Beacon Wind Project

Project Construction

Installation of Foundations

- Delivery of foundation (monopile, piled jacket, or suction-bucket jacket) to the site by vessel.
- Monopiles: installed using a hydraulic impact hammer, vibratory hammer, water jetting, or combination of all.
- Piled Jacket: support piles are installed using same methods as monopiles. Once the piles are in place, the jacket structure is secured to the piles.
- Suction-Bucket Jacket: suctions buckets are fitted with pumps and control units and then lowered onto the seabed. Water and air are pumped out of the bucket to create a negative pressure, which embeds the foundation bucket into the seabed. Suction buckets would either be pre-installed individually or attached to the jacket structure and installed at the same time.

Heavy-Lift Vessel Installing a Suction-Bucket Jacket Wind Turbine Generator Foundation

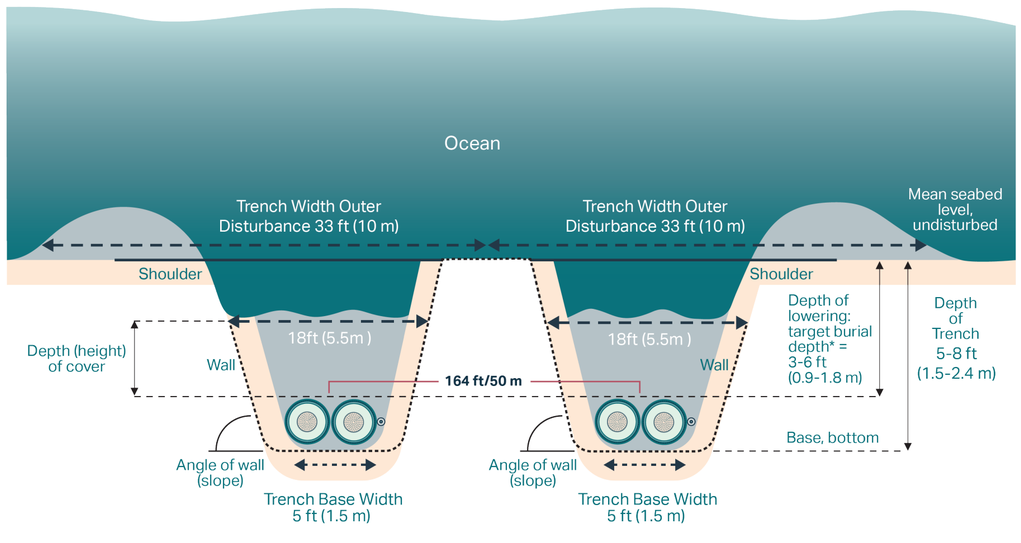
Heavy-Lift Vessel Installing an Offshore Substation Topside

Installation of Wind Turbine Generators

- Following installation of the foundation, turbine components will be transported to the foundation location.
- The tower is mounted vertically and secured to the foundation, then the nacelle will be placed on top of the tower and secured, then each blade will be joined to the nacelle hub.
- Once installation is complete, the turbine will be connected to the interarray cables and follow a process of testing and commissioning prior to becoming operational.

Offshore Export Cable Laying

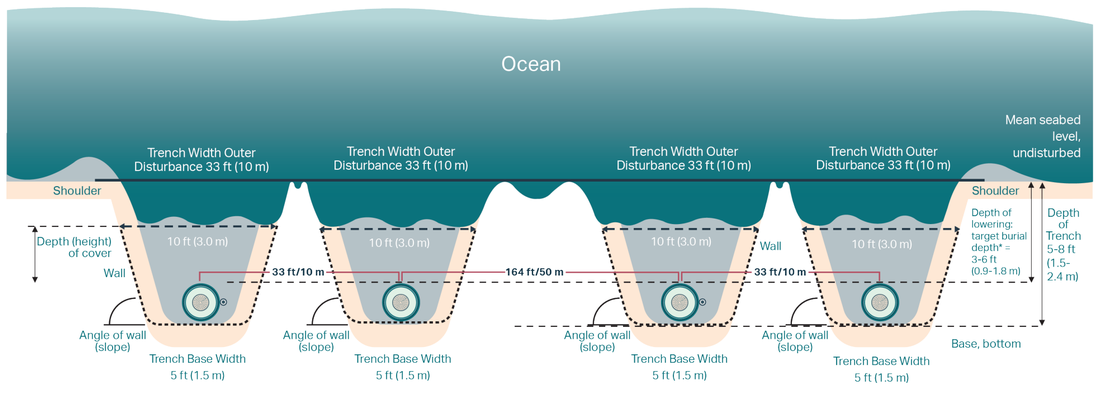
- Each pair of cables may be bundled in the same trench or unbundled in separate trenches with a target separation distance of 33 feet (10 meters).
- The target burial depth of 3 to 6 feet (0.9 to 1.8 meters) beneath the seabed.
- Potential cable burial methods are plowing, jetting, trenching, and drill and expand.
- Cable protection options under consideration include rocks, rock bags, concrete mattresses, and cast-iron shells.



*Note: Target burial depth will be 15ft (4.7m) below the current (and future) authorized depth or depth of existing seabed (whichever is deeper) in federally maintained navigation features (e.g., anchorages and shipping channels).

*Note: The trench width outer disturbance of 33 ft (10 m) represents the potential maximum disturbance generated by the jet plow required for harder seabed conditions. It is anticipated that along the majority of the submarine export cable route, a jet trencher tool will be used which is expected to generate an outer disturbance with of approximately 13 ft (4m).

Proposed Bundled Cable Methodology



Proposed Unbundled Cable Methodology

For more information, please visit:
https://www.boem.gov/renewable-energy/state-activities/beacon-wind