Royal HaskoningDHV
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VATTENFALL

Norfolk Boreas Offshore Wind Farm

Appendix 24.4

Scenario 1 - GHD Assumed Construction Materials and Associated HGV Delivery Derivation

Environmental Statement

Volume 3

Applicant: Norfolk Boreas Limited
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Photo: Ormonde Offshore Wind Farm

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GHD Assumed Construction Materials and Associated HGV Delivery Derivation

Note: Materials in Bold/Italic are to be both delivered and removed from site

Note: The following assumptions are for the purposes of indicative worst case traffic and transport assessments, based on high level consideration for typical construction practices.

Location	Material	Assumption	Dimensions	HGV Deliveries	Comment
Landfall HDD	***Mobilisation/Demobilisation***	***40***	***HGV Loads***	***40***	***Mobilisation and Demobilisation generally consist of 20 HGV loads delivered over 2 days with a crane on site (150t-300t) to position equipment.***
	Stone (Aggregate)	***900***	***m3***	***90***	***50mx60m compound dimensions with assumed hard standing (aggregate stone) depth of 0.3m and coverage of 50% of site. (TEMPORARY, will require removal.***
	Water	25,000	L	3	Used to generate drilling slurry (bentonite). If mains water supply not avalable, utilise 10,000L water tankers.
	Geotextiles	***6,000***	***m2***	***4***	***50mx60m compound dimensions (TEMPORARY, will require removal***
	Drilling Rig	***100***	***T***	***2***	***1 for each parallel site***
	Fencing	***440***	***m***	***2***	***Perimeter fencing (60m x 50m) (utilising Harris Fencing - 2m(h) x 3.5m(l). 120 (420m) panels per truck. 180 (420m) foot blocks per truck. 2x two-way movement (Installation & Removal)***
	Excavated material (landfall)	1,325	m3	213	assumed up to 1000m drill length, 3x drills (allowance for failed drill on each site), 0.65m diameter bore - to be removed from site
Transition Pit	Concrete	90	m3	12	2 transition pits, each 10mx15m, assumed concrete slab depth of 0.3m
	Excavated Material	90	m3	15	Equivalent to concreted floor - to be removed from site (displaced by concrete slab)
			Totals	**381**	
Onshore Trenchless (17 No. locations)	***Mobilisation/Demobilisation***	-	***HGV Loads***	***0***	***Installed by NV***
	Stone (Aggregate)	-	***m3***	***0***	***Installed by NV***
	Water	-	L	0	Installed by NV
	Geotextiles	-	***m2***	***0***	***Installed by NV***
	Drilling Rig	-	***T***	***0***	***Installed by NV***
	Fencing	-	***m***	***0***	***Installed by NV***
	Excavated material (crossings)	-	m3	0	Installed by NV
			Totals	**0**	
Mobilisation Areas	***Stone (Aggregate)***	-	***m3***	***0***	***N/A***
	Fencing	-	***m***	***0***	***N/A***
	Welfare facilities and associated infrastructure	-		***0***	***N/A***
			Totals	**0**	
Cable Route	CBS	-	m3	0	Installed by NV
	Trench Excavated Material	-	m3	0	Installed by NV
	Running track stone (aggregate)	-	***m3***	***0***	***Installed by NV***
	Fencing	-	***m***	***0***	***Installed by NV***
	Ducts	-	Deliveries	0	Installed by NV
	Cable Tiles	-	Deliveries	0	Installed by NV
	Fibres	-	Deliveries	0	Refer to Appendix 24.6
	Cable Drums	-	Deliveries	0	Refer to Appendix 24.6
			Totals	**0**	
Joint Pits	Concrete	-	m3	0	Refer to Appendix 24.6
	Excavated Material	-	m3	0	Refer to Appendix 24.6
	CBS	-	m3	0	Refer to Appendix 24.6
	Cable Joints	-	No.	0	Refer to Appendix 24.6
			Totals		
HVDC Onshore Substation	Concrete	14,625	m3	1,829	250mx300m HVDC dimensions with assumed concrete depth of 0.3m and coverage of 65% of site.
	Stone (Aggregate)	7,875	m3	788	250mx300m HVDC dimensions with assumed hardcore depth of 0.3m and coverage of 35% of site.
	Fencing	1,100	m	3	perimeter (utilising Harris Fencing - 2m(h) x 3.5m(l). 120 (420m) panels per truck. 180 (420m) foot blocks per truck. 2x two-way movement (Installation & Removal)
	Supergrid Transformer	8	No.	8	15m x 5m x 5.5m ~250T
	Converter Building	2	No.	50	Likely steel frame cladded. 110m x 70m x 19m each
	Associated Electrical Equipment			50	Refer to Chapter 5 - Project Description for further details of additional electrical assets
	Access Road	-	m3	0	Installed by NV
	Excavated Material	4,050	m3	648	Attenuation pond displaced material, to be removed.
			Totals	**3376**	
Onshore Substation (Temp Compound)	***Stone (Aggregate)***	***6,000***	***m3***	***600***	***100mx200m compound dimensions with assumed hard standing (aggregate stone) depth of 0.3m and coverage of 50% of site. (TEMPORARY, will require removal)***
	Fencing	***1,200***	***m***	***3***	***perimeter (utilising Harris Fencing - 2m(h) x 3.5m(l). 120 (420m) panels per truck. 180 (420m) foot blocks per truck. 2x two-way movement (Installation & Removal)***
	Welfare facilities and associated infrastructure	***16***		***16***	
	Access Road	***1,800***	***m3***	***180***	***0.5 km route length x 6m width x 0.3 depth x 1 haul road (TEMPORARY) - worst case assumption, bog mats or other geotextile could be used***
			Totals	**799**	
NGET Substation	Concrete	1,697	m3	213	145mx130m extension with assumed concrete depth of 0.3m and coverage of 30% of site.
	Stone (Aggregate)	3,959	m3	396	145mx130m extension dimensions with assumed hardcore depth of 0.3m and coverage of 70% of site.
	Fencing	260	m	3	Pallisade Perimeter extension (2x130m length - assumed existing 145m fence is removed and reused at new boundary)
	Busbar steelwork and gantrys	330	m	33	1x130m extension to busbar and associated metalwork
	Excavated Material	2,100	m3	336	Attenuation pond displaced material, to be removed.
			Totals	**980**	
NGET Substation (Temp Compound)	***Stone (Aggregate)***	***9,000***	***m3***	***900***	***200mx150m compound dimensions with assumed hard standing (aggregate stone) depth of 0.3m and coverage of 50% of site. (TEMPORARY, will require removal)***
	Fencing	***1,400***	***m***	***4***	***perimeter (utilising Harris Fencing - 2m(h) x 3.5m(l). 120 (420m) panels per truck. 180 (420m) foot blocks per truck. 2x two-way movement (Installation & Removal)***
	Welfare facilities and associated infrastructure	***16***		***16***	
	Access Road	***1,800***	***m3***	***180***	***0.5 km route length x 6m width x 0.3 depth x 1 haul road (TEMPORARY) - worst case assumption, bog mats or other geotextile could be used***
	Temporary OHL	***260***		***0***	***Installed by NV***
			Totals	**1100**	
A47 Highways Works with mobilisation area*	Concrete/Asphalt	-	m3	0	Installed by NV
	Stone (Aggregate)	***3,000***	***m3***	***300***	***100mx100m compound dimensions with assumed hard standing (aggregate stone) depth of 0.3m and coverage of 50% of site. (TEMPORARY, will require removal)***
	Fencing	***800***	***m***	***2***	***perimeter (utilising Harris Fencing - 2m(h) x 3.5m(l). 120 (420m) panels per truck. 180 (420m) foot blocks per truck. 2x two-way movement (Installation & Removal)***
	Welfare facilities and associated infrastructure	***16***		***16***	
			Totals	**318**	

*13 Mobilisation areas associated cable corridor with 1 mobilisation area associated with the A47 highway works detailed separately within Appendix table