

Empire Offshore Wind LLC

Empire Wind 1 Project  
Article VII Application

**Attachment to Deficiency Response No. 2:  
Table 3.7-1**

October 2021

**Table 3.7-1 Comparison of Onshore Cable Route Alternatives**

Assessment Criteria	Coney Island Route Alternative	Gravesend Bay Route Alternative <sup>a/</sup>	Verrazzano-Narrows		65 <sup>th</sup> Street		Narrows Generating Station		
			Shore Road Park Alternative	3 <sup>rd</sup> Avenue Alternative	1 <sup>st</sup> Avenue Alternative	2 <sup>nd</sup> Avenue Alternative	Bush Pier Terminal Park Alternative	1 <sup>st</sup> Avenue Alternative	EW 1 Alternative
<b>Route Characteristics</b>									
Total EW 1 Project Route Length	41.5 mi (66.9 km)	45.0 mi (72.4 km)	43.8 mi (70.5 km)	44.0 mi (70.8 km)	44.3 mi (71.3 km)	44.3 mi (71.3 km)	44.4 mi (71.5 km)	44.3 mi (71.2 km)	43.9 mi (70.6 km)
Total EW 1 Project Submarine Export Cable Route Length	34.1mi (54.9 km)	37.7 mi (60.7 km)	39.4 mi (63.5 km)	39.4 mi (63.5 km)	42.1 mi (67.7 km)	42.1 mi (67.7 km)	42.4 mi (68.3 km)	42.4 mi (68.3 km)	43.7 mi (70.4 km)
Onshore Cable Route Length	7.4 mi (12.0 km)	7.3 mi (11.8 km)	4.4 mi (7.0 km)	4.5 mi (7.3 km)	2.2 mi (3.6 km)	2.3 mi (3.6 km)	2.0 mi (3.2 km)	1.8 mi (3.0 km)	0.2 mi (0.3 km) b/
<b>Technical Considerations</b>									
Sufficient space for landfall without demolition	Yes	Yes	Yes	Yes	Yes	Yes	No	No	Yes
Landfall construction complexity	High	High	High	High	High	High	High	High	Moderate
Expected onshore infrastructure congestion	High	High	High	High	High	High	High	High	Moderate
Expected number of onshore utility crossings	High	High	Moderate	High	Moderate	Moderate	Moderate	Moderate	Low
Sewer main crossing(s)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No

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New York Metropolitan Transit Authority subway line crossing	Yes	No	No	No	No	No	No	No	No
Number of submarine export cable utility crossings	2	2	3	3	19	19	19	19	19
<b>Commercial Considerations</b>									
Landfall commercial availability	Unknown	Unknown	Not applicable <i>c/</i>	Not applicable <i>c/</i>	Unlikely	Unlikely	Unlikely	Unlikely	Yes
Cable route easement/permit risk	High	High	High	High	High	High	High	Moderate	Low
Onshore construction duration	High	High	Moderate	High	Moderate	Moderate	Low	Low	Low
<b>Stakeholder Considerations</b>									
Number of abutters	High	Moderate	Moderate	High	Moderate	Moderate	Moderate	Moderate	Low
Expected stakeholder considerations	High	High	High	High	Moderate	Moderate	Moderate	Low	Low
<b>Environmental Considerations</b>									
Coastal erosion concern	High	Low	Low	Low	Low	Low	Low	Low	Low

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Potential onshore threatened & endangered species habitat	Yes	No	No	No	No	No	No	No	No
Potential offshore threatened & endangered species habitat	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
New York City scenic landmarks crossed	1	0	0	0	0	0	0	0	0
Noise impacts	High	High	High	High	Moderate	Moderate	Low	Low	Low
Traffic impacts	High	Moderate	Moderate	High	Moderate	Moderate	Moderate	Moderate	Low
Areas of potential cultural significance crossed	Yes <i>d/</i>	Yes	Yes	Yes	No	No	No	No	No
<b>Right-of-Way (Onshore)</b>									
Approximate length in existing right-of-way <i>e/</i>	6.9 mi (11.1 km)	2.7 mi (4.3 km)	1.4 mi (2.3 km)	3.3 mi (5.3 km)	1.5 mi (2.4 km)	1.4 mi (2.3 km)	1.0 mi (1.6 km)	1.3 mi (2.1 km)	0.05 mi (0.1 km)
Length of existing right-of-way expansion	0	0	0	0	0	0	0	0	0
Approximate length across private parcels	0.5 mi (0.8 km)	0.1 mi (0.2 km)	0.1 mi (0.2 km)	0.1 mi (0.2 km)	0.2 mi (0.3 km)	0.2 mi (0.3 km)	0.4 mi (0.6 km)	0.4 mi (0.6 km)	0.02 mi (0.03 km)
Approximate length across municipal lands	0.02 mi (0.03 km)	3.9 mi (6.3 km)	2.9 mi (4.7 km)	1.9 mi (3.0 km)	0.5 mi (0.8 km)	0.6 mi (1.0 km)	0.6 mi (1.0 km)	0.1 mi (0.2 km)	0.07 mi (0.1 km)

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Approximate length across federal land	0	0.6 mi (1.0 km)	0	0	0	0	0	0	0
<b>Land Use Characteristics</b>									
Land Use, Percent Developed Land	High intensity (59%), Medium Intensity (39%), Low Intensity (<1%)	High intensity (30%), Medium Intensity (26%), Low Intensity (22%)	High intensity (43%), Medium Intensity (20%), Low Intensity (13%)	High intensity (85%), Medium Intensity (9%), Low Intensity (3%)	High intensity (82%), Medium Intensity (13%)	High intensity (88%), Medium Intensity (6%)	High intensity (79%), Medium Intensity (15%), Low Intensity (1%)	High intensity (91%), Medium Intensity (4%)	High intensity (100%)
Land Use, Percent Herbaceous	5%	6%	9%	<1%	2%	2%	2%	2%	0
Land Use, Percent Barren Land	<1%	4%	2%	0	2%	2%	2%	2%	0
Land Use, Percent Open Space	0	7%	8%	1%	0	0	<1%	0	0
Land Use, Deciduous Forest	0	1%	1%	<1%	0	0	0	0	0
Land Use, Hay/Pasture or Shrub/Scrub	0	Hay/Pasture (2%), Shrub/Scrub (<1%)	Hay/Pasture (3%)	0	0	0	0	0	0
New York City Open Space crossing distance <sup>f/, g/</sup>	1.3 mi (2.0 km)	4.4 mi (7.0 km)	2.3 mi (3.7 km)	0.4 mi (0.6 km)	None	None	None	None	None

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Parkland alienation legislation required	Likely	Likely	Likely	Likely	Unlikely	Unlikely	Likely	Unlikely	Unlikely
Potential conflict with planned development	Unknown	Unknown	Not expected	Not expected	Yes	Yes	Not expected	Not expected	Not expected

Notes:

*a/* Based on the Gravesend Bay Route Alternative to the Shore Road Park Alternative.

*b/* Includes both the interconnection cable route and the EW 1 onshore export cables.

*c/* Expected to require parkland alienation.

*d/* Includes Ocean Parkway.

*e/* Length within existing right-of-way is approximated based on New York City parcel mapping.

*f/* Based on the crossing distance of the cable route centerline.

*g/* Based on NYC 2020. This does not include the overlap of a portion of the submarine export cable siting corridor with an off shore portion of NYCDPR-owned property.