South Fork Wind Farm

Project Overview

Ørsted

EVERSOURCE

July 2019

Project Owner & Background

South Fork Wind Farm will be the first offshore wind farm to serve New York State.

The project is owned by Ørsted and Eversource via a 50/50 Joint Venture.

The project was initially developed by Deepwater Wind, which was acquired by Ørsted in November 2018.

In February of 2019, Eversource acquired a 50 percent stake in the project.

Ørsted

A renewable energy company, and the global leader in offshore wind.

EVERSOURCE

New England's largest energy company and a premier transmission builder.

South Fork Wind Farm Overview

- New York State's first offshore wind farm
- 15 turbines located 35 miles east of Montauk Point
- Will provide enough clean energy each year to power approximately 70,000 homes
- Power to be delivered to the East Hampton Substation located off Cove Hollow Rd.

Schedule

2017 – Final PPA approval

2018 – Permit applications submitted

2020 – Final permits received

2021 – Construction starts

2022 – Commercial operations

Project Components

- 15 Wind Turbine Generators (WTGs)
- 1 Offshore Substation (OSS)
- Inter-array cables (that connect the turbines within the windfarm)
- 138kV export cable that delivers power from the wind farm, to the onshore grid
- Onshore interconnection facility
- Interconnection to existing East Hampton Substation

Note: All components will be sized to accommodate only power from the 15 turbines, with a maximum output capacity of 132MW. The South Fork Wind Farm will not interconnect with other offshore wind projects.

Overview: Major Permitting Processes

The South Fork Wind Farm is located in federal waters, and its power export cable connects in New York State in the Town of East Hampton.

The project is subject to two major permitting processes which are currently underway. Applications made by Deepwater Wind South Fork, LLC (DWSF).

New York State

Article VII

Led by
NYS Public Service Commission (NYSPSC)

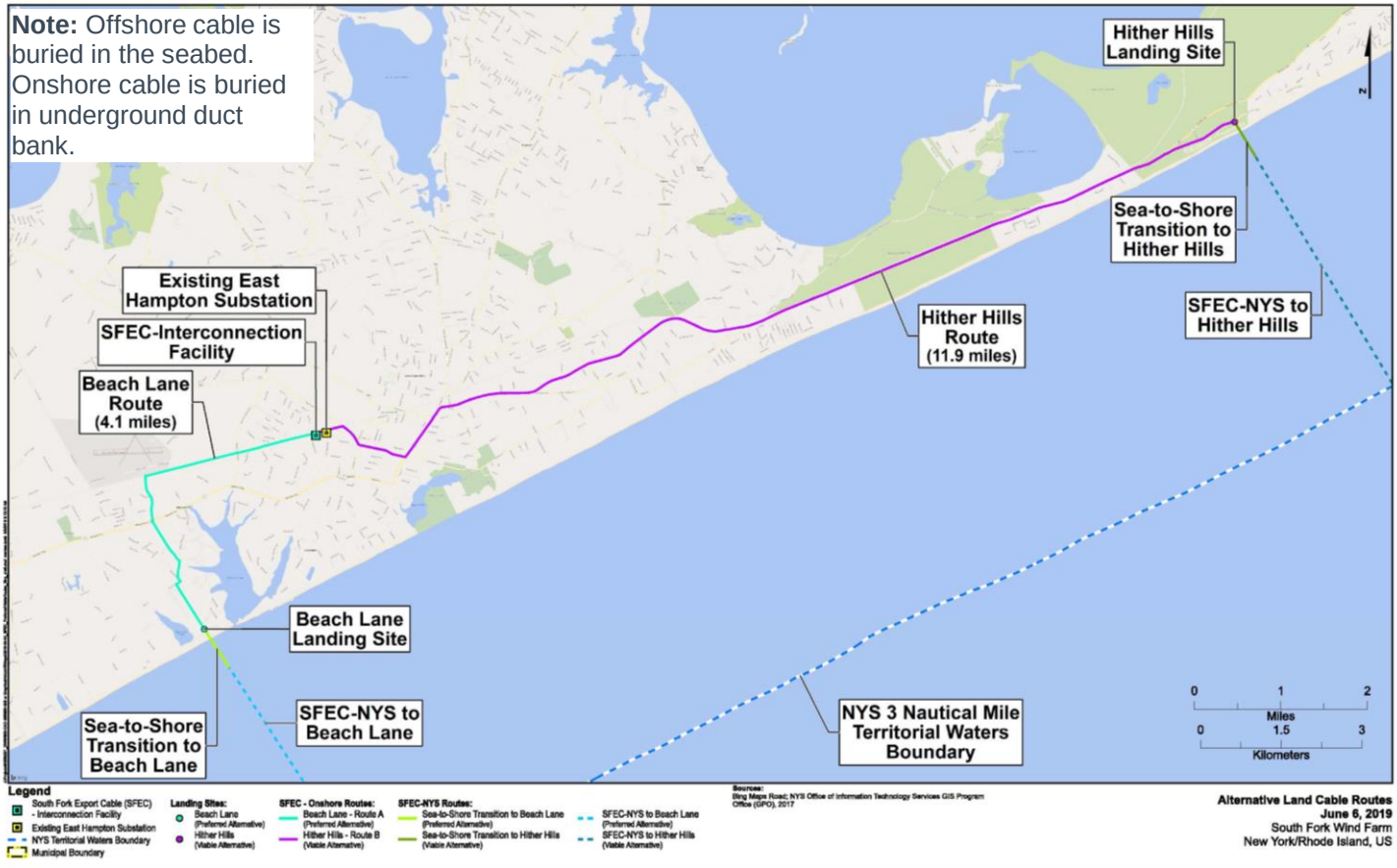
Federal

Review under National Environmental Policy Act (NEPA)

Led by
Bureau of Ocean Energy Management (BOEM)

Preferred & Alternative Cable Routes

A single, 138 kilovolt (kV) transmission line:



Preferred & Alternative Cable Routes

A single, 138 kilovolt (kV) transmission line:

Route from Beach Lane in Wainscott

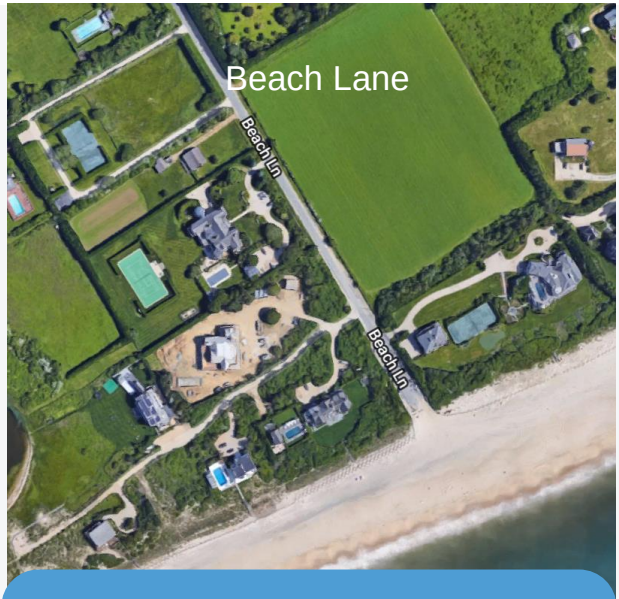
- Identified in Article VII Application as the "Preferred" onshore cable route.
- 4.1 Miles total distance onshore.
- 61.4 miles total of submarine cable
- Follows residential roads for approximately two miles (Beach Lane, Wainscott Main Street, Sayre's Path, Wainscott Stone Rd, Wainscott Northwest Rd).
- Crosses under Route 27 (Montauk Hwy).
- Follows the Long Island Railroad (LIRR) corridor for approximately two miles.
- Delivers power to the East Hampton Substation (as required by contract with LIPA).
- **Route requires obtaining real estate rights from both the EH Town and Trustee Boards.**

Route from Hither Hills State Park

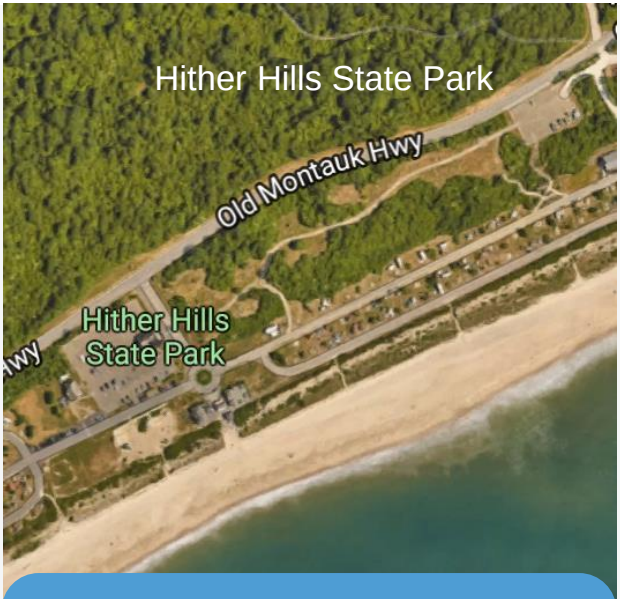
- Identified in Article VII as the "Viable Alternative" onshore cable route.
- 11.9 miles total distance onshore.
- 49.6 miles total of submarine cable.
- Follows state-owned rights-of-way (Old Montauk Hwy, Route 27/Pantigo Rd, Route 114, and the LIRR right-of-way).
- Follows Main Streets in Amagansett and East Hampton Village.
- Delivers power to the East Hampton Substation (as required by contract with LIPA).
- **Real estate rights to be obtained from state agencies.**

Preferred & Alternative Cable Landing Sites

Sea to Shore Transition Area



- Cable landing area has 18 residences within 500 feet.
- All underground cable infrastructure is designed to withstand water inundation.



- Cable landing area has zero residences within 500 feet.
- All underground cable infrastructure is designed to withstand water inundation.

Sea-To-Shore Transition

Horizontal Directional Drilling (HDD)

At either the Beach Lane or Hither Hills cable landing location, Horizontal Directional Drilling (HDD) will be used to set the cable deep beneath the beach and nearshore area.

HDD, also known as directional drilling, is a trenchless construction method commonly used for installing pipes or cables underneath roads, waterbodies or environmentally sensitive areas like wetlands.

Sea-To-Shore Transition

Horizontal Directional Drilling (HDD)

Installation of the cable in the Sea-to-Shore transition area is a three-part process:

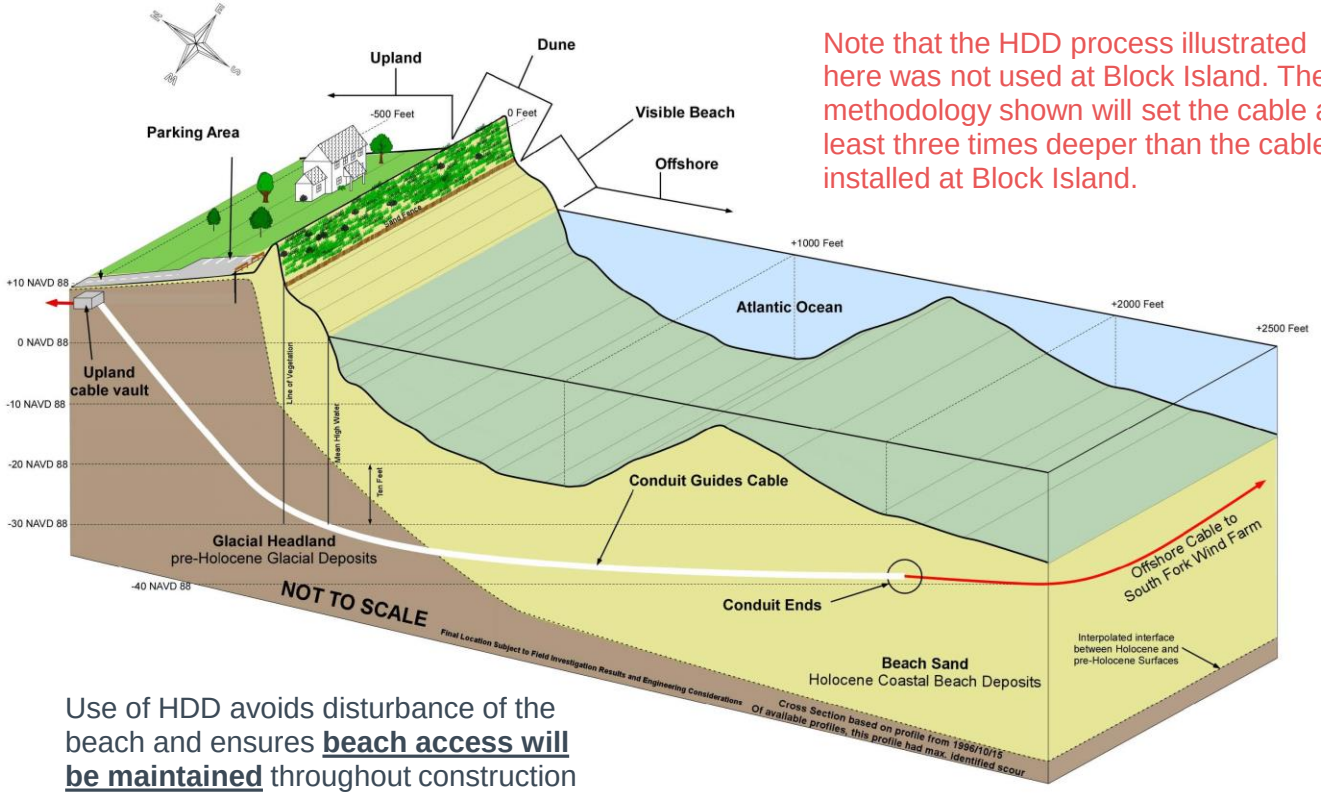
1. **The HDD rig bores a hole along a prescribed path.** This path will be deep beneath the beach (at least 30 feet) and nearshore area to a distance at least one-third of a mile from shore.

2. **Installation of conduit.** A plastic conduit pipe (24 inches or less in diameter) will be floated offshore, then pulled through the bore hole to shore.

3. **Pulling of the cable.** The submarine cable (8 to 12 inches in diameter) will arrive coiled up on a large vessel and be pulled through the conduit pipe to shore.

Sea-To-Shore Transition

Conceptual drawing indicative of approach at either Beach Lane or Hither Hills landing site



Note that the HDD process illustrated here was not used at Block Island. The methodology shown will set the cable at least three times deeper than the cables installed at Block Island.

Use of HDD avoids disturbance of the beach and ensures **<u>beach access will be maintained</u>** throughout construction

Sea-To-Shore Transition

Example: HDD Setup

Sample HDD setup. Note: equipment will be configured to accommodate available space and to meet Town noise standards.

Sea-To-Shore Transition

Example: Scarborough Beach, Rhode Island

An HDD operation similar to that proposed for the South Fork Wind Farm was used successfully to install a submarine power cable at Scarborough Beach in Rhode Island. This process is different from the method used to install the submarine cables at Block Island and will set the cable to a much greater depth.

Onshore Cable Installation

Underground Duct Bank: Typical Buried Utility Work

The underground duct bank has two major components:

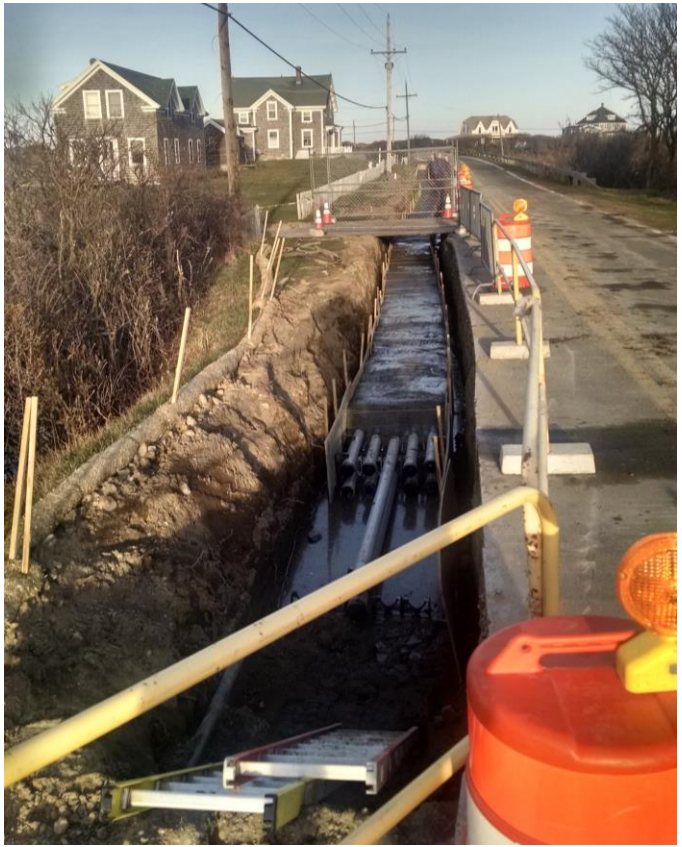
1. **Concrete encased conduits.** The concrete will have approximate dimensions of 36 by 40 inches.

2. **Splicing vaults.** Measuring approximately 26’ x 8’ x 10’, pre-cast concrete vaults will join the sections of concrete encased conduits at intervals of approximately 1,000 -1,500 feet. The vaults will be accessible by cast iron manhole covers.

As proposed, the duct bank and vaults will be installed via trenching. Construction occurs in migrating sections – only limited portions of the route will be under construction at any given time. Temporary patch is applied immediately following installation. Once construction is complete, the disturbed road sections will be resurfaced.

Onshore Cable Installation

Example: Concrete encased duct bank



Underground duct bank installed via trenching

Onshore Cable Installation

Example: Concrete encased duct bank

Duct bank installation with temporary patch

South Fork Wind Farm

Onshore Cable Installation

Example: Concrete encased duct bank

Road and shoulder fully restored post-construction. Only manhole covers are visible.

Onshore Cable Installation

Example: Concrete encased duct bank

Road and shoulder fully restored post-construction. Only manhole covers are visible.

Onshore Cable Installation

Example: Underground vaults

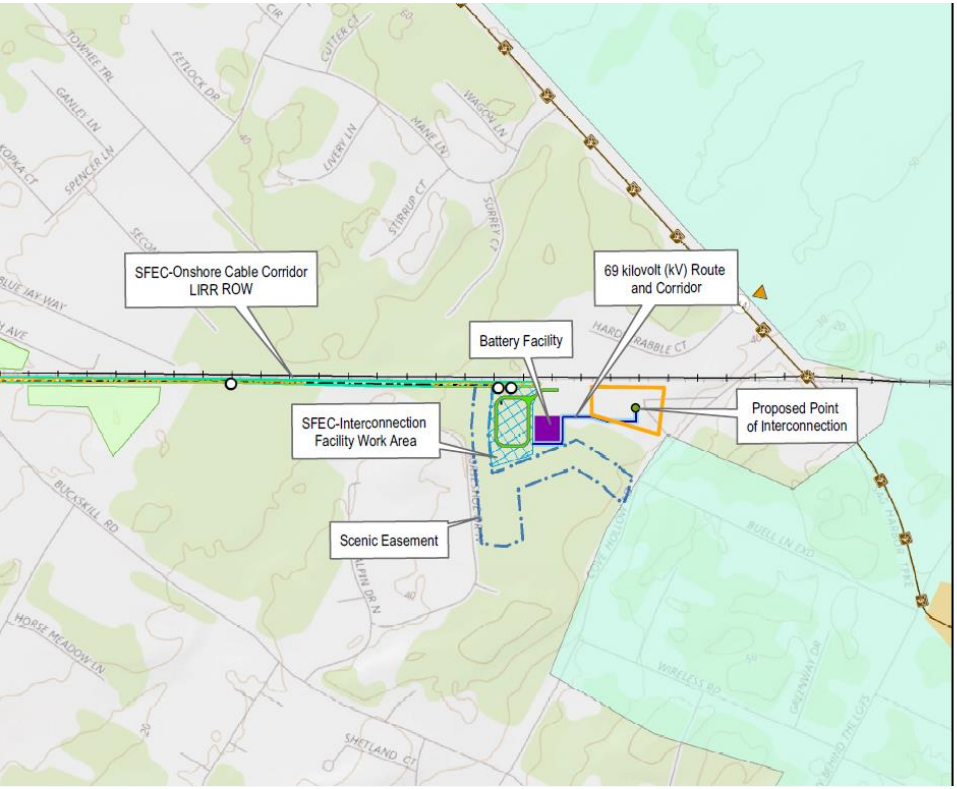
Vaults in a beach parking where two submarine cables come ashore. Post installation, only manhole covers are visible.

South Fork Wind Farm

Construction Timing: South Fork Wind Farm

- No ground disturbing road work between Memorial Day and Labor Day.
- HDD (active drilling) to occur between November 1 and March 31.
- Final work windows and construction duration to be determined by permit and real estate requirements.
- A Management and Protection of Traffic Plan (MPT) is required and will be developed in accordance with traffic standards and in consultation with transportation agencies and the East Hampton Town Police and Highway Departments.
- A core design criteria is to minimize traffic disruption and maintain at least one traffic lane at all times.
- For either route, **beach access will be maintained** throughout the construction process.

Interconnection at the East Hampton Substation Parcel



Legend

Project Layout

- Proposed Point of Interconnection
- Manhole
- Railroad
- SFEC-Onshore Cable Route
- SFEC-Interconnection Facility Interconnection Cable Route
- SFEC-Interconnection Facility Access Road
- Existing East Hampton Substation
- SFEC-Interconnection Facility Interconnection Cable Corridor
- Battery Facility
- Scenic Easement
- SFEC-Interconnection Facility Work Area
- LIRR Road Crossing Temporary Work Area
- Area of Clearing

SFEC-Onshore Cable Corridor

- Long Island Railroad (LIRR) ROW

N

0 0.1 0.2
Miles
0 0.2 0.4
Kilometers

Article VII Application – Impact Assessment

Exhibits Available for Review in Permit Applications

EXHIBIT 4

- Land Use
- Visual and Aesthetic Resources
- Cultural and Historic Resources
- Topography, Geology, Soils, and Groundwater
- Vegetation and Wildlife
- Wetlands and Waterbodies
- Marine Physical and Chemical Characteristics
- Finfish
- Benthic and Shellfish Resources
- Important Habitats and Rare, Threatened, and Endangered Species
- Noise
- Air Quality
- Electric and Magnetic Fields (EMF)

APPENDICES – TECHNICAL REPORTS

- Biological Resources Report
- Visual Resource Assessment
- Historical Architectural Resources
- Archaeological Resources Onshore Report
- Acoustic Assessment Reports
- Phase I Environmental Site Assessment
- Geophysical, Geotechnical, and Benthic Reports
- Suspended Sediment Report
- Essential Fish Habitat Assessment
- Benthic Resources Survey Report
- Preliminary Invasive Species Control Plan
- EMF Assessment Reports (Onshore & Offshore)