PUBLIC NOTICE

US Army Corps of Engineers ®
New England District
696 Virginia Road
Concord, MA 01742-2751

Comment Period Begins: June 22, 2021
Comment Period Ends: July 22, 2021
File Number: NAE-2019-01014
In Reply Refer To: Ruth Ann Brien
Phone: (978) 318-8054
E-mail: ruthann.a.brien@usace.army.mil

The District Engineer has received a permit application to conduct work in waters of the United States from Edge Cable Holdings USA, LLC. This work is proposed in the Nahant Bay/Atlantic Ocean in the waters of Lynn, Rockport, Gloucester, Manchester By-the-Sea, Beverly, Salem, Marblehead, and Swampscott, Massachusetts. The site coordinates are: Latitude N 42.3819 Longitude W 69.1607.

Project Description: The work involves the installation of a 1.5-inch diameter submarine fiber optic telecommunication cable system (the Amitie cable project) to link the United States, France, and the United Kingdom. The purpose is to improve telecommunication data transmission capacity and speeds in order to satisfy a growing demand for transmission capacity in the United States and Europe. In the United States, the cable would extend 214 miles from the Exclusive Economic Zone (EEZ) landward to a utility manhole in the City of Lynn. Approximately 33.7 miles of this cable would be located in Massachusetts state waters.

Project Impacts: The project would permanently impact 0.05 acre of waters regulated under both Section 10 of the Rivers and Harbors Act of 1899 and Section 404 of the Clean Water Act and would impact 3.4 acres of waters regulated under Section 10 only.

Cable Path: From the rotary at the intersection of Nahant Road and Lynn Shore Drive in Lynn, MA, the cable would head east under Nahant Bay. The cable would then extend northeast under the waters of Swampscott, Marblehead, Salem, Beverly, Manchester-by-the-Sea, Gloucester, and Rockport. The cable would then continue northeast, avoiding the Stellwagen Bank National Marine Sanctuary and then head further east to the limits of the EEZ.

Cable Installation: A metal conduit would be installed via horizontal directional drilling (HDD) from the rotary in Lynn out 0.8 mile offshore under Nahant Bay. This metal conduit would be installed at a depth of 43 to 53 feet below the seabed. The cable would then be pulled through the metal conduit. The proposed new conduit would be collocated adjacent to two existing metal conduits installed in the early 2000s and one of which carries an existing fiber optic cable known as the GTT cable (previously known as Hibernia). Due to the proximity of the new conduit to the existing GTT conduit, a Tru-Track system would be used to track the conduit installation by HDD to avoid the new conduit impacting the existing functional conduit that carries the GTT cable. The Tru-Track system would use a metal guidewire that would be laid along the HDD path onshore to track the HDD while it was being drilled. The actual drill position recorded by the guidewire would be used by the drill operator to update the steering calculations; these adjustments would ensure that the steering system was always using the actual position as the base for determining what adjustments in steering should be made, and allow for the operator to precisely direct the drill in the desired and planned location. The guidewire would consist of an 8 to 10-gauge wire (approximately 0.10 to 0.13 inches in diameter) placed in a square or

rectangular perimeter on the ground surface above the drill path. The square perimeter pattern would typically be as wide as the drill would be deep. The guidewire would briefly be energized by connecting to a direct current (DC) power supply to create a temporary magnetic field allowing the operator to more precisely locate the drill underground. The coil voltage would be approximately 110 to 120 millivolts and therefore would not have any effects on the surrounding area. The guidewire would be buried using hand tools across the beach and would extend to the mean low water mark. Stakes would be driven into place as needed along the wire grid to secure the line and keep it in place, while avoiding and minimizing any slack in the coil grid. The stakes would be well marked with fluorescent orange paint, flagging, or cones if necessary, so they would be seen by pedestrians, or buried in the beach to avoid tripping hazards. Surveying signs would be placed in strategic locations around the guidewire grid alerting the public to its presence. The guidewire would remain in place until the drill head/HDD down hole assembly containing the downhole steering tool passed beyond the end of the guidewire grid at the water's edge. It is anticipated that the guidewire grid would be in place for approximately three days.

Seaward of the metal conduit, standard industry burial tools- including a plow and a remotely operated vehicle equipped with jetting tools- would be used to install and bury the cable to a depth of approximately 4 to 6 feet below the seabed. The plow is designed to backfill the cable burial trench at the time of installation and is intended to be used to a water depth of 3,000 feet. The footprint of the submarine cable plow would be limited to where the four plow skis were in contact with the seabed surface and the plow share, which is approximately 0.7-foot wide. The seabed would be returned to near baseline conditions after plowing as the trench would backfill immediately with the sediment displaced from the trench as it moves along the seabed. Only temporary track marks from skis and the plow share would remain visible just after installation but would shortly disappear due to seabed currents and wave action.

Based on seafloor data collected during the project-specific marine geophysical survey, it is anticipated that the entire cable route would be suitable for the cable to be buried within the EEZ, with the exception of select crossings of existing utilities. In the unlikely event that the cable could not be buried in select locations, the cable would be laid on the seafloor surface for short sections or covered with hard armor if required. Two areas- at milepost 3.1 and 32- have been identified where these circumstances may occur. Any placement of hard armor would be documented and placed on the nautical charts following cable installation. Areas where target burial was not achieved would be recorded and a post-construction report containing the final cable location and the depth at which it was able to be buried would be provided to state and federal agencies, including the Corps.

Prior to the cable installation and burial, route clearance and/or a pre-lay grapnel run would be conducted over the length of the cable route to minimize the risk of later damage to the burial equipment and maximize efficiency during installation. This procedure is designed to remove any surface debris that would be an obstruction to the simultaneous cable lay and burial process (e.g., abandoned fishing nets, wire rope, or other significant debris on the seabed surface) along the route. The pre-lay grapnel run would be conducted by a vessel towing a grapnel fluke penetrating between 0.7 and 3.3 feet into the seabed (subject to seabed conditions). Route clearance would be conducted using a specialized grapnel with longer flukes penetrating up to 6.6 feet that has the capability to cut a section of any out-of-service cable encountered to facilitate the installation and burial process of the Amitié cable. All debris recovered from the seabed would be stored onboard the vessel and disposed of at an appropriate approved land facility once the vessel docked.

In water depths greater than 3,000 feet, the cable would be laid directly on the seabed.

The proposed work is shown on the 21 sheets of figures dated March 2021. A draft frac-out plan is also enclosed.

The applicant has designed the project to avoid and minimize impacts to aquatic resources and no compensatory mitigation is proposed.

AUTHORITY

Permits are required pursuant to:

__X__ Section 10 of the Rivers and Harbors Act of 1899
__X__ Section 404 of the Clean Water Act
_____ Section 103 of the Marine Protection, Research and Sanctuaries Act.
_____ Section 14 of the Rivers and Harbors Act of 1899 (33 USC 408)

The decision whether to issue a permit will be based on an evaluation of the probable impact of the proposed activity on the public interest. That decision will reflect the national concern for both protection and utilization of important resources. The benefit which may reasonably accrue from the proposal must be balanced against its reasonably foreseeable detriments. All factors which may be relevant to the proposal will be considered, including the cumulative effects thereof; among those are: conservation, economics, aesthetics, general environmental concerns, wetlands, cultural value, fish and wildlife values, flood hazards, flood plain value, land use, navigation, shoreline erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food production and, in general, the needs and welfare of the people.

The U.S. Army Corps of Engineers, New England District (USACE), is soliciting comments from the public; Federal, state, and local agencies and officials; Indian Tribes; and other interested parties in order to consider and evaluate the impacts of this proposed activity. The USACE will consider all comments received to determine whether to issue, modify, condition or deny a permit for this proposal. To make this decision, comments are used to assess impacts on endangered species, historic properties, water quality, general environmental effects, and the other public interest factors listed above. Comments are used in the preparation of an Environmental Assessment and/or an Environmental Impact Statement pursuant to the National Environmental Policy Act. Comments are also used to determine the need for a public hearing and to determine the overall public interest of the proposed activity.

Where the activity involves the discharge of dredged or fill material into waters of the United States or the transportation of dredged material for the purpose of disposing it in ocean waters, the evaluation of the impact of the activity in the public interest will also include application of the guidelines promulgated by the Administrator, U.S Environmental Protection Agency, under authority of Section 404(b) of the Clean Water Act, and/or Section 103 of the Marine Protection Research and Sanctuaries Act of 1972, as amended.

ESSENTIAL FISH HABITAT

The Magnuson-Stevens Fishery Conservation and Management Act, as amended by the Sustainable Fisheries Act of 1996 (Public Law 104-267), requires all federal agencies to consult with the National Marine Fisheries Service on all actions, or proposed actions, permitted, funded, or undertaken by the agency, that may adversely affect Essential Fish Habitat (EFH). Essential Fish Habitat describes waters and substrate necessary for fish for spawning, breeding, feeding or growth to maturity.

This project will impact 3.45 acres of EFH. This habitat consists of seabed and the substrate varies based on location. Loss of this habitat may adversely affect species that use these waters and substrate. However, the District Engineer has made a preliminary determination that the site-specific adverse effect will not be substantial. Further consultation with the National Marine Fisheries Service regarding EFH conservation recommendations is being conducted and will be concluded prior to the final decision.

NATIONAL HISTORIC PRESERVATION ACT

Based on his initial review, the District Engineer has determined that the proposed work may impact properties listed in, or eligible for listing in, the National Register of Historic Places. Additional review and consultation to fulfil requirements under Section 106 of the National Historic Preservation Act of 1966, as amended, will be ongoing as part of the permit review process.

ENDANGERED SPECIES CONSULTATION

The USACE has reviewed the application for the potential impact on Federally-listed threatened or endangered species and their designated critical habitat pursuant to section 7 of the Endangered Species Act as amended. It is our preliminary determination that the proposed activity for which authorization is being sought is designed, situated or will be operated/used in such a manner that it is not likely to adversely affect a listed species or their critical habitat. We are coordinating with the National Marine Fisheries Service and/or U.S. Fish and Wildlife Service on listed species under their jurisdiction and the ESA consultation will be concluded prior to the final decision.

OTHER GOVERNMENT AUTHORIZATIONS

The states of Connecticut, Maine, Massachusetts, New Hampshire and Rhode Island have approved Coastal Zone Management Programs. Where applicable, the applicant states that any proposed activity will comply with and will be conducted in a manner that is consistent with the approved Coastal Zone Management Program. By this Public Notice, we are requesting the State concurrence or objection to the applicant's consistency statement.

The following authorizations have been applied for, or have been, or will be obtained:

(X) Permit, license or assent from State.
(X) Permit from local wetland agency or conservation commission.
(X) Water Quality Certification in accordance with Section 401 of the Clean Water Act.

COMMENTS

In order to properly evaluate the proposal, we are seeking public comment. Anyone wishing to comment is encouraged to do so. Comments should be submitted in writing by the above date. If you have any questions, please contact Ruth Ann Brien at (978) 318-8054, (800) 343-4789 or (800) 362-4367, if calling from within Massachusetts.

Any person may request, in writing, within the comment period specified in this notice, that a public hearing be held to consider the application. Requests for a public hearing shall specifically state the reasons for holding a

public hearing. The USACE holds public hearings for the purpose of obtaining public comments when that is the best means for understanding a wide variety of concerns from a diverse segment of the public.

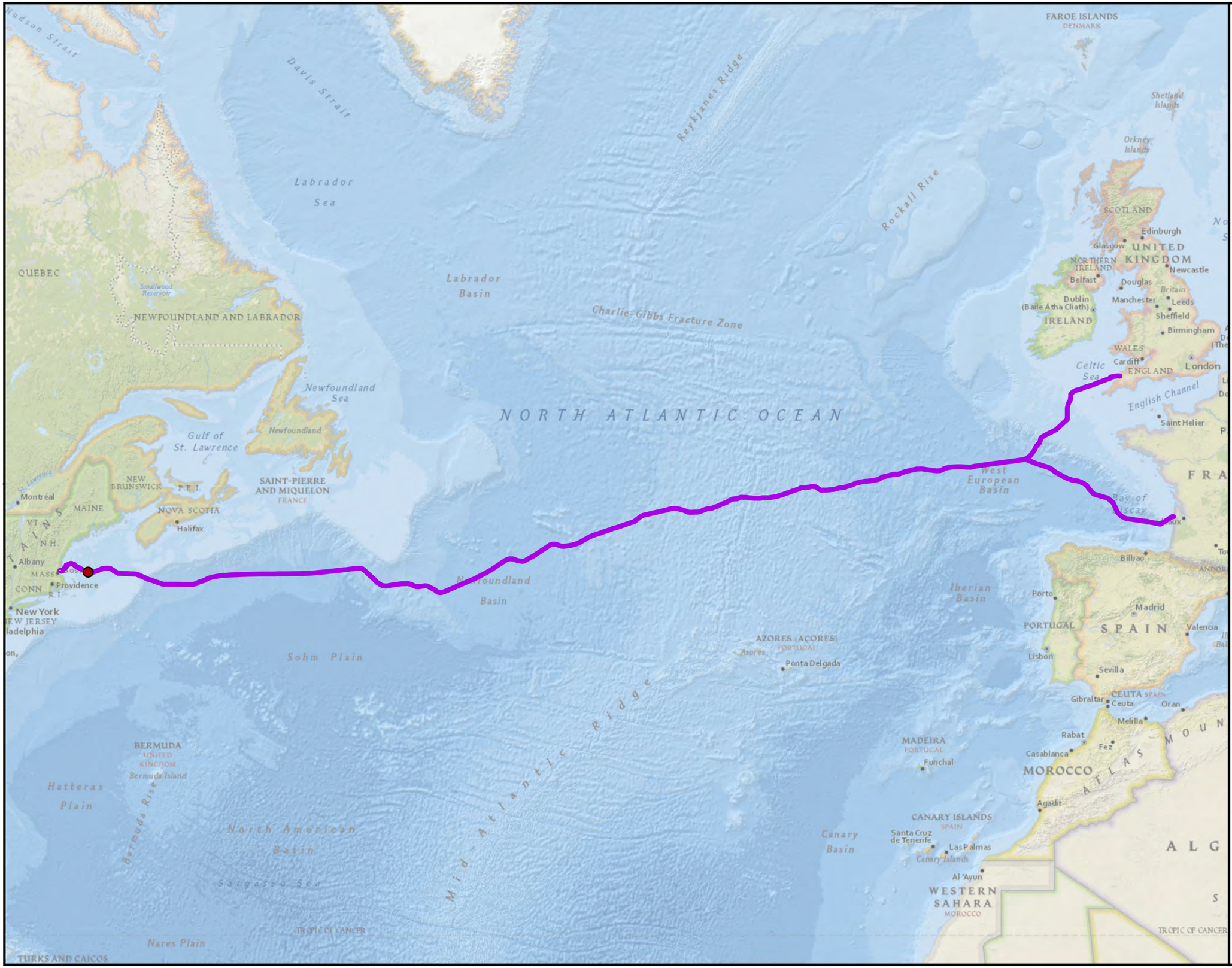
The initial determinations made herein will be reviewed in light of facts submitted in response to this notice. All comments will be considered a matter of public record. Copies of letters of objection will be forwarded to the applicant who will normally be requested to contact objectors directly in an effort to reach an understanding.

THIS NOTICE IS NOT AN AUTHORIZATION TO DO ANY WORK.

Paul Maniccia

Paul M. Maniccia
Chief, Permits and Enforcement Branch
Regulatory Division

If you would prefer not to continue receiving Public Notices by email, please contact Ms. Tina Chaisson at (978) 318-8058 or e-mail her at bettina.m.chaisson@usace.army.mil.



Legend

- Project Centroid Latitude/Longitude Location
- Proposed Amitié Fiber Optic Cable Route

NOTES:

1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere

N

0 250 500 1,000

Miles

PROJECT OVERVIEW MAP

Amitié Submarine Cable System
Edge Cable Holdings USA, LLC
Project Centroid Latitude/Longitude:
42.3819,-69.1607
Atlantic Ocean
Figure 1
March 2021

ERM

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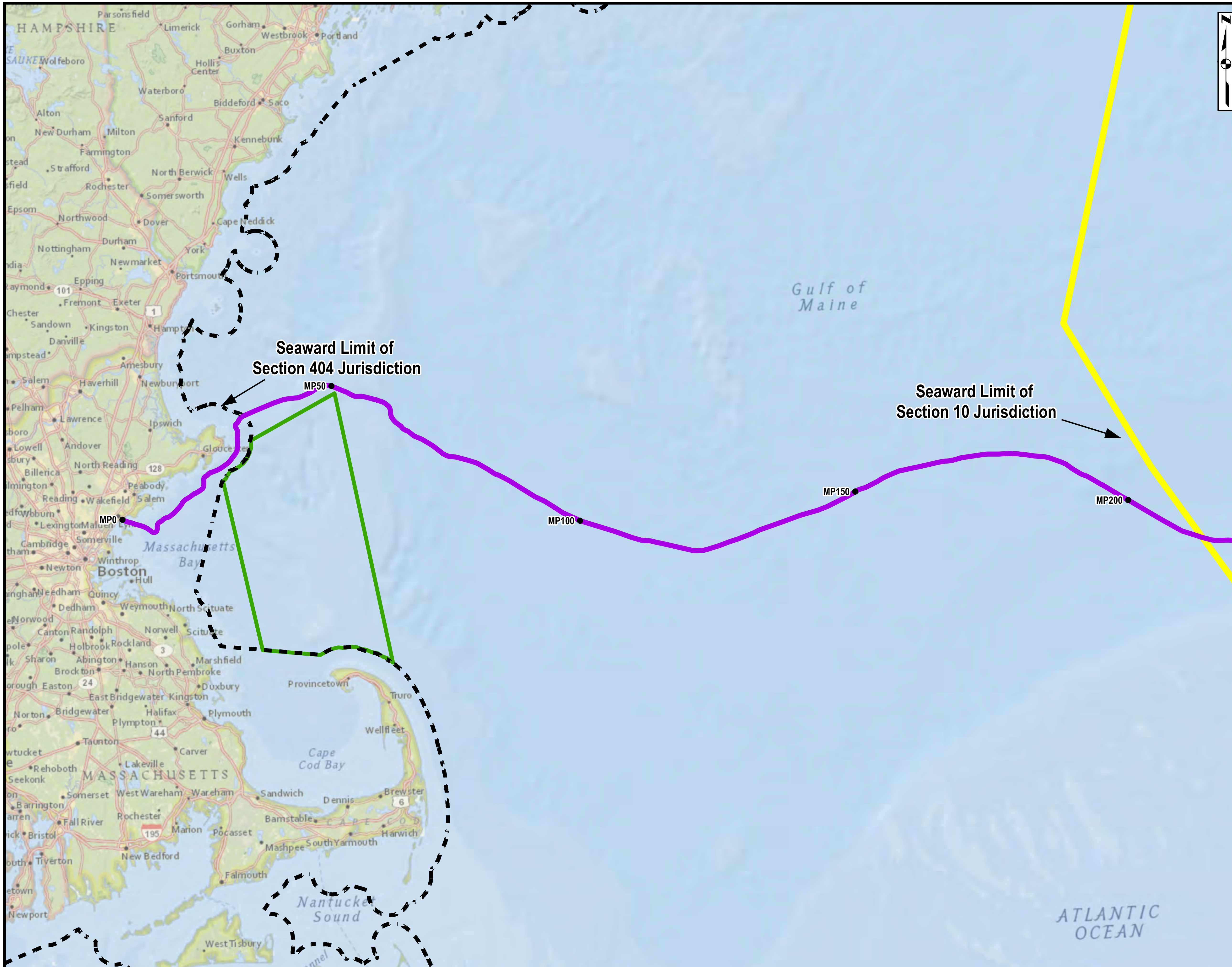
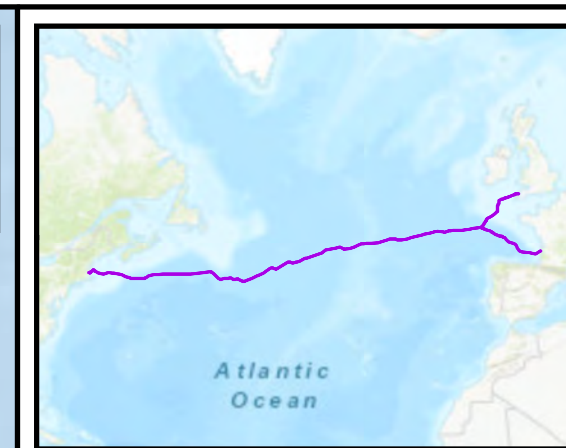




Legend

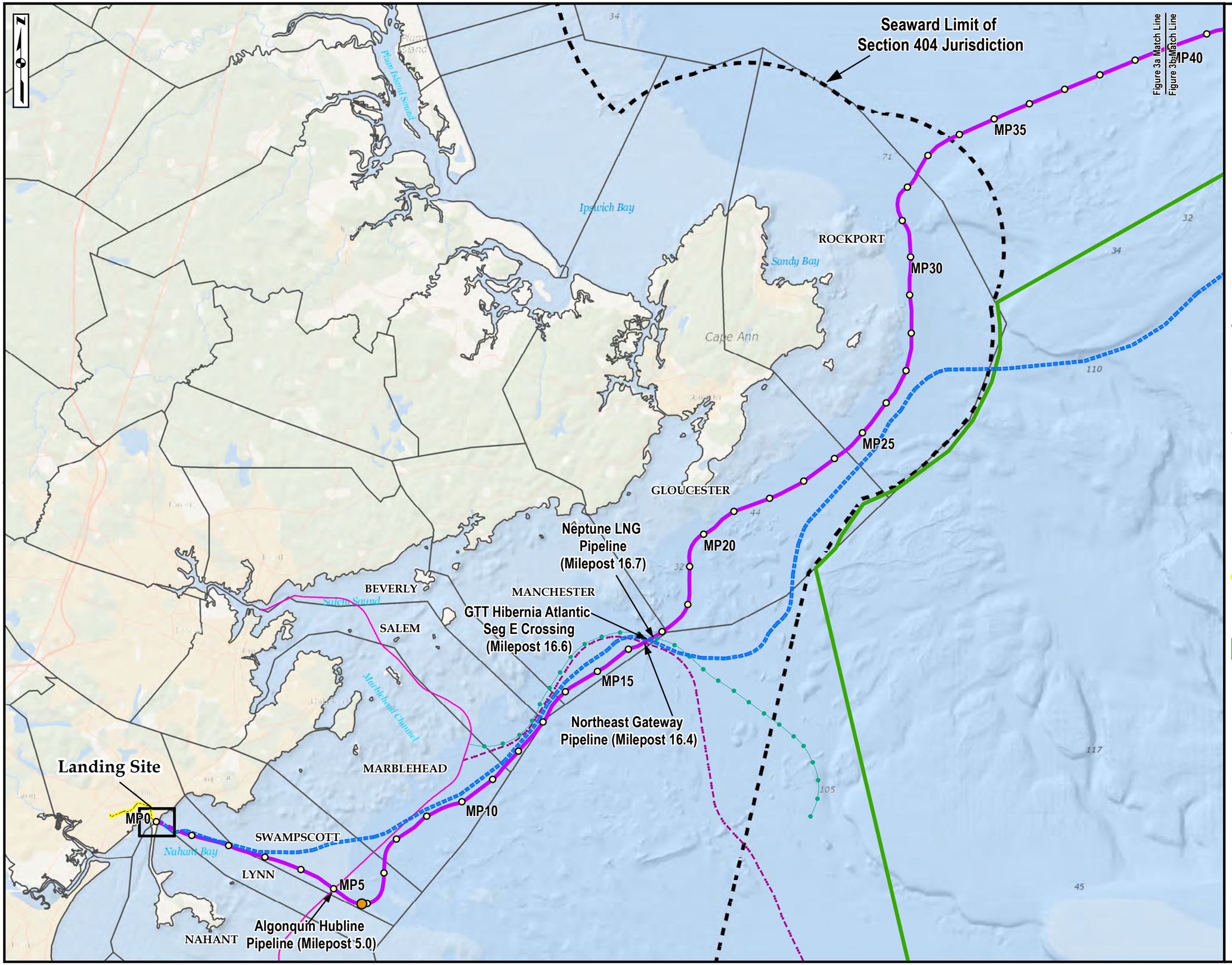
- • Milepost
- Proposed Amitié Fiber Optic Cable Route
- Limit of Territorial Sea
- Exclusive Economic Zone (EEZ) Boundary
- Stellwagen Bank National Marine Sanctuary

0 5 10 20 30 40
Miles

VICINITY MAP

Amitié Submarine Cable System
Edge Cable Holdings USA, LLC
Project Centroid Latitude/Longitude:
42.3819,-69.1607
Atlantic Ocean
Figure 2
March 2021

ERM



Legend

- Milepost
- Approximate Repeater Location
- Proposed Amitié Fiber Optic Cable Direct Burial Route
- Proposed Amitié Fiber Optic HDD Conduit Route
- Algonquin Hubline
- Neptune LNG Pipeline
- Northeast Gateway Pipeline
- GTT Hibernia Atlantic
- Onshore Data Center Route
- Limit of Territorial Sea
- Exclusive Economic Zone (EEZ) Boundary
- Town Boundaries
- Stellwagen Bank National Marine Sanctuary

0 0.5 1 2 3 4
Miles

PROPOSED CABLE ROUTE MAPPING

Amitié Submarine Cable System
Edge Cable Holdings USA, LLC
Project Centroid Latitude/Longitude:
42.3819,-69.1607
Atlantic Ocean
Figure 3a
March 2021

ERM

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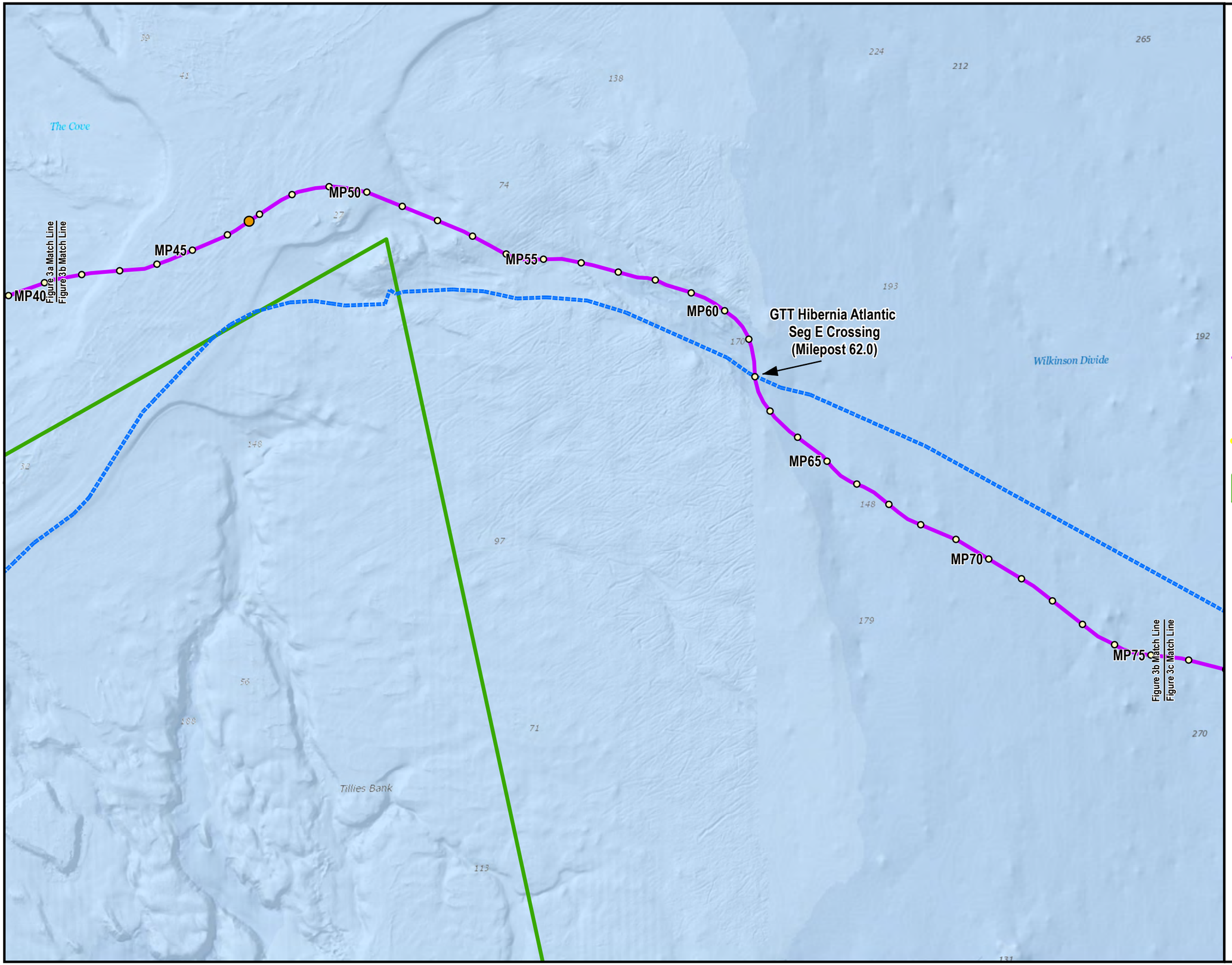
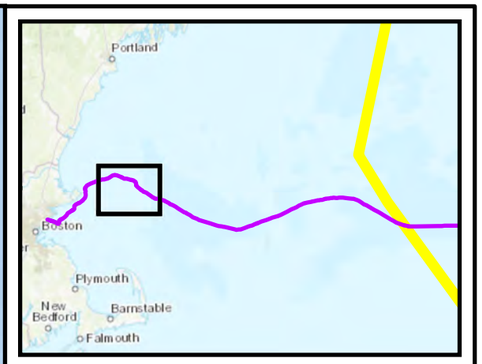




Legend

- Milepost
- Approximate Repeater Location
- Proposed Amitié Fiber Optic Cable Direct Burial Route
- GTT Hibernia Atlantic
- Exclusive Economic Zone (EEZ) Boundary
- Stellwagen Bank National Marine Sanctuary

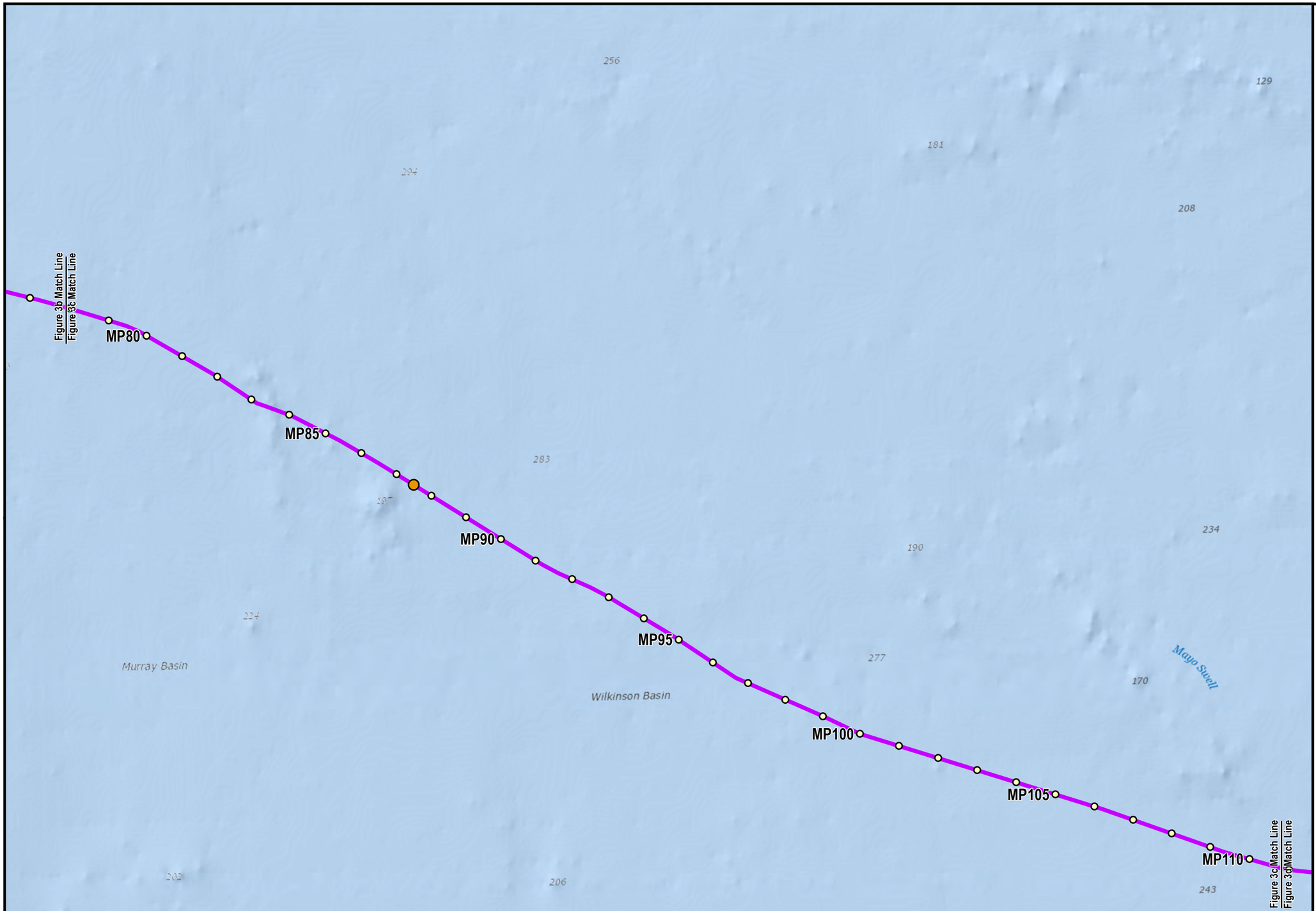
N

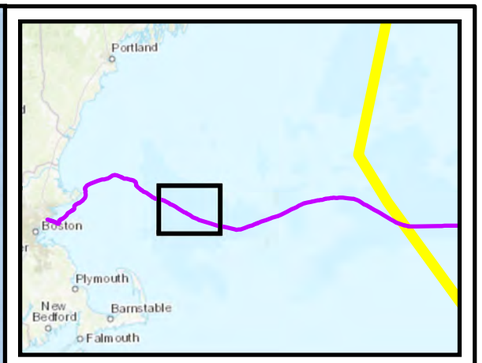
0 0.5 1 2 3 4
Miles

PROPOSED CABLE ROUTE MAPPING

Amitié Submarine Cable System
Edge Cable Holdings USA, LLC
Project Centroid Latitude/Longitude:
42.3819,-69.1607
Atlantic Ocean
Figure 3b
March 2021

ERM





Legend

- Milepost
- Approximate Repeater Location
- Proposed Amitié Fiber Optic Cable Direct Burial Route
- Exclusive Economic Zone (EEZ) Boundary

N

0 0.5 1 2 3 4

Miles

PROPOSED CABLE ROUTE MAPPING

Amitié Submarine Cable System
Edge Cable Holdings USA, LLC
Project Centroid Latitude/Longitude:
42.3819,-69.1607
Atlantic Ocean
Figure 3c
March 2021

ERM

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Rodgers Swell

142

173

177

146

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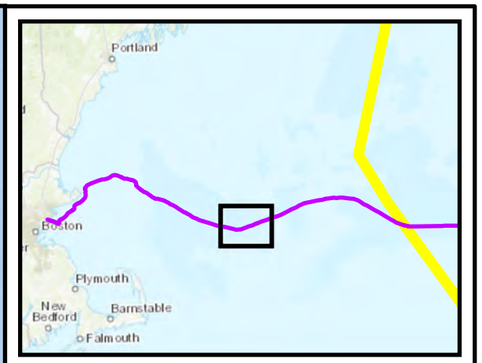
164

221

Figure 3c Match Line
Figure 3d Match Line

Figure 3d Match Line
Figure 3e Match Line

MP115
MP120
MP125
MP130
MP135



Legend

- Milepost
- Approximate Repeater Location
- Proposed Amitié Fiber Optic Cable Direct Burial Route
- Exclusive Economic Zone (EEZ) Boundary

N

0 0.5 1 2 3 4
Miles

PROPOSED CABLE ROUTE MAPPING

Amitié Submarine Cable System
Edge Cable Holdings USA, LLC
Project Centroid Latitude/Longitude:
42.3819,-69.1607
Atlantic Ocean
Figure 3d
March 2021

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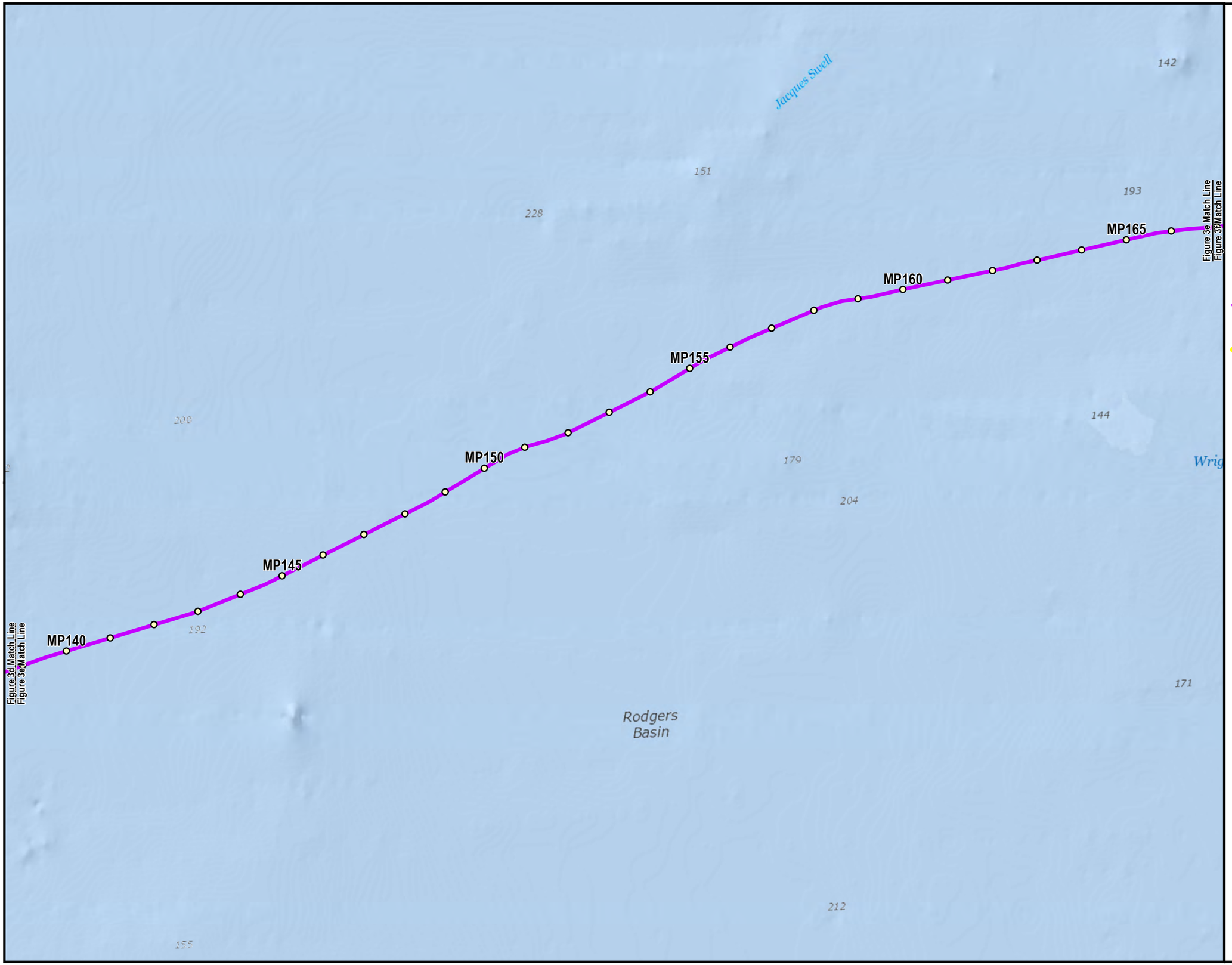

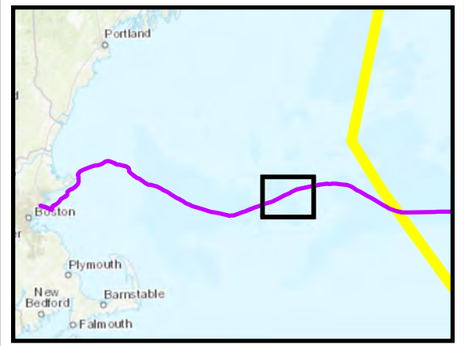

Legend

- Milepost
- Proposed Amitié Fiber Optic Cable Direct Burial Route
- Exclusive Economic Zone (EEZ) Boundary

N

0 0.5 1 2 3 4

Miles

PROPOSED CABLE ROUTE MAPPING

Amitié Submarine Cable System
Edge Cable Holdings USA, LLC
Project Centroid Latitude/Longitude:
42.3819,-69.1607
Atlantic Ocean
Figure 3e
March 2021

ERM

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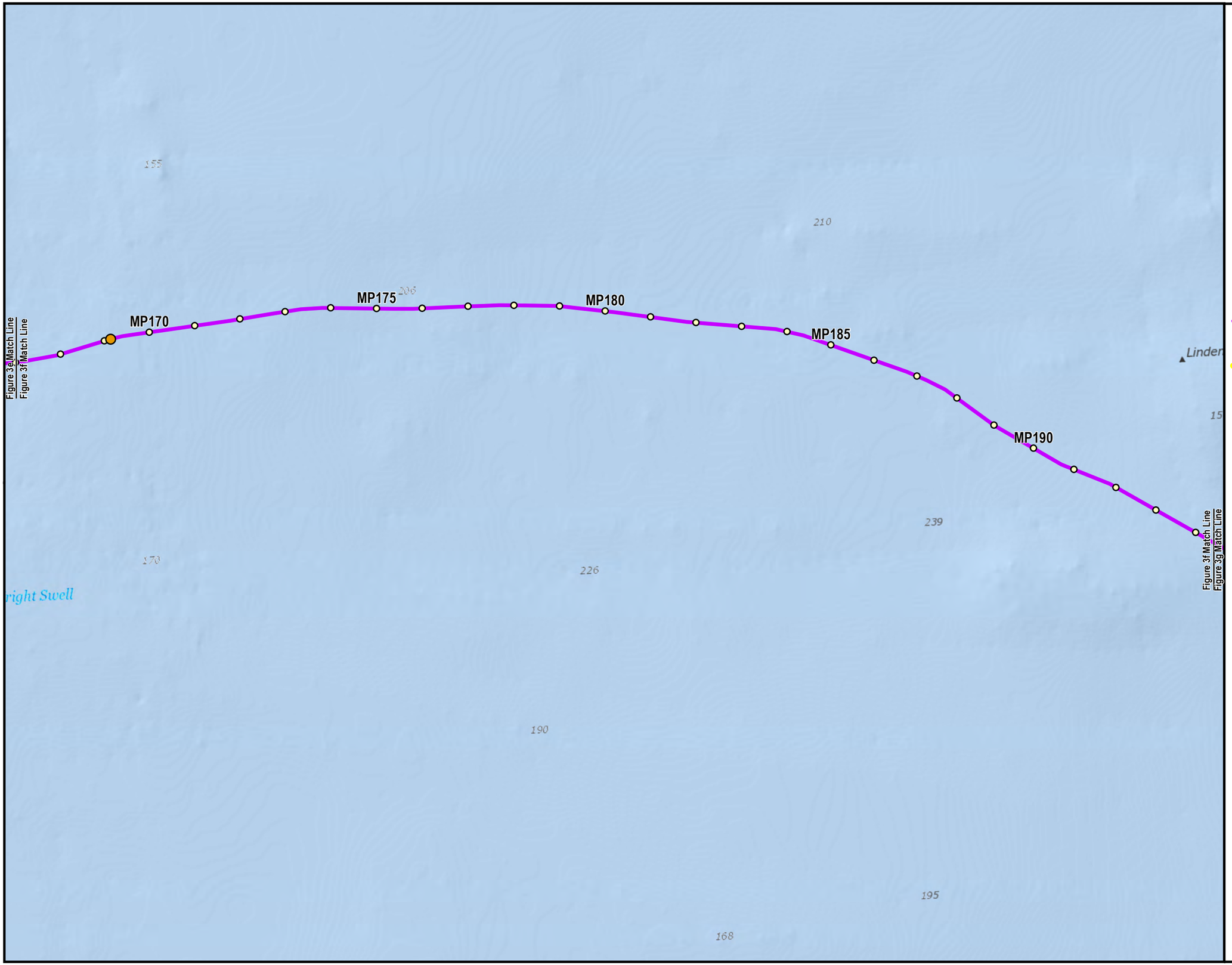
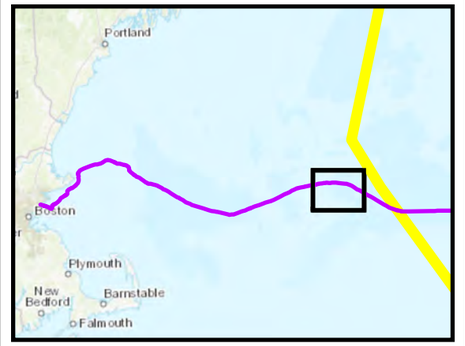




Legend

- Milepost
- Approximate Repeater Location
- Proposed Amitié Fiber Optic Cable Direct Burial Route
- Exclusive Economic Zone (EEZ) Boundary

N

0 0.5 1 2 3 4

Miles

PROPOSED CABLE ROUTE MAPPING

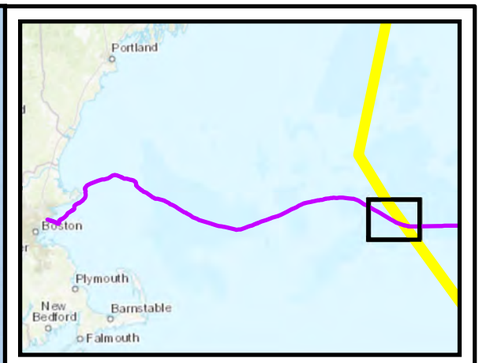
Amitié Submarine Cable System
Edge Cable Holdings USA, LLC
Project Centroid Latitude/Longitude: 42.3819,-69.1607
Atlantic Ocean
Figure 3f
March 2021

ERM

Figure 3f Match Line
Figure 3g Match Line

MP195
MP200
MP205
MP210
MP215
MP220

159
179
340
329
205
360
325
252
257
298
265
277
215



Legend

- Milepost
- Approximate Repeater Location
- Proposed Amitié Fiber Optic Cable Direct Burial Route
- Exclusive Economic Zone (EEZ) Boundary

N

0 0.5 1 2 3 4
Miles

PROPOSED CABLE ROUTE MAPPING

Amitié Submarine Cable System
Edge Cable Holdings USA, LLC
Project Centroid Latitude/Longitude:
42.3819,-69.1607
Atlantic Ocean
Figure 3g
March 2021

ERM

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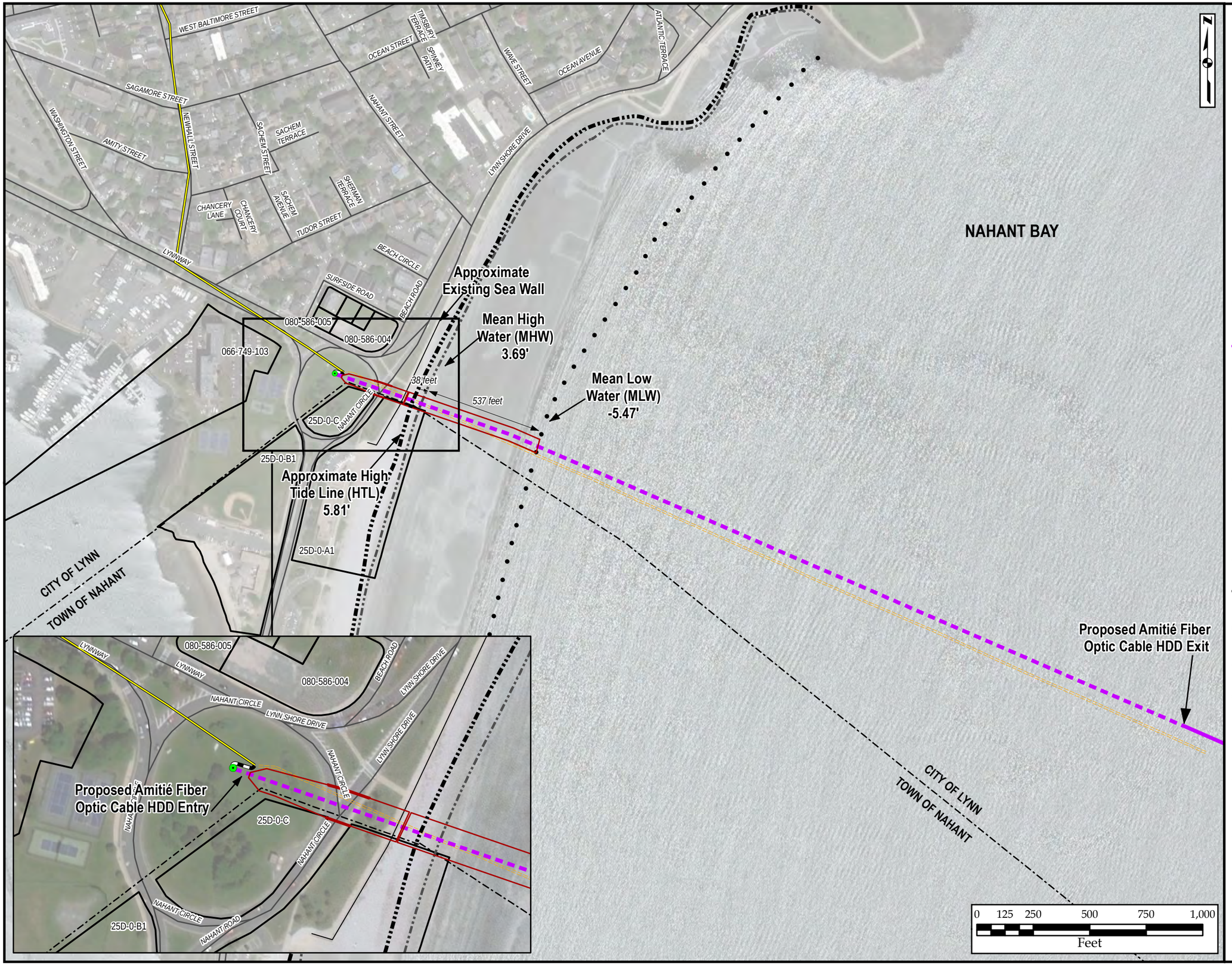
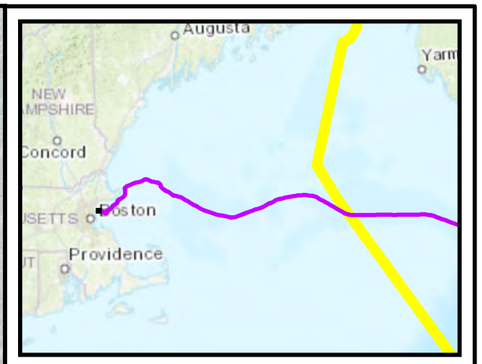




Legend

- Proposed Manhole
- Proposed Amitié Fiber Optic Cable Metal Conduit
- Proposed Amitié Fiber Optic Cable Direct Burial Route
- Wireline Grid and Mats
- Proposed Underground Conduit with Amitié Fiber Optic Cable
- Amitié Fiber Optic Cable within existing underground conduits
- Existing Metal Pipe for Proposed Grounding System
- Mean High Water (MHW)
- Mean Low Water
- Approximate High Tide Line (HTL)
- Town Boundaries
- Roads
- Adjacent Property Boundaries

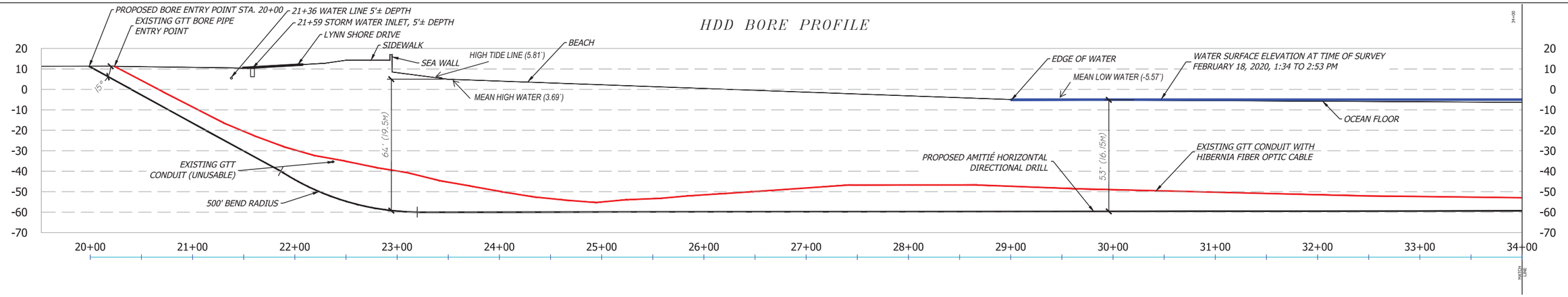
NOTES;
- Reference Datum: North American Vertical Datum of 1988

NEARSHORE PLAN VIEW

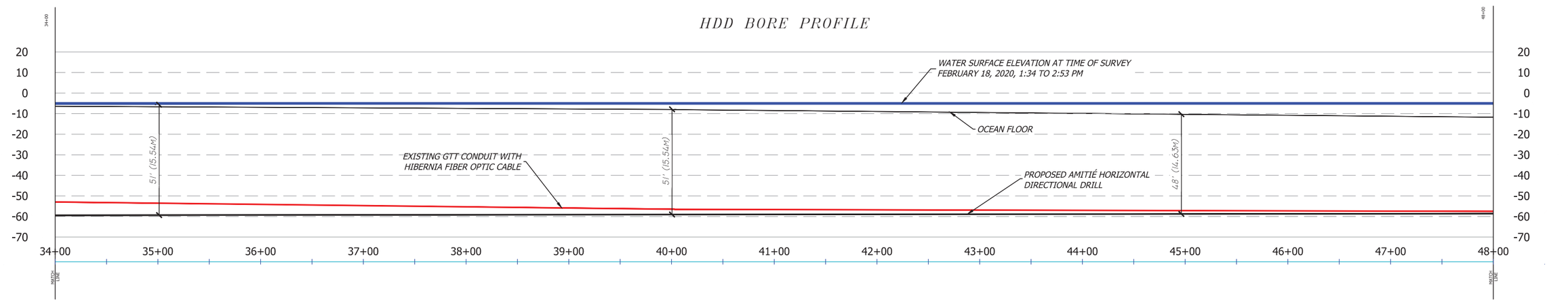
Amitié Submarine Cable System
Edge Cable Holdings USA, LLC
Project Centroid Latitude/Longitude: 42.3819,-69.1607
Atlantic Ocean
Figure 4
March 2021

ERM

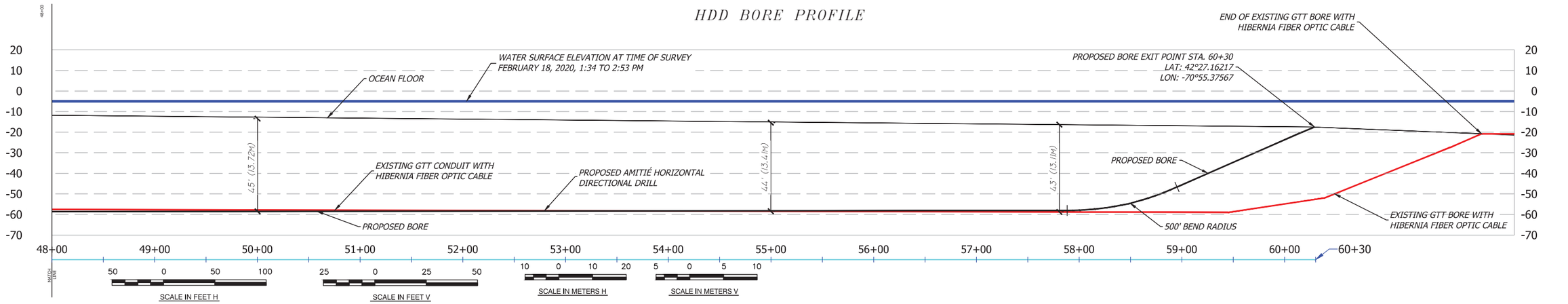
HDD BORE PROFILE



HDD BORE PROFILE



HDD BORE PROFILE



PROPOSED HDD CONDUIT - CROSS SECTION
Amitié Submarine Cable System
Edge Cable Holdings USA, LLC
Latitude/Longitude Centroid: 42.3819,-69.1607
Atlantic Ocean
Figure 5
March 2021

DESIGNED	WLS
DRAWN	RWM
CHECKED	WLS
REVIEWED	JNZ
S.O.	177268

EDGE CABLE HOLDINGS USA, LLC
1601 WILLOW ROAD
MENLO PARK, CA 94025-1452
ATTENTION: LEGAL

Michael Baker INTERNATIONAL

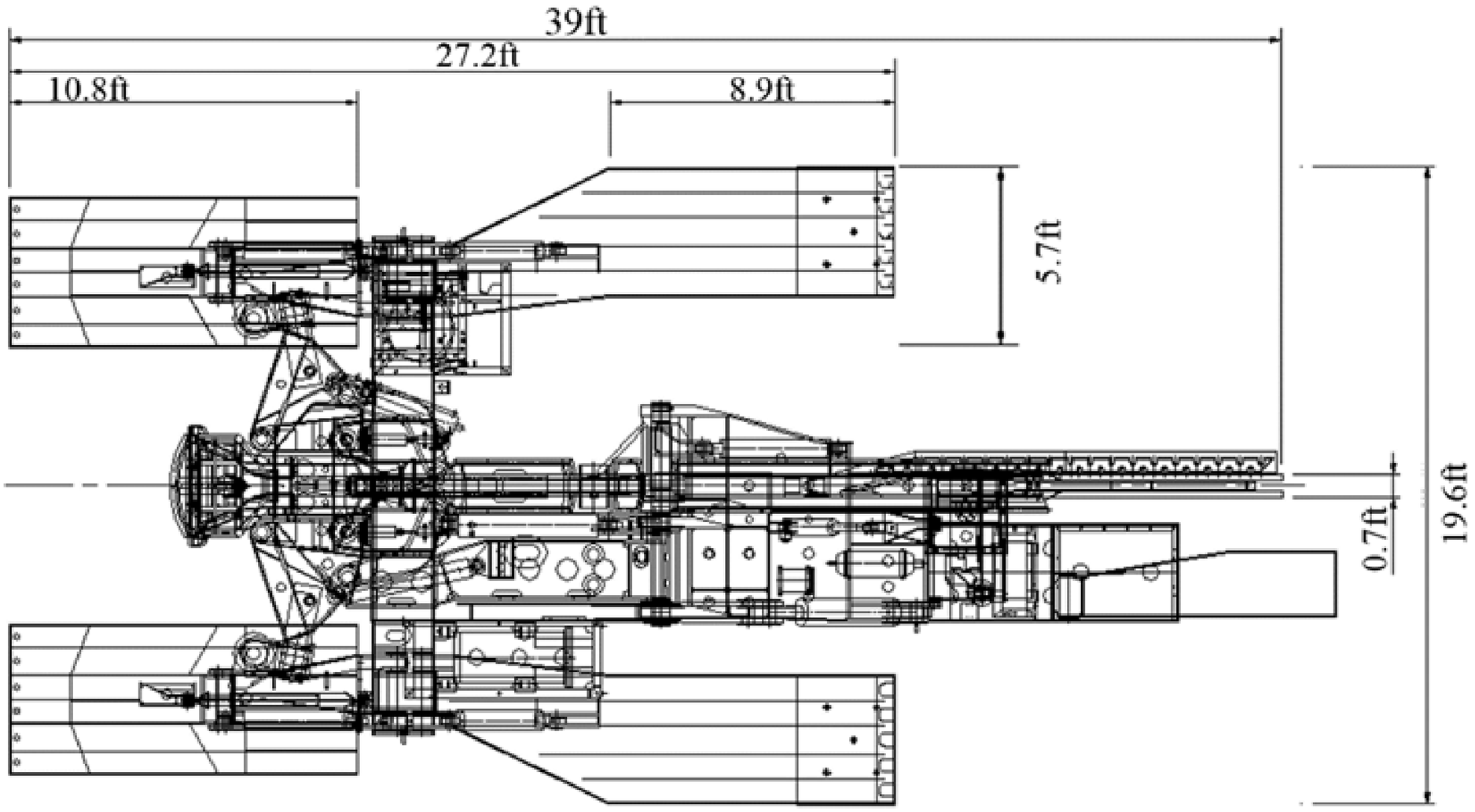
MICHAEL BAKER INTERNATIONAL
CONSULTING ENGINEERS
MOON TOWNSHIP, PENNSYLVANIA

JUNE 16 2020 IFC ISSUE FOR CONSTRUCTION

AMITIÉ CABLE SYSTEM
PROPOSED HORIZONTAL DIRECTIONAL DRILL AND EXISTING GTT/HIBERNIA CABLE BORE PIPE PROFILE VIEW
CITY OF LYNN
ESSEX COUNTY, MASSACHUSETTS

SCALE AS SHOWN

DATE JUNE, 2020

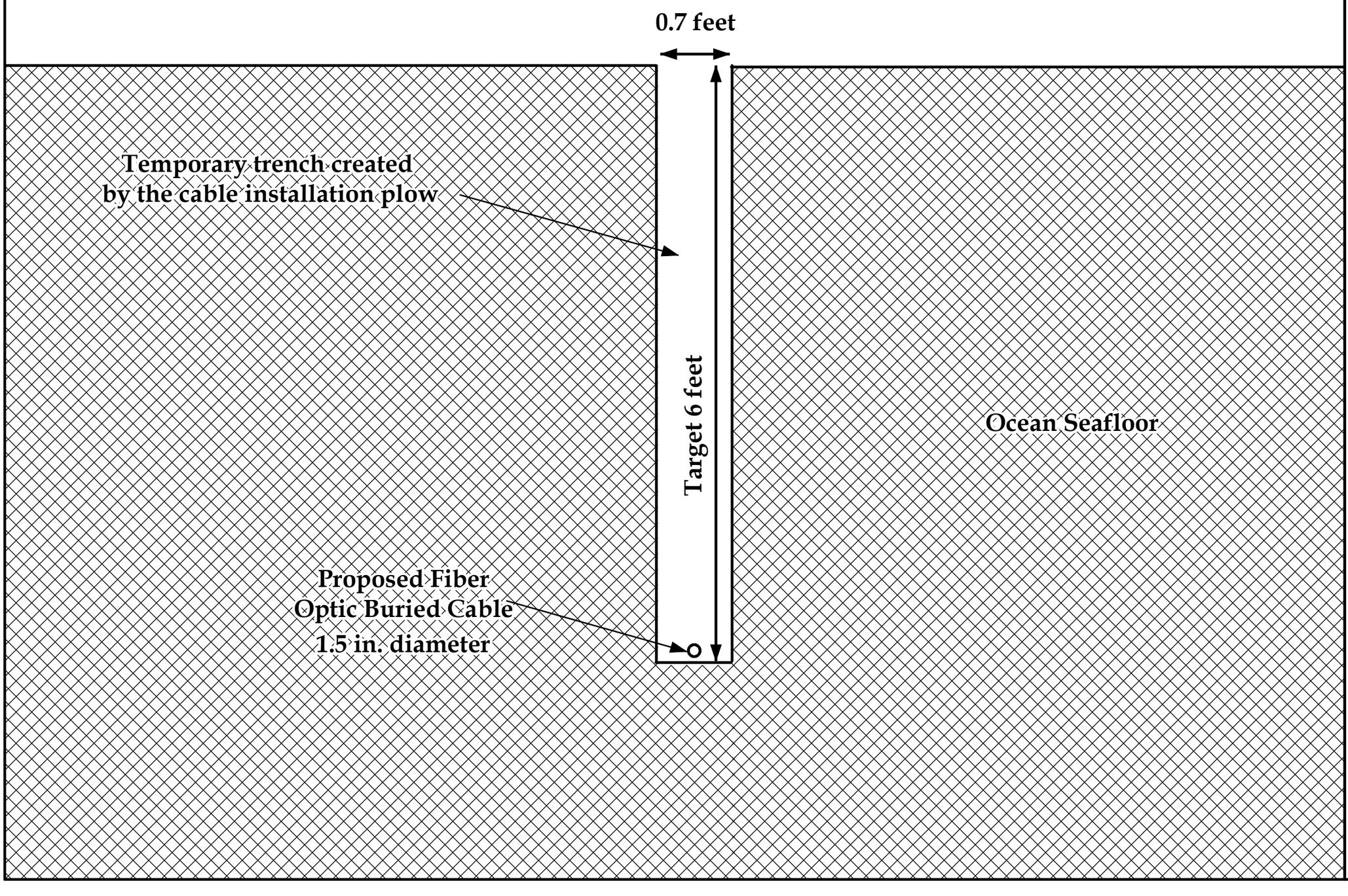


CABLE BURIAL PLOW
PLAN VIEW

Amitié Submarine Cable System
Edge Cable Holdings USA, LLC
Project Centroid Latitude/Longitude:
42.3819, -69.1607
Atlantic Ocean
Figure 6
March 2021

ERM

Waters of the US and Navigable Waters of the US



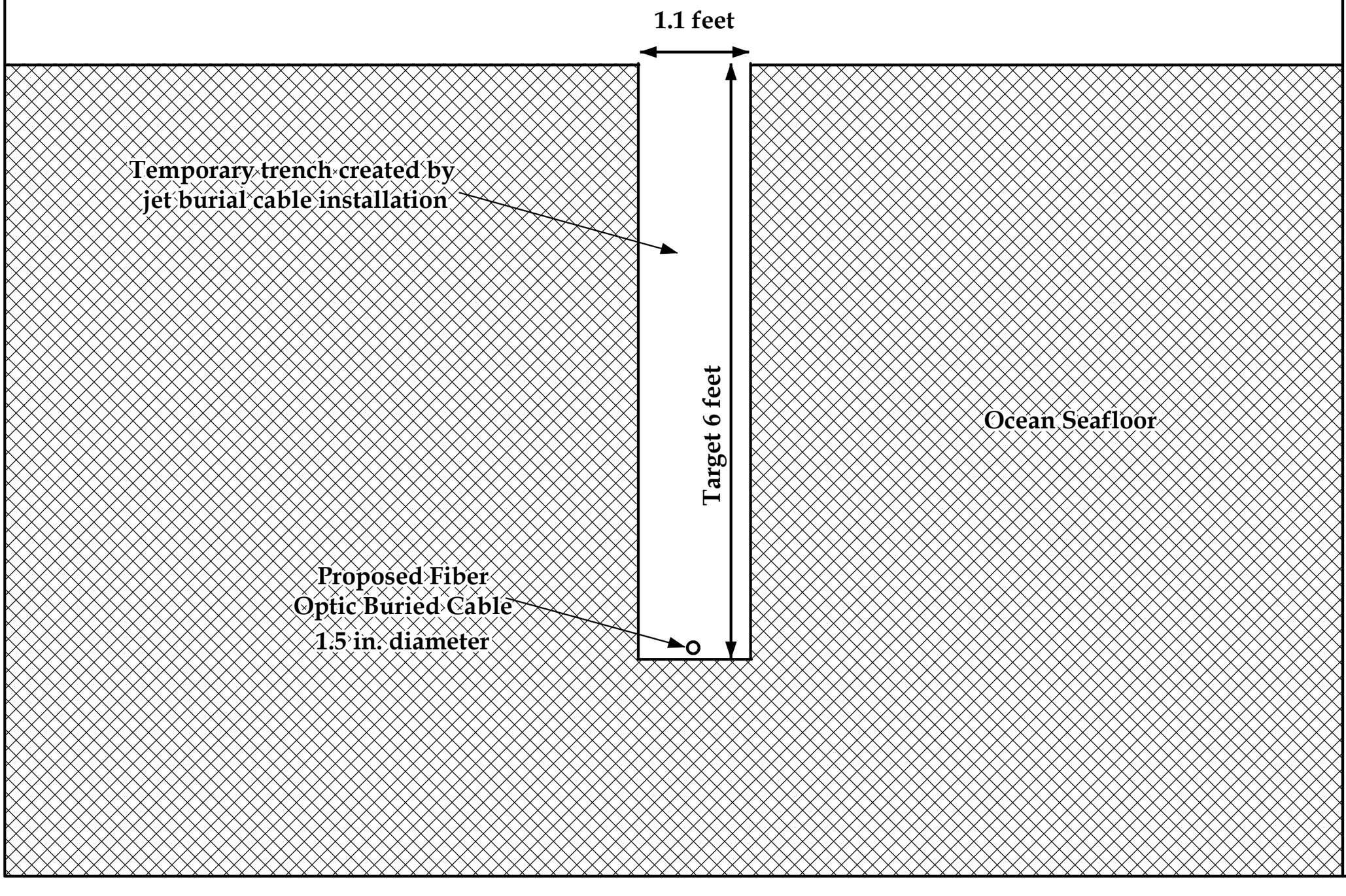
NOTES:
- Typical Dimensions Shown
- Drawing Not to Scale

CABLE BURIAL - PLOW BURIAL TYPICAL INSTALLATION

Amitié Submarine Cable System
Edge Cable Holdings USA, LLC
Project Centroid Latitude/Longitude:
42.3819,-69.1607
Atlantic Ocean
Figure 7
March 2021

ERM

Waters of the US and Navigable Waters of the US

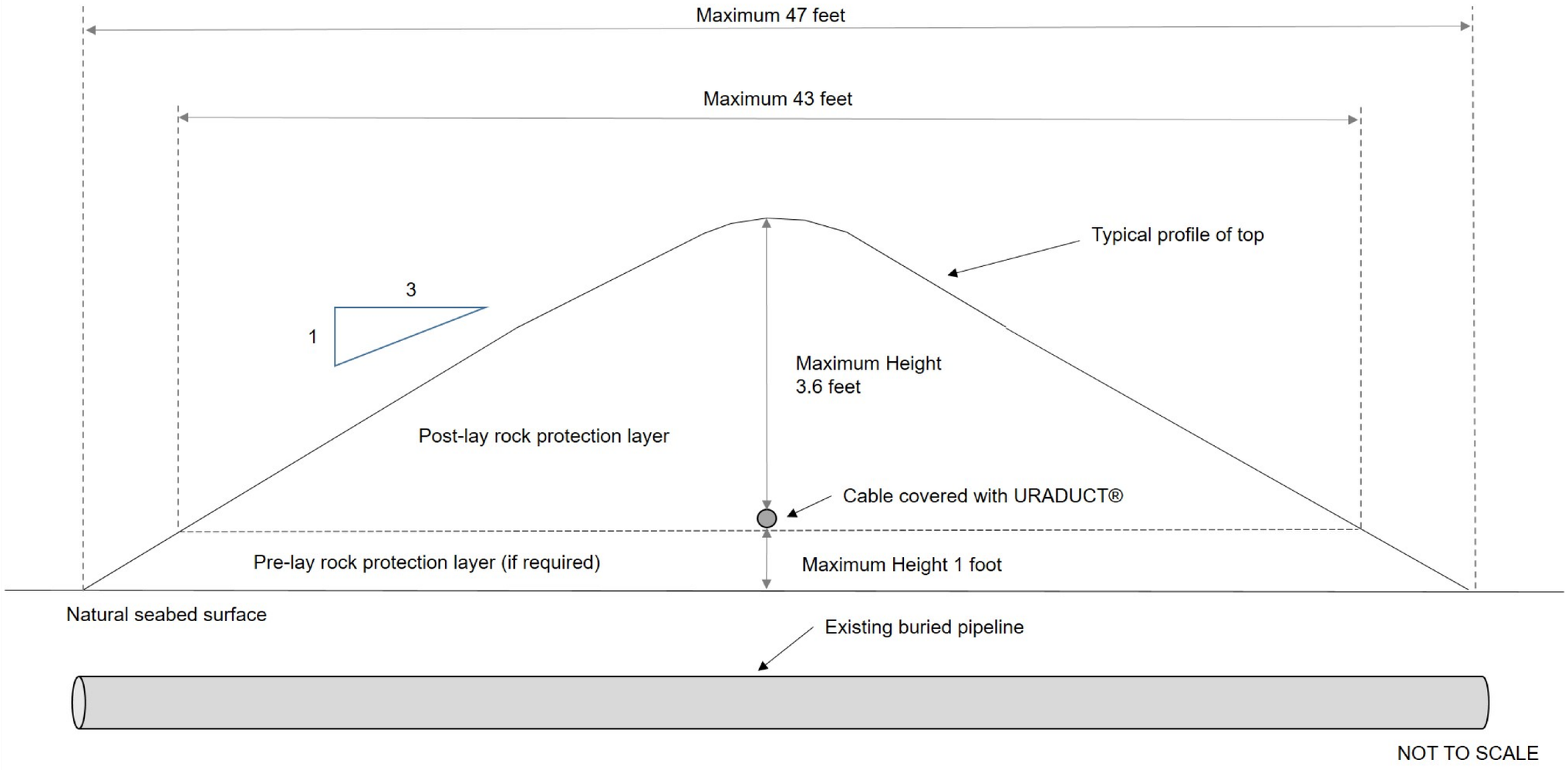


NOTES:
- Typical Dimensions Shown
- Drawing Not to Scale

CABLE BURIAL - JET BURIAL TYPICAL INSTALLATION

Amitié Submarine Cable System
Edge Cable Holdings USA, LLC
Project Centroid Latitude/Longitude:
42.3819,-69.1607
Atlantic Ocean
Figure 8
March 2021

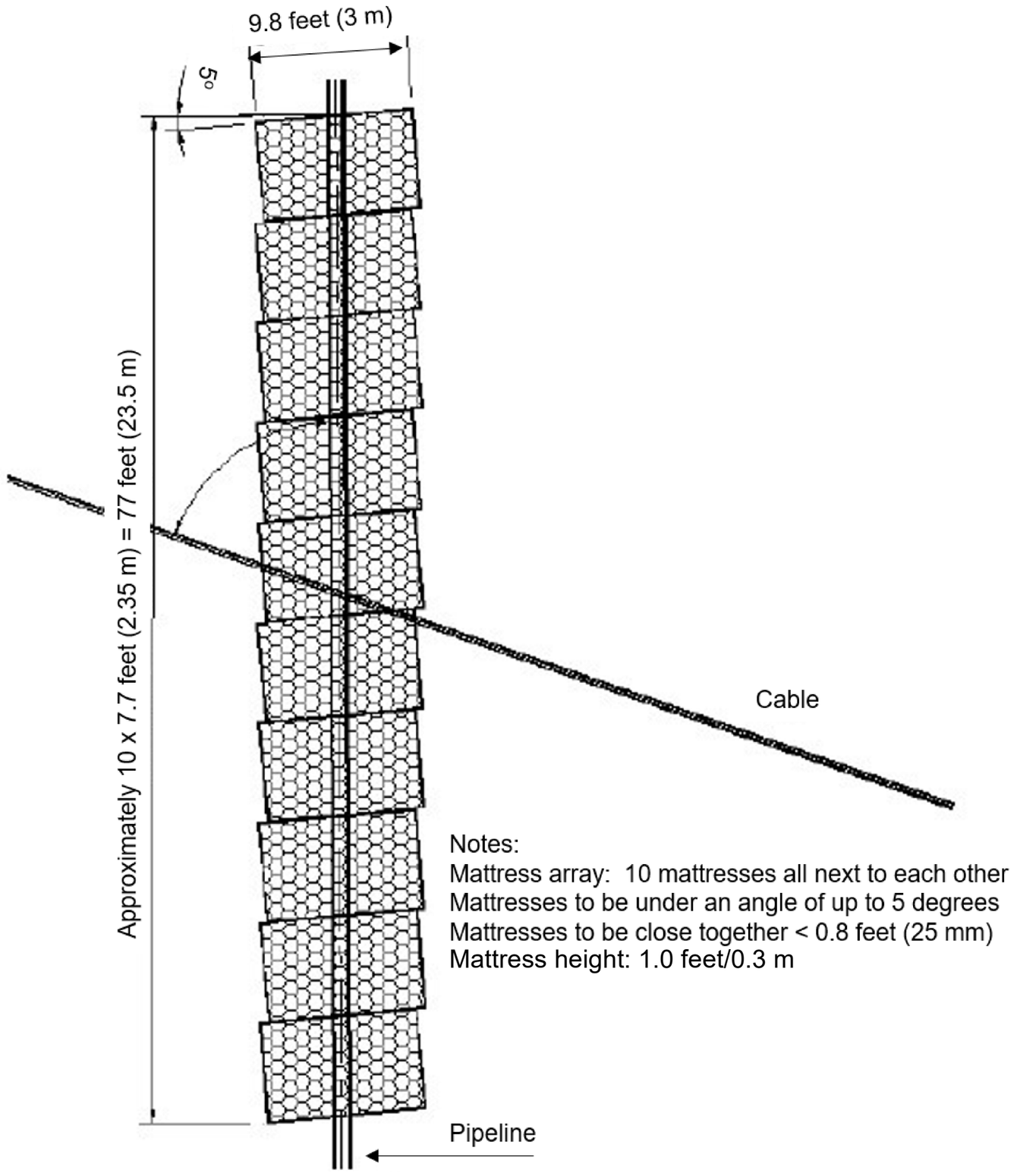
ERM



ROCK ARMOR TYPICAL

Amitié Submarine Cable System
Edge Cable Holdings USA, LLC
Project Centroid Latitude/Longitude:
42.3819, -69.1607
Atlantic Ocean
Figure 9
March 2021

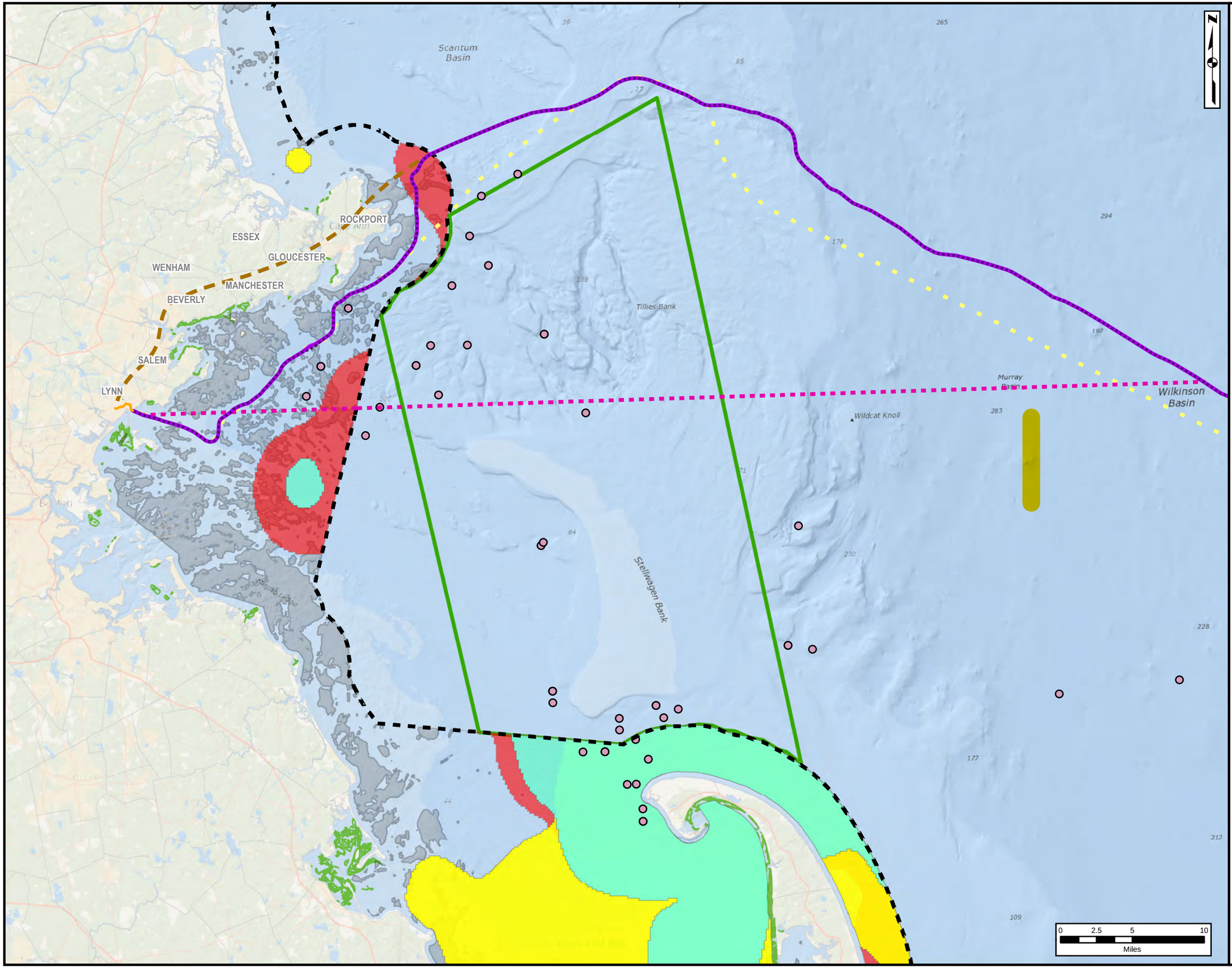
ERM

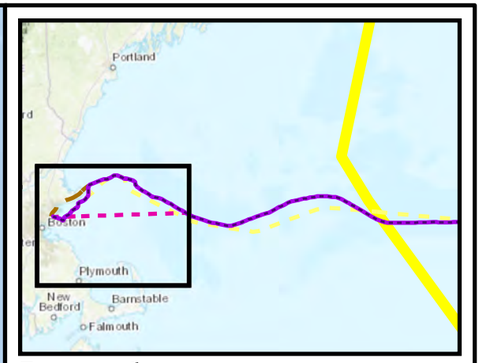


Notes:
Mattress array: 10 mattresses all next to each other
Mattresses to be under an angle of up to 5 degrees
Mattresses to be close together < 0.8 feet (25 mm)
Mattress height: 1.0 feet/0.3 m

MATTRESSING TYPICAL
Amitié Submarine Cable System
Edge Cable Holdings USA, LLC
Project Centroid Latitude/Longitude:
42.3819, -69.1607
Atlantic Ocean
Figure 10
March 2021

ERM





Legend

Proposed Route

- Onshore Route to Terminal Station
- Proposed Amitié Fiber Optic Cable Route

Route Alternatives

- Northern Connection Alternative
- Shorter Straight Route Alternative
- 2019 Route
- SEIR Route

Special, Sensitive, or Unique (SSU) Resources

- Fin Whale Core Habitat (MORIS)
- Right Whale Core Habitat (MORIS)
- Humpback Whale Core Habitat (MORIS)
- Hard or Complex Seafloor (MORIS)
- Intertidal Flats (MORIS)
- Eel Grass Beds (DEP)

Other

- Stellwagen Bank National Marine Sanctuary
- Deep Sea Corals (NOAA)
- Limit of Territorial Sea
- Exclusive Economic Zone (EEZ) Boundary
- Town Boundary

ROUTE ALTERNATIVES AND SENSITIVE RESOURCES

Amitié Submarine Cable System
Edge Cable Holdings USA, LLC
Project Centroid Latitude/Longitude:
42.3819,-69.1607
Atlantic Ocean
Figure 11
March 2021

ERM

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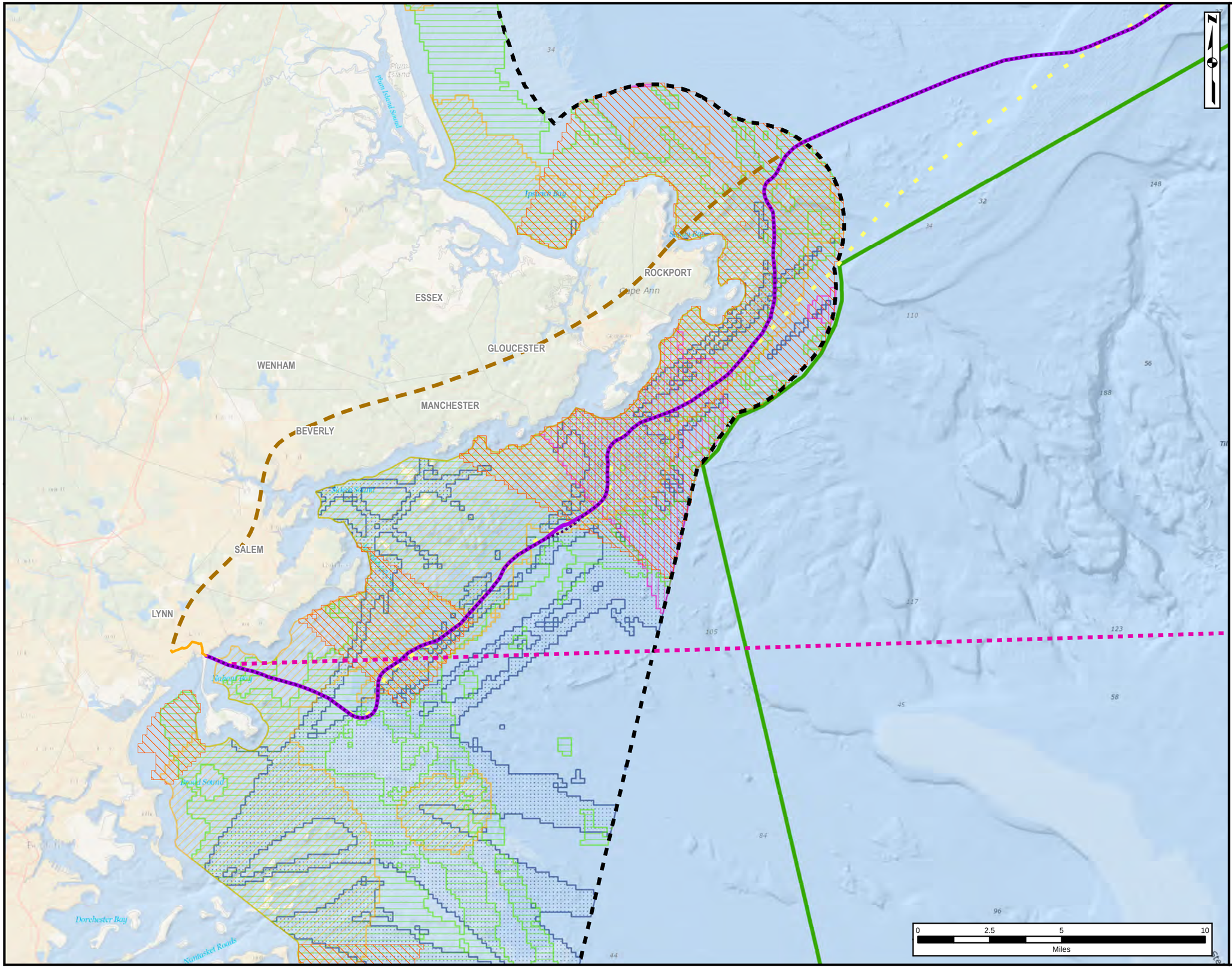
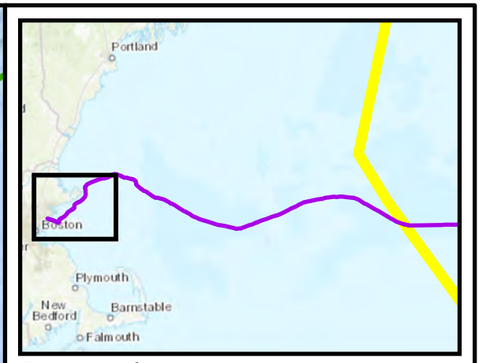




Legend

Proposed Route

- Onshore Route to Terminal Station
- Proposed Amitié Fiber Optic Cable Route

Route Alternatives

- Northern Connection Alternative
- Shorter Straight Route Alternative
- 2019 Route
- SEIR Route

Water-Dependent Uses (MORIS)

- High Commercial Fishing Effort and Value
- Concentrated Recreational Fishing
- Concentrated Recreational Boating
- Concentrated Commercial Fishing Traffic
- Concentrated Commerce Traffic

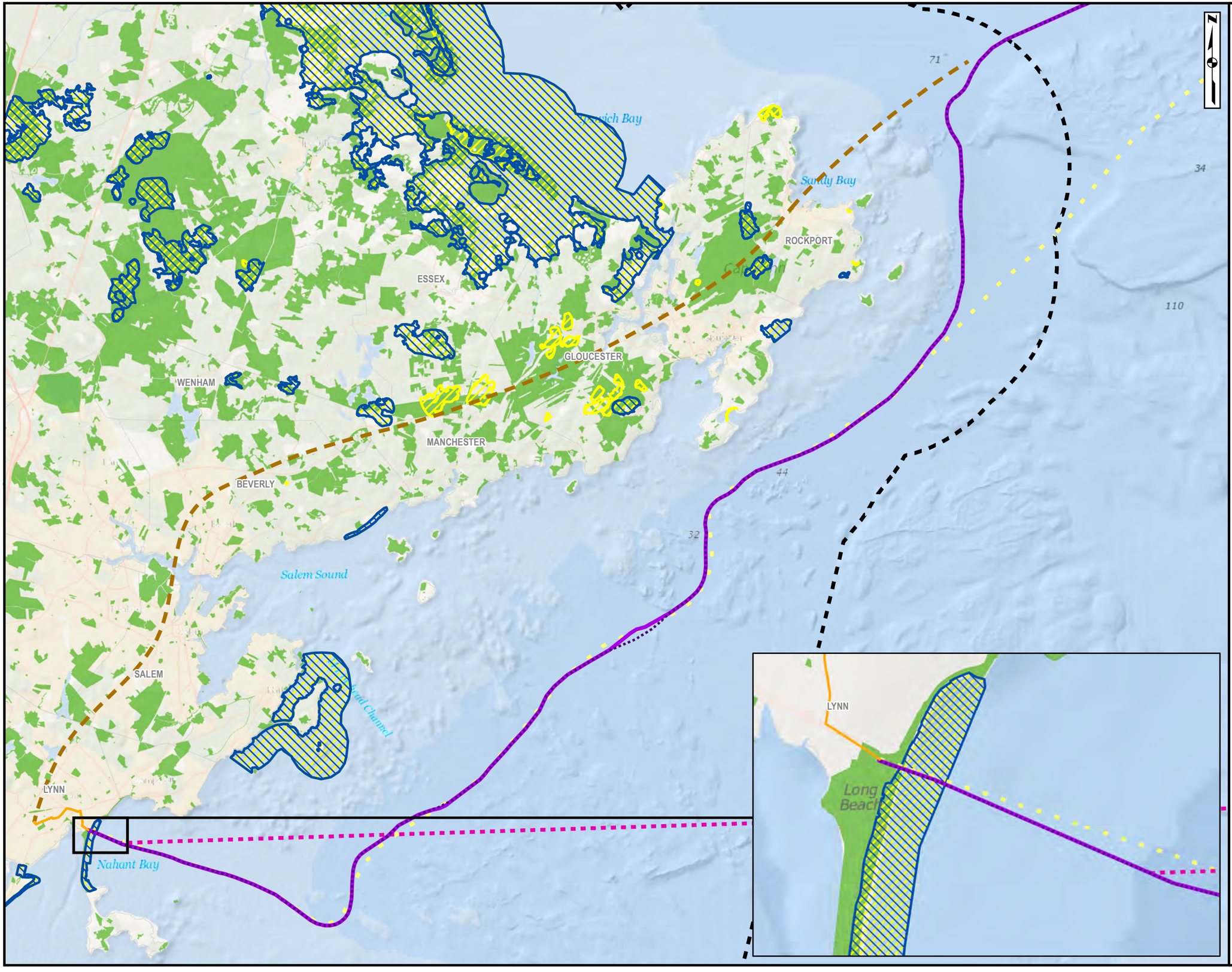
Other

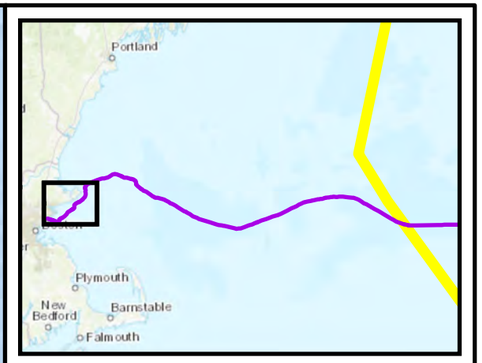
- Stellwagen Bank National Marine Sanctuary
- Limit of Territorial Sea
- Exclusive Economic Zone (EEZ) Boundary
- Town Boundary

ROUTE ALTERNATIVES AND WATER-DEPENDENT USES

Amitié Submarine Cable System
Edge Cable Holdings USA, LLC
Project Centroid Latitude/Longitude: 42.3819,-69.1607
Atlantic Ocean
Figure 12
March 2021

ERM





Legend

Proposed Route

- Onshore Route to Terminal Station
- Proposed Amitié Fiber Optic Cable Route

Route Alternatives

- Northern Connection Alternative
- Shorter Straight Route Alternative
- 2019 Route
- SEIR Route

State-Identified Protection Areas

- Priority Habitat of Rare Species (NHESP)
- Estimated Habitat of Rare Wildlife (NHESP)
- Protected and Recreational Open Space (EOEEA)
- Limit of Territorial Sea
- Exclusive Economic Zone (EEZ) Boundary
- Town Boundary

0 1 2 4
Miles

ROUTE ALTERNATIVES AND STATE-IDENTIFIED PROTECTED AREAS

Amitié Submarine Cable System
Edge Cable Holdings USA, LLC
Project Centroid Latitude/Longitude: 42.3819,-69.1607
Atlantic Ocean
Figure 13
March 2021

ERM

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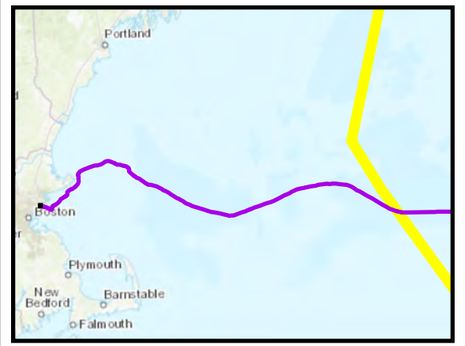

Legend

Proposed Amitié Fiber Optic Cable Route

Landing Site Alternatives

Rotary (Proposed)

Athletic Field/Boat Ramp

Private Lot North of Rotary

NOTES:

1. Aerial Imagery: ESRI World Imagery
   Reproduced under license in ArcGIS 10.7

0 37.5 75 150 225 300

Feet

LANDING SITE ALTERNATIVES

Amitié Submarine Cable System
Edge Cable Holdings USA, LLC
Project Centroid Latitude/Longitude:
42.3819,-69.1607
Atlantic Ocean
Figure 14
March 2021

ERM

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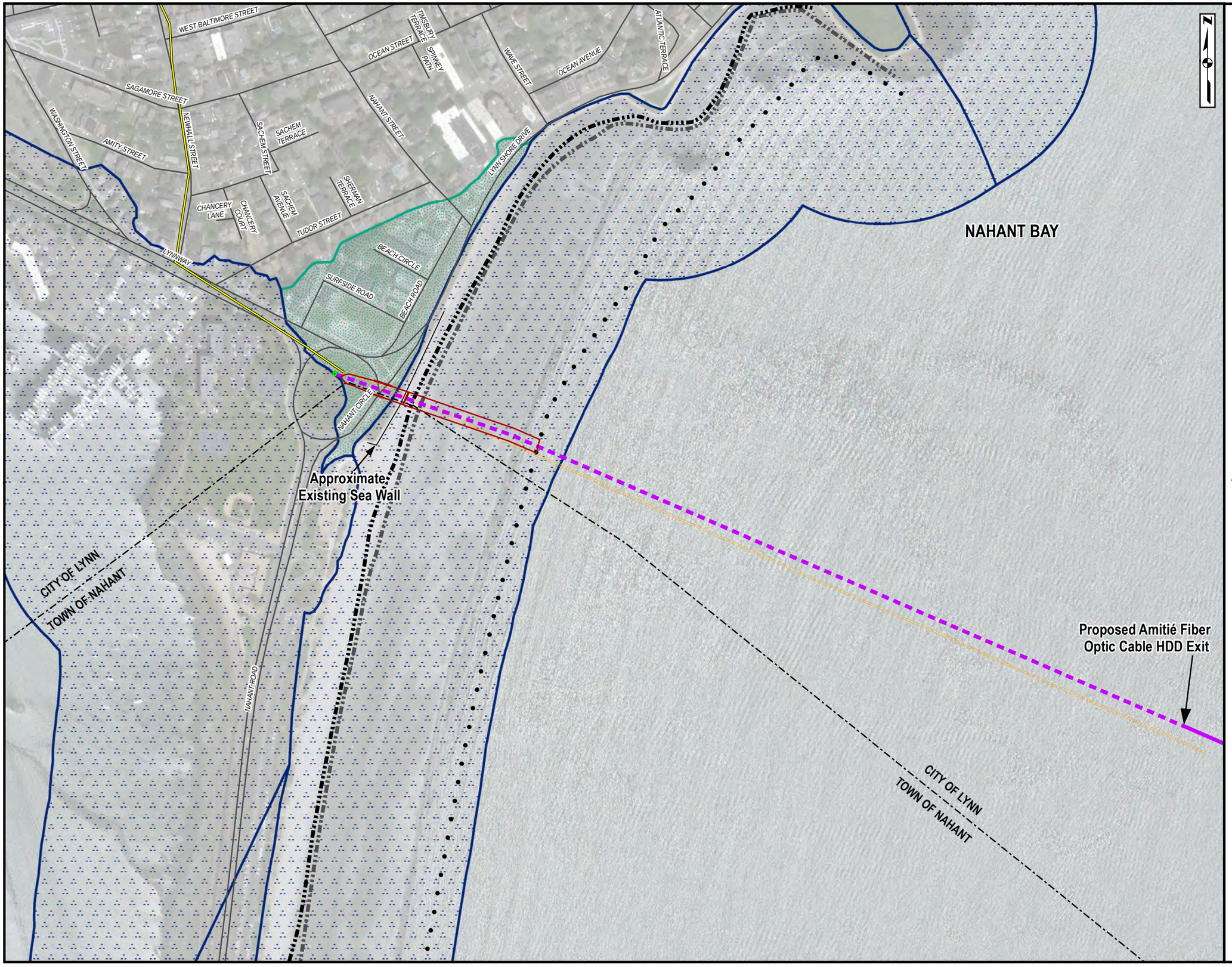


Legend

- Proposed Manhole
- Proposed Amitié Fiber Optic Cable Metal Conduit
- Wireline Grid and Mats
- Amitié Fiber Optic Cable within existing underground conduits
- Existing Metal Pipe for Proposed Grounding System
- Mean High Water (MHW)
- Mean Low Water (MLW)
- Approximate High Tide Line (HTL)
- Town Boundaries
- Roads

FEMA 100-Year Flood Zone Designations

- AO: 1% Annual Chance of 1-3ft Sheet Flow Flooding, with Depth
- VE: High Risk Coastal Area

0 125 250 500 750 1,000
Feet

FEMA FLOOD ZONE BOUNDARIES

Amitié Submarine Cable System
Edge Cable Holdings USA, LLC
Project Centroid Latitude/Longitude:
42.3819,-69.1607
Atlantic Ocean
Figure 15
March 2021

ERM

Appendix D1

HORIZONTAL DIRECTIONAL DRILL PATH AND WORKSPACE FIGURES

Legend

- Proposed Amitié Fiber Optic Cable Route
- HDD Path
- Temporary Onshore Workspace
- Town Boundaries

NOTES:

1. Aerial Imagery: ESRI World Imagery
   Reproduced under license in ArcGIS 10.7

N

0 100 200 400 600 800

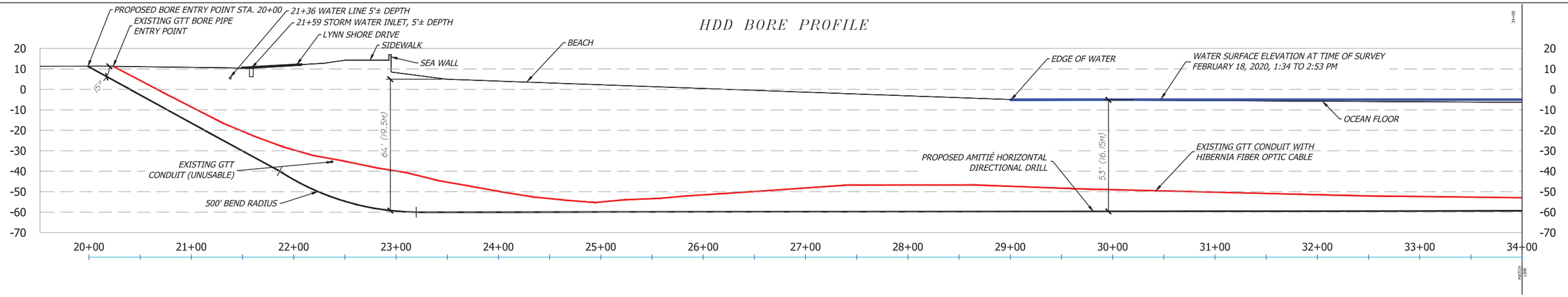
Feet

Figure 1: Horizontal Directional Drill Path and Temporary Workspace

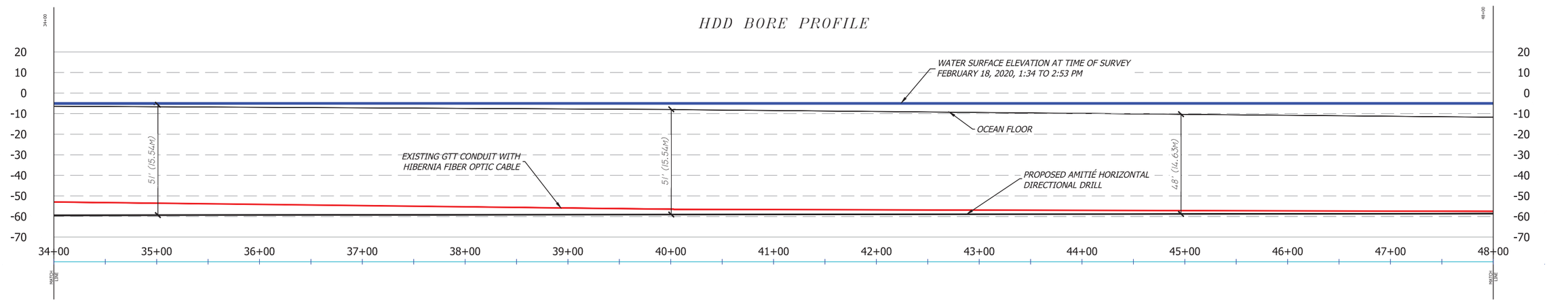
Amitié Submarine Cable System
Lynn, MA
September 2020

ERM

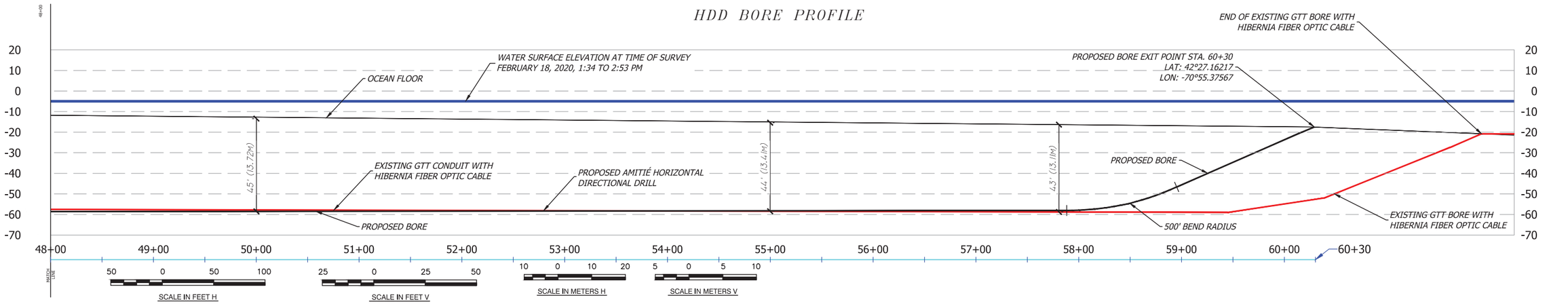
HDD BORE PROFILE



HDD BORE PROFILE



HDD BORE PROFILE



REVISIONS

DESIGNED	WLS
DRAWN	RWM
CHECKED	WLS
REVIEWED	JNZ
S.O.	177268

EDGE CABLE HOLDINGS USA, LLC
1601 WILLOW ROAD
MENLO PARK, CA 94025-1452
ATTENTION: LEGAL

Michael Baker INTERNATIONAL

MICHAEL BAKER INTERNATIONAL
CONSULTING ENGINEERS
MOON TOWNSHIP, PENNSYLVANIA

JUNE 16 2020 IFC ISSUE FOR CONSTRUCTION

AMITIÉ CABLE SYSTEM
PROPOSED HORIZONTAL DIRECTIONAL DRILL AND EXISTING GTT/HIBERNIA CABLE BORE PIPE PROFILE VIEW

CITY OF LYNN
ESSEX COUNTY, MASSACHUSETTS

SCALE AS SHOWN

DATE JUNE, 2020

SHEET NO.
C-103

BEACH RD.

LYNN SHORE DRIVE

LYNN SHORE DRIVE

LYNN BEACH

CITY OF LYNN

TOWN OF NAHANT

NAHANT ROAD

PROTECTIVE BARRIER (TYP.)

DRILL ENTRY PIT 4' x 8' x 3' (TYP.)

SIGN

EXISTING MANHOLE

BACKFLOW COLLECTION PIT 8' x 8' x 5' (TYP.)

CANNON MONUMENT

PROTECTIVE BARRIER (TYP.)

HYDRANT

WIRELINE GRID PROTECTIVE MATTING

WIRELINE GRID

MAIN ACCESS FOR PIPE AND EQUIPMENT DELIVERIES, TRAILER REMOVAL AND DRILL RIG ACCESS.

8th ESSEX DISTRICT

11th ESSEX DISTRICT

STAGING AREA

WATER LINE FROM HYDRANT

PROTECTIVE BARRIER (TYP.)

TOWN LINE
PARCEL LINE
LAND UNDER THE CONTROL OF DCR PARCEL BOUNDARY

PARKING AREA

BUILDING

BIT. PARKING AREA

VAULT

WIRELINE GRID

WIRELINE GRID PROTECTIVE MATTING

MAIN ACCESS FOR CREW AND VISITORS. ACCESS TO MUD RECYCLING UNIT FOR BENTONITE DELIVERIES AND VACUUM TRUCK.

LAND UNDER THE CONTROL OF DCR PARCEL BOUNDARY

MEAN HIGH WATER 3.69'

WATER LINE AT TIME OF SURVEY EL: -5'± FEBRUARY 18, 2020 1:34 to 2:53 PM

MEAN LOW WATER -5.47'

NOTE: THE CANNON MONUMENT AND TOWN LINE MONUMENT SHALL NOT BE DISTURBED DURING CONSTRUCTION AND MUST BE PHYSICALLY PROTECTED FROM ALL CONSTRUCTION ACTIVITIES.

REVISIONS

20 0 40 80

SCALE IN FEET

DESIGNED	WLS
DRAWN	RWM
CHECKED	WLS
REVIEWED	JNZ
S.O.	175506

EDGE CABLE HOLDINGS USA, LLC
1601 WILLOW ROAD
MENLO PARK, CA 94025-1452
ATTENTION: LEGAL

Michael Baker INTERNATIONAL

MICHAEL BAKER INTERNATIONAL
CONSULTING ENGINEERS
MOON TOWNSHIP, PENNSYLVANIA

JUNE 16 2020 IFC ISSUE FOR CONSTRUCTION

AMITIÉ CABLE SYSTEM
PROPOSED EQUIPMENT LOCATION
PLAN VIEW
CITY OF LYNN
ESSEX COUNTY, MASSACHUSETTS

SCALE AS SHOWN

DATE JUNE, 2020

SHEET NO.

C-107

APPENDIX B DRAFT FRAC-OUT PLAN

DRAFT FRAC-OUT PLAN

1. INTRODUCTION AND BACKGROUND

The Amitié Submarine Cable System (the Project or Amitié) will utilize horizontal directional drill (HDD) technology to install a steel pipe underground that would serve as a conduit for the cable for the onshore landing in Lynn, Massachusetts.

Directional drilling operations have the potential to inadvertently release fluids into the surface, and these rare releases are commonly referred to as “frac-outs.” Frac-outs occur when drilling fluid is released through fractured bedrock into the surrounding rock and or sand and eventually travels toward the surface. Drilling fluid (mud) consists of bentonite clay, which is a naturally mined mineral not classified as a hazardous substance, but which could result in sediment-laden discharge if released.

Frac-outs can occur in any area of a directional bore. However, if they do occur they are most likely to be near the entry and exit points of the bore due to the shallow depth at these positions. The likelihood of inadvertent return decreases as the depth of the pipe increases. This draft Frac-Out Plan (Plan) gives an overview of the operating procedures and responsibilities for prevention, containment, clean up, and disposal of drilling fluid if a frac-out does occur. A final Frac-Out Plan will be prepared for the Project once the drilling contractor is selected and the final details of construction are confirmed. All personnel and sub-contractors must follow the Plan during the directional drilling operation.

The Plan objectives are:

- Minimize the likelihood for a frac-out associated with directional drilling activities.
- Provide monitoring so the timely detection of frac-outs can be identified
- Protect any environmentally sensitive areas.
- Establish an organized, timely, and minimum impact response in the event of a frac-out and release.
- Establish a protocol for appropriate notifications and relevant documentation.

This Plan was developed as a best practice measure to fulfill the objectives above as well as to provide information to support permitting and approvals; specifically, the Plan includes:

- Clear identification of the location of entry and exit points and the trajectory and depth of the drill bore (commonly referred to as the planned drill profile).
- Measures describing training of personnel, monitoring procedures, equipment, and materials and procedures in place for the prevention, containment, clean up, and disposal of released drilling muds.
- Methods for detecting the accidental release of drilling fluids.
- Protocols if there is a loss of circulation or other indicator of a released fluid.
- Protocols if there is a fluid release onshore, on the beach, or underwater.
- Notification requirements in the event of a frac-out event

2. DESCRIPTION OF ACTIVITIES

One 4-inch (100-millimeter) internal diameter steel pipe conduit would be installed from the rotary in Lynn extending east under the beach and the seabed to punch out at approximately 30 to 33 feet (9 to 10 meter) water depth in Nahant Bay. The drill length would be approximately 0.8 mile (1.2 kilometers). The location of the drill path and temporary workspace are shown on the figures in Appendix D1. The HDD would be located at a depth of approximately 50 to 60 feet (15 to 18 meters) below the seabed for a majority of its length.

3. RESPONSIBILITIES

The senior site supervisor/foreman or project manager will be on site at all times the drilling is occurring or is planned to occur and will have the responsibility for implementing the Plan. The site supervisor/foreman will hold a job briefing at the start of each day of drilling to review appropriate procedures to be followed in the event of a frac-out.

The senior site supervisor/foreman will be responsible for proper training of the drill crew and briefings prior to drilling. The site senior site supervisor/foreman will be responsible for notifying appropriate parties if a frac-out occurs. They will also be responsible for the response, cleanup, and notification to the customer if a frac-out occurs. The senior site supervisor/foreman will also hold the responsibility that drilling fluids are cleaned up properly, transported, and disposed of at an approved facility.

The senior site supervisor/foreman shall be familiar with all aspects of the drilling process, the Plan contents, and the conditions of approvals under which the activity is permitted to take place. The site supervisor/foreman will have the authority to stop work and commit the appropriate resources to implement this Plan. The senior site supervisor/foreman will have a copy of this plan onsite and be responsible for employees onsite to be familiar with this plan.

4. HDD DRILLING MEASURES

4.1 Training

Prior to the commencement of the HDD operations, personnel will attend a training session on-site. The training session will cover the following topics:

- the details of this Plan;
- the need for environmental protection;
- environmental resources located at or near the site;
- specific permitting conditions and requirements;
- the need to monitor the HDD operation;
- lines of communication;
- lines of authority and responsibility;
- a list of relevant information to be provided to the appropriate parties;
- contact names and phone numbers of the appropriate individuals and agencies; and,
- events that need to be reported, to whom, and by which means

4.2 Construction and Preventative Measures

The contractor will maintain necessary emergency response equipment and materials onsite or at a readily available offsite location prior to the start of HDD operations. Specific equipment and materials will be determined by the drilling contractor, but will include equipment necessary to respond to onshore and underwater environment events.

Types of equipment could include but would not be limited to the following:

- pumps;
- straw-wattles;
- sandbags;
- shovels;
- drums;
- silt fencing;
- absorbent pads; and,
- vacuum truck readily available on-site prior to and during all drilling operation within the vicinity of the HDD operation on the entry side no further than a quarter mile away.

Additional offshore response equipment, to respond in the event of a substantial release, will include the following or similar equipment:

- commercial diving crew
- boat or vessel;
- trash pump with suction and discharge hose;
- fabric containment bags and / or filter bags;
- metal drums;
- lift bags; and,
- silt curtain with anchors.

4.2.1 HDD Operation Overview

HDD operations would begin after mobilization and preparation of the drill rig and other support equipment, temporary placement of the wire tracking grid, and verification of relevant permit requirements. The drill rig operates on a carriage assembly that travels by hydraulic power along the frame of the bore rig. Directional bores are guided by a drill head fitted with a wire-line steering tool in conjunction with the energized wire tracking grid to track the direction of advance, horizontally and vertically, and determine the exact location of the bore pipe placement; the tracking system would be implemented continuously to verify the drill position and path.

The drill process commences with a single 4-inch (100-millimeter) bore along the planned drill profile to the target punch out position. Once the punch out position is reached the steering stem and drill head are removed leaving the bore pipe in situ – this is commonly known as a “drill and leave” installation.

Drilling fluids will primarily consist of water and bentonite clay. High yield bentonite products contain trace amounts of non-toxic polymers that reduce the amount of dry bentonite required to achieve drilling fluid of a given viscosity. Additives may be required during the drilling process, which will be determined by the

drilling contractor. Safety Data Sheets for drilling additives will be included in the final Plan (Appendix D2) and will be maintained on site during drilling. For example, soda ash may be used to adjust to pH value of the water for the most efficient mixing properties. Additional additives may be used in the event of an inadvertent release or loss of circulation.

While boring, most or all of the drilling fluids will return to the entry pit or will be absorbed by the formation. The boring process largely depends on the use of drilling fluid to run/cool the bore motor or jet nozzles in the bore head to cut through the material, to stabilize and seal off any fractures in the formation, and to lubricate the bore pipe during installation. The bore/drilling head is larger than the bore pipe to allow for fluid circulation back to the bore site and to protect from friction causing the pipe to seize. The drilling fluid is pumped down the inside of the bore pipe and exits through the drilling head. The fluid will then return to the punch in location through the space between the bore pipe and the bore hole. The fluid returning is called “returns”.

At the beginning of the bore a large percentage of the drilling fluid will return to the bore site. As the bore progresses, more of the returns are absorbed by the earth or rock formation, are contained in the bore casing and do not return to the bore site. As the bore proceeds, returns may gradually decrease until a point where a complete loss of returns is expected to occur. This loss will occur because of the porosity of the substrate and gravity. It is common to not have any drilling fluid return to the bore site during the majority of a bore without any release of the fluid to the surface. The drilling fluid is usually absorbed by the formation or is drawn down into fractures. It is important to understand that a complete loss of returns is a normal occurrence during drilling processes and does not necessarily mean the drilling fluid is coming to the surface or impacting the marine environment.

In some instances, where soils become soft and are not able to withstand the pressure required to move the drilling fluid from the bore head drill bit to bore site, the HDD contractor will drill without fluid circulation back to the bore site. This would be applied only if the hole can be drilled at an appropriate rate and fluid pumping does not exceed two times the drilled volume. As stated above, in this scenario, the drilling fluid is expected to be absorbed by the formation or drawn down into fractures without any release of fluid to the surface.

Once the appropriate distance offshore is reached with the bore pipe, the drill head would be guided to the surface to complete the bore. The last approximately 100 feet of the pilot bore would be mud-free, with fresh water being fed in the bore, flushing out the drilling fluid so that there would be no mud escaping the bore pipe seaward exit point. The exact length of flushing would be decided on site, depending on the drilling findings and the actual drilled material at the end of the pilot bore.

Once the bottom-hole assembly is no longer supported by soil, divers would be deployed to verify the bore pipe exit point. The divers would then excavate sediment to expose the end of the pipe and a process is undertaken to hydraulically evacuate any remaining drilling fluid and clean the inside of the pipe. This process also provides a drill string, which would ultimately be used to pull the fiber-optic cable through the pipe. A check valve would be installed at the offshore end of the pipe to keep seawater from entering before the cable is installed.

Upon completion of the installation, the manhole area will be restored and shore-based equipment, tools, and waste materials removed from the site.

4.3 Monitoring Procedures

The objective of the release monitoring program is to quickly identify a release to the surface of drilling fluids and determine the size, extent and location of the release. Drilling pressures shall be closely monitored so they do not exceed what is needed to successfully drill through the soil. Pressure levels and fluid returns shall be monitored continuously throughout the day by the drill operator. Once the drilling

operation has begun the drill operator shall notify the site supervisor/foreman if any drops or spikes in pressure occur, or if there is a lack of fluid returns into the entry pit. The thresholds for standard drilling pressures as well as drops and spikes will be communicated by the foreman on an ongoing basis based on underground conditions (since these values can vary significantly based on conditions).

It is important to realize that just because fluid returns may be minimal; it does not mean a frac-out is occurring. It is common for the bentonite drilling fluid to escape into the surrounding soil where it will eventually form a filter cake to seal off voids. If fluid returns are observed to decrease during monitoring, additional bentonite will be added to thicken the fluid and help reduce the amount of fluid loss. Other lost circulation materials will not be added.

During the drilling, monitoring will also occur by a designated spotter walking along the bore path where accessible looking for fluid release. This method is the most effective means for early detection of a frac-out if not otherwise identified by pressure loss or fluid return rates. Additional measures may be employed in the beach and open water areas of the drill path to detect an inadvertent release.

Additionally, a biological monitor, will be present to oversee drilling activities and serve as a second spotter for fluid at the surface during the drilling period.

5. RESPONSE TO FRAC-OUT

The response to a frac-out will be immediate and in accordance with procedures identified in this Plan. Regardless of the environment where the frac-out occurs, appropriate actions that do not pose an additional threat to the surrounding area should be taken as follows:

1. Directional boring will stop immediately.
2. The drill rod will be tripped back to relieve the down hole pressure.
3. The site supervisor/foreman will notify the appropriate representatives of Alcatel Submarine Networks and Edge Cable Holdings USA, LLC as well as the appropriate agency contacts provided in Section 6.
4. The site supervisor/foreman shall evaluate the situation and recommend the type and level of response required in coordination with the appropriate agencies.
5. Containment measures will be installed and cleanup efforts conducted that are specifically tailored to the location of the frac-out, with recovered drilling fluid recycled or hauled offsite for disposal.
6. Drilling will not commence until the situation is discussed with the specific agencies notified, and notice to proceed is issued by those agencies.

5.1 Onshore Environment

Surface releases of drilling fluids on land will be immediately contained with hand-placed barriers (e.g., straw wattle, sand bags, and silt fencing) and recovered using vacuum pumps, or shoveling, as practical. At no time will excess or residual materials be washed down to surface waters or storm drains.

Land-based surface materials released will be collected and transferred to the mud cleaning system for reuse or to collection tanks for disposal. In some instances, the potential exists that the drilling mud will be left in place based on the anticipated impacts that would result from removal, subject to review and approval by the appropriate agencies.

If a frac-out were to occur within the portion of the drill path on the Lynn beach, recreational users and, depending on the time of year, state-listed bird species or their habitat could be affected. The drill pathway crosses underneath Priority Habitat and Estimated Habitat for State-Protected Rare Species for plover state-listed avian species.

Containment measures on the beach would be deployed to prevent or minimize the amount of drilling mud from entering the water. In the event of a frac-out when protected bird species are present, a decision will be made by the biological monitor and site supervisor/foreman what measures would be the least damaging means for containing the fluid, depending on the proximity of the fluid to the birds. Extreme care will be taken to avoid impacts to birds.

5.2 Underwater Environment

A frac-out in the underwater environment could potentially affect recreational users, vessels, fish habitat, and marine mammals. Surface releases of drilling fluids underwater will be handled similarly to surface releases on land.

If the frac-out occurs near the water line and has reached the sea floor, a berm could be constructed of containment structures appropriate for the affected habitat present above the frac-out and the vacuum truck would be mobilized to withdraw drilling fluid that has escaped.

If a frac-out is suspected offshore, divers will investigate if water visibility prevents accurate observations from a vessel. If a release is found, the divers will take action to immediately contain the release with hand-placed barriers (e.g., sand bags, silt fencing, silt curtains, etc.) and a plan will be developed regarding whether the mud should be removed or not in consultation with the agencies.

Offshore cleanup measures will be implemented under safe sea and weather conditions.

5.3 Response Close-Out

When the release has been contained and cleaned up, response close-out activities will be conducted under the direction of the site supervisor/foreman and will include the following:

- The recovered drilling fluid will either be disposed of at an appropriate offsite facility or placed in the on-site drill mud recycling system and reprocessed for future use.
- Onshore locations of the frac-out will be returned to pre-project contours, seeded and/or replanted using species similar to those in the adjacent area, or allowed to revegetate naturally. Erosion control measures will be applied as needed to enhance protection of the waters.
- Protective measures/supplies (fiber rolls, straw bale, silt fence, etc.) will be replenished in the event that another frac-out occurs once the HDD process resumes.

5.4 Construction Restart

Once the frac-out is cleaned up and notice to proceed is issued, the drilling operation will begin again, making sure that flow is constant to the bore pit and fluid pressures are closely monitored. To help prevent another frac-out, a fluid loss control agent may be added to the mud and/or thicken up the viscosity of the drilling fluid. Other measures may be implemented based on the specific characteristics identified as potential causative issues that can be addressed.

6. NOTIFICATION

The notification procedures outlined in subpart C of the Massachusetts Contingency Plan will be followed. A spill contact list will be developed prior to construction and included with the final Plan (Appendix D3).

6.1 Documentation

In the event of a frac-out, documentation will include the following information:

- Name and telephone number of person reporting;
- Location of the frac-out;
- Date and time of the frac-out;
- Estimated quantity of drilling fluid released;
- An evaluation of the incident detailing possible cause;
- The type of activity that was occurring during the frac-out;
- Detailed description by the biological monitor if impacts to sensitive species or cultural resources occurred; and,
- Description of the methods used to clean up or to secure the site.

Identified surface releases and loss of circulation will be recorded. Control, containment and cleanup measures taken will also be recorded. Agency contacts and directions given by agencies will be documented.