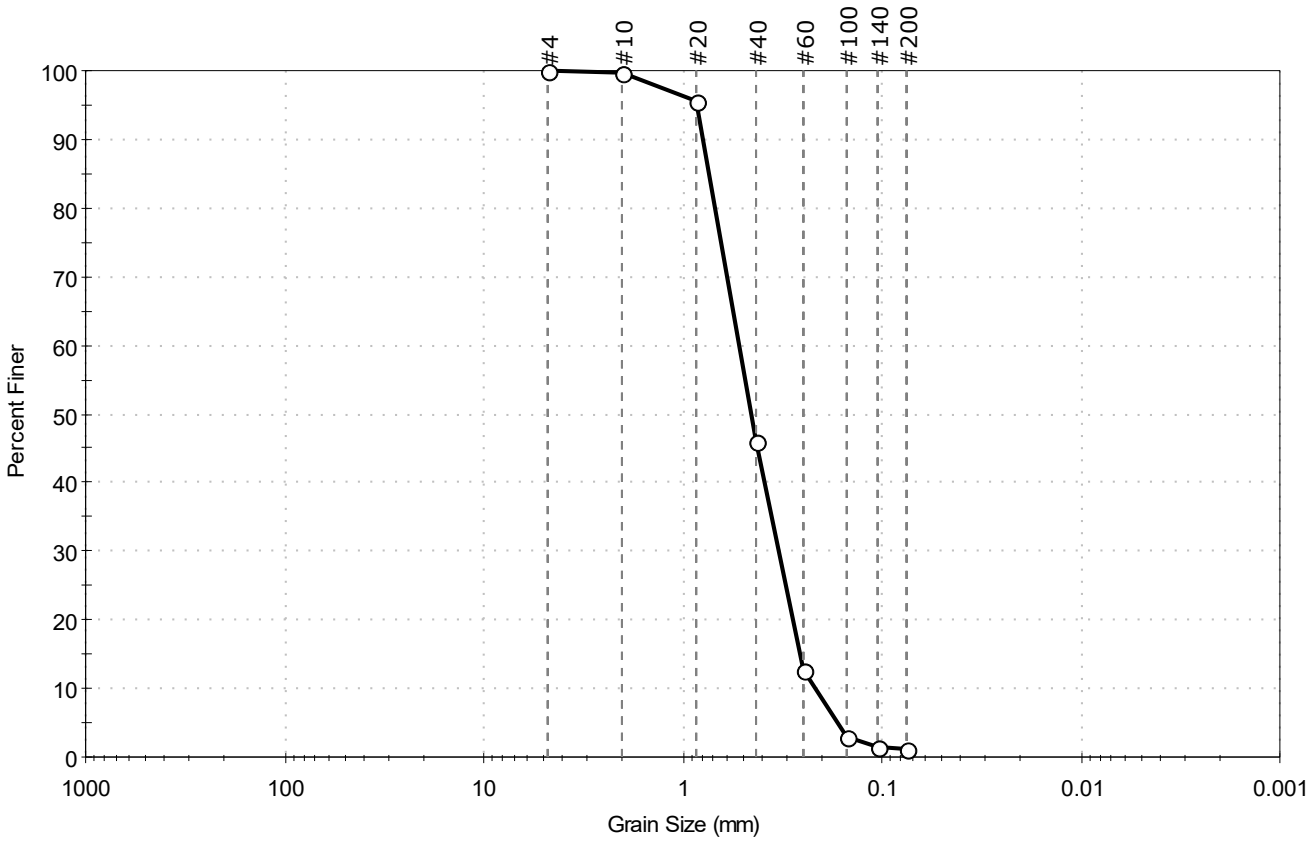
Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Client:	Inspire Environmental				
Project:	SRW				
Location:	offshore New York			Project No:	GTX-312302
Boring ID:	---	Sample Type:	bag	Tested By:	ckg
Sample ID:	429 A	Test Date:	09/11/20	Checked By:	bfs
Depth :	---	Test Id:	577521		
Test Comment:	---				
Visual Description:	Moist, light brownish gray sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
--	0.0	98.9	1.1

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	96		
#40	0.42	46		
#60	0.25	13		
#100	0.15	3		
#140	0.11	1		
#200	0.075	1.1		

Coefficients

D_{85} =0.7330 mm	D_{30} =0.3289 mm
D_{60} =0.5163 mm	D_{15} =0.2592 mm
D_{50} =0.4488 mm	D_{10} =0.2165 mm
C_u =2.385	C_c =0.968

Classification

ASTM Poorly graded SAND (SP)

AASHTO Stone Fragments, Gravel and Sand (A-1-b (1))

Sample/Test Description

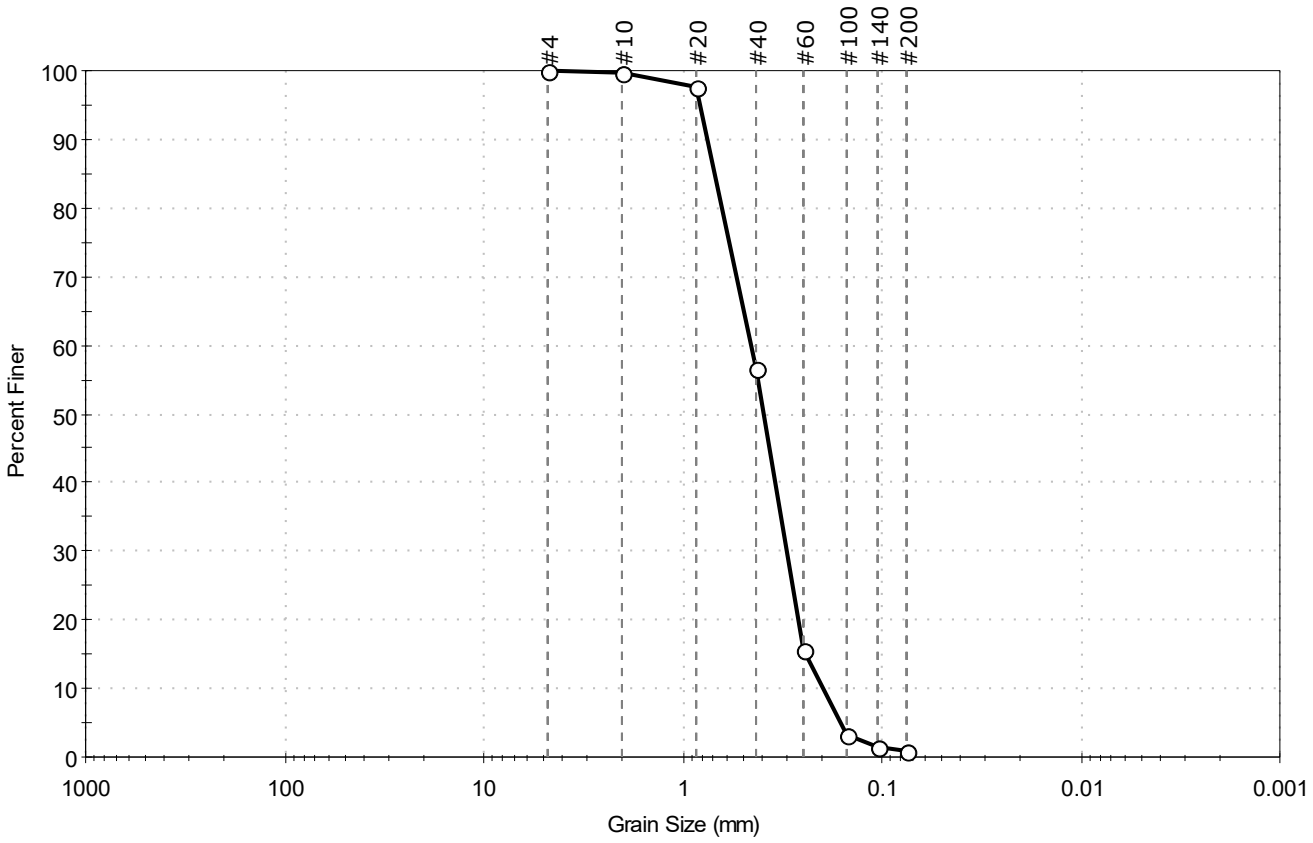
Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

GeoTesting EXPRESS

Client:	Inspire Environmental				
Project:	SRW				
Location:	offshore New York			Project No:	GTX-312302
Boring ID:	---	Sample Type:	bag	Tested By:	ckg
Sample ID:	429 B	Test Date:	09/11/20	Checked By:	bfs
Depth :	---	Test Id:	577522		
Test Comment:	---				
Visual Description:	Moist, light brownish gray sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
--	0.0	99.0	1.0

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	98		
#40	0.42	57		
#60	0.25	16		
#100	0.15	3		
#140	0.11	2		
#200	0.075	1.0		

Coefficients

D_{85} =0.6858 mm	D_{30} =0.3010 mm
D_{60} =0.4499 mm	D_{15} =0.2429 mm
D_{50} =0.3901 mm	D_{10} =0.1976 mm
C_u =2.277	C_c =1.019

Classification

ASTM Poorly graded SAND (SP)

AASHTO Fine Sand (A-3 (1))

Sample/Test Description

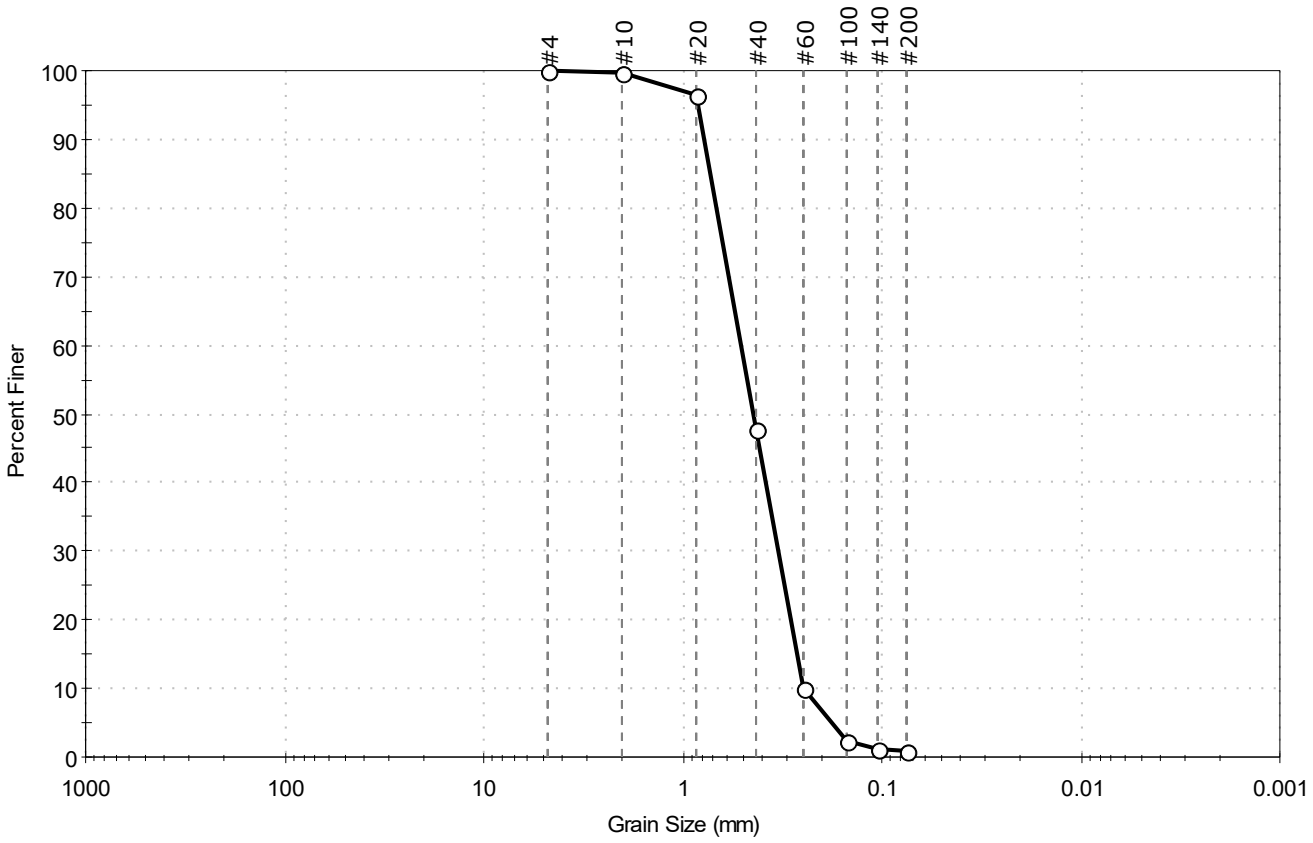
Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

printed 9/15/2020 4:01:41 PM

Client:	Inspire Environmental				
Project:	SRW				
Location:	offshore New York			Project No:	GTX-312302
Boring ID:	---	Sample Type:	bag	Tested By:	ckg
Sample ID:	429 C	Test Date:	09/11/20	Checked By:	bfs
Depth :	---	Test Id:	577523		
Test Comment:	---				
Visual Description:	Moist, light brownish gray sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
--	0.1	99.1	0.8

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	97		
#40	0.42	48		
#60	0.25	10		
#100	0.15	2		
#140	0.11	1		
#200	0.075	0.8		

Coefficients

D_{85} =0.7217 mm	D_{30} =0.3316 mm
D_{60} =0.5064 mm	D_{15} =0.2685 mm
D_{50} =0.4394 mm	D_{10} =0.2503 mm
C_u =2.023	C_c =0.868

Classification

ASTM: Poorly graded SAND (SP)

AASHTO: Stone Fragments, Gravel and Sand (A-1-b (1))

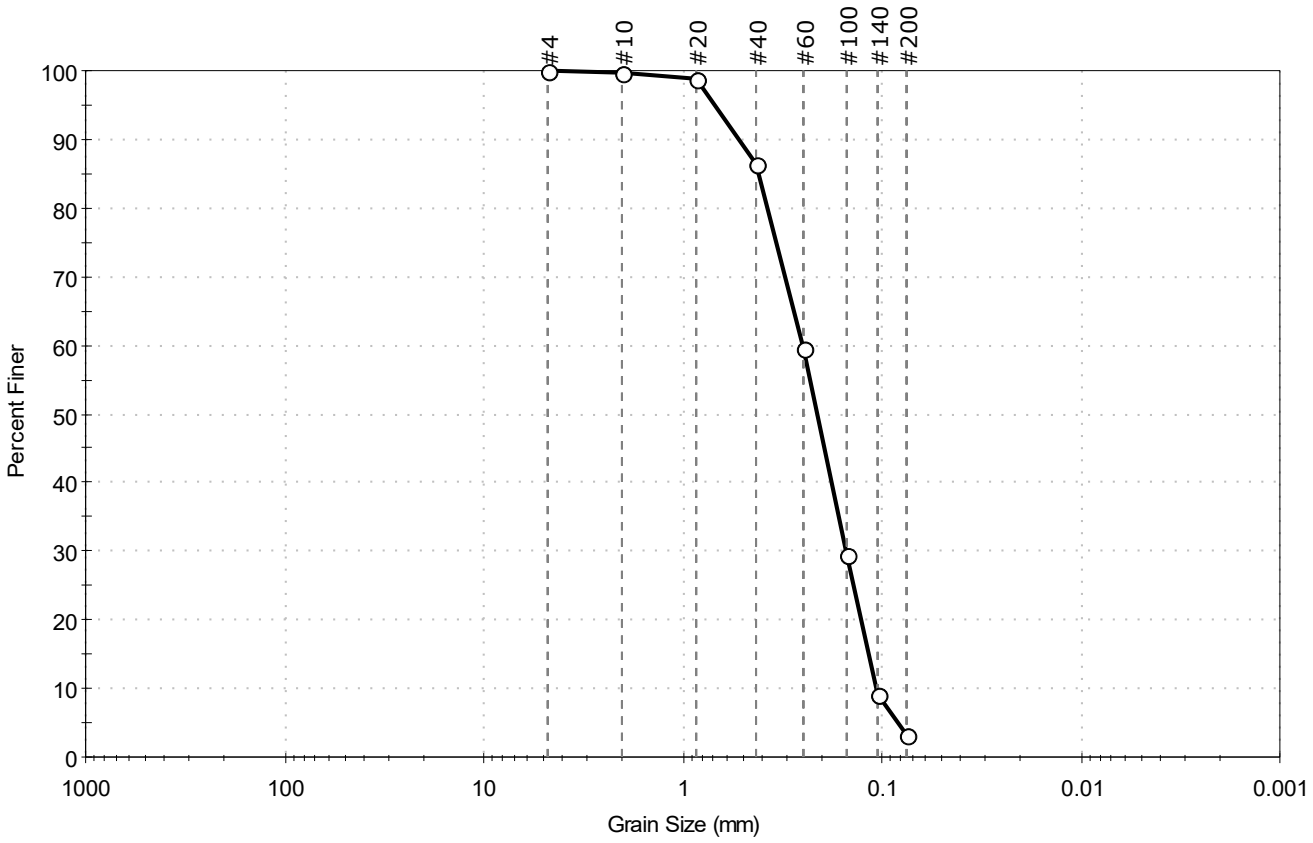
Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Client:	Inspire Environmental				
Project:	SRW				
Location:	offshore New York			Project No:	GTX-312302
Boring ID:	---	Sample Type:	bag	Tested By:	ckg
Sample ID:	431 A	Test Date:	09/11/20	Checked By:	bfs
Depth :	---	Test Id:	577536		
Test Comment:	---				
Visual Description:	Moist, dark olive gray sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
--	0.1	96.7	3.2

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	99		
#40	0.42	86		
#60	0.25	59		
#100	0.15	30		
#140	0.11	9		
#200	0.075	3.2		

Coefficients

D_{85} =0.4134 mm	D_{30} =0.1512 mm
D_{60} =0.2526 mm	D_{15} =0.1171 mm
D_{50} =0.2126 mm	D_{10} =0.1075 mm
C_u =2.350	C_c =0.842

Classification

ASTM Poorly graded SAND (SP)

AASHTO Fine Sand (A-3 (1))

Sample/Test Description

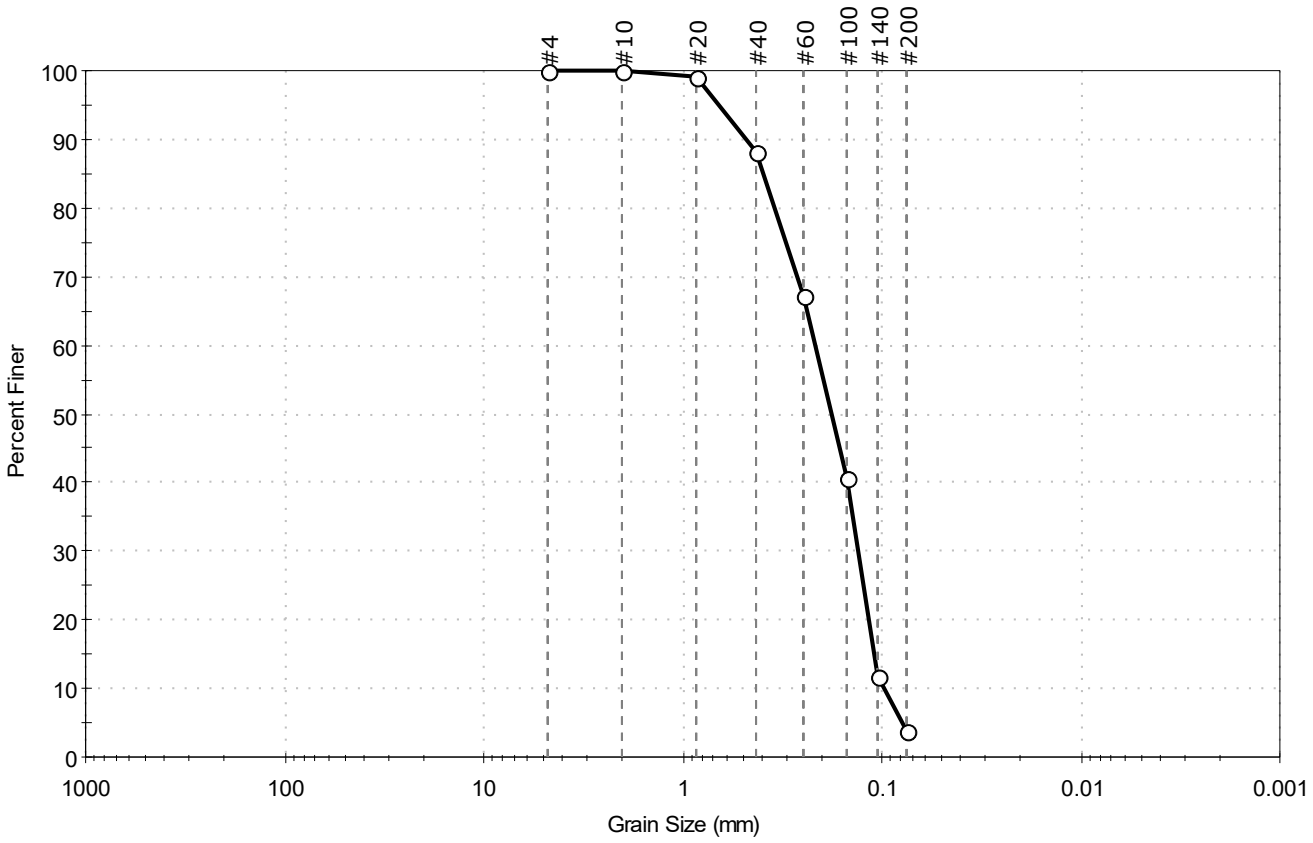
Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

printed 9/15/2020 4:01:45 PM

Client:	Inspire Environmental				
Project:	SRW				
Location:	offshore New York			Project No:	GTX-312302
Boring ID:	---	Sample Type:	bag	Tested By:	ckg
Sample ID:	431 B	Test Date:	09/11/20	Checked By:	bfs
Depth :	---	Test Id:	577537		
Test Comment:	---				
Visual Description:	Moist, olive gray sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
--	0.0	96.2	3.8

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	99		
#40	0.42	88		
#60	0.25	67		
#100	0.15	41		
#140	0.11	12		
#200	0.075	3.8		

Coefficients

D_{85} =0.3928 mm	D_{30} =0.1318 mm
D_{60} =0.2171 mm	D_{15} =0.1102 mm
D_{50} =0.1790 mm	D_{10} =0.0982 mm
C_u =2.211	C_c =0.815

Classification

ASTM Poorly graded SAND (SP)

AASHTO Fine Sand (A-3 (1))

Sample/Test Description

Sand/Gravel Particle Shape : ---

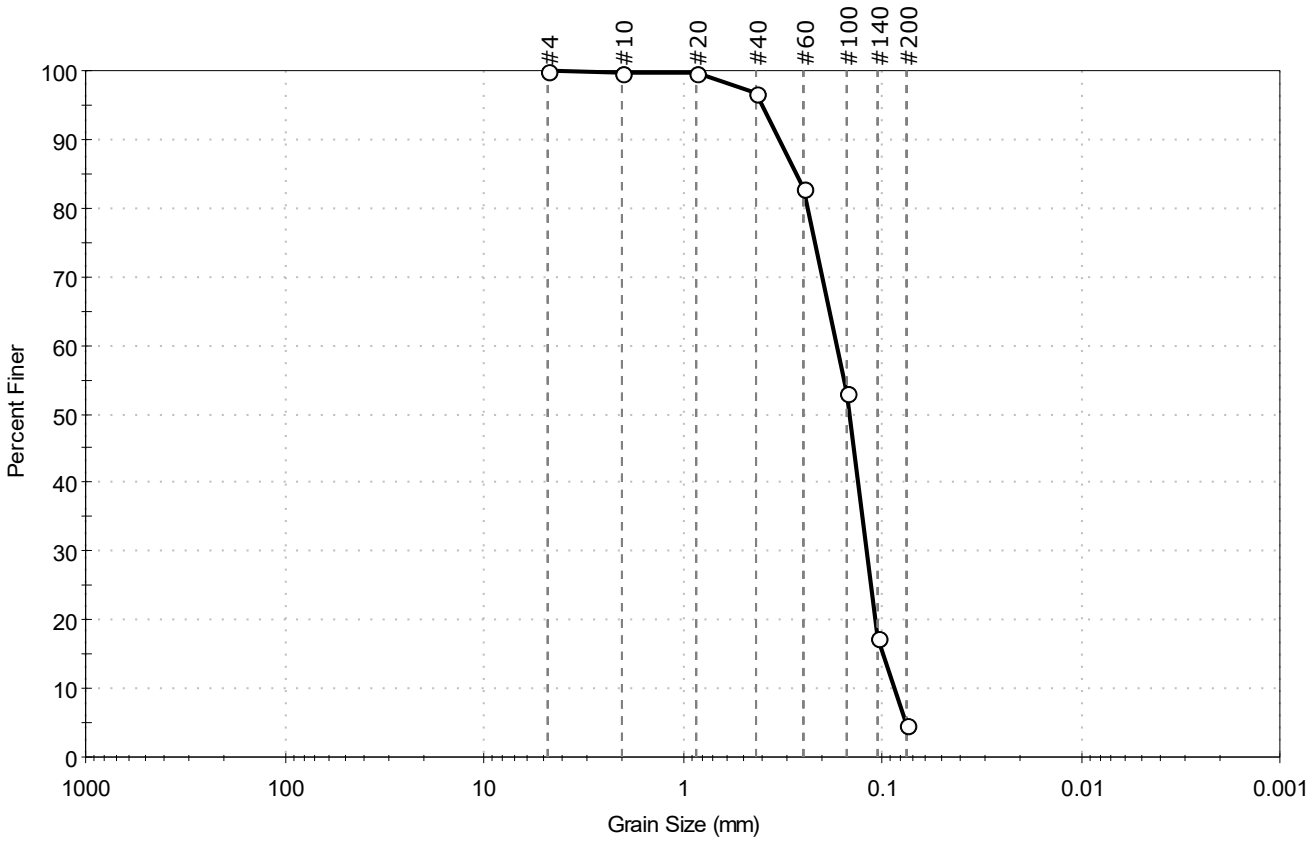
Sand/Gravel Hardness : ---

printed 9/15/2020 4:01:46 PM

GeoTesting EXPRESS

Client:	Inspire Environmental				
Project:	SRW				
Location:	offshore New York			Project No:	GTX-312302
Boring ID:	---	Sample Type:	bag	Tested By:	ckg
Sample ID:	431 C	Test Date:	09/11/20	Checked By:	bfs
Depth :	---	Test Id:	577538		
Test Comment:	---				
Visual Description:	Moist, olive gray sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
--	0.1	95.2	4.7

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	97		
#60	0.25	83		
#100	0.15	53		
#140	0.11	17		
#200	0.075	4.7		

Coefficients

D_{85} =0.2704 mm	D_{30} =0.1198 mm
D_{60} =0.1688 mm	D_{15} =0.0992 mm
D_{50} =0.1456 mm	D_{10} =0.0866 mm
C_u =1.949	C_c =0.982

Classification

ASTM Poorly graded SAND (SP)

AASHTO Fine Sand (A-3 (1))

Sample/Test Description

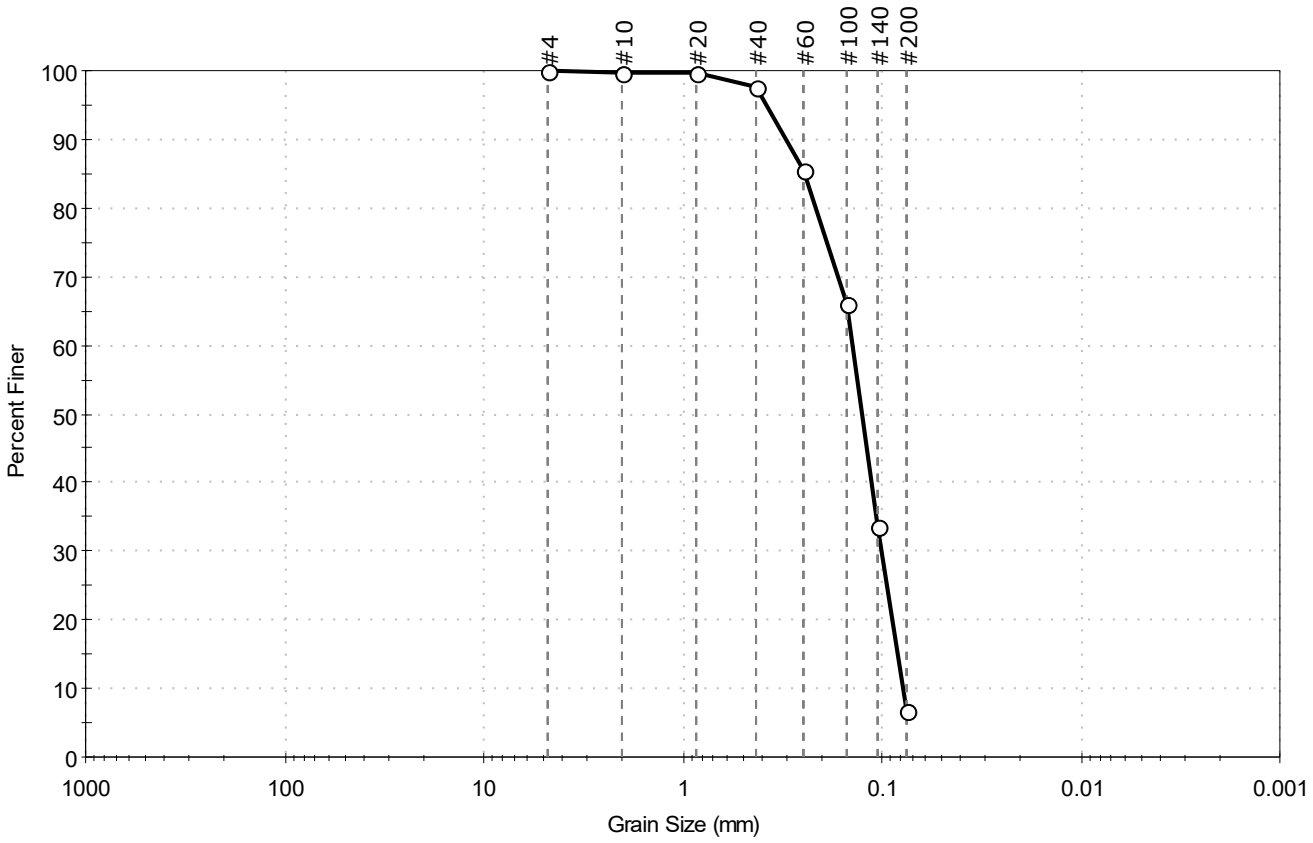
Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

printed 9/15/2020 4:01:48 PM

Client:	Inspire Environmental				
Project:	SRW				
Location:	offshore New York			Project No:	GTX-312302
Boring ID:	---	Sample Type:	bag	Tested By:	ckg
Sample ID:	433 A	Test Date:	09/11/20	Checked By:	bfs
Depth :	---	Test Id:	577533		
Test Comment:	---				
Visual Description:	Moist, dark olive gray sand with silt				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
--	0.0	93.3	6.7

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	98		
#60	0.25	85		
#100	0.15	66		
#140	0.11	34		
#200	0.075	6.7		

Coefficients

D_{85} =0.2469 mm	D_{30} =0.1012 mm
D_{60} =0.1404 mm	D_{15} =0.0834 mm
D_{50} =0.1262 mm	D_{10} =0.0783 mm
C_u =1.793	C_c =0.932

Classification

ASTM N/A

AASHTO Fine Sand (A-3 (1))

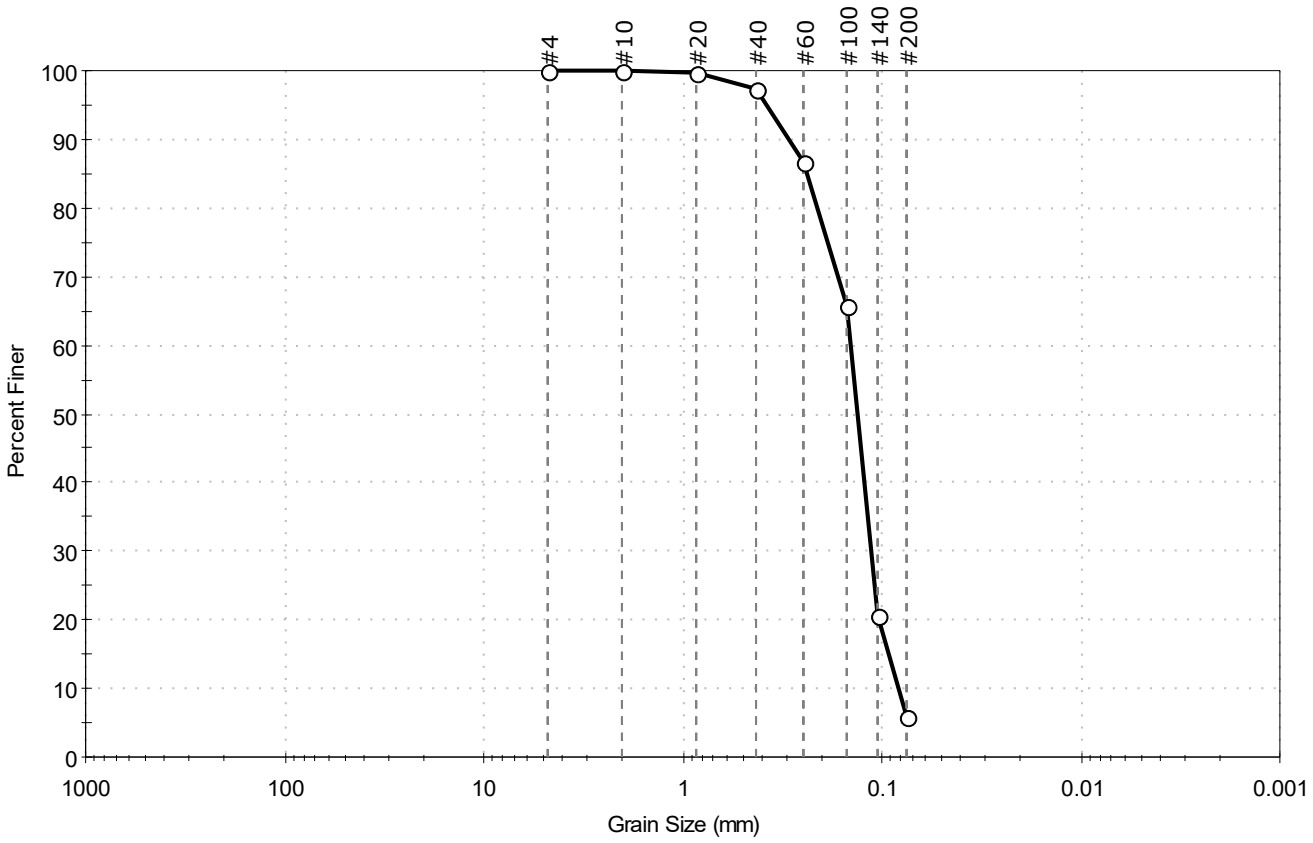
Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Client:	Inspire Environmental				
Project:	SRW				
Location:	offshore New York			Project No:	GTX-312302
Boring ID:	---	Sample Type:	bag	Tested By:	ckg
Sample ID:	433 B	Test Date:	09/11/20	Checked By:	bfs
Depth :	---	Test Id:	577534		
Test Comment:	---				
Visual Description:	Moist, dark olive gray sand with silt				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
--	0.1	93.9	6.0

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	97		
#60	0.25	87		
#100	0.15	66		
#140	0.11	21		
#200	0.075	6.0		

Coefficients

D_{85} =0.2392 mm	D_{30} =0.1139 mm
D_{60} =0.1433 mm	D_{15} =0.0927 mm
D_{50} =0.1328 mm	D_{10} =0.0824 mm
C_u =1.739	C_c =1.099

Classification

ASTM N/A

AASHTO Fine Sand (A-3 (1))

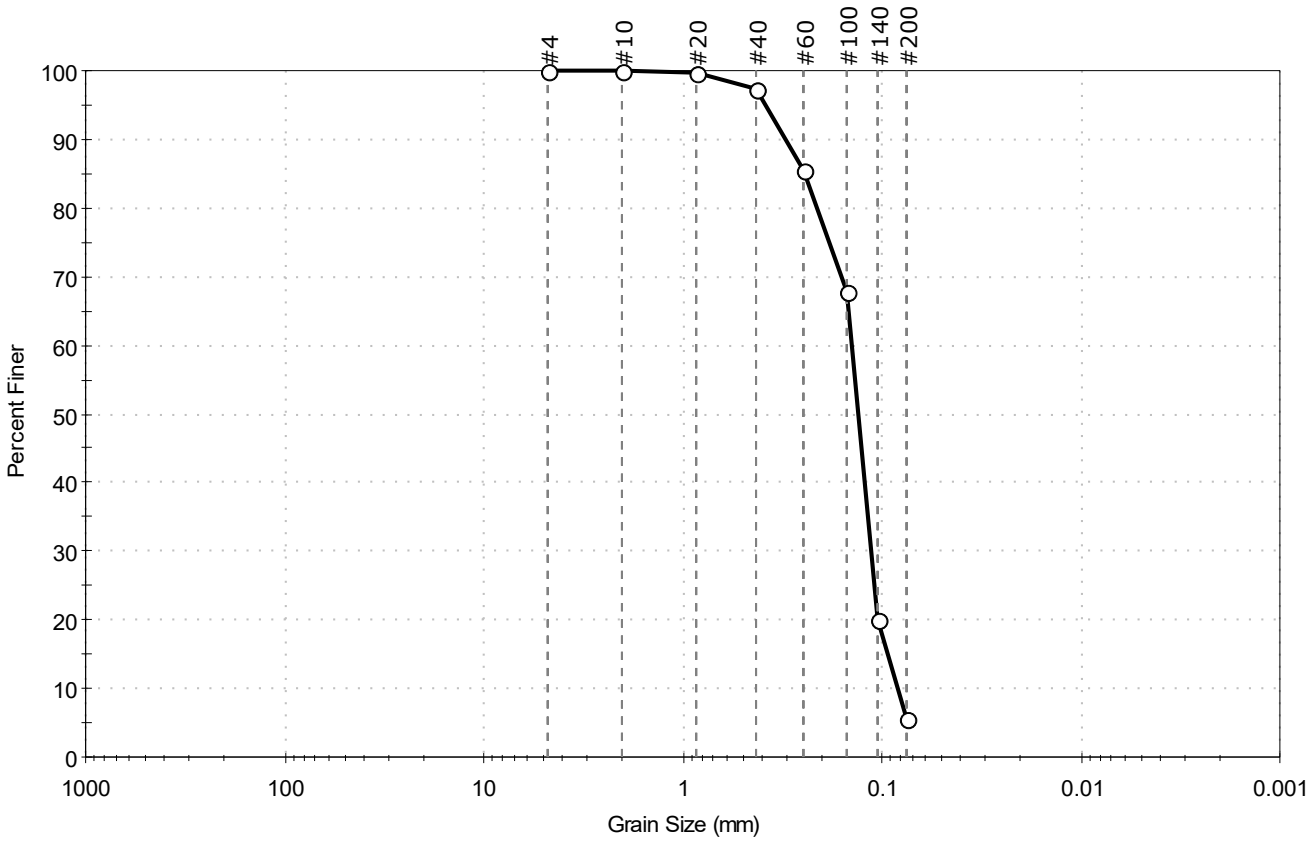
Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Client:	Inspire Environmental				
Project:	SRW				
Location:	offshore New York			Project No:	GTX-312302
Boring ID:	---	Sample Type:	bag	Tested By:	ckg
Sample ID:	433 C	Test Date:	09/11/20	Checked By:	bfs
Depth :	---	Test Id:	577535		
Test Comment:	---				
Visual Description:	Moist, dark gray sand with silt				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
--	0.1	94.3	5.6

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	97		
#60	0.25	86		
#100	0.15	68		
#140	0.11	20		
#200	0.075	5.6		

Coefficients

D_{85} = 0.2452 mm
D_{30} = 0.1139 mm
D_{60} = 0.1418 mm
D_{15} = 0.0938 mm
D_{50} = 0.1318 mm
D_{10} = 0.0833 mm
C_u = 1.702
C_c = 1.098

Classification

ASTM N/A

AASHTO Fine Sand (A-3 (1))

Sample/Test Description

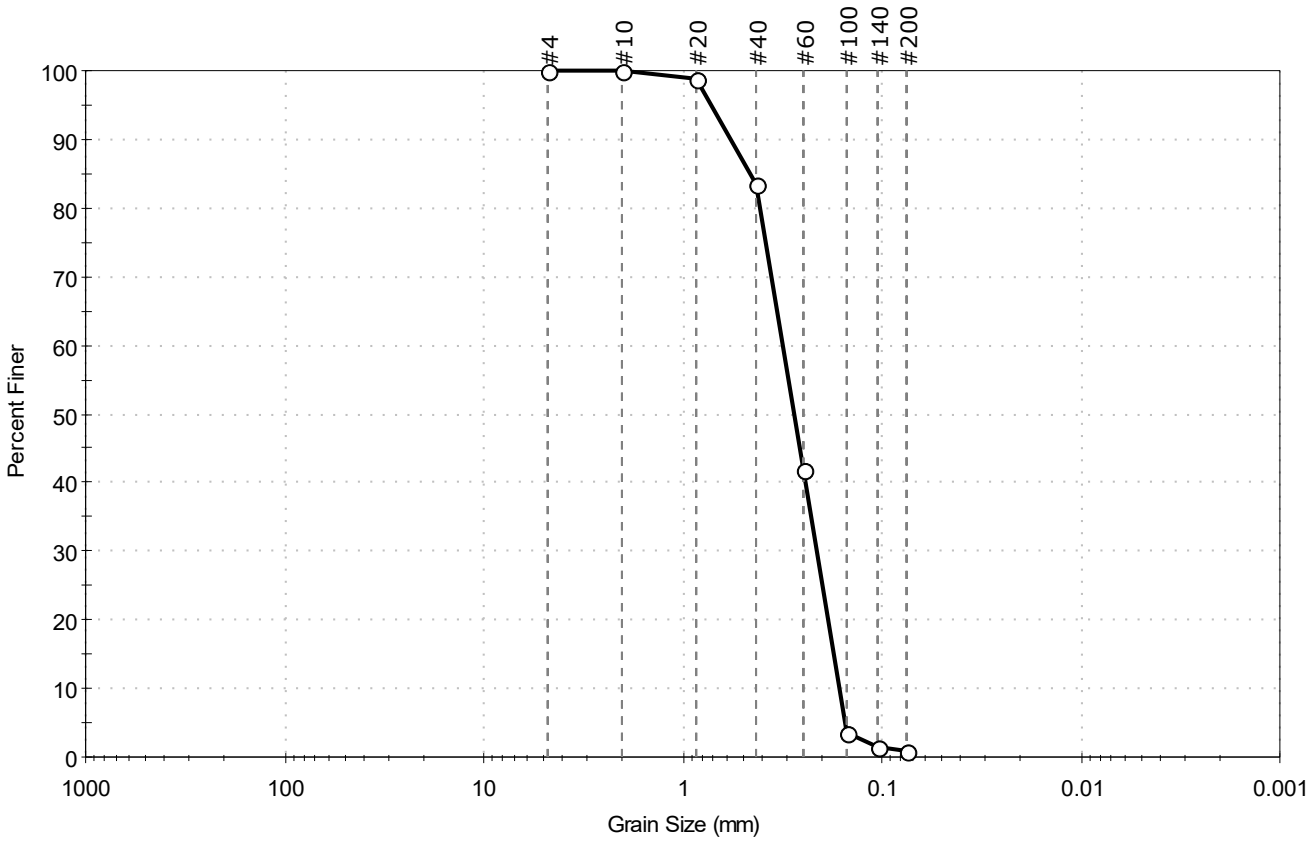
Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

printed 9/15/2020 4:01:53 PM

Client:	Inspire Environmental				
Project:	SRW				
Location:	offshore New York			Project No:	GTX-312302
Boring ID:	---	Sample Type:	bag	Tested By:	ckg
Sample ID:	435 A	Test Date:	09/11/20	Checked By:	bfs
Depth :	---	Test Id:	577530		
Test Comment:	---				
Visual Description:	Moist, gray sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
--	0.0	99.2	0.8

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	99		
#40	0.42	83		
#60	0.25	42		
#100	0.15	4		
#140	0.11	2		
#200	0.075	0.8		

Coefficients

D_{85} = 0.4560 mm	D_{30} = 0.2136 mm
D_{60} = 0.3154 mm	D_{15} = 0.1746 mm
D_{50} = 0.2777 mm	D_{10} = 0.1633 mm
C_u = 1.931	C_c = 0.886

Classification

ASTM Poorly graded SAND (SP)

AASHTO Fine Sand (A-3 (1))

Sample/Test Description

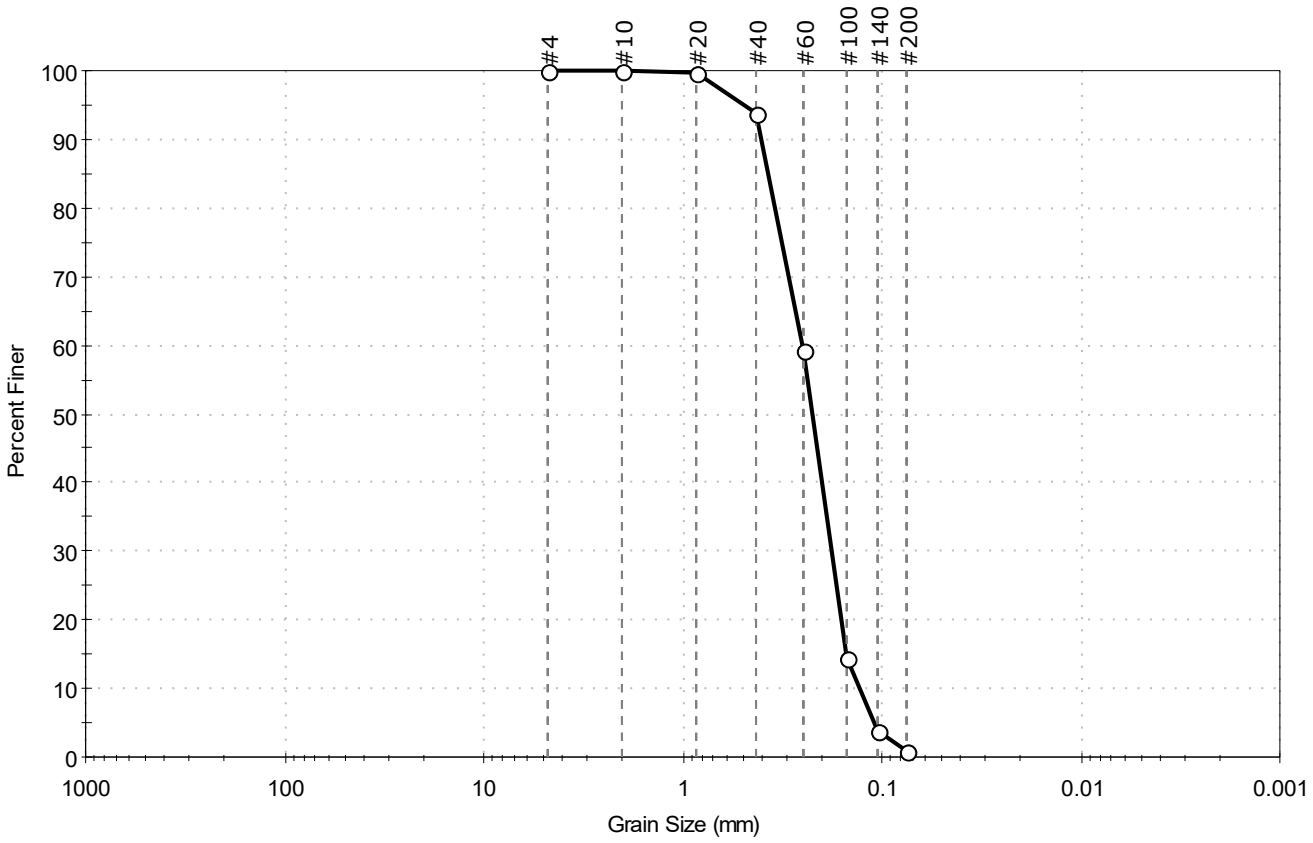
Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

GeoTesting EXPRESS

Client:	Inspire Environmental				
Project:	SRW				
Location:	offshore New York			Project No:	GTX-312302
Boring ID:	---	Sample Type:	bag	Tested By:	ckg
Sample ID:	435 B	Test Date:	09/11/20	Checked By:	bfs
Depth :	---	Test Id:	577531		
Test Comment:	---				
Visual Description:	Moist, gray sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
--	0.0	99.0	1.0

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	94		
#60	0.25	59		
#100	0.15	14		
#140	0.11	4		
#200	0.075	1.0		

Coefficients

D_{85} =0.3707 mm	D_{30} =0.1792 mm
D_{60} =0.2527 mm	D_{15} =0.1511 mm
D_{50} =0.2249 mm	D_{10} =0.1301 mm
C_u =1.942	C_c =0.977

Classification

ASTM Poorly graded SAND (SP)

AASHTO Fine Sand (A-3 (1))

Sample/Test Description

Sand/Gravel Particle Shape : ---

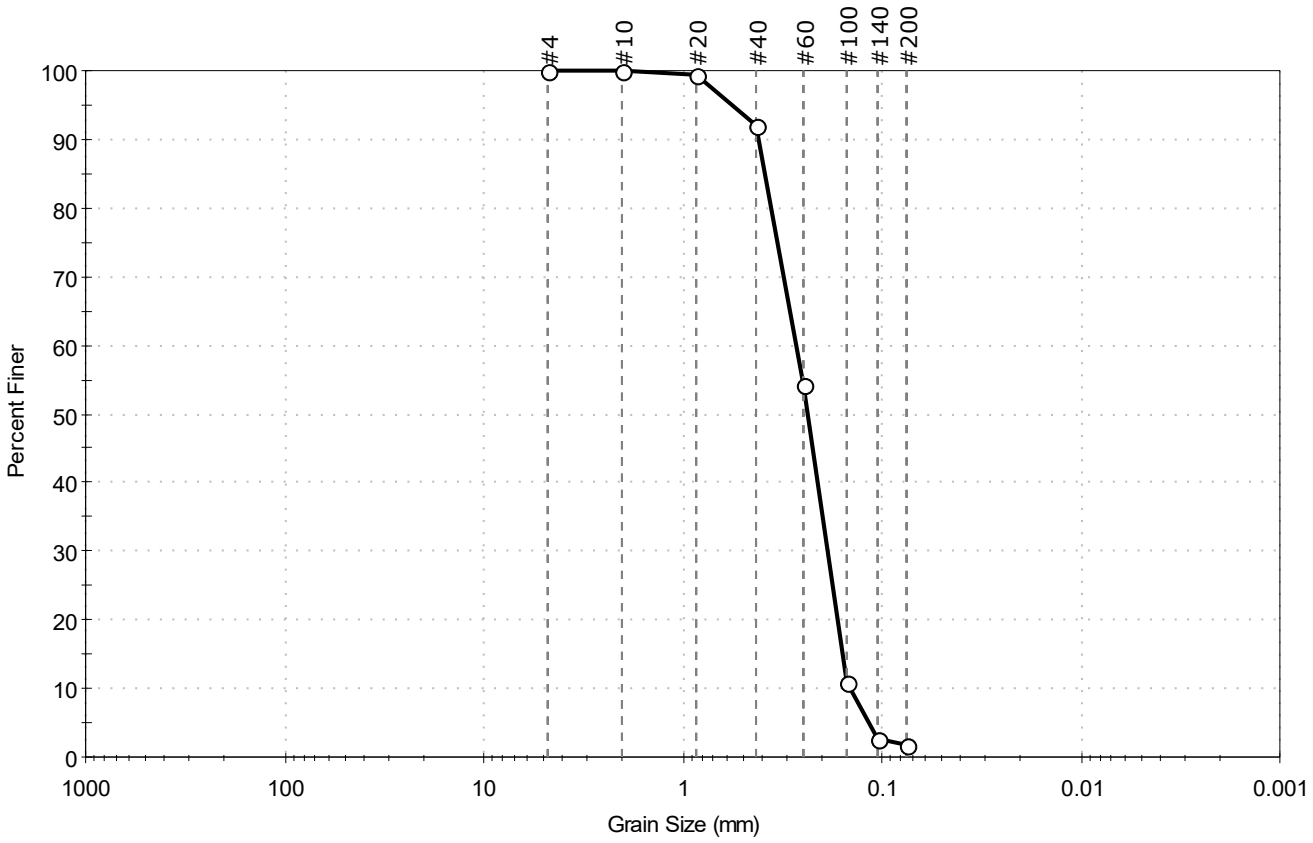
Sand/Gravel Hardness : ---

printed 9/15/2020 4:01:56 PM

GeoTesting EXPRESS

Client:	Inspire Environmental				
Project:	SRW				
Location:	offshore New York			Project No:	GTX-312302
Boring ID:	---	Sample Type:	bag	Tested By:	ckg
Sample ID:	435 C	Test Date:	09/11/20	Checked By:	bfs
Depth :	---	Test Id:	577532		
Test Comment:	---				
Visual Description:	Moist, gray sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
--	0.0	98.1	1.9

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	99		
#40	0.42	92		
#60	0.25	54		
#100	0.15	11		
#140	0.11	3		
#200	0.075	1.9		

Coefficients

D_{85} = 0.3851 mm	D_{30} = 0.1876 mm
D_{60} = 0.2707 mm	D_{15} = 0.1572 mm
D_{50} = 0.2375 mm	D_{10} = 0.1437 mm
C_u = 1.884	C_c = 0.905

Classification

ASTM Poorly graded SAND (SP)

AASHTO Fine Sand (A-3 (1))

Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

GeoTesting EXPRESS

Technologies to manage risk for infrastructure

Boston
Atlanta
Chicago
Los Angeles
New York
www.geotesting.com

Geotechnical Test Report **10/6/2020**

GTX-312302

SRW

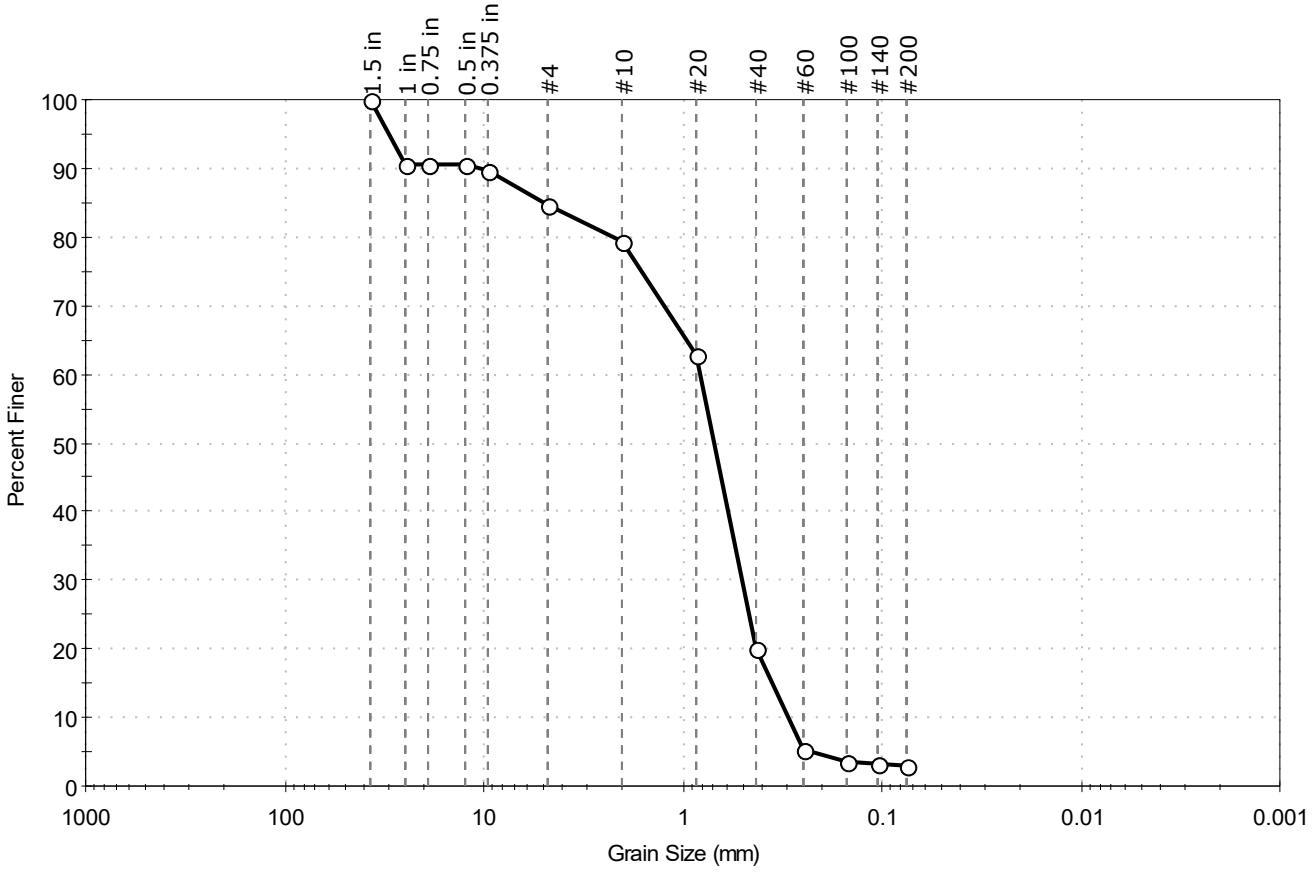
offshore New York

Prepared for:

Inspire Environmental

Client:	Inspire Environmental				
Project:	SRW				
Location:	offshore New York			Project No:	GTX-312302
Boring ID:	---	Sample Type:	bag	Tested By:	ckg
Sample ID:	805_A	Test Date:	10/01/20	Checked By:	jsc
Depth :	---	Test Id:	578656		
Test Comment:	---				
Visual Description:	Moist, very dark gray sand with gravel				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	15.2	81.9	2.9

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
1.5 in	37.50	100		
1 in	25.00	91		
0.75 in	19.00	91		
0.5 in	12.50	91		
0.375 in	9.50	90		
#4	4.75	85		
#10	2.00	79		
#20	0.85	63		
#40	0.42	20		
#60	0.25	5		
#100	0.15	4		
#140	0.11	3		
#200	0.075	2.9		

Coefficients

D_{85} =4.8842 mm	D_{30} =0.4998 mm
D_{60} =0.8136 mm	D_{15} =0.3551 mm
D_{50} =0.6916 mm	D_{10} =0.2970 mm
C_u =2.739	C_c =1.034

Classification

ASTM — Poorly graded SAND with Gravel (SP)

AASHTO — Stone Fragments, Gravel and Sand (A-1-b (1))

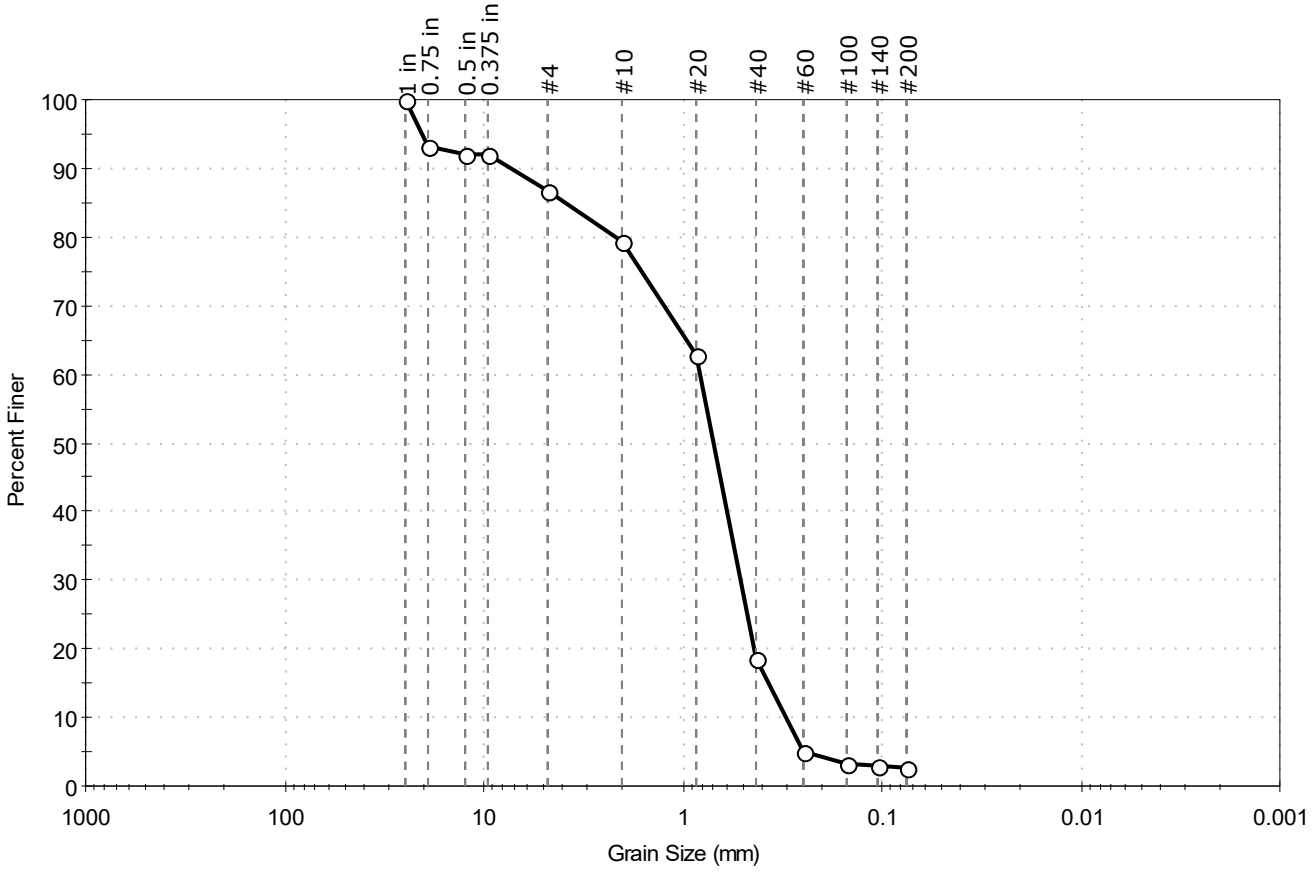
Sample/Test Description

Sand/Gravel Particle Shape : ROUNDED

Sand/Gravel Hardness : HARD

Client:	Inspire Environmental				
Project:	SRW				
Location:	offshore New York			Project No:	GTX-312302
Boring ID:	---	Sample Type:	bag	Tested By:	ckg
Sample ID:	805_B	Test Date:	10/01/20	Checked By:	jsc
Depth :	---	Test Id:	578657		
Test Comment:	---				
Visual Description:	Moist, black sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
--	13.2	84.2	2.6

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
1 in	25.00	100		
0.75 in	19.00	93		
0.5 in	12.50	92		
0.375 in	9.50	92		
#4	4.75	87		
#10	2.00	79		
#20	0.85	63		
#40	0.42	19		
#60	0.25	5		
#100	0.15	3		
#140	0.11	3		
#200	0.075	2.6		

Coefficients

D_{85} = 3.8615 mm	D_{30} = 0.5078 mm
D_{60} = 0.8144 mm	D_{15} = 0.3686 mm
D_{50} = 0.6958 mm	D_{10} = 0.3039 mm
C_u = 2.680	C_c = 1.042

Classification

ASTM: Poorly graded SAND (SP)

AASHTO: Stone Fragments, Gravel and Sand (A-1-b (1))

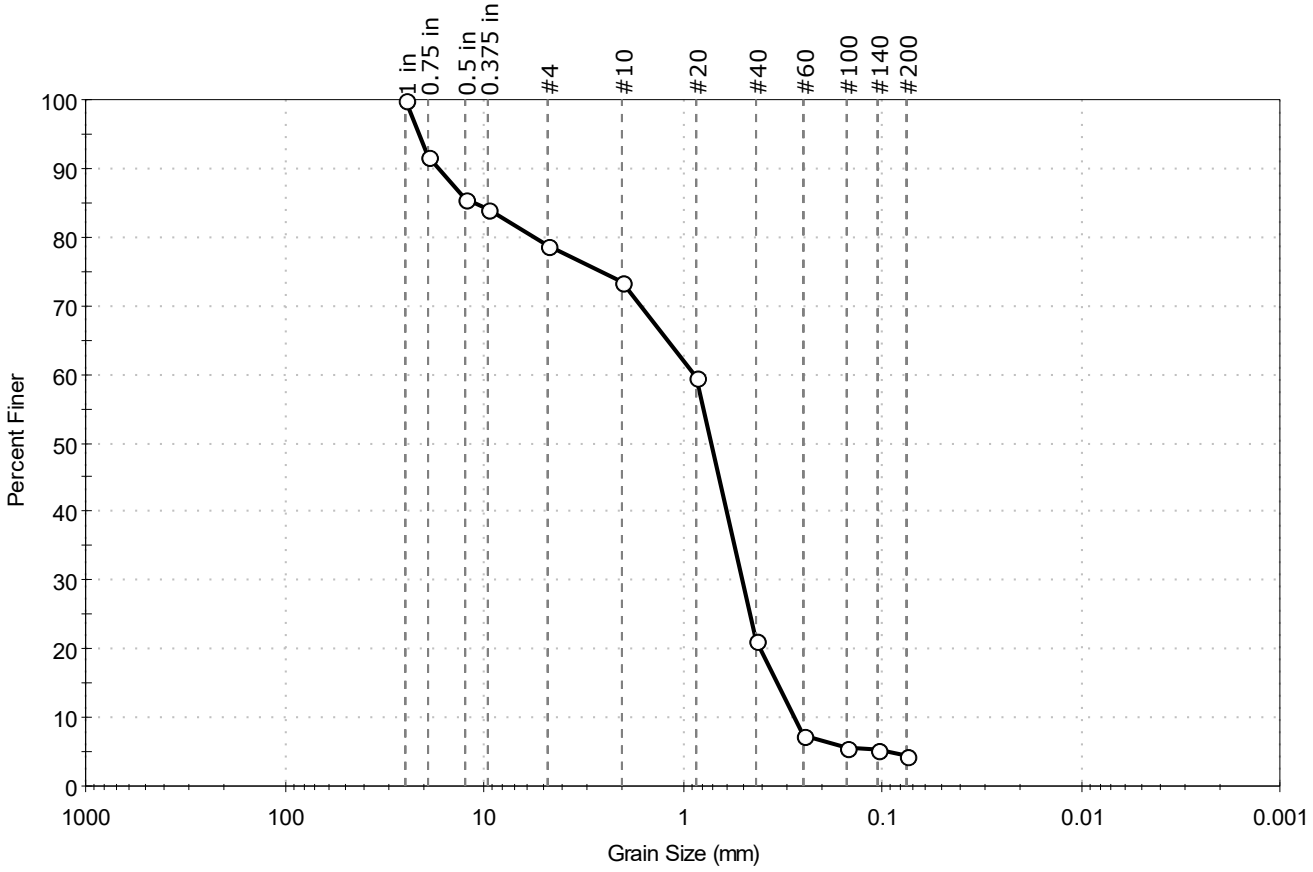
Sample/Test Description

Sand/Gravel Particle Shape : ROUNDED

Sand/Gravel Hardness : HARD

Client:	Inspire Environmental				
Project:	SRW				
Location:	offshore New York			Project No:	GTX-312302
Boring ID:	---	Sample Type:	bag	Tested By:	ckg
Sample ID:	805_C	Test Date:	10/01/20	Checked By:	jsc
Depth :	---	Test Id:	578658		
Test Comment:	---				
Visual Description:	Moist, black sand with gravel				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
--	21.2	74.3	4.5

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
1 in	25.00	100		
0.75 in	19.00	92		
0.5 in	12.50	86		
0.375 in	9.50	84		
#4	4.75	79		
#10	2.00	73		
#20	0.85	60		
#40	0.42	21		
#60	0.25	7		
#100	0.15	6		
#140	0.11	5		
#200	0.075	4.5		

Coefficients

D_{85} = 11.1855 mm	D_{30} = 0.4978 mm
D_{60} = 0.8731 mm	D_{15} = 0.3350 mm
D_{50} = 0.7149 mm	D_{10} = 0.2769 mm
C_u = 3.153	C_c = 1.025

Classification

ASTM: Poorly graded SAND with Gravel (SP)

AASHTO: Stone Fragments, Gravel and Sand (A-1-b (1))

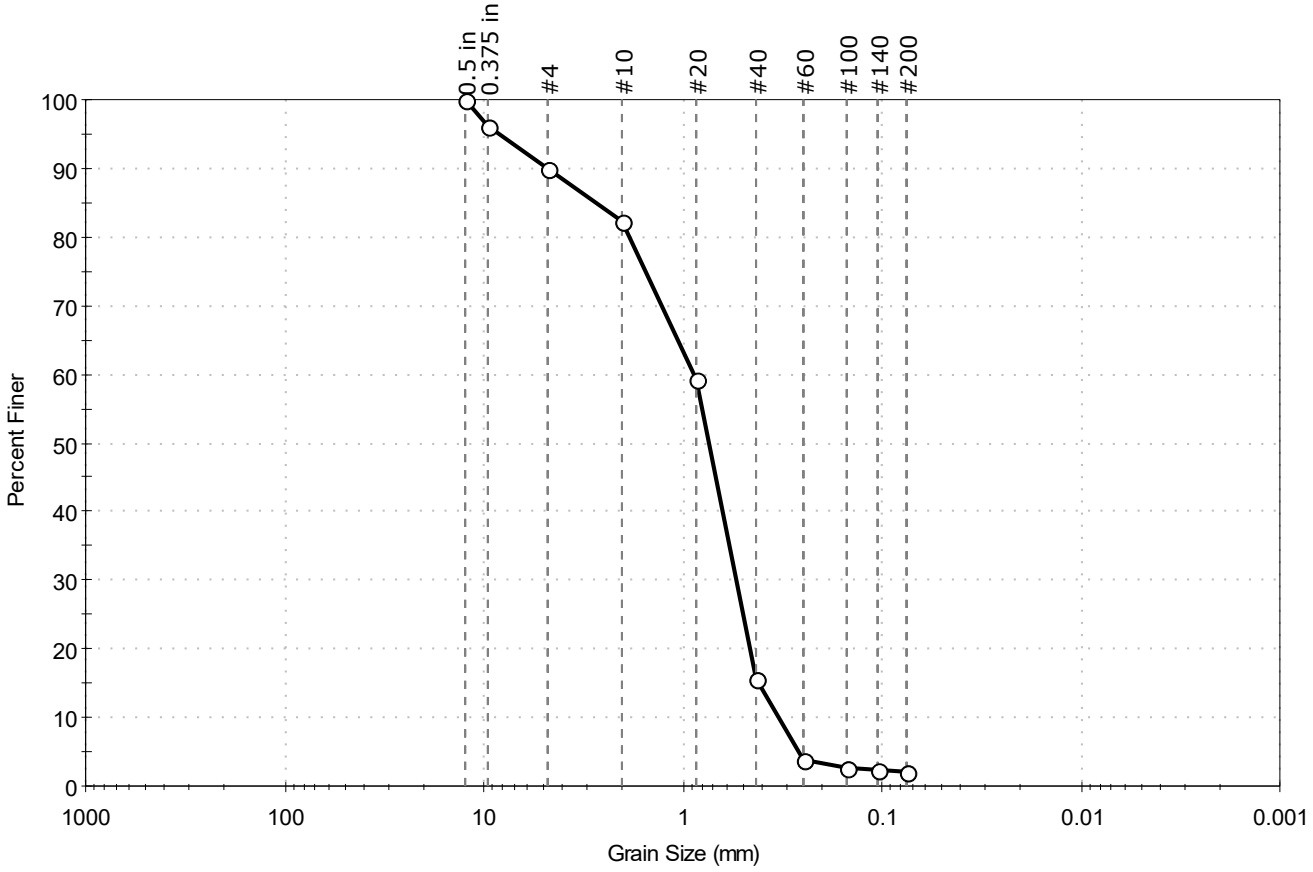
Sample/Test Description

Sand/Gravel Particle Shape : ROUNDED

Sand/Gravel Hardness : HARD

Client:	Inspire Environmental				
Project:	SRW				
Location:	offshore New York			Project No:	GTX-312302
Boring ID:	---	Sample Type:	bag	Tested By:	ckg
Sample ID:	802_A	Test Date:	10/01/20	Checked By:	jsc
Depth :	---	Test Id:	578659		
Test Comment:	---				
Visual Description:	Moist, dark olive gray sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
--	10.1	87.8	2.1

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
0.5 in	12.50	100		
0.375 in	9.50	96		
#4	4.75	90		
#10	2.00	82		
#20	0.85	59		
#40	0.42	16		
#60	0.25	4		
#100	0.15	3		
#140	0.11	2		
#200	0.075	2.1		

Coefficients

D_{85} = 2.6924 mm D_{30} = 0.5338 mm

D_{60} = 0.8740 mm D_{15} = 0.4126 mm

D_{50} = 0.7338 mm D_{10} = 0.3303 mm

C_u = 2.646 C_c = 0.987

Classification

ASTM Poorly graded SAND (SP)

AASHTO Stone Fragments, Gravel and Sand (A-1-b (1))

Sample/Test Description

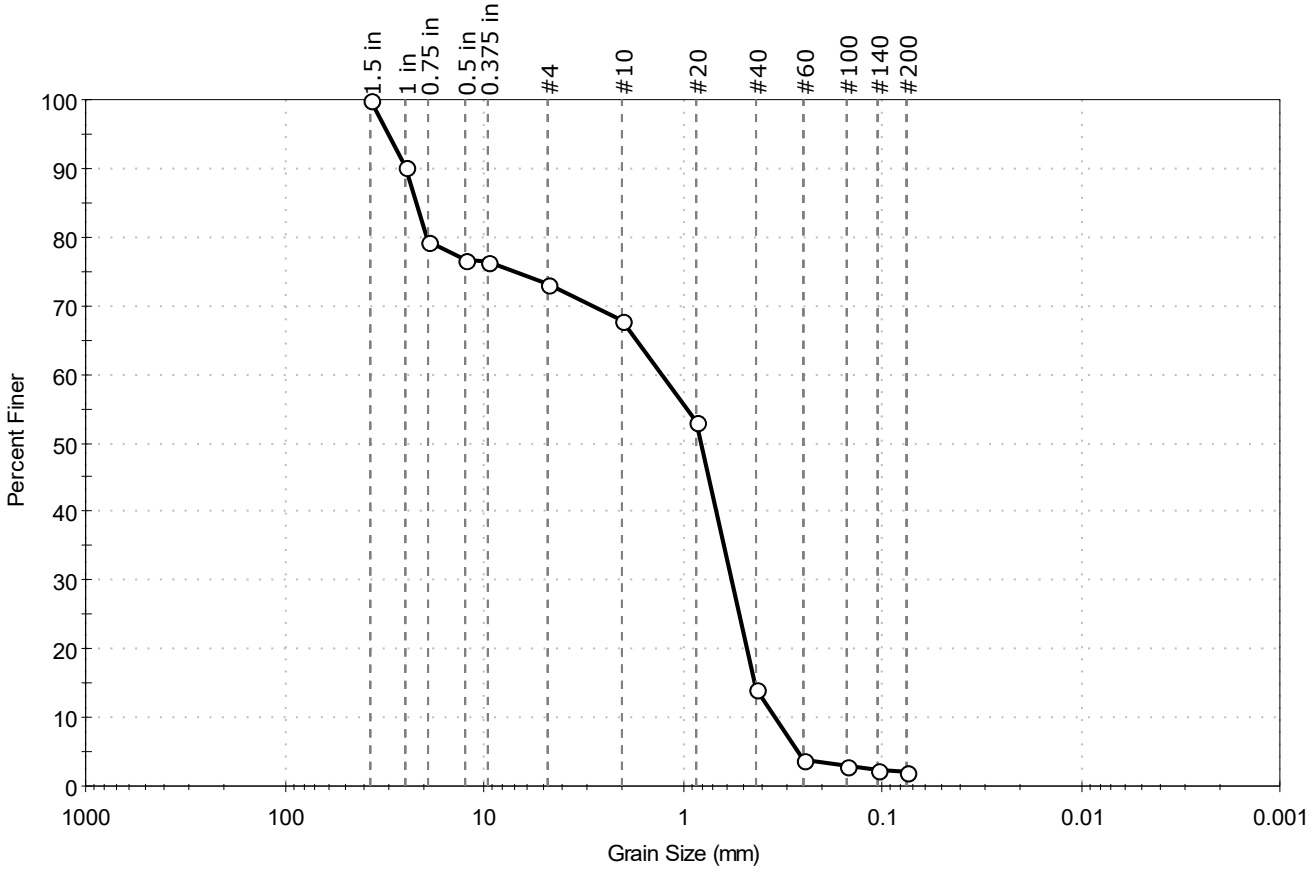
Sand/Gravel Particle Shape : ROUNDED

Sand/Gravel Hardness : HARD

GeoTesting EXPRESS

Client:	Inspire Environmental				
Project:	SRW				
Location:	offshore New York			Project No:	GTX-312302
Boring ID:	---	Sample Type:	bag	Tested By:	ckg
Sample ID:	802_B	Test Date:	10/01/20	Checked By:	jsc
Depth :	---	Test Id:	578660		
Test Comment:	---				
Visual Description:	Moist, dark olive gray sand with gravel				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	26.9	70.9	2.2

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
1.5 in	37.50	100		
1 in	25.00	90		
0.75 in	19.00	79		
0.5 in	12.50	77		
0.375 in	9.50	76		
#4	4.75	73		
#10	2.00	68		
#20	0.85	53		
#40	0.42	14		
#60	0.25	4		
#100	0.15	3		
#140	0.11	2		
#200	0.075	2.2		

Coefficients

D_{85} = 21.9262 mm	D_{30} = 0.5627 mm
D_{60} = 1.2605 mm	D_{15} = 0.4310 mm
D_{50} = 0.8030 mm	D_{10} = 0.3420 mm
C_u = 3.686	C_c = 0.734

Classification

ASTM — Poorly graded SAND with Gravel (SP)

AASHTO — Stone Fragments, Gravel and Sand (A-1-b (1))

Sample/Test Description

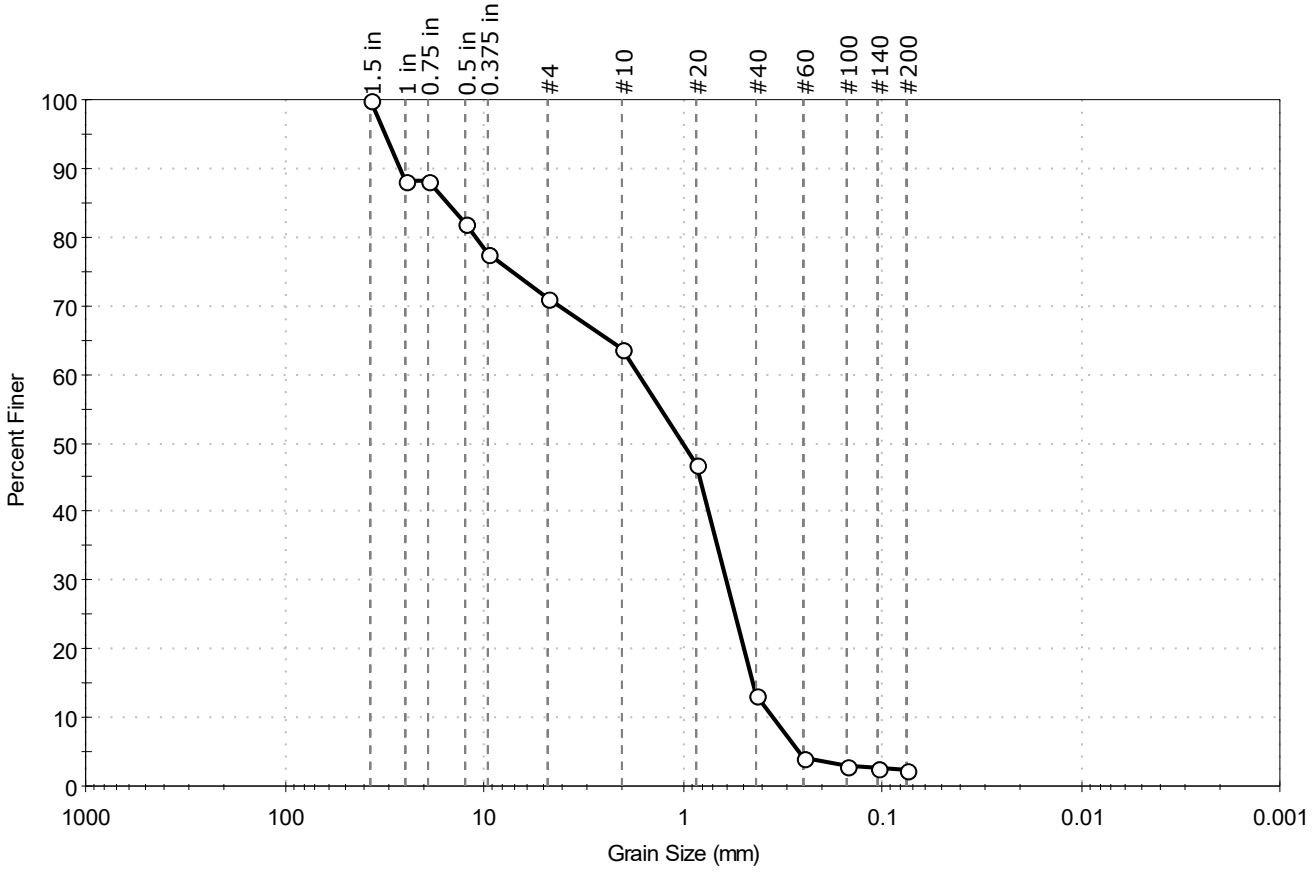
Sand/Gravel Particle Shape : ROUNDED

Sand/Gravel Hardness : HARD

printed 10/1/2020 1:40:39 PM

Client:	Inspire Environmental				
Project:	SRW				
Location:	offshore New York			Project No:	GTX-312302
Boring ID:	---	Sample Type:	bag	Tested By:	ckg
Sample ID:	802_C	Test Date:	10/01/20	Checked By:	jsc
Depth :	---	Test Id:	578661		
Test Comment:	---				
Visual Description:	Moist, very dark gray sand with gravel				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	29.0	68.6	2.4

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
1.5 in	37.50	100		
1 in	25.00	88		
0.75 in	19.00	88		
0.5 in	12.50	82		
0.375 in	9.50	78		
#4	4.75	71		
#10	2.00	64		
#20	0.85	47		
#40	0.42	13		
#60	0.25	4		
#100	0.15	3		
#140	0.11	3		
#200	0.075	2.4		

Coefficients

D_{85} = 15.2236 mm	D_{30} = 0.5994 mm
D_{60} = 1.6613 mm	D_{15} = 0.4397 mm
D_{50} = 0.9954 mm	D_{10} = 0.3494 mm
C_u = 4.755	C_c = 0.619

Classification

ASTM — Poorly graded SAND with Gravel (SP)

AASHTO — Stone Fragments, Gravel and Sand (A-1-b (1))

Sample/Test Description

Sand/Gravel Particle Shape : ROUNDED

Sand/Gravel Hardness : HARD

GeoTesting EXPRESS

WARRANTY and LIABILITY

GeoTesting Express (GTX) warrants that all tests it performs are run in general accordance with the specified test procedures and accepted industry practice. GTX will correct or repeat any test that does not comply with this warranty. GTX has no specific knowledge as to conditioning, origin, sampling procedure or intended use of the material.

GTX may report engineering parameters that require us to interpret the test data. Such parameters are determined using accepted engineering procedures. However, GTX does not warrant that these parameters accurately reflect the true engineering properties of the *in situ* material. Responsibility for interpretation and use of the test data and these parameters for engineering and/or construction purposes rests solely with the user and not with GTX or any of its employees.

GTX's liability will be limited to correcting or repeating a test which fails our warranty. GTX's liability for damages to the Purchaser of testing services for any cause whatsoever shall be limited to the amount GTX received for the testing services. GTX will not be liable for any damages, or for any lost benefits or other consequential damages resulting from the use of these test results, even if GTX has been advised of the possibility of such damages. GTX will not be responsible for any liability of the Purchaser to any third party.

Commonly Used Symbols

A	pore pressure parameter for $\Delta\sigma_1 - \Delta\sigma_3$
B	pore pressure parameter for $\Delta\sigma_3$
CAI	CERCHAR Abrasiveness Index
CIU	isotropically consolidated undrained triaxial shear test
CR	compression ratio for one dimensional consolidation
CSR	cyclic stress ratio
C_c	coefficient of curvature, $(D_{30})^2 / (D_{10} \times D_{60})$
C_u	coefficient of uniformity, D_{60}/D_{10}
C_c	compression index for one dimensional consolidation
C_α	coefficient of secondary compression
c_v	coefficient of consolidation
c	cohesion intercept for total stresses
c'	cohesion intercept for effective stresses
D	diameter of specimen
D	damping ratio
D_{10}	diameter at which 10% of soil is finer
D_{15}	diameter at which 15% of soil is finer
D_{30}	diameter at which 30% of soil is finer
D_{50}	diameter at which 50% of soil is finer
D_{60}	diameter at which 60% of soil is finer
D_{85}	diameter at which 85% of soil is finer
d_{50}	displacement for 50% consolidation
d_{90}	displacement for 90% consolidation
d_{100}	displacement for 100% consolidation
E	Young's modulus
e	void ratio
e_c	void ratio after consolidation
e_o	initial void ratio
G	shear modulus
G_s	specific gravity of soil particles
H	height of specimen
H_R	Rebound Hardness number
i	gradient
I_S	Uncorrected point load strength
$I_{S(50)}$	Size corrected point load strength index
H_A	Modified Taber Abrasion
H_T	Total hardness
K_o	lateral stress ratio for one dimensional strain
k	permeability
LI	Liquidity Index
m_v	coefficient of volume change
n	porosity
PI	plasticity index
P_c	preconsolidation pressure
p	$(\sigma_1 + \sigma_3) / 2$, $(\sigma_v + \sigma_h) / 2$
p'	$(\sigma'_1 + \sigma'_3) / 2$, $(\sigma'_v + \sigma'_h) / 2$
p'_c	p' at consolidation
Q	quantity of flow
q	$(\sigma_1 - \sigma_3) / 2$
q_f	q at failure
q_o, q_i	initial q
q_c	q at consolidation
S_r	Post cyclic undrained shear strength
T	temperature
t	time
U, UC	unconfined compression test
UU, Q	unconsolidated undrained triaxial test
u_a	pore gas pressure
u_e	excess pore water pressure
u, u_w	pore water pressure
V	total volume
V_g	volume of gas
V_s	volume of solids
V_s	shear wave velocity
V_v	volume of voids
V_w	volume of water
V_o	initial volume
v	velocity
W	total weight
W_s	weight of solids
W_w	weight of water
w	water content
w_c	water content at consolidation
w_f	final water content
w_l	liquid limit
w_n	natural water content
w_p	plastic limit
w_s	shrinkage limit
w_o, w_i	initial water content
α	slope of q_f versus p_f
α'	slope of q_f versus p_f'
γ_t	total unit weight
γ_d	dry unit weight
γ_s	unit weight of solids
γ_w	unit weight of water
ε	strain
ε_{vol}	volume strain
ε_h, ε_v	horizontal strain, vertical strain
μ	Poisson's ratio, also viscosity
σ	normal stress
σ'	effective normal stress
σ_c, σ'_c	consolidation stress in isotropic stress system
σ_h, σ'_h	horizontal normal stress
σ_v, σ'_v	vertical normal stress
σ'_{vc}	Effective vertical consolidation stress
σ_1	major principal stress
σ_2	intermediate principal stress
σ_3	minor principal stress
τ	shear stress
φ	friction angle based on total stresses
φ'	friction angle based on effective stresses
φ'_r	residual friction angle
φ_{ult}	φ for ultimate strength