

East Anglia TWO Offshore Windfarm

Appendix 26.13

Derivation of Construction Material Quantities and Associated HGV Demand

Environmental Statement Volume 3

Applicant: East Anglia TWO Limited Document Reference: 6.3.26.13

SPR Reference: EA2-DWF-ENV-REP-IBR-000918 013 Rev 01

Pursuant to APFP Regulation: 5(2)(a)

Author: Royal HaskoningDHV

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East Anglia TWO Offshore Windfarm Environmental Statement



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Material Vehicle Movements

Temporary HGV holding zone at Elm Tree farm
 Additional Area required of HGV Turning Area

Reference	General Data (Fixed Information)	Units	Value	Source/Comments
1.01	Number of Projects		1	OPEDA / Project Parameters
1.02	Number of circuits per project		2	OPEDA / Project Parameters
1.03	Tipper Truck Capacity	Tonnes	20	8x4 Rigid Tipper http://www.mqp.co.uk/vehicle.htn
1.04	Ready Mix Concrete truck Capacity	m³	6	6m3 Truck mixer https://www.hanson.co.uk/en/technical-information/truck-informatio
1.05	Steel reinforcement per m3 of concrete	t/m³	0.065	Assumed
1.06	Type 1 Stone Density	t/m³	2.3	MOT Type 1 https://www.smithsbletchington.co.uk/mot-type-
1.07	Crusher Run Stone Density	t/m³	2.1	Crusher Run Stone https://www.smithsbletchington.co.uk/limestone-crusher-ru
1.08	Compound / Haul Road Type 1 Sub-base Thickness	m	0.15	Drawing ED11892-GE-2040 A
1.09	Compound / Haul Road Crushed Stone Thickness	m	0.1	Drawing ED11892-GE-2040 A
1.10	Geogrid mass/Area	kg/m²	0.22	Tensar SS20 https://www.drainagesuperstore.co.uk/user/u/files/jdp-tensar-geogrid.pd
1.11	Mass of geogrid per delivery	Tonnes	2	Assumed Plant 7 and 400 of 1700004
1.12	Concrete Block Length	m	0.215	https://www.travisperkins.co.uk/Solid-Dense-Concrete-Block-7-3N-100mm/p/700064
1.13	Concrete Block Width Concrete Block Height	m	0.215 0.1	https://www.travisperkins.co.uk/Solid-Dense-Concrete-Block-7-3N-100mm/p/700064 https://www.travisperkins.co.uk/Solid-Dense-Concrete-Block-7-3N-100mm/p/700064
1.19	Number of concrete blocks per pallet	m -	60	10 block on base of 1.2x1m pallet then 6 rows high
1.19	Number of concrete blocks per pallet Number of pallets per delivery	-	5	Assumed
1.21	Native Soil Density	t/m³	2	Worst case for Glacial Clays
1.22	Mass of bentonite bag		25	https://mistralni.co.uk/products/sodium-bentonite-grg
1.23	Number of bentonite bags per pallet	kg	42	https://mistralni.co.uk/products/sodium-bentonite-grg https://mistralni.co.uk/products/sodium-bentonite-grg
1.24	Density of bentonite	t/m³	0.9	https://mistralni.co.uk/products/sodium-bentonite-grg
1.25	Number of bentonite pallets per delivery	VIII	0.9	Integrandical into the products south in better the products south integrandical integrandintegrandical integrandical integrandical integrandical integrandi
1.26	Volume of fluid delivery vehicle	litres	30,000	Articulated Water Tanker https://www.water-direct.co.uk/what-we-do/water-tankers
1.27	Heras Fencing Panel Hight	m	2	Heras HSG 151 Fencing https://www.heras-mobile.co.uk/fencing/151-system
1.28	Heras Fencing Panel Width	m	3.5	Heras HSG 151 Fencing https://www.heras-mobile.co.uk/fencing/151-system
1.29	Weight Per Panel	kg	16	Heras HSG 151 Fencing https://www.heras-mobile.co.uk/fencing/151-system
1.30	No of panels per delivery	-	125	Assumed 2T of panelling per delivery (includes all required feet and connectors
1.31	Topsoil Depth	m	0.45	Assumed Assumed
1.32	Density of Topsoi	t/m³	0.67	https://www.rolawn.co.uk/calculating-topsoil-requirement
1.33	Length of stock fencing rol	m	500	1.15 Cattle Fence https://www.jacksons-fencing.co.uk/fencing/agricultural-fencing/wire-fencing-stoc
1.34	Frequency of Wooden Post	m	5	Assumed
1.35	Frequency of tension post (includes 2 stay posts	m	50	Assumed
1.36	Length of fencing (including required posts) per HGV Deliver	m	4000	Assumed
eference 2.01	Landfall Data (Fixed Information) Width of HDD Compound	Units m	Value 100	Source/Comments Drawing ED11892-GE-2016 Rev D
2.01				Drawing ED11892-GE-2016 Rev D Drawing ED11892-GE-2016 Rev D
2.01	Width of HDD Compound	m	100	Drawing ED11892-GE-2016 Rev D Drawing ED11892-GE-2016 Rev D Drawing ED11892-GE-2016 Rev D
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1200

From plan minus 2 public road access areas
Drawing ED11892-GE-20131

Peference	Onshore Data (Fixed Information)	Units	Value	Source/Comments
	Large CCS compound length	m	165	Drawing ED11892-GE-2058
3.02	Large CCS compound width	m	100	Drawing ED11892-GE-2058
3.03	Large CCS compound tarmac area	m²	3,000	Drawing ED11892-GE-2058
3.04	Large CCS compound hardstanding area	m²	10,600	Drawing ED11892-GE-2058
	Medium CCS compound length	m	88	Drawing ED11892-GE-2057
3.06	Medium CCs compound width	m	80	Drawing ED11892-GE-2057
3.07	Medium CCS compound hardstanding area	m²	5,525	Drawing ED11892-GE-2057
3.08	Small CCS compound length	m	50	Drawing ED11892-GE-2056
3.09	Small CCS compound width	m	50	Drawing ED11892-GE-2056
3.10	Small CCS compound Hardstanding Area	m²	1,975	Drawing ED11892-GE-2056
3.10 3.11	Number of terrestrial export cables per project	-	6	OPEDA / Project Parameters
	Number of terrestrial fibre cables per project	-	2	OPEDA / Project Parameters
3.13	Number of trenches per project	-	2	OPEDA / Project Parameters
3.14	Number of export cable ducts per trench	-	3	OPEDA / Project Parameters
3.15 3.16	Number of fibre cable ducts per trench	-	1	IOPEDA / Project Parameters
3.16	Number of Projects to have cables installed in ducts	-	1	OPEDA / Project Parameters
3.17	Number of Projects for empty ducts to be installed	-	0	OPEDA / Project Parameters
3.18	Normal Onshore Cable Route Width	m	31.9	OPEDA / Project Parameters
3.19	Reduced Onshore Cable Route Width	m	16.1	OPEDA / Project Parameters
3.20	Cable trench width	m	0.9	Project Parameters
3.21	Cable trench depth	m	1.615	Project Parameters
3.22 3.23	Cement Bound Sand (CBS) depth CBS Volume per m run of trench	m	1.1	ED11892-GE-2041 A
3.23	CBS Volume per m run of trench	m³	0.31	ED11892-GE-2041 A
3.24	CBS density	t/m³	1.6	Assumed
3.25	Tile length	m	1	https://www.powerandcables.com/product/product-category/stokbord-cable-protection-1000mm-x-450mm
	Tile width	m	0.45	https://www.powerandcables.com/product/product-category/stokbord-cable-protection-1000mm-x-450mm
3.27	Tile Height	m	0.02	Assumed
3.28	Number of tiles per delivery	-	800	Assumed. Based on 40 per pack and 20 packs per delivery
3.29	Depth to top of tile	m	1.00	ED11892-GE-2041 A
3.30	Terrestrial export cable diameter	m	0.17	OPEDA / Project Parameters
3.31	Terrestrial export cable length per drum	m	500	Project Parameters
3.32	Number of terrestrial export cable drums per delivery		1	Weight of cable 34T
3.33	Terrestrial fibre cable diameter	m	0.025	Assumed
3.34	Terrestrial fibre cable length per drum	m	2000	TBC
3.35	Number of terrestrial fibre cable drums per delivery	-	11	TBC
3.36	Diameter of terrestrial export cable ducts	m	0.25	ED11892-GE-2041 A
	Diameter of terrestrial fibre cable ducts	m	0.11	ED11892-GE-2041 A
	Length of terrestrial export cable duc	m	6	Page 32 http://www.emtelle.com/wp-content/uploads/2015/05/Duct-Catalogue-2015-1.pd
	Length of terrestrial fibre cable duct	m	6	Page 30 http://www.emtelle.com/wp-content/uploads/2015/05/Duct-Catalogue-2015-1.pd
3.40	Number of terrestrial export cable ducts per pack	-	16	Page 32 http://www.emtelle.com/wp-content/uploads/2015/05/Duct-Catalogue-2015-1.pd
3.41	Number of terrestrial fibre cable ducts per pack	-	90	Page 30 http://www.emtelle.com/wp-content/uploads/2015/05/Duct-Catalogue-2015-1.pd
	Number of duct packs per delivery		4	Assumed
	Bentonite required for cable installation in duct	kg/m³ of fluid	60	Assumed
3.44	Maximum distance between joining bays	m	500	Project Parameters
	Number of export cables per jointing bay	-	3	Project Parameters
3.46	Number of joining bays per location	-	2	Project Parameters
3.47	Jointing bay width (construction footprint	m	18.6	Project Parameters
3.48	Jointing bay height (construction footprint	m	2.9	Project Parameters
3.49 3.50	Jointing bay length (construction footprint	m	30.6	Project Parameters
	Jointing bay width (underground infrastructure only	m		OPEDA / Project Parameters
3.51	Jointing bay height (underground infrastructure only	m	1.7	OPEDA / Project Parameters
	Jointing bay length (underground infrastructure only	m m²	15 45	OPEDA Project Parameters Calculated (3.50 x 3.52)
	Jointing bay slab surface area		45	Calculated (3.50 X 3.52)
	Jointing bay slab thickness	m m³	U.2 Q	To be committed
3.55	Jointing bay slab concrete volume		0.585	Calculated (3.53x 3.54)
3.56 3.57	Jointing bay steel reinforcemen Number of blocks per jointing bay	Tonnes	1394	Calculated (1.05 x 3.55) WA Calculation
	Described of blocks per joining day	m	1394	WA Calculation
	Precast concrete slab length Precast concrete slab width	m	3	Assumed (to be designed) Assumed (to be designed)
	Precast concrete slab height	m m	0.3	Assumed (to be designed) Assumed (to be designed)
	Number of precast concrete slabs per delivery	- "	0.3 8	Assume (to de designed) Each slab approx. 2.5T
	Number of concrete slabs per joining bay	-	15	Each said approx. 2.51 Calculated (3.52 x 3.59)
3.62	Depth to top of jointing bay installed underground infrastructur	m	1.2	Calculated (3.52 x 3.59) Project Parameters
3.64	Number if cable joint kits per jointing bay	- "	1.4	I report diameters
3.65	Number of cable joint kits per jointing bay	1 - 1	3	Assumed
	Maximum distance between link boxes	m	500	Assumed Project Parameters
	Number of link boxes per jointing bay		2	Project Parameters
3.68	Link box height	m	1.5	Project Parameters Project Parameters
	Width of haul road / permanent access road	m	4.5	Troject Parameters OPEDA / Project Parameters
3.70	Minimum distance between Passing Places	m	87	ED11892-GE-2006
3.71	Length of passing place	m	32	E011882-0E-2006 ED11892-0E-2006
3.71 3.72	Width of passing place	m	4	ED11892-GE-2000 ED11892-GE-2000
3.73	Area of passing place	m²	128	Calculated (3.71 x 3.72)
3.74	Volume of Type 1 Stone required per passing place	m³	19.2	Calculated (1.08 x 3.73)
3.75	Volume of Crusher Run Stone Required per passing place	m³	12.8	Calculated (1.09 x 3.73)
3.76 3.77	Width of Medium Length HDD Compound	m	90	Drawing ED11892-GE-2046 Rev B
3.77	Length of Medium Length HDD Entry Pit Compound	m	90 70	Drawing ED11892-GE-2046 Rev B
	Width of Short Length HDD Entry Pit Compound	m	75	5m spacing between drills
3.79	Length of Short Length HDD Entry Pit Compound	m	50	- "
3.80	Width of Short Length HDD Exit Pit Compound	m	75	5m spacing between drills
3.81	Length of Medium / Short Length HDD Exit Pit Compound	m	30	- "
	Standard Length of Short HDD	m	112	WA Calculation
	Number of HDDs per compound	-	9	Drawing ED11892-GE-2046 Rev B
	HDD reamed diameter		0.4	Calculated (3.88 * 4/3)
	Volume of drill fluid required per metre length of bore	m³	0.19	(1.5 times volume of soil removed based on advice from Tim Riggall, Riggall & Associates on 02/08/2018, "1.5 x volume, that will be conservative
3.85		m³	0.11	(Based on advice from Tim Riggall, Riggall & Associates on 02/08/2018 "for waste fluid to be removed from site assume 0.5 x hole volume plus the volume displaced by the ducl
3.85	volume of ariii fluid removed from site per metre length of bore			
3.85 3.86	Volume of drill fluid removed from site per metre length of bore Bentonite required	kg/m³ of drill fluid	37	Assumed
3.85 3.86 3.87		kg/m³ of drill fluid m	37 0.25	Assumed Assumed
3.85 3.86 3.87 3.88 3.89	Bentonite required Onshore HDD duct diameter Onshore HDD duct section length		37 0.25 10	Assumed Assumed
3.85 3.86 3.87 3.88 3.89 3.90	Bentonite required Onshore HDD duct diameter	m	37 0.25 10 25 100	Assumed Assumed Assumed Drawing E011892-GE-2017 Rev C

Reference	Access and Permanent Haul Road Data (Fixed Information)	Units	Value	Source/Comments
4.01	Area of access tarmac surface	m²	170	ED11892-GE-2038 A
4.02	Length of R2 8m external radi kerbing required per access	m	25	ED11892-GE-2038 A
4.03	Maximum Length of K2 straight kerbing required per access	m	394.5	ED11892-GE-2038 A
4.04	Length of one R2 8m external radi kerb	m	0.78	https://www.marshalls.co.uk/commercial/assets/documents/product-specifications/kerb07.pd
4.05	Length of one K2 straight kerb	m	0.914	https://www.marshalls.co.uk/commercial/assets/documents/product-specifications/kerb07.pd
4.06	Number of internal radi kerbs required per access	-	32	Calculated (4.02 / 4.04)
4.07	Maximum Number of straigtht kerbs required per access	-	432	Calculated (4.03 / 4.05)
4.08	Number of R2 8m external radi kerbs per pallel	-	10	Assumed
4.09	Number of R2 straight kerbs per pallet	-	18	Assumed
4.10	Number of kerb pallets per delivery	-	6	Assumed
4.12	Maximum volume of concrete required for kerbing at each access	m³	33.2	Volume calculated from design drawing x length of kerbing required
4.13	Maximum Depth of Type 1 mortar required	m	0.04	Worst case Assumed
4.14	Maximum Volume of Type 1 mortar required per access	m³	2.1	Calculated (125 x (4.02 + 4.02) x 4.13
4.15	Maximum Volume of cement required per access	m³	0.49	Type 1 mortar 1 part cement, 1/4 parts lime and 3 parts sand
4.16	Density of cement	tonnes/m³	3.15	
4.17	Mass of cement required per access	tonnes	0.16	Calculated (4.15 / 4.16)
4.18	Mass of cement per bag	kg	25	https://www.condell-ltd.com/full-pallet-general-purpose-cement-opc-25kg-60-per-pallet?gclid=EAIaIQobChMImPHW447O2gIVB-MbCh2LUwy-EAQYBCABEgIQA D Bw
4.19	Number of cement bags per pallet	-	60	https://www.condell-ltd.com/full-pallet-general-purpose-cement-opc-25kg-60-per-pallet?gclid=EAlaIQobChMImPHW447O2qIVB-MbCh2LUwy-EAQYBCABEqIQA D Bw
4.20	Maxiumum Volume of lime required per access	m³	0.12	Type 1 mortar 1 part cement, 1/4 parts lime and 3 parts sand
4.21	Density of lime	tonnes/m³	2.21	https://www.slb.com/-/media/Files/miswaco/ps-drilling-fluids/lime.pdf?la=en&hash=2FD5F24971492980C016D52C63F7FFCC7B40F0A
4.22	Mass of lime required per access	tonnes	0.06	Calculated (4.20 / 4.21)
4.23	Mass of lime per bag	kg	25	https://www.condell-ltd.com/rugby-lime-25kq?gclid=EAIaIQobChMI5suZyJDO2qIVQucbCh2r-wUAEAQYASABEgJRHPD Bw
4.24	Number of lime bags per pallet	-	60	Assumed
4.25	Maxiumum Volume of sand required per access	m³	1.48	Type 1 mortar 1 part cement, 1/4 parts lime and 3 parts sand
4.26	Density of sand	tonnes/m³	1.70	https://www.smithsbletchington.co.uk/mixed-building-san
4.27	Mass of sand required per access	tonnes	0.87	Calculated (4.20 / 4.21)
4.28	Mass of sand per bag	Tonnes	0.9	https://www.condell-ltd.com/rugby-lime-25kg?gclid=EAIaIQobChMI5suZyJDO2gIVQucbCh2r-wUAEAQYASABEgJRHPD_Bw
4.29	Number of cement pallets / lime pallets / sand bags per delivery	-	4	Assumed (assumes all three items can be delivered in same deliven
4.30	Depth of sub-base beneth kerb	m	0.150	Assumed
4.31	Maximum volume of sub-base beneath kerb	m³	25.17	Calculated from design drawing and length of kerbing.
4.32	Permanent access road sub-base depth	m	0.225	Suffolk County Council Estate Road Specification
4.33	Permanat access road Asphalt Depth	m	0.25	Suffolk County Council Estate Road Specification
4.34	Bulk Density of Asphal	tonnes/m³	2.36	https://www.engineeringtoolbox.com/density-solids-d_1265.htm
4.35	Width of Permanent Access Corridor	m	10.1	

Reference	Substation (Fixed Information)	Units	Value	Source/Comments
5.01	Length of Substation Compound	m	190	ED11892-GE-2037 A
5.02	Width of Substation Compound	m	190	ED11892-GE-2037 A
5.03	Area of Substation Compound	m²	36100	Calculated (5.01 x 5.03)
5.04	Depth of surface concrete slab	m	0.15	Nominal for non trafficed yard slab
5.05	Depth of sub-base beneath concrete slab	m	0.15	Nominal for non trafficed yard slab
5.06	Number of interconnector trenches per substation	-	2	Iberdrola Drawing EA1-GRD-DH-PRY-108930
5.07	Depth of trench	m	1.615	ED11892-GE-2044 A
5.08	Width of trench	m	1.450	ED11892-GE-2044 A
5.09	Diameter of 400kV cable	m	0.120	SPR Document EA1-GRD-H-PRY-028854-Rev1-ONCA - 400kV Technical Components Documen
5.10	400kV cable length per drum	m	500	Assumed
5.11	Number of 400kV cable drums per delivery	-	1	Assumed
5.12	Diameter of fibre cable	m	0.025	TBC
5.13	Fibre cable length per drum	m	2000	Assumed
5.14	Number of fibre cable drums per delivery	-	1	Assumed
5.15	Diameter of ECC cable	m	0.05	TBC
5.16	ECC length per drum	m	2000	Assumed
5.17	Number of ECC cable drums per delivery	-	1	Assumed
5.18	Number of 400kV Cable Ducts per trench	-	3	ED11892-GE-2044 A
5.19	Diameter of 400kV cable ducts	m	0.20	ED11892-GE-2044 A
5.20	Length of 400kV cable duct	m	6	Page 32 http://www.emtelle.com/wp-content/uploads/2015/05/Duct-Catalogue-2015-1.pd
5.21	Number of 400KV cable ducts per pack	-	25	Page 32 http://www.emtelle.com/wp-content/uploads/2015/05/Duct-Catalogue-2015-1.pd
5.22	Number of fibre cable ducts per trench	-	1	ED11892-GE-2044 A
5.23	Diameter of fibre cable ducts	m	0.11	ED11892-GE-2044 A
5.24	Length of fibre cable ducts	m	6	Page 30 http://www.emtelle.com/wp-content/uploads/2015/05/Duct-Catalogue-2015-1.pd
5.25	Number of fibre cable ducts per pack		90	Page 30 http://www.emtelle.com/wp-content/uploads/2015/05/Duct-Catalogue-2015-1.pd
5.26	Number of sub ducts within fibre cable duc		4	ED11892-GE-2044 A
5.27	Diameter of sub ducts	m	0.032	ED11892-GE-2044 A
5.28	Length of sub duct coi	m	50	Page 37 http://www.emtelle.com/wp-content/uploads/2015/05/Duct-Catalogue-2015-1.pd
5.29	Number of sub duct coils per pack	-	4	Page 37 http://www.emtelle.com/wp-content/uploads/2015/05/Duct-Catalogue-2015-1.pd
5.30	Number of ECC cable ducts per trench	-	1	ED11892-GE-2044 A
5.31	Diameter of ECC Cable Ducts	m	0.11	ED11892-GE-2044 A
5.32	Length of fibre cable ducts	m	6	Page 30 http://www.emtelle.com/wp-content/uploads/2015/05/Duct-Catalogue-2015-1.pd
5.33	Number of fibre cable ducts per pack	-	90	Page 30 http://www.emtelle.com/wp-content/uploads/2015/05/Duct-Catalogue-2015-1.pd
5.34	Number of duct packs per delivery	-	4	Assumed
5.35	Cement Bound Sand (CBS) depth	m	1.24	ED11892-GE-2044 A
5.36	CBS Volume per m run of trench	m³	0.43	ED11892-GE-2044 A
5.37	CBS density	t/m³	1.6	Assumed
5.38	Tile length	m	1	https://www.powerandcables.com/product/product-category/stokbord-cable-protection-1000mm-x-450mm
5.39	Tile width	m	0.45	https://www.powerandcables.com/product/product-category/stokbord-cable-protection-1000mm-x-450mm
5.40	Tile Height	m	0.05	Assumed
5.41	Number of tiles per delivery		800	Assumed. Based on 40 per pack and 20 packs per delivery
5.42	Depth to top of tile	m	1.14	ED11892-GE-2044 A
5.43	Bentonite required for cable installation in duct	kg/m³ of fluid	60	Assumed
5.44	Substation CCS compound length	m	190	Drawing ED11892-GE-2057
5.45	Substation CCs compound width	m	90	Drawing ED11892-GE-2057
5.46	Substation CCS compound hardstanding area	m²	11050	Drawing ED11892-GE-2057

Measured Parameters	Units	Landfall HDD	1	2A	2B	3A	3B	4A	4B and Substation Zone
Number of accesses	-	0	1	1	0	1	2	1	1
Permanent Haul road length	m	0	0	0	0	0	0	0	1700
Permanent Haul road width	m	0	0	0	0	0	0	0	8
Tempoary Hardstanding Haul road length	m	0	2428	2904	582	86	1728	1135	400
Tempoary tarmac haul road length	m	0	0	0	0	0	0	453	0
Number of HGV Turning Areas	-	0	0	0	0	0	1	0	0
Number of Large CCS	-	0	0	0	0	0	0	1	0
Number of Medium CCS	-	1	1	1	0	0	0	0	0
Number of Small CCS	-	0.0	0	0	1	0	1	0	0
Number of substation CCS	-	0	0	0	0	0	0	0	1
Number of HGV Holding Areas	-	0	0	0	0	0	0	0	0
Number of joint bays required per project	-	0	10	10	4	0	6	8	0
Length of Trenching	m	0	2078	2296	582	86	1728	1588	326
Number of transition bays per project	-	2	0	0	0	0	0	0	0
Number of Landfall HDD locations	-	1	0	0	0	0	0	0	0
Length of Landfall HDD	m	1300	0	0	0	0	0	0	0
Number of Medium Length HDD Drilling Compounds	-	0	1	0	0	0	0	0	0
Total length of medium length HDD	m	0	407	0	0	0	0	0	0
Number of Medium Length HDD Exit Pit Compounds	m	0	0	1	0	0	0	0	0
Number of Short Length HDD Drilling Compounds	-	0	0	0	0	0	0	0	0
Total length of short length HDE	m	0	0	0	0	0	0	0	0
Number of Short Length HDD Exit Pit Compounds	-	0	0	0	0	0	0	0	0
Number of Substation Operational Compounds	-	0	0	0	0	0	0	0	1
Volume of Topsoil to be removed from Substation Site and SUDS	m³	0	0	0	0	0	0	0	10,731
Volume of Sub-soil to be imported/exported for Substation Site and SUD	m³	0	0	0	0	0	0	0	763
Distance between National Grid and Project Substations	m	0	0	0	0	0	0	0	20

Total Vehicle Movmenets (without miscellaneous allowances)	Landfall HDD	1	2A	2B	3A	3B	4A	4B and Substation Zone
Access from Public Road HGV Movements	0	52	52	0	52	98	52	29
Permanent Haul Road HGV Movements	0	0	0	0	0	0	0	1,058
Total haul road construction HGV movements	0	816	976	200	34	596	1,030	206
Total CCS Construction HGV movements	316	316	316	118	0	118	932	624
Total HGV Holding Area at Elm Tree Farm HGV Movements	0	0	0	0	0	0	0	0
Total Marine Electrical Cable HGV Movements	0	0	0	0	0	0	0	0
Total Marine Fibre Cable HGV Movements	0	0	0	0	0	0	0	0
Total Terrestrial Electrical Cable HGV Movements	0	30	28	7	2	21	20	4
Total Terrestrial Fibre Cable HGV Movements	0	3	3	1	1	2	2	1
Total cable joint kits HGV movements	0	10	10	4	0	6	8	0
Total tile HGV movements	0	11	12	3	1	9	8	2
Total trench HGV movements	0	335	370	95	15	279	256	54
Total cable duct HGV movements	0	35	39	10	2	29	27	6
Bentonite (cable Installation in Ducts) HGV Movement	0	0	0	0	0	0	0	0
Jointing bay HGV movements	0	293	293	118	0	176	235	0
Transition bay HGV movements	92	0	0	0	0	0	0	0
Landfall HDD HGV movements	1,554	0	0	0	0	0	0	0
Medium Length Onshore HDD Drilling Compound HGV movements	0	461	0	0	0	0	0	0
Medium Length Onshore HDD Exit Pit Compound HGV movements	0	0	156	0	0	0	0	0
Short Length Onshore HDD Drilling Compound HGV movements	0	0	0	0	0	0	0	0
Short Length Onshore HDD Exit Pit Compound HGV movements	0	0	0	0	0	0	0	0
Substation Compound Earthworks and Surface HGV Movements	0	0	0	0	0	0	0	2,019
Project Substation - National Grid Connection	0	0	0	0	0	0	0	10
Grand total deliveries	1,962	2,362	2,255	556	107	1,334	2,570	4,013
Grand total (two way movements)	3.924	4.724	4.510	1.112	214	2.668	5.140	8.026

Access From Public Road Construction	Units	Landfall HDD	1	2A	2B	3A	3B	4A	4B and Substation Zon
Number of accesses	m	0	1	1	0	1	2	1	1
Area of tarmac surface	m²	0	170	170	0	170	340	170	170
Volume of Sub-base stone (Type 1)	m³	0	63	63	0	63	127	63	63
Mass of Type 1 stone required	Tonnes	0	146	146	0	146	292	146	146
Number of Type 1 stone deliveries		0	8	8	0	8	15	8	8
Volume of Asphalt	m³	0	43	43	0	43	85	43	43
Mass of Asphalt	Tonnes	0	100	100	0	100	201	100	100
Number of Asphalt Deliveries	•	0	6	6	0	6	11	6	6
Number of R2 8m external radi kerbs		0	32	32	0	32	64	32	32
Number of K2 straight kerbs	-	0	432	432	0	432	864	432	432
Total number of pallets of kerbs	-	0	27	27	0	27	54	27	27
Number of kerb deliveries		0	5	5	0	5	10	5	5
Volume of concrete required	m³	0.0	33.2	33.2	0.0	33.2	66.4	33.2	33.2
Number of concrete deliveries		0	6	6	0	6	12	6	6
Volume of mortor required	m³	0	2	2	0	2	4	2	2
Mass of cement required	Tonnes	0.00	0.16	0.16	0.00	0.16	0.31	0.16	0.16
Mass of lime required	Tonnes	0.00	0.06	0.06	0.00	0.06	0.11	0.06	0.06
Mass of sand required	Tonnes	0.00	0.87	0.87	0.00	0.87	1.74	0.87	0.87
Number of Cement pallets required	-	0	1	1	0	1	1	1	1
Number of lime pallets required		0	1	1	0	1	1	1	1
Number of sand bags required		0	1	1	0	1	2	1	1
Number of cement pallet, lime pallet and sand bag deliveries		0	1	1	0	1	1	1	1
Volume of Topsoil to be removed from site (permanent access only	m³	0	0	0	0	0	0	0	77
Mass of Topsoil to be removed from site (permanent access only)	Tonnes	0	0	0	0	0	0	0	51
Number of topsoil removal movements (permanent access only		0	0	0	0	0	0	0	3
Removal of tempoary access movements		0	26	26	0	26	49	26	0
Number of HGV movements	-	Ó	52	52	0	52	98	52	29

ermanent Haul Road Construction									
laul road width	Units m	Landfall HDD 0	<u>1</u> 0	2A 0	2B 0	3A 0	3B 0	4A 0	4B and Substation Zone 1700
	m -	0	0	0	0	0	0	0	8.0 0
ourface area	m² m³	0	0	0	0	0	0	0	13,600 3,264
lass of stone	Tonnes	0	0	0	0	0	0	0	7,507
lumber of stone deliveries	-	0	0	0	0	0	0	0	376
olume of Asphalt fass of Asphalt	m³ Tonnes	0	0	0	0	0	0	0	3,400 8,024
lumber of Asphalt Deliveries	-	0	0	0	0	0	0	0	402
lumber of K2 Straight Kerbs otal number of pallets of kerbs		0	0	0	0	0	0	0	1,860 103
lumber of kerb deliveries	-	0 0	0 0	0	0	0	0	0	18
faximum volume of concrete required for kerbing	m³	0	0	0	0	0	0	0	269.0
lumber of concrete deliveries	-	0	0	0	0	0	0	0	45
olume of mortor required olume of cement required	m³ m³	0	0	0	0	0	0	0	17.0 4.00
lass of cement required foliage of lime required	Tonnes m³	0	0	0	0	0	0	0	1.27
fass of lime required	Tonnes	0	0	0	0	0	0	0	0.57
olume of sand required flass of sand required	m³ Tonnes	0	0	0	0	0	0	0	12.00 7.1
lumber of Cement pallets required lumber of lime pallets required	-	0	0	0 0	0 0	0	0	0	1 1
lumber of sand bags required lumber of cement pallet, lime pallet and sand bag deliveries	-	0	0	0	0	0	0	0	8 3
ength of permanent security fencing requirec	m	0	0	0	0	0	0	0	3,420.2
lumber of fencing panels required	-	0	0	0	0	0	0	0	978
lumber of fencing panel deliveries	-	0	0	0	0	0	0	0	8
olume of Topsoil to be removed from site lass of Topsoil to be removed from site	m³ Tonnes	0	0	0	0	0	0	0	6,120 4,100
lumber of topsoil removal movements	-	0	0	0	0	0	0	0	206
Number of HGV movements	-	0	0	0	0	0	0	0	1,058
				T			1		
aul Road Construction	Units	Landfall HDD	1	2A	2B	3A	3B	4A	4B and Substation Zone
laul road length lumber of passing places required	m	0	2428 28	2904 34	582 7	86 1	1728 20	1135 0	400
lumber of HGV Turning Areas olume of Sub-base stone required	- m³	0	0 2,177	0 2,613	0 527	0 77	1 1,588	0 1,532	0 540
lass of sub-base stone required lumber of sub-base stone deliveries	Tonnes	0	5,006 251	6,010 301	1,213 61	178 9	3,652 183	3,524 177	1,242 63
olume of Crusher Run stone required lass of Crusher Run stone requirec	m³ Tonnes	0	1,451 3,047	1,742 3,658	352 738	52 108	1,059 2,223	1,022 2,145	360 756
lumber of Crusher Run stone deliveries	-	0	153	183	37	6	112	108	38
ourface area Mass of geogrid required	m² Tonnes	0 0.00	14,510 3.19	17,420 3.83	3,515 0.77	515 0.11	10,586 2.33	10,215 2.25	3,600 0.79
lumber of geogrid deliveries	-	0	2	2	1	1	2	2	1
ength of stock proof fencing required	m	63.8	4,919.8	5,871.8	1,227.8	235.8	3,519.8	2,333.8	863.8
lumber of Stockproof fencing deliveries	-	0	2	2	1	1	1	1	1
ength of tarmac haul road rea of tarmac haul road	m m²	0	0	0	0	0	0	453 4,077	0
olume of Sub-base stone lass of stone	m³ Tonnes	0	0	0	0	0	0	917.325 2,110	0
lumber of stone deliveries	•	0	0	Ō	Ō	Ō	Ō	106	0
olume of Asphall	m³	0	0	0	0	0	0	1,019	0
lass of Asphalt lumber of Asphalt Deliveries	Tonnes -	0	0	0 0	0 0	0 0	0 0	2,405 121	0
temoval of haul road movements	-	0	408	488	100	17	298	515	103
Number of HGV movements	-	0	816	976	200	34	596	1,030	206
		1		I	I				
CS Construction	Units	Landfall HDD 1.0	1 1.0	2A	2B	3A 0.0	3B	4A	4B and Substation Zone
lumber of CCS	m			1.0	1.0		1.0		1.0
Compound Hard Standing Surface Area	m² m³	5525	5525	5525	1975	0	1.0 1975	1.0 10600	1.0 11050
compound Hard Standing Surface Area folume of Sub-base stone required lass of sub-base stone required	m² m³ Tonnes	5525 829 1,906	5525 829 1,906	5525 829 1,906	296 681	0 0 0	1975 296 681	1.0 10600 1,590 3,657	1.0 11050 1,658 3,812
ompound Hard Standing Surface Area olume of Sub-base stone required lass of sub-base stone required umber of sub-base stone deliveries	m³ Tonnes -	5525 829 1,906 96	5525 829 1,906 96	5525 829 1,906 96	296 681 35	0 0 0 0	1975 296 681 35	1.0 10600 1,590 3,657 183	1.0 11050 1,658 3,812 191
compound Hard Standing Surface Area olume of Sub-base stone required lass of sub-base stone required umber of sub-base stone deliveries olume of Crusher Run stone required	m³ Tonnes - m³	5525 829 1,906 96	5525 829 1,906 96	5525 829 1,906	296 681	0 0 0	1975 296 681	1.0 10600 1,590 3,657	1.0 11050 1,658 3,812
ompound Hard Standing Surface Area olume of Sub-base stone required lass of sub-base stone required umber of sub-base stone deliveries	m³ Tonnes -	5525 829 1,906 96	5525 829 1,906 96	5525 829 1,906 96	296 681 35	0 0 0 0	1975 296 681 35	1.0 10600 1,590 3,657 183	1.0 11050 1,658 3,812 191
compound Hard Standing Surface Area olume of Sub-base stone required lass of sub-base stone required lumber of sub-base stone requires olume of Crusher Run stone requirec lass of Crusher Run stone requirec lumber of Crusher Run stone requirec lumber of Crusher Run stone deliveries lass of Crusher Run stone deliveries lass of order Run stone deliveries	m³ Tonnes - m³	5525 829 1,906 96 553 1,160 59	5525 829 1,906 96 553 1,160 59	5525 829 1,906 96 553 1,160 59	296 681 35 198 415 21	0 0 0 0 0	1975 296 681 35 198 415 21	1.0 10600 1,590 3,657 183 1,060 2,226 112	1.0 11050 1.658 3.812 191 1,105 2,321 117
compound Hard Standing Surface Area Olume of Sub-base stone required lass of sub-base stone required unther of sub-base stone deliveries Olume of Crusher Run stone requirec lass of Crusher Run stone requirec Unther of Crusher Run stone requirec Unther of Crusher Run stone deliveries lass of Grusher Run stone deliveries lass of geogrid required Uniber of geogrid deliveries	m³ Tonnes m³ Tonnes Tonnes Tonnes	5525 829 1,906 96 553 1,160 69	5525 829 1,906 96 553 1,160 69	5525 829 1,906 96 553 1,160 59	296 681 35 198 415 21 0.43	0 0 0 0 0 0 0 0	1975 296 681 35 198 415 21 0.43	1.0 10600 1,590 3,657 183 1,060 2,226 112 2.33 2	1.0 11050 1.658 3.812 191 1,105 2,321 117 2,43 2
compound Hard Standing Surface Area Olume of Sub-base stone required lass of sub-base stone required lass of sub-base stone required Unumber of sub-base stone deliveries Olume of Crusher Run stone requirec lass of Crusher Run stone requirec Unumber of Crusher Run stone deliveries lass of geogrid required Unumber of Grusher Run stone deliveries compound Tarmac Surface Area Olume of Sub-base stone	m³ Tonnes m³ Tonnes . Tonnes . Tonnes . m² m² m³	5525 829 1,906 96 553 1,160 59 1,22 1	5525 829 1,906 96 553 1,160 59 1,22 1	5525 829 1,906 96 553 1,160 59 1.22 1	296 681 35 198 415 21 0.43 1	0 0 0 0 0 0 0	1975 296 681 35 198 415 21 0.43 1	1.0 10600 1.590 1.590 3.657 183 1.060 2.226 112 2.33 2 3000 675	1.0 11050 11050 1,658 3,812 191 1,105 2,321 117 2,43 2
compound Hard Standing Surface Area olume of Sub-base stone required lass of sub-base stone required lumber of Sub-base stone required lumber of Sub-base stone deliveries olume of Crusher Run stone requirec lass of Crusher Run stone requirec lumber of Crusher Run stone deliveries umber of Crusher Run stone deliveries lumber of Louder Sub-base stone lumber of geogrid deliveries compound Tarmac Surface Area olume of Sub-base stone lass of stone	m³ Tonnes m³ Tonnes Tonnes Tonnes m²	5525 829 1,906 96 553 1,160 59 1,22 1	5525 829 1,906 96 553 1,160 59 1,22 1	5525 829 1,906 96 553 1,160 59 1,22 1	296 681 35 198 415 21 0.43 1 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0	1975 296 681 35 198 415 21 0.43 1 0 0 0	1.0 10600 1.590 1.590 3.657 183 1.060 2.226 112 2.33 2 3000 675 1.553	1.0 11050 1.658 3.812 191 1,105 2,321 117 2.43 2 0 0
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				1	T	1	T		
Marine Electrical Cables	Units	Landfall HDD	1	2A	2B	3A	3B	4A	4B and Substation Zone
Length of Marine HDD	m	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!
Total Length of Marine Electrical Cable required	m	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!
Total number of drums	-	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!
Number of HGV movements	-	0	0	0	0	0	0	0	0
Marine Fibre Cables	Units	Landfall HDD	1	2A	2B	3A	3B	4A	4B and Substation Zone
Length of cable route	m	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!
Total Length of Terrestrial Cable Required	m	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!
Total number of drums	-	0	0	0	0	0	0	0	0
Number of HGV movements	-	0	0	0	0	0	0	0	0
Terrestrial Electrical Cables	Units	Landfall HDD	1	2A	2B	3A	3B	4A	4B and Substation Zone
Length of cable route	m	0	2485	2296	582	86	1728	1588	326
Total Length of Terrestrial Cable Required	m	0.0	14910.0	13776.0	3492	516.0	10368.0	9528.0	1956.0
Total number of drums	-	0	29.82	27.552	6.984	1.032	20.736	19.056	3.912
Number of HGV movements		0	30	28	7	2	21	20	4
					-				
Terrestrial Fibre Cables	Units	Landfall HDD	1	2A	2B	3A	3B	4A	4B and Substation Zone
Length of cable route	m	0	2485	2296	582	86	1728	1588	326
Total Length of Terrestrial Cable Required	m	0	4970	4592	1164	172	3456	3176	652
Total number of drums	-	0	2.485	2.296	0.582	0.086	1.728	1.588	0.326
Number of HGV movements	-	0	3	3	1	1	2	2	1
		1			1			1	
Cable Joint Kits	Units	Landfall HDD	1	2A	2B	3A	3B	4A	4B and Substation Zone
Number of joint bays required	-	0	10	10	4	0	6	8	0
Total number of kits required	-	0	30	30	12	0	18	24	0
Number of HGV movements		0	10	10	4	0	6	8	0
Protective Covers	Units	Landfall HDD	1	2A	2B	3A	3B	4A	4B and Substation Zone
Total length of protective covers	m	0	8312	9184	2328	344	6912	6352	1304
Total number of protetive covers	-	0	8312	9184	2328	344	6912	6352	1304
Number of HGV movements	-	0	11	12	3	1	9	8	2
Trench (Cable Ducts)	Units	Landfall HDD	1	2A	2B	3A	3B	4A	4B and Substation Zone
Length of Trenching	m	0	2078	2296	582	86	1728	1588	326
Total length of trenching	m	0	4156	4592	1164	172	3456	3176	652
Total CBS volume	m³	0	1,296	1,432	363	54	1,078	991	203
CBS mass CBS number of deliveries	Tonnes	0	2074 104	2291 115	581 30	86 5	1725 87	1585 80	325 17
CBS number of deliveries	•	U	104	115	30		8/	80	17
Total exported native soil volume	m³	0	2300.346	2541.672	644.274	95.202	1912.896	1757.916	360.882
Total exported native soil mass	Tonnes	ō	4600.692	5083.344	1288.548	190.404	3825.792	3515.832	721.764
Total exported native soil number of deliveries	-	0	231	255	65	10	192	176	37
Number of HGV movements	-	0	335	370	95	15	279	256	54
		1		Г	T	Т		1	
Cable Ducts To Install In Trench	Units	Landfall HDD	1	2A	2B	3A	3B	4A	4B and Substation Zone
Total length of 250mm ducting	m	0	12468	13776	3492	516	10368	9528	1956
Total length of 110mm ducting	m	0	4156	4592	1164	172	3456	3176	652
Number of 250mm cable duct packs required	-	0	130	144	37	6	108	100	21
Number of 110mm cable duct packs	-	0	8	9	3	1	7	6	2
Number of HGV movements	-	0	35	39	10	2	29	27	6
					1				
				1	2B	3A	3B	4A	4B and Substation Zone
Bentonite (cable installation in Tench Ducts)	Units	Landfall HDD	1	2A		JA	36		
Volume of fluid required for export cable	m³	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Volume of fluid required for export cable Volume of fluid required for fibre cable	m³ m³	0.00	0.00	0.00 0.00	0.00 0.00	0.00	0.00 0.00	0.00 0.00	0.00
Volume of fluid required for export cable Volume of fluid required for fibre cable Total mass of bentonite required	m³	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00
Volume of fluid required for export cable Volume of fluid required for fibre cable Total mass of bentonite required Number of bags required	m³ m³	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00
Volume of fluid required for export cable Volume of fluid required for fibre cable Total mass of bentonite required Number of bags required	m³ m³ kg	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00
Volume of fluid required for export cable Volume of fluid required for fibre cable Total mass of bentonite required Number of bags required Number of Jose Required Number of	m³ m³ kg -	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0
Volume of fluid required for export cable Volume of fluid required for fibre cable Total mass of bentonite required Number of bags required Number of bentonite deliveries Water required	m³ m³ kg - - m³	0.00 0.00 0.00 0.00 0	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0	0.00 0.00 0.00 0.00 0.00 0	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0
Volume of fluid required for export cable Volume of fluid required for fibre cable Total mass of bentonite required Number of bags required Number of Jose Required Number of	m³ m³ kg -	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0

Jointing Bays Construction	Units	Landfall HDD	1	2A	2B	3A	3B	4A	4B and Substation Zone
Number of jointing bays	-	0	10	10	4	0	6	8	0
Total Jointing bay concrete volume (m³)	m³	0	90	90	36	0	54	72	0
Number of concrete deliveries	-	0	15	15	6	0	9	12	0
Total Number of blocks	-	0	13,940	13,940	5,576	0	8,364	11,152	0
Number of block movements	-	0	47	47	19	0	28	38	0
Total number of slabs	-	0	0	0	0	0	0	0	0
Number of slab movements	-	0	0	0	0	0	0	0	0
Total Native soil to be disposed of	m³	0	765	765	306	0	459	612	0
Total Native Soil Tonnage	Tonnes	0	4,590	4,590	1,836	0	2,754	3,672	0
Number of native soil movements	-	0	230	230	92	0	138	184	0
Total Steel reinforcement (t)	Tonnes	0	5.85	5.85	2.34	0	3.51	4.68	0
Number of steel deliveries	-	0	1	1	1	0	1	1	0
Number of HGV movements	-	0	293	293	118	0	176	235	0
								•	
Fransition Bays Construction	Units	Landfall HDD	1	2A	2B	3A	3B	4A	4B and Substation Zone
Number of transition bays	-	2	0	0	0	0	0	0	0
otal Transition bay concrete volume	m³	50.4	0	0	0	ő	ő	0	0
Number of concrete deliveries	"-	9	0	0	Ö	Ö	0	0	Ö
		,		i	i i	, i	•	•	
Total Number of blocks	_	4,392	0	0	0	0	0	0	0
Number of block movements	-	4,392	0	0	0	0	0	0	0
runner of block movements	-	10	U	U	U	U	U	U	U
Total number of slabs		84	0	0	0	0	0	0	0
Total number of slabs Number of slab movements		84 21	0	0	0	0	0	0	0
vumber of SIAD Movements	-	∠1	U	U	U	U	U	U	U
Fatal Mating poil to be disposed of	9	450.0	•	_			_	_	
Total Native soil to be disposed of	m³	453.6	0	0	0	0	0	0	0
Total Native Soil Tonnage	Tonnes	907.2	0	0			0	0	0
Number of native soil movements	-	46	0	0	0	0	0	0	0
Total Steel reinforcement (t)	Tonnes	3.276	0	0	0	0	0	0	0
Number of steel deliveries	-	1	0	0	0	0	0	0	0
Number of HGV movements	-	92	0	0	0	0	0	0	0
Landfall HDDs	Units	Landfall HDD	1	2A	2B	3A	3B	4A	4B and Substation Zone
Number of Landfall HDD locations	-	1	0	0	0	0	0	0	0
Compound Surface Area	m²	7000	0	0	0	0	0	0	0
Volume of Sub-base stone required	m³	1,050	0	0	0	0	0	0	0
Mass of sub-base stone required	Tonnes	2,415	0	0	0	0	0	0	0
Number of sub-base stone deliveries	-	121	0	0	0	0	0	0	0
				0	0	0	0		0
Volume of Crusher Run stone required	m³	700	0			U		0	
Mass of Crusher Run stone required	m³ Tonnes	700 1,470	0	0	0	0	0	0	0
Mass of Crusher Run stone required									
Mass of Crusher Run stone required	Tonnes	1,470	0	0	0	0	0	0	0
Mass of Crusher Run stone requirec Number of Crusher Run Stone deliveries	Tonnes -	1,470 74	0	0	0	0	0	0	0
Mass of Crusher Run stone requirec Number of Crusher Run Stone deliveries Mass of geogrid required	Tonnes	1,470	0	0	0	0	0	0	0
Mass of Crusher Run stone requirec Number of Crusher Run Stone deliveries Mass of geogrid required	Tonnes - Tonnes	1,470 74 1.54	0 0 0.00	0 0 0.00	0 0	0 0 0	0 0	0 0 0.00	0 0 0.00
Mass of Crusher Run stone requirec Jumber of Crusher Run Stone deliveries Mass of geogrid required Jumber of geogrid deliveries	Tonnes - Tonnes	1,470 74 1.54	0 0 0.00	0 0 0.00	0 0	0 0 0	0 0	0 0 0.00	0 0 0.00
Alass of Crusher Run stone requirec flumber of Crusher Run Stone deliveries Alass of geogrid required flumber of geogrid deliveries ength of security fencing requirec	Tonnes - Tonnes -	1,470 74 1.54 1	0 0 0.00	0 0 0.00	0 0 0.00 0	0 0 0 0.00	0 0 0 0.00	0 0 0.00	0 0 0.00
Mass of Crusher Run stone requirec Jumber of Crusher Run Stone deliveries Mass of geogrid required Jumber of geogrid deliveries Length of security fencing requirec Jumber of fencing panels required	Tonnes - Tonnes m	1,470 74 1.54 1 340 98	0 0 0 0 0	0.00 0	0.00 0 0	0.00 0 0	0 0 0 0 0 0	0 0 0 0 0 0	0 0 0 0 0 0
Mass of Crusher Run stone requirec Number of Crusher Run Stone deliveries Mass of geogrid required Number of geogrid deliveries Length of security fencing requirec Number of flencing panels required	Tonnes - Tonnes - m	1,470 74 1.54 1	0 0 0 0.00 0	0 0 0.00 0	0.00 0	0 0 0 0.00 0	0.00 0	0 0 0.00 0	0.00 0
Mass of Crusher Run stone requirec Jumber of Crusher Run Stone deliveries Mass of geogrid required Jumber of geogrid deliveries Length of security fencing requirec Jumber of fencing panels required Jumber of fencing	Tonnes Tonnes m	1,470 74 1.54 1 340 98	0 0 0.00 0 0	0 0 0.00 0 0	0 0 0 0 0 0	0 0 0 0 0 0	0 0 0.00 0 0	0 0 0.00 0	0 0 0.00 0 0
Alass of Crusher Run stone requirec Jumber of Crusher Run Stone deliveries Alass of geogrid required Jumber of geogrid deliveries Length of security fencing requirec Jumber of fencing panels required Jumber of fencing panels deliveries	Tonnes - Tonnes m	1,470 74 1.54 1 340 98	0 0 0 0 0	0.00 0	0.00 0 0	0.00 0 0	0 0 0 0 0 0	0 0 0 0 0 0	0 0 0 0 0 0
Alass of Crusher Run stone requirec Jumber of Crusher Run Stone deliveries Jass of geogrid required Jumber of geogrid deliveries Length of security fencing requirec Jumber of fencing panels required Jumber of fencing panel deliveries Jemoval of compound movements	Tonnes Tonnes m	1,470 74 1,54 1 1,54 1 1 340 98 1	0 0 0.00 0 0	0 0 0 0 0 0 0	0 0 0.00 0 0 0	0 0 0.00 0 0 0 0	0 0 0.00 0 0 0 0	0 0 0.00 0 0 0 0	0 0 0.00 0 0
Mass of Crusher Run stone requirec Number of Crusher Run Stone deliveries Mass of geogrid required Number of geogrid deliveries Length of security fencing requirec Number of fencing panels required Number of fencing panel deliveries Removal of compound movements Length of Landfall HDD	Tonnes Tonnes m	1,470 74 1.54 1 340 98 1 197	0 0 0 0 0 0 0 0 0	0 0 0.00 0 0	0 0 0.00 0 0 0	0 0 0.000 0 0 0 0	0 0 0.00 0 0	0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0
Mass of Crusher Run stone requirec Number of Crusher Run Stone deliveries Mass of geogrid required Number of geogrid deliveries Length of security fencing requirec Number of fencing panels required Number of fencing panels deliveries Removal of compound movements Length of Landfall HDD Total Number of HDDs	Tonnes Tonnes m m m	1,470 74 1,54 1 340 98 1 1 197	0 0 0 0 0 0 0	0 0 0 0 0 0	0 0 0 0 0	0 0 0 0 0 0 0 0 0 0	0 0 0 0	0 0 0.00 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
Mass of Crusher Run stone requirec Number of Crusher Run Stone deliveries Mass of geogrid required Number of geogrid deliveries Length of security fencing requirec Number of fencing panels required Number of fencing panel deliveries Removal of compound movements Length of Landfall HDD Total Number of HDDs Total Inumber of HDDs	Tonnes Tonnes m - m m m m m	1,470 74 1.54 1 340 98 1 197 1300 4 5200	0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0	0 0 0.00 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0	0 0 0.00 0 0 0 0	0 0 0 0 0 0 0 0 0 0	0.000 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
Mass of Crusher Run stone requirec Jumber of Crusher Run Stone deliveries Mass of geogrid required Jumber of geogrid deliveries Length of security fencing requirec Jumber of fencing panels required Jumber of fencing panels deliveries Removal of compound movements Length of Landfall HDD Total Number of HDDS Total Number of HDDS Total Ingight of HDD Total Ingight of HDD Total Ingight of HDD Total Ingight of HDD	Tonnes Tonnes m m m m m m m m	1,470 74 1,54 1 1,54 1 1 340 98 1 1 197 1300 4 5200 #DIVIOI	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
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Medium Length Onshore HDD Drilling Compound	Units	Landfall HDD	1	2A	2B	3A	3B	4A	4B and Substation Zone
Number of Medium Length HDD Drilling Compounds	-	0	1	0	0	0	0	0	0
Compound Surface Area	m²	0	6300	0	0	0	0	0	0
Volume of Sub-base stone required	m³	0	945	0	0	0	0	0	0
Mass of sub-base stone required	Tonnes	0	2.174	0	0	0	0	0	0
Number of sub-base stone deliveries		0	109	0	0	0	0	0	0
Volume of Crusher Run stone required	m³	0	630	0	0	0	0	0	0
Mass of Crusher Run stone required	Tonnes	0	1,323	0	0	0	0	0	0
Number of Crusher Run Stone deliveries	-	0	67	0	0	0	0	0	0
Mass of geogrid required	Tonnes	0.00	1.39	0.00	0.00	0.00	0.00	0.00	0.00
Number of geogrid deliveries		0	1	0	0	0	0	0	0
Length of security fencing required	m	0	320	0	0	0	0	0	0
Number of fencing panels required	-	0	92	0	0	0	0	0	0
Number of fencing panel deliveries		0	1	0	0	0	0	0	0
Removal of compound movements	-	0	178	0	0	0	0	0	0
Total length of medium length HDD	m	0	407	0	0	0	0	0	0
Total Number of HDDs		0	9	0	0	0	0	0	0
Total length of HDD	m	0	3663	0	0	0	0	0	0
Number of HDPE ducting required	-	0	366.3	0	0	0	0	0	0
Number of HDPE duct deliveries		0	15	0	0	0	0	0	0
Volume of excavated material	m³	0.00	460.31	0.0	0.00	0.00	0.00	0.00	0.00
Total Native Soil Tonnage	Tonnes	0.0	920.6	0.0	0.0	0.0	0.0	0.0	0.0
Number of excavated material deliveries (off site)		0	47	0	0	0	0	0	0
Drill fluid required for drilling	m³	0	690	0	0	0	0	0	0
Number of water deliveries	-	0	24	0	0	0	0	0	0
Volume of drill fluid removed from site	m³	0	410	0	0	0	0	0	0
Number of waste drill fluid deliveries	-	0	14	0	0	0	0	0	0
Total mass of bentonite required for drilling	kg	0	25547.0	0	0	0	0	0	0
Number of bags required	-	0	1022	0	0	0	0	0	0
Number of bentonite deliveries	-	0	5	0	0	0	0	0	0
Number of HGV movements	-	0	461	0	0	0	0	0	0
Medium Length Onshore HDD Exit Pit Compound	Units	Landfall HDD	1	2A	2B	3A	3B	4A	4B and Substation Zone
Number of Medium Length HDD Exit Pit Compounds	-	0	0	1	0	0	0	0	0
Compound Surface Area	m²	0	0	2700	0	0	0	0	0
Volume of Sub-base stone required	m³	0	0	405	0	0	0	0	0
Mass of sub-base stone required	Tonnes	0	Ö	932	Ö	Ö	0	Ö	Ö
Number of sub-base stone deliveries		0	0	47	0	0	0	0	0
Volume of Crusher Run stone required	m³	0	0	270	0	0	0	0	0
Mass of Crusher Run stone required	Tonnes	0	0	567	0	0	0	0	0

Medium Length Onshore HDD Exit Pit Compound	Units	Landfall HDD	1	2A	2B	3A	3B	4A	4B and Substation Zone
Number of Medium Length HDD Exit Pit Compounds	-	0	0	1	0	0	0	0	0
Compound Surface Area	m²	0	0	2700	0	0	0	0	0
Volume of Sub-base stone required	m³	0	0	405	0	0	0	0	0
Mass of sub-base stone required	Tonnes	0	0	932	0	0	0	0	0
Number of sub-base stone deliveries	-	0	0	47	0	0	0	0	0
Volume of Crusher Run stone required	m³	0	0	270	0	0	0	0	0
Mass of Crusher Run stone requirec	Tonnes	0	0	567	0	0	0	0	0
Number of Crusher Run Stone deliveries	-	0	0	29	0	0	0	0	0
Mass of geogrid required	Tonnes	0.00	0.00	0.59	0.00	0.00	0.00	0.00	0.00
Number of geogrid deliveries		0	0	1	0	0	0	0	0
Length of security fencing required	m	0	0	240	0	0	0	0	0
Number of fencing panels required	-	0	0	69	0	0	0	0	0
Number of fencing panel deliveries		0	0	1	0	0	0	0	0
Removal of compound movements	-	0	0	78	0	0	0	0	0
Number of HGV movements	-	0	0	156	0	0	0	0	0

Short Length Onshore HDD Drilling Compound	Units	Landfall HDD	1	2A	2B	3A	3B	4A	4B and Substation Zone
Number of Short Length HDD Drilling Compounds	-	0	0	0	0	0	0	0	0
Compound Surface Area	m²	0	0	0	0	0	0	0	0
Volume of Sub-base stone required	m³	0	0	0	0	0	0	0	0
Mass of sub-base stone required	Tonnes	0	0	0	0	0	0	0	0
Number of sub-base stone deliveries	-	0	0	0	0	0	0	0	0
Volume of Crusher Run stone required	m³	0	0	0	0	0	0	0	0
Mass of Crusher Run stone required	Tonnes	0	0	0	0	0	0	0	0
Number of Crusher Run Stone deliveries	-	0	0	0	0	0	0	0	0
Mass of geogrid required	Tonnes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Number of geogrid deliveries	-	0	0	0	0	0	0	0	0
Length of security fencing required	m	0	0	0	0	0	0	0	0
Number of fencing panels required	-	0	0	0	0	0	0	0	0
Number of fencing panel deliveries	-	0	0	0	0	0	0	0	0
Removal of compound movements		0	0	0	0	0	0	0	0
Total length of short length HDE	m	0	0	0	0	0	0	0	0
Total Number of HDDs		0	0	0	0	0	0	0	0
Total length of HDD	m	0	0	0	0	0	0	0	0
Number of HDPE ducting required	-	0	0	0	0	0	0	0	0
Number of HDPE duct deliveries	-	0	0	0	0	0	0	0	0
Volume of excavated material	m³	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Native Soil Tonnage	Tonnes	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Number of excavated material deliveries (off site)	-	0	0	0	0	0	0	0	0
Drill fluid required for drilling	m³	0.0	0.0	0.0	0.0	0	0	0	0
Number of water deliveries	-	0	0	0	0	0	0	0	0
Volume of drill fluid removed from site	m³	0.0	0.0	0.0	0.0	0	0	0	0
Number of waste drill fluid deliveries		0	0	0	0	0	0	0	0
Total mass of bentonite required	kg	0.0	0.0	0.0	0.0	0	0	0	0
Number of bags required	-	0.0	0.0	0.0	0.0	0	0	0	0
Number of bentonite deliveries	-	0	0	0	0	0	0	0	0
Number of HGV movements	_	0	0	0	0	0	0	0	n

Short Length Onshore HDD Exit Pit Compound	Units	Landfall HDD	1	2A	2B	3A	3B	4A	4B and Substation Zone
Number of Short Length HDD Exit Pit Compounds	-	0	0	0	0	0	0	0	0
Compound Surface Area	m²	0	0	0	0	0	0	0	0
Volume of Sub-base stone required	m³	0	0	0	0	0	0	0	0
Mass of sub-base stone required	Tonnes	0	0	0	0	0	0	0	0
Number of sub-base stone deliveries	•	0	0	0	0	0	0	0	0
Volume of Crusher Run stone required	m³	0	0	0	0	0	0	0	0
Mass of Crusher Run stone required	Tonnes	0	0	0	0	0	0	0	0
Number of Crusher Run Stone deliveries	-	0	0	0	0	0	0	0	0
Mass of geogrid required	Tonnes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Number of geogrid deliveries	-	0	0	0	0	0	0	0	0
Length of security fencing required	m	0	0	0	0	0	0	0	0
Number of fencing panels required	-	0	0	0	0	0	0	0	0
Number of fencing panel deliveries	-	0	0	0	0	0	0	0	0
Removal of compound movements	-	0	0	0	0	0	0	0	0
Number of HGV movements	-	0	0	0	0	0	0	0	0

Substation Compound Earthworks, Road and Hardstanding	Units	Landfall HDD	1	2A	2B	3A	3B	4A	4B and Substation Zone
Number of Substation Operational Compounds		0	0	0	0	0	0	0	1
Length of Tarmac Road	m	0.0	0.0	0.0	0.0	0.0	0.0	0.0	900.0
Surface area of tarmac road	m²	0	0	0	0	0	0	0	4,050
Volume of Sub-base stone for tarmac road	m³	0	0	0	0	0	0	0	911
Mass of stone for tarmac road	Tonnes	0	0	0	0	0	0	0	2,096
Area of concrete slab	m²	0	0	0	0	0	0	0	32,050
Volume of Sub-base stone for concrete slab	m³	0	0	0	0	0	0	0	4,808
Mass of stone for Sub-base	Tonnes	0	0	0	0	0	0	0	11,057
Number of stone deliveries	-	0	0	0	0	0	0	0	658
Volume of Asphalt	m³	0	0	0	0	0	0	0	1,013
Mass of Asphalt	Tonnes	0	0	0	0	0	0	0	2,390
Number of Asphalt Deliveries	-	0	0	0	0	0	0	0	120
Volume of concrete required	m³	0	0	0	0	0	0	0	4,808
Number of Concrete deliveries	-	0	0	0	0	0	0	0	802
Volume of Topsoil to be removed from Substation Site (earthworks)	m³	0	0	0	0	0	0	0	10,731
Mass of Topsoil to be removed from site	Tonnes	0	0	0	0	0	0	0	7,190
Number of topsoil removal movements	-	0	0	0	0	0	0	0	360
Volume of Sub-soil to be removed from site Substation Site (earthworks)	m³	0	0	0	0	0	0	0	763
Mass of Sub-soil to be removed from site	Tonnes	0	0	0	0	0	0	0	1,527
Number of Sub-soil removal movements	-	0	0	0	0	0	0	0	77
Length of permanent security fencing required	m	0.0	0.0	0.0	0.0	0.0	0.0	0.0	760.0
Number of fencing panels required		0	0	0	0	0	0	0	218
Number of fencing panel deliveries	-	0	0	0	0	0	0	0	2
Number of HGV movements	-	0	0	0	0	0	0	0	2.019

Project Substation - National Grid Connection	Units	Landfall HDD	4	2A	2B	3A	3B	4A	4B and Substation Zone
Total Length of Trenching	Units	Landfall HDD	1	2A 0	28	3A	3B 0	4A	4B and Substation Zone
Total CBS volume	m³	0	0	0	0	0	0	0	17
CBS mass	Tonnes	0	0	0	0	0	0	0	28
CBS number of deliveries		0	0	0	0	0	0	0	20
CBS number of deliveries	-	- 0	· ·	0	U	U		U	2
Total exported native soil volume	m³	0.00	0.00	0.00	0.00	0.00	0.00	0.00	27.55
Total exported native soil mass	Tonnes	0	0	0	0	0	0	0	55.1
Total exported native soil number of deliveries		0	0	0	0	0	0	0	3
Total Length of 400kV Cable Required	m	0.0	0.0	0.0	0.0	0.0	0.0	0.0	120.0
Total number of 400kV Cable drums	-	0	0	0	0	0	0	0	1
Total length of fibre cable required	m	0.0	0.0	0.0	0.0	0.0	0.0	0.0	160.0
Total number of fiber cable drums	-	0	0	0	0	0	0	0	1
Total length of ECC cable required	m	0	0	0	0	0	0	0	40
Total number of ECC cable drums	-	0	0	0	0	0	0	0	1
Total number of cable drum deliveries	-	0	0	0	0	0	0	0	3
Number of cable cover tiles required		0	0	0	0	0	0	0	120
Total Cable tile deliveries	-	0	ŏ	0	0	0	0	0	120
Total Cable tile deliveries	-	U	U	U	U	U	U	U	1
Total length of 200mm cable ducting (for 400kV cable)	m	0	0	0	0	0	0	0	120
Total length of 110mm Fibre cable ducting	m	0	0	0	0	0	0	0	40
Total length of 32mm fibre cable ducting	m	0	0	0	0	0	0	0	160
Total length of 110mm ECC cable ducting	m	0	0	0	0	0	0	0	40
Number of 400kV cable duct packs required	-	0	0	0	0	0	0	0	1
Number of 110mm Fibre cable duct packs required	-	0	0	0	0	0	0	0	1
Number of 32mm fibre cable duct coils required	-	0	0	0	0	0	0	0	1
Number of 110mm ECC cable duct packs required.	-	0	0	0	0	0	0	0	1
Number of duct pack / duct coil deliveries	-	0	0	0	0	0	0	0	1
Volume of fluid required for export cable	m³	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Volume of fluid required for fibre cable	m³	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Volume of fluid required for 32mm fibre ducts	m³	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Volume of fluid for ECC Cable	m³	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total mass of bentonite required	kg	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Number of bags required	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Number of bentonite deliveries		0	0	0	0	0	0	0	0
Water required	m³	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Number of water deliveries	- "	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Number of HGV movements		, ,	0	0	0	<u> </u>	0	0	10

Miscellaneous allowances and total HGV estimates

Activity	Units	Value	Comment
Access from Public Road HGV Movements	%	25	If unfavourable ground is found thicker sub-base may be required
Permanent Haul Road HGV Movements	%	25	If unfavourable ground is found thicker sub-base may be required
Total haul road construction HGV movements	%	20	If unfavourable ground is found geogrid / geotextiles can be introduced which will reduce stone depth therefore low risk of significant increase in vehicle moveme
Total CCS Construction HGV movements	%	20	If unfavourable ground is found geogrid / geotextiles can be introduced which will reduce stone depth therefore low risk of significant increase in vehicle moveme
Total HGV Holding Area at Elm Tree Farm HGV Movements	%	20	If unfavourable ground is found geogrid / geotextiles can be introduced which will reduce stone depth therefore low risk of significant increase in vehicle moveme
Total Marine Electrical Cable HGV Movements	%	0	Worst case already assumed -1300m of cable required
Total Marine Fibre Cable HGV Movements	%	0	Worst case already assumed - separate fibre cable required
Total Terrestrial Electrical Cable HGV Movements	%	0	Worst case already assumed - 1 cable per delivery
Total Terrestrial Fibre Cable HGV Movements	%	0	Worst case already assumed - 1 cable per delivery
Total cable joint kits HGV movements	%	0	Worst case already assumed - 1 delivery per JB.
Total tile HGV movements	%	0	Tile Specs TBC
Total trench HGV movements	%	50	If unfavourable ground is encountered trench sides can be battered back to 1/3 therefore increased CBS required and more natural soils to be remove
Total cable duct HGV movements	%	15	Nominal percentage for damage to ducts
Bentonite (cable Installation in Ducts) HGV Movement	%	10	Nominal percentage for spillages and waste
Jointing bay HGV movements	%	0	Worst case already assumed
Transition bay HGV movements	%	0	Worst case already assumed
Landfall HDD HGV movements	%	25	Possible occurrence of poor ground conditions at HDD locations.
Medium Length Onshore HDD Drilling Compound HGV movements	%	25	Possible occurrence of poor ground conditions at HDD locations.
Medium Length Onshore HDD Exit Pit Compound HGV movements	%	25	Possible occurrence of poor ground conditions at HDD locations.
Short Length Onshore HDD Drilling Compound HGV movements	%	25	Possible occurrence of poor ground conditions at HDD locations.
Short Length Onshore HDD Exit Pit Compound HGV movements	%	25	Possible occurrence of poor ground conditions at HDD locations.
Substation Compound Earthworks and Surface HGV Movements	%	25	Possible occurrence of poor ground conditions at HDD locations.
Project Substation - National Grid Connection	%	50	If unfavourable ground is encountered trench sides can be battered back to 1/3 therefore increased CBS required and more natural soils to be remove

otal Vehicle Movmenets (with miscellaneous allowances)	Landfall HDD	1	2A	2B	3A	3B	4A	4B and Substation Zor
ccess from Public Road HGV Movements	0	65	65	0	65	123	65	37
ermanent Haul Road HGV Movements	0	0	0	0	0	0	0	1,323
otal haul road construction HGV movements	0	980	1,172	240	41	716	1,236	248
otal CCS Construction HGV movements	380	380	380	142	0	142	1,119	749
otal HGV Holding Area at Elm Tree Farm HGV Movements	0	0	0	0	0	0	0	0
otal Marine Electrical Cable HGV Movements	0	0	0	0	0	0	0	0
otal Marine Fibre Cable HGV Movements	0	0	0	0	0	0	0	0
otal Terrestrial Electrical Cable HGV Movements	0	30	28	7	2	21	20	4
otal Terrestrial Fibre Cable HGV Movements	0	3	3	1	1	2	2	1
otal cable joint kits HGV movements	0	10	10	4	0	6	8	0
otal tile HGV movements	0	11	12	3	1	9	8	2
otal trench HGV movements	0	503	555	143	23	419	384	81
otal cable duct HGV movements	0	41	45	12	3	34	32	7
entonite (cable Installation in Ducts) HGV Movement	0	0	0	0	0	0	0	0
pinting bay HGV movements	0	293	293	118	0	176	235	0
ransition bay HGV movements	92	0	0	0	0	0	0	0
andfall HDD HGV movements	1,943	0	0	0	0	0	0	0
ledium Length Onshore HDD Drilling Compound HGV movements	0	577	0	0	0	0	0	0
ledium Length Onshore HDD Exit Pit Compound HGV movements	0	0	195	0	0	0	0	0
hort Length Onshore HDD Drilling Compound HGV movements	0	0	0	0	0	0	0	0
hort Length Onshore HDD Exit Pit Compound HGV movements	0	0	0	0	0	0	0	0
ubstation Compound Earthworks and Surface HGV Movements	0	0	0	0	0	0	0	2,524
roject Substation - National Grid Connectior	0	0	0	0	0	0	0	15
Grand total deliveries	2,415	2,893	2,758	670	136	1,648	3,109	4,991
Grand total (two way movements)	4,830	5,786	5,516	1,340	272	3,296	6,218	9,982
ercentage increase in Two Way Vehicle Movements	23.1	22.5	22.3	20.5	27.1	23.5	21.0	24.4

Substation Parameters

Building	Height (m)	Length (m)	Width (m)	Area (m²)	Number of
Control Building	6.00	40.00	25.00	1000.00	1.00
Statcom/SVC Building	15.00	30.00	22.00	660.00	2.00
GIS Building	15.00	40.00	20.00	800.00	1.00
Shunt Reactor	8.00	18.00	12.00	216.00	2.00

Other Structures	Height (m)	Length (m)	Width (m)	Area (m²)	Number of	Loading Weight (t)
External Blast Walls	16.00	26.00	0.30	N/A	0.00	N/A
Main Transformer	10.00	23.00	17.00	391.00	2.00	575.00
Auxiliary Transformer	5.00	6.00	3.00	18.00	2.00	15.00
Reactors + STATCOM equipment	15.00	25.00	20.00	500.00	2.00	100.00
Switch Board Assemblies	3.00	75.00	1.50	112.50	10.00	3.00
Control Panel assemblies	3.00	1.50	1.00	1.50	20.00	0.30
HPL Compact Breaker	3.00	14.00	0.60	8.40	12.00	1.50
HV Horizontal Line Disconnect Switch	12.00	0.50	0.50	0.25	10.00	0.30
HV Vertical break feeder disconnect switch	12.00	0.50	0.50	0.25	10.00	0.30
Emergency Diesel Generator	4.00	10.00	5.00	50.00	1.00	15.00
Emergency Diesel Fire Pump	1.00	2.50	2.00	5.00	2.00	20.00
Filter/Capacitor Bank	18.00	10.00	10.00	100.00	2.00	10.00

undations te slab within g	Description 5x5x1m deep RC concrete on a 25x8m grid plus ridge column at both gables	(kg/m²)	Total Volume (m³)	(m²)	(kg/m³)	Total Weight (t)	Material	Delivery	Movements	of unit	Movements
te slab within	25x8m grid plus ridge column at										
te slab within											
te slab within	both gables										
	1		350		2,400	840	Concrete	6	59	1	59
a											
J	200mm thick concrete slab	480	200	1,000	2,400	480	Concrete	6	34	1	34
	on 150mm thick type 1 sub base	345	180	1,200	2,300	414	Stone	20	21	1	21
concrete plinths for											
nent in building	TBC									1	0
	450mm deep x 600mm wide, 130m										
eter ground beam	long		35		2,400	84	Concrete	6	6	1	6
	20 1/0 :										
	-										
	-										
rame				1 000		90	Steel	12.5	7	1	7
anic		00		1,000		00	Oteel	12.5	/	- 1	1
ng	thick -	10		4 700		40	Cladding	40.5	0	4	2
			l	1 /80		18	Ciauuiilu	1/5			
ar	ne	80 kg/m2 includes secondary steel (purlins and cladding rails and door framing, and a 10% allowance for connections. Based on max 25m span and 8m bay centres, 6m ridge height. composite cladding panels 150mm	80 kg/m2 includes secondary steel (purlins and cladding rails and door framing, and a 10% allowance for connections. Based on max 25m span and 8m bay centres, 6m ridge height. 80 composite cladding panels 150mm	80 kg/m2 includes secondary steel (purlins and cladding rails and door framing, and a 10% allowance for connections. Based on max 25m span and 8m bay centres, 6m ridge height. 80 kg/m2 includes secondary steel (purlins and cladding rails and door framing, and a 10% allowance for connections. Based on max 25m span and 8m bay centres, 6m ridge height. 80 composite cladding panels 150mm	r ground beam long 35 80 kg/m2 includes secondary steel (purlins and cladding rails and door framing, and a 10% allowance for connections. Based on max 25m span and 8m bay centres, 6m ridge height. 80 1,000 composite cladding panels 150mm	r ground beam long 35 2,400 80 kg/m2 includes secondary steel (purlins and cladding rails and door framing, and a 10% allowance for connections. Based on max 25m span and 8m bay centres, 6m ridge height. 80 1,000 composite cladding panels 150mm	So kg/m2 includes secondary steel (purlins and cladding rails and door framing, and a 10% allowance for connections. Based on max 25m span and 8m bay centres, 6m ridge height. 80 1,000 80 80 80 80 80 80 80	So kg/m2 includes secondary steel	Record So Record Recor	r ground beam long 35 2,400 84 Concrete 6 6 80 kg/m2 includes secondary steel (purlins and cladding rails and door framing, and a 10% allowance for connections. Based on max 25m span and 8m bay centres, 6m ridge height. 80 1,000 80 Steel 12.5 7 composite cladding panels 150mm	r ground beam long 35 2,400 84 Concrete 6 6 6 1 80 kg/m2 includes secondary steel (purlins and cladding rails and door framing, and a 10% allowance for connections. Based on max 25m span and 8m bay centres, 6m ridge height. 80 1,000 80 Steel 12.5 7 1 composite cladding panels 150mm

			Unit Weight		Total Area	Density				HGV	Number	Total HGV
Building	Item	Description	(kg/m²)	Total Volume (m³)	(m²)	(kg/m³)	Total Weight (t)	Material	Delivery	Movements	of unit	Movements
3		4.5x4.5x1m deep RC concrete on a	,	` '	. ,	,	• • • • • • • • • • • • • • • • • • • •					
Statcom/SVC Building (total for		22x6m grid plus ridge column at										
1No.)	RC Pad foundations	both gables		284		2,400	680	Concrete	6	48	2	96
	Concrete ground bearing	a a a a game a		201		2,100	000			10		
	slab within building	200mm thick concrete slab	480	132	660	2,400	317	Concrete	6	22	2	44
		on 150mm thick type 1 sub base	345	119	792	2,300		Stone	20	14	2	28
	extra concrete plinths for	on roomin thek type i sub base	343	119	132	2,300	213	Otoric	20	14		20
	equipment in building	TBC									2	0
	equipment in banding	450mm deep x 600mm wide, 104m										U
	Perimeter ground beam	long		28		2,400	67	Concrete	6	5	2	10
	r crimeter ground bearn	long		20		2,400	07	OUTICICIE	0	J		10
		134 kg/m2 includes secondary steel										
		(purlins and cladding rails and door										
		framing, and a 10% allowance for										
		connections. Based on max 22m										
		span and 6m bay centres , 8m ridge										
	Steel frame	height.	134		660		88	Steel	12.5	8	2	16
	otoor name	composite cladding panels 150mm	104		000		00	0.001	12.0	O		10
	Cladding	thick -	10		2,220		22	Cladding	12.5	2	2	4
1									12.0	_	_	7
	Cladding	tinox -	10		_,0			Total /	100)	00	Total	400
	Clauding	unox -	10		_,0			Total (1no)	99	Total	198
	Clauding	unon -				Danaitu		Total (1no)			
			Unit Weight	T-4-1 V-1 (3)	Total Area	Density				HGV	Number	Total HGV
Building	Item	Description		Total Volume (m³)		Density (kg/m³)	Total Weight (t)					
Building		Description 5x5x1m deep RC concrete on a	Unit Weight	Total Volume (m³)	Total Area	•				HGV	Number	Total HGV
	Item	Description 5x5x1m deep RC concrete on a 20x8m grid plus ridge column at	Unit Weight		Total Area	(kg/m³)	Total Weight (t)	Material	Delivery	HGV Movements	Number	Total HGV Movements
	Item RC Pad foundations	Description 5x5x1m deep RC concrete on a	Unit Weight	Total Volume (m³)	Total Area	•				HGV	Number	Total HGV
	RC Pad foundations Concrete ground bearing	Description 5x5x1m deep RC concrete on a 20x8m grid plus ridge column at both gables	Unit Weight (kg/m²)	433	Total Area (m²)	(kg/m³) 2,400	Total Weight (t)	Material Concrete	Delivery	HGV Movements	Number	Total HGV Movements
	Item RC Pad foundations	Description 5x5x1m deep RC concrete on a 20x8m grid plus ridge column at both gables 200mm thick concrete slab	Unit Weight (kg/m²)	433 160	Total Area (m²)	2,400 2,400	Total Weight (t) 1,040 384	Material Concrete Concrete	Delivery 6	HGV Movements 73	Number	Total HGV Movements 73
	RC Pad foundations Concrete ground bearing slab within building	Description 5x5x1m deep RC concrete on a 20x8m grid plus ridge column at both gables	Unit Weight (kg/m²)	433	Total Area (m²)	(kg/m³) 2,400	Total Weight (t)	Material Concrete	Delivery	HGV Movements	Number	Total HGV Movements
	RC Pad foundations Concrete ground bearing slab within building extra concrete plinths for	Description 5x5x1m deep RC concrete on a 20x8m grid plus ridge column at both gables 200mm thick concrete slab on 150mm thick type 1 sub base	Unit Weight (kg/m²)	433 160	Total Area (m²)	2,400 2,400	Total Weight (t) 1,040 384	Material Concrete Concrete	Delivery 6	HGV Movements 73	Number	Total HGV Movements 73 27 17
	RC Pad foundations Concrete ground bearing slab within building	Description 5x5x1m deep RC concrete on a 20x8m grid plus ridge column at both gables 200mm thick concrete slab on 150mm thick type 1 sub base TBC	Unit Weight (kg/m²)	433 160	Total Area (m²)	2,400 2,400	Total Weight (t) 1,040 384	Material Concrete Concrete	Delivery 6	HGV Movements 73	Number	Total HGV Movements 73
	RC Pad foundations Concrete ground bearing slab within building extra concrete plinths for equipment in building	Description 5x5x1m deep RC concrete on a 20x8m grid plus ridge column at both gables 200mm thick concrete slab on 150mm thick type 1 sub base TBC 450mm deep x 600mm wide, 120m	Unit Weight (kg/m²)	433 160 144	Total Area (m²)	2,400 2,400 2,300	Total Weight (t) 1,040 384 331	Material Concrete Concrete Stone	6 6 20	HGV Movements 73 27 17	Number	Total HGV Movements 73 27 17
	RC Pad foundations Concrete ground bearing slab within building extra concrete plinths for	Description 5x5x1m deep RC concrete on a 20x8m grid plus ridge column at both gables 200mm thick concrete slab on 150mm thick type 1 sub base TBC	Unit Weight (kg/m²)	433 160	Total Area (m²)	2,400 2,400	Total Weight (t) 1,040 384	Material Concrete Concrete	Delivery 6	HGV Movements 73	Number	Total HGV Movements 73 27 17
	RC Pad foundations Concrete ground bearing slab within building extra concrete plinths for equipment in building	Description 5x5x1m deep RC concrete on a 20x8m grid plus ridge column at both gables 200mm thick concrete slab on 150mm thick type 1 sub base TBC 450mm deep x 600mm wide, 120m long	Unit Weight (kg/m²)	433 160 144	Total Area (m²)	2,400 2,400 2,300	Total Weight (t) 1,040 384 331	Material Concrete Concrete Stone	6 6 20	HGV Movements 73 27 17	Number	Total HGV Movements 73 27 17
	RC Pad foundations Concrete ground bearing slab within building extra concrete plinths for equipment in building	Description 5x5x1m deep RC concrete on a 20x8m grid plus ridge column at both gables 200mm thick concrete slab on 150mm thick type 1 sub base TBC 450mm deep x 600mm wide, 120m long 80 kg/m2 includes secondary steel	Unit Weight (kg/m²)	433 160 144	Total Area (m²)	2,400 2,400 2,300	Total Weight (t) 1,040 384 331	Material Concrete Concrete Stone	6 6 20	HGV Movements 73 27 17	Number	Total HGV Movements 73 27 17
	RC Pad foundations Concrete ground bearing slab within building extra concrete plinths for equipment in building	Description 5x5x1m deep RC concrete on a 20x8m grid plus ridge column at both gables 200mm thick concrete slab on 150mm thick type 1 sub base TBC 450mm deep x 600mm wide, 120m long 80 kg/m2 includes secondary steel (purlins and cladding rails and door	Unit Weight (kg/m²)	433 160 144	Total Area (m²)	2,400 2,400 2,300	Total Weight (t) 1,040 384 331	Material Concrete Concrete Stone	6 6 20	HGV Movements 73 27 17	Number	Total HGV Movements 73 27 17
	RC Pad foundations Concrete ground bearing slab within building extra concrete plinths for equipment in building	Description 5x5x1m deep RC concrete on a 20x8m grid plus ridge column at both gables 200mm thick concrete slab on 150mm thick type 1 sub base TBC 450mm deep x 600mm wide, 120m long 80 kg/m2 includes secondary steel (purlins and cladding rails and door framing, and a 10% allowance for	Unit Weight (kg/m²)	433 160 144	Total Area (m²)	2,400 2,400 2,300	Total Weight (t) 1,040 384 331	Material Concrete Concrete Stone	6 6 20	HGV Movements 73 27 17	Number	Total HGV Movements 73 27 17
	RC Pad foundations Concrete ground bearing slab within building extra concrete plinths for equipment in building	Description 5x5x1m deep RC concrete on a 20x8m grid plus ridge column at both gables 200mm thick concrete slab on 150mm thick type 1 sub base TBC 450mm deep x 600mm wide, 120m long 80 kg/m2 includes secondary steel (purlins and cladding rails and door framing, and a 10% allowance for connections. Based on max 20m	Unit Weight (kg/m²)	433 160 144	Total Area (m²)	2,400 2,400 2,300	Total Weight (t) 1,040 384 331	Material Concrete Concrete Stone	6 6 20	HGV Movements 73 27 17	Number	Total HGV Movements 73 27 17
	RC Pad foundations Concrete ground bearing slab within building extra concrete plinths for equipment in building Perimeter ground beam	Description 5x5x1m deep RC concrete on a 20x8m grid plus ridge column at both gables 200mm thick concrete slab on 150mm thick type 1 sub base TBC 450mm deep x 600mm wide, 120m long 80 kg/m2 includes secondary steel (purlins and cladding rails and door framing, and a 10% allowance for connections. Based on max 20m span and 8m bay centres, 15m	Unit Weight (kg/m²) 480 345	433 160 144	Total Area (m²) 800 960	2,400 2,400 2,300	Total Weight (t) 1,040 384 331	Material Concrete Concrete Stone Concrete	6 6 20	HGV Movements 73 27 17	Number	Total HGV Movements 73 27 17 0 6
	RC Pad foundations Concrete ground bearing slab within building extra concrete plinths for equipment in building	Description 5x5x1m deep RC concrete on a 20x8m grid plus ridge column at both gables 200mm thick concrete slab on 150mm thick type 1 sub base TBC 450mm deep x 600mm wide, 120m long 80 kg/m2 includes secondary steel (purlins and cladding rails and door framing, and a 10% allowance for connections. Based on max 20m span and 8m bay centres, 15m ridge height.	Unit Weight (kg/m²)	433 160 144	Total Area (m²)	2,400 2,400 2,300	Total Weight (t) 1,040 384 331	Material Concrete Concrete Stone	6 6 20	HGV Movements 73 27 17	Number	Total HGV Movements 73 27 17
	RC Pad foundations Concrete ground bearing slab within building extra concrete plinths for equipment in building Perimeter ground beam Steel frame	Description 5x5x1m deep RC concrete on a 20x8m grid plus ridge column at both gables 200mm thick concrete slab on 150mm thick type 1 sub base TBC 450mm deep x 600mm wide, 120m long 80 kg/m2 includes secondary steel (purlins and cladding rails and door framing, and a 10% allowance for connections. Based on max 20m span and 8m bay centres, 15m ridge height. composite cladding panels 150mm	Unit Weight (kg/m²) 480 345	433 160 144	Total Area (m²) 800 960	2,400 2,400 2,300	Total Weight (t) 1,040 384 331 78	Material Concrete Concrete Stone Concrete	6 6 20 6	HGV Movements 73 27 17 6	Number	73 27 17 0 6
Building GIS Building	RC Pad foundations Concrete ground bearing slab within building extra concrete plinths for equipment in building Perimeter ground beam	Description 5x5x1m deep RC concrete on a 20x8m grid plus ridge column at both gables 200mm thick concrete slab on 150mm thick type 1 sub base TBC 450mm deep x 600mm wide, 120m long 80 kg/m2 includes secondary steel (purlins and cladding rails and door framing, and a 10% allowance for connections. Based on max 20m span and 8m bay centres, 15m ridge height.	Unit Weight (kg/m²) 480 345	433 160 144	Total Area (m²) 800 960	2,400 2,400 2,300	Total Weight (t) 1,040 384 331	Material Concrete Concrete Stone Concrete	6 6 20 6 12.5	HGV Movements 73 27 17	Number	Total HGV Movements 73 27 17 0 6

			Unit Weight		Total Area	Density				HGV	Number	Total HGV
Building	Item	Description	(kg/m²)	Total Volume (m³)	(m²)	(kg/m³)	Total Weight (t)	Material	Delivery	Movements	of unit	Movements
		3x3x0.75m deep RC concrete on a										
		12x6m grid plus ridge column at										
Shunt Reactor	RC Pad foundations	both gables		68		2,400	162	Concrete	6	12	2	24
	Concrete ground bearing											
	slab within building	200mm thick concrete slab	480	43	216	2,400	104	Concrete	6	8	2	16
		on 150mm thick type 1 sub base	345	39	259	2,300	89	Stone	20	5	2	10
	extra concrete plinths for											
	equipment in building	TBC									2	0
		450mm deep x 600mm wide, 60m										
	Perimeter ground beam	long		16		2,400	39	Concrete	6	3	2	6
		80 kg/m2 includes secondary steel										
		(purlins and cladding rails and door										
		framing, and a 10% allowance for										
		connections. Based on max 12m										
		span and 6m bay centres , 8m ridge										
	Steel frame	height.	80		216		17	Steel	12.5	2	2	4
		composite cladding panels 150mm										
	Cladding	thick -	10		696		7	Cladding	12.5	1	2	2
			•				•	Total (*	1no)	31	Total	62

			Unit Weight		Total Area	Density				HGV	Number	Total HGV
Structure	Item	Description	(kg/m²)	Total Volume (m³)	(m²)	(kg/m³)	Total Weight (t)	Material	Delivery	Movements	of unit	Movements
	10 No. Blast walls between	16m high x 26m long x 450mm thick										
External blast walls	transformers	blast walls		187		2,400	449	Concrete	6	31	0.00	0
	·							Total (lno)	31	Total	0

			Unit Weight		Total Area	Density				HGV	Number	Total HGV
Structure/Bases	Item	Description	(kg/m²)	Total Volume (m³)	(m²)	(kg/m³)	Total Weight (t)	Material	Delivery	Movements	of unit	Movements
Main Transformer	RC Base/Foundation	1no. 23m x 17m x 450mm thick	1,080	175.95	391.00	2,400	422.28	Concrete	6	30	2	60
	Sub base	150mm thick type 1 sub base	345	70.38	469.20	2,300	161.87	Stone	20	9	2	18
Auxiliary Transformer	RC Base/Foundation	1no. 6m x 3m x 300mm thick	720	5.40	18.00	2,400	12.96	Concrete	6	1	2	2
	Sub base	150mm thick type 1 sub base	345	3.24	21.60	2,300	7.45	Stone	20	1	2	2
Reactors + STATCOM equipment	RC Base/Foundation	1no. 25m x 20m x 450mm thick	1,080	225.00	500.00	2,400	540.00	Concrete	6	38	2	76
	Sub base	150mm thick type 1 sub base	345	90.00	600.00	2,300	207.00	Stone	20	11	2	22
Switch Board Assemblies	RC Base/Foundation	1no. 75m x 1.5m x 300mm thick	720	33.75	112.50	2,400	81.00	Concrete	6	6	10	60
	Sub base	150mm thick type 1 sub base	345	20.25	135.00	2,300	46.58	Stone	20	3	10	30
Control Panel assemblies	RC Base/Foundation	1no. 1.5m x 1.5m x 300mm thick	720	0.45	1.50	2,400	1.08	Concrete	6	1	20	20
	Sub base	150mm thick type 1 sub base	345	0.27	1.80	2,300	0.62	Stone	20	1	20	20
HPL Compact Breaker	RC Base/Foundation	1no. 14m x 0.6m x 300mm thick	720	2.52	8.40	2,400	6.05	Concrete	6	1	12	12
	Sub base	150mm thick type 1 sub base	345	1.51	10.08	2,300	3.48	Stone	20	1	12	12
HV Horizontal Line Disconnect Switch	RC Base/Foundation	1no. 0.5m x 0.5m x 300mm thick	720	0.08	0.25	2,400	0.18	Concrete	6	1	10	10
	Sub base	150mm thick type 1 sub base	345	0.05	0.30	2,300	0.10	Stone	20	1	10	10
HV Vertical break feeder disconnect switch	RC Base/Foundation	1no. 0.5m x 0.5m x 300mm thick	720	0.08	0.25	2,400	0.18	Concrete	6	1	10	10
	Sub base	150mm thick type 1 sub base	345	0.05	0.30	2,300	0.10	Stone	20	1	10	10
Emergency Diesel Generator	RC Base/Foundation	1no. 10m x 5m x 450mm thick	720	15.00	50.00	2,400	36.00	Concrete	6	3	1	3
	Sub base	150mm thick type 1 sub base	345	9.00	60.00	2,300	20.70	Stone	20	2	1	2
Emergency Diesel Fire Pump	RC Base/Foundation	1no. 2.5m x 2m x 300mm thick	720	1.50	5.00	2,400	3.60	Concrete	6	1	2	2
	Sub base	150mm thick type 1 sub base	345	0.90	6.00	2,300	2.07	Stone	20	1	2	2
Filter/Capacitor Bank	RC Base/Foundation	1no. 10m x 10m x 300mm thick	720	30.00	100.00	2,400	72.00	Concrete	6	5	2	10
	Sub base	150mm thick type 1 sub base	345	18.00	120.00	2,300	41.40	Stone	20	3	2	6
								Total (100	122	Total	399

Total	920
ı Olai	320

Compound Welfare and Plant

General Data	Value	Source/Comments
Number of Welfare / Container Units Per Delivery	1	Worst Case
Number of plant per delivery	1	Worst Case
Frequency of Skip Emptying (weeks)	2	Assumed

Large CCS Requirements (Welfare and Operation Plant)	Value	Source/Comments
Site Office Unit	12	ED11892-GE-2058
Canteen Unit	4	ED11892-GE-2058
Tool Storage Unit	6	ED11892-GE-2058
Workshop Unit	2	ED11892-GE-2058
Mobile Toilet Unit	4	ED11892-GE-2058
Washing / Changing Unit	2	ED11892-GE-2058
First Aid Unit	1	ED11892-GE-2058
Drying Room Unit	2	ED11892-GE-2058
Freshwater Storage Container (2 per delivery)	4	ED11892-GE-2058
Foul Water Storage Container (2 per delivery)	4	ED11892-GE-2058
Bunded Fuel Tank (1 per delivery)	2	ED11892-GE-2058
Generator (2 per delivery)	4	ED11892-GE-2058
General Waste Skip (1 per delivery)	4	ED11892-GE-2058
Wheel Wash (assume 3 deliveries to mobilise)	1	ED11892-GE-2058
Weigh bridge (assume 3 deliveries to mobilise)	0	ED11892-GE-2058
Telehandler	2	
Road Sweeper	1	
Number of HGV Movements	51	

Medium CCS Requirements (Welfare and Operation Plant)	Value	Source/Comments
Site Office Unit	4	ED11892-GE-2057
Canteen Unit	2	ED11892-GE-2057
Tool Storage Unit	4	ED11892-GE-2057
Workshop Unit	1	ED11892-GE-2057
Mobile Toilet Unit	2	ED11892-GE-2057
Washing / Changing Unit	1	ED11892-GE-2057
First Aid Unit	0	ED11892-GE-2057
Drying Room Unit	1	ED11892-GE-2057
Freshwater Storage Container (2 per delivery)	2	ED11892-GE-2057
Foul Water Storage Container (2 per delivery)	2	ED11892-GE-2057
Bunded Fuel Tank (1 per delivery)	1	ED11892-GE-2057
Generator (2 per delivery)	2	ED11892-GE-2057
General Waste Skip (1 per delivery)	2	ED11892-GE-2057
Wheel Wash (assume 3 deliveries to mobilise)	1	ED11892-GE-2057
Weigh bridge (assume 3 deliveries to mobilise)	0	ED11892-GE-2057
Telehandler	1	
Road Sweeper	1	
Number of HGV Movements	26	

Small CCS Requirements (Welfare and Operation Plant)	Value	Source/Comments
Site Office Unit		
Canteen Unit	1	ED11892-GE-2056
Tool Storage Unit	2	ED11892-GE-2056
Workshop Unit		
Mobile Toilet Unit	1	ED11892-GE-2056
Washing / Changing Unit	1	ED11892-GE-2056
First Aid Unit		
Drying Room Unit	1	ED11892-GE-2056
Freshwater Storage Container (2 per delivery)	1	ED11892-GE-2056
Foul Water Storage Container (2 per delivery)	1	ED11892-GE-2056
Bunded Fuel Tank (1 per delivery)	1	ED11892-GE-2056
Generator (2 per delivery)	1	ED11892-GE-2056
General Waste Skip (1 per delivery)	1	ED11892-GE-2056
Wheel Wash (assume 3 deliveries to mobilise)		
Weigh bridge (assume 3 deliveries to mobilise)		
Telehandler	1	
Road Sweeper		
Number of HGV Movements	10.5	

Landfall LIDD Common Demoissance (Malfans and Consetion)		1
Landfall HDD Compound Requirements (Welfare and Operation Plant)	Value	Source/Comments
Site Office Unit	2	ED11892-GE-2016 Rev D
Canteen Unit / Lunch Room	2	ED11892-GE-2016 Rev D
Welfare Unit	2	ED11892-GE-2016 Rev D
Tool Storage Unit	2	ED11892-GE-2016 Rev D
Workshop Unit	2	ED11892-GE-2016 Rev D
Generator (2 per delivery)	2	
Freshwater Storage Container (2 per delivery)	2	
Foul Water Storage Container (2 per delivery)	2	
General Waste Skip (1 per delivery)	2	
Bunded Fuel Tank	2	ED11892-GE-2016 Rev D
Bentonite Storage Container	2	ED11892-GE-2016 Rev D
Mixing Tank	2	ED11892-GE-2016 Rev D
Cuttings Container	2	ED11892-GE-2016 Rev D
Drill Pipe Rack	8	ED11892-GE-2016 Rev D
Mud Pump	4	ED11892-GE-2016 Rev D
Power Pack	4	ED11892-GE-2016 Rev D
Driller's Cabin	4	ED11892-GE-2016 Rev D
HDD Rig	1	ED11892-GE-2016 Rev D
Telehandler	1	
Number of HGV Movements	45	

Onshore HDD Entry Pit Compound Requirements (Welfare and	\/-I	0
Operation Plant)	Value	Source/Comments
Site Office Unit	1	ED11892-GE-2017 Rev C
Canteen Unit / Lunch Room	1	ED11892-GE-2017 Rev C
Welfare Unit	1	ED11892-GE-2017 Rev C
Tool Storage Unit	1	ED11892-GE-2017 Rev C
Workshop Unit	1	ED11892-GE-2017 Rev C
Generator (2 per delivery)	1	
Freshwater Storage Container (2 per delivery)	1	
Foul Water Storage Container (2 per delivery)	1	
General Waste Skip (1 per delivery)	1	
Bunded Fuel Tank	1	ED11892-GE-2017 Rev C
Bentonite Storage Container	1	ED11892-GE-2017 Rev C
Mixing Tank	1	ED11892-GE-2017 Rev C
Cuttings Container	1	ED11892-GE-2017 Rev C
Drill Pipe Rack	9	ED11892-GE-2017 Rev C
Mud Pump	9	ED11892-GE-2017 Rev C + 2 Fibre drills per project
Power Pack	9	ED11892-GE-2017 Rev C + 2 Fibre drills per project
Driller's Cabin	9	ED11892-GE-2017 Rev C + 2 Fibre drills per project
HDD Rig	1	ED11892-GE-2017 Rev C + 2 Fibre drills per project
Telehandler	1	
Number of HGV Movements	50	

Onshore HDD Exit Pit Compound Requirements (Welfare and		
Operation Plant)	Value	Source/Comments
Site Office / Welfare Unit	2	
General Waste Skip (1 per delivery)	1	
Generator (2 per delivery)	2	
Tool Storage Unit	2	
Drill Pipe Rack	4	
Number of HGV Movements	10	

Substation Construction Compound Requirements (Welfare)	
and Operation Plant)	Value	Source/Comments
Site Office Unit	6	ED11892-GE-2059 + 2061
Canteen Unit	2	ED11892-GE-2059 + 2061
Tool Storage Unit	6	ED11892-GE-2059 + 2061
Workshop Unit	1	ED11892-GE-2059 + 2061
Mobile Toilet Unit	2	ED11892-GE-2059 + 2061
Washing / Changing Unit	1	ED11892-GE-2059 + 2061
First Aid Unit	0	ED11892-GE-2059 + 2061
Drying Room Unit	1	ED11892-GE-2059 + 2061
Freshwater Storage Container (2 per delivery)	2	ED11892-GE-2059 + 2061
Foul Water Storage Container (2 per delivery)	2	ED11892-GE-2059 + 2061
Bunded Fuel Tank (1 per delivery)	1	ED11892-GE-2059 + 2061
Generator (2 per delivery)	2	ED11892-GE-2059 + 2061
General Waste Skip (1 per delivery)	2	ED11892-GE-2059 + 2061
Telehandler	1	
Road Sweeper	1	
Number of HGV Movements	27	

Section	Landfall HDD	1	2A	2B	3A	3B	4A	4B and Substation Zone
Compound Welfare and Operation Plant Requirements	226	267	195	75	0	67	390	27
Grand total deliveries	226	267	195	75	0	67	390	27
Grand total (two way movements)	452	534	390	150	0	134	780	54

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Compound Welfare and Operation Plant Requirements	Units	Landfall HDD	1	2A	2B	3A	3B	4A	4B and Substation Zone
Number of Large CCS	-	0	0	0	0	0	0	1	0
Number of Medium CCS	-	1	1	1	0	0	0	0	0
Number of small CCS	-	0.0	0	0	1	0	1	0	0
Duration of Construction Consolidation Site	Weeks	52	100	108	108	0.0	92.0	144.0	0
Number of Skip Movements	-	52	100	108	54	0	46	288	0
Number of Landfall Compounds	-	1	0	0	0	0	0	0	0
Duration of Landfall Compound Usage	Weeks	32	0	0	0	0	0	0	0
Number of Skip Movements	-	32	0	0	0	0	0	0	
Number of Onshore HDD Drilling Compounds (medium and short leng	-	0	1	0	0	0	0	0	0
Combined Duration of Onshore HDD Drilling Compound Usage	Weeks	0	30	0	0	0	0	0	0
Number of Skip Movements	-	0	15	0	0	0	0	0	0
Number of HDD Exit Pit Compounds (medium and short length)	-	0	0	1	0	0	0	0	0
Combined Duration of Landfall Compound Usage	Weeks	0	0	30	0	0	0	0	0
Number of Skip Movements	-	0	0	15	0	0	0	0	0
Number of Substation Constuction Compounds	-	0	0	0	0	0	0	0	1
Duration of Substation Construction Compound Usage	Weeks	0	0	0	0	0	0	0	132
Number of Skip Movements	-	0	0	0	0	0	0	0	264
Number of HGV movements to Establish Compounds	-	71	76	36	11	0	11	51	27
Number of HGV movements to Demobilise Compounds	-	71	76	36	11	0	11	51	27
Total Number of Skip Movements	-	84	115	123	54	0	46	288	264
Total Number of Compound HGV Movements	-	226	267	195	75	0	67	390	318

National Grid Enabling Works

Reference	General Data (Fixed Information)	Units	Value	Source/Comments	
1.03	Tipper Truck Capacity	Tonnes	20	8x4 Rigid Tipper http://www.mqp.co.uk/vehicle.htm	
1.04	Ready Mix Concrete truck Capacity	m³	6	6m3 Truck mixer https://www.hanson.co.uk/en/technical-information/truck-information	
1.06	Type 1 Stone Density	t/m³	2.3	MOT Type 1 https://www.smithsbletchington.co.uk/mot-type-1	
1.07	Crusher Run Stone Density	t/m³	2.1	Crusher Run Stone https://www.smithsbletchington.co.uk/limestone-crusher-run	
1.08	Compound / Haul Road Type 1 Sub-base Thickness	m	0.15	Drawing ED11892-GE-2040 A	
1.09	Compound / Haul Road Crushed Stone Thickness	m	0.1	Drawing ED11892-GE-2040 A	
1.10	Geogrid mass/Area	kg/m²	0.22	Tensar SS20 https://www.drainagesuperstore.co.uk/user/u/files/jdp-tensar-geogrid.pdf	
1.11	Mass of geogrid per delivery	Tonnes	2	Assumed	
1.27	Heras Fencing Panel Hight	m	2	Heras HSG 151 Fencing https://www.heras-mobile.co.uk/fencing/151-system	
1.28	Heras Fencing Panel Width	m	3.5	Heras HSG 151 Fencing https://www.heras-mobile.co.uk/fencing/151-system	
1.29	Weight Per Panel	kg	16	Heras HSG 151 Fencing https://www.heras-mobile.co.uk/fencing/151-system	
1.30	No of panels per delivery	-	125	Assumed 2T of panelling per delivery (includes all required feet and connectors)	
1.33	Length of stock fencing roll	m	500	1.15 Cattle Fence https://www.jacksons-fencing.co.uk/fencing/agricultural-fencing/wire-fencing-stock	
1.34	Frequency of Wooden Post	m	5	Assumed	
1.35	Frequency of tension post (includes 2 stay posts)	m	50	Assumed	
1.36	Length of fencing (including required posts) per HGV Delivery	m	4000	Assumed	
3.61	Width of haul road / permanent access road	m	4.5	OPEDA / Project Parameters	
3.62	Minimum distance between Passing Places	m	87	ED11892-GE-2006	
3.63	Length of passing place	m	32	ED11892-GE-2006	
3.64	Width of passing place	m	4	ED11892-GE-2006	
3.65	Area of passing place	m²	128	Calculated (3.63 x 3.64)	
3.66	Volume of Type 1 Stone required per passing place	m³	19.2	Calculated (1.08 x 3.65)	
3.67	Volume of Crusher Run Stone Required per passing place	m³	12.8	Calculated (1.09 x 3.65)	

Reference	Access and Permanent Haul Road Data (Fixed Information)	Units	Value	Source/Comments	
4.01	Area of access tarmac surface	m²	170	ED11892-GE-2038 A	
4.02	Length of R2 8m external radi kerbing required per access	m	25	ED11892-GE-2038 A	
4.03	Maximum Length of K2 straight kerbing required per access	m	394.5	ED11892-GE-2038 A	
4.04	Length of one R2 8m external radi kerb	m	0.78	https://www.marshalls.co.uk/commercial/assets/documents/product-specifications/kerb07.pdf	
4.05	Length of one K2 straight kerb	m	0.914	https://www.marshalls.co.uk/commercial/assets/documents/product-specifications/kerb07.pdf	
4.06	Number of internal radi kerbs required per access	-	32	Calculated (4.02 / 4.04)	
4.07	Maximum Number of straigtht kerbs required per access	-	432	Calculated (4.03 / 4.05)	
4.08	Number of R2 8m external radi kerbs per pallet	-	10	Assumed	
4.09	Number of R2 straight kerbs per pallet	-	18	Assumed	
4.10	Number of kerb pallets per delivery	-	6	Assumed	
4.12	Maximum volume of concrete required for kerbing at each access	m³	33.2	Volume calculated from design drawing x length of kerbing required.	
4.13	Maximum Depth of Type 1 mortar required	m	0.04	Worst case Assumed	
4.14	Maximum Volume of Type 1 mortar required per access	m³	2.1	Calculated (125 x (4.02 + 4.02) x 4.13)	
4.15	Maximum Volume of cement required per access	m³	0.49	Type 1 mortar 1 part cement, 1/4 parts lime and 3 parts sand	
4.16	Density of cement	tonnes/m³	3.15		
4.17	Mass of cement required per access	tonnes	0.16	Calculated (4.15 / 4.16)	
4.18	Mass of cement per bag	kg	25	https://www.condell-ltd.com/full-pallet-general-purpose-cement-opc-25kg-60-per-pallet?gclid=EAlalQobChMImPHW447O2gIVB-MbCh2LUwy-EAQYBCABEgIQA_D_BwE	
4.19	Number of cement bags per pallet	-	60	https://www.condell-ltd.com/full-pallet-general-purpose-cement-opc-25kg-60-per-pallet?gclid=EAlalQobChMImPHW447O2gIVB-MbCh2LUwy-EAQYBCABEgIQA_D_BwE	
4.20	Maxiumum Volume of lime required per access	m³	0.12	Type 1 mortar 1 part cement, 1/4 parts lime and 3 parts sand	
4.21	Density of lime	tonnes/m³	2.21	https://www.slb.com/-/media/Files/miswaco/ps-drilling-fluids/lime.pdf?la=en&hash=2FD5F24971492980C016D52C63F7FFCC7B40F0A7	
4.22	Mass of lime required per access	tonnes	0.06	Calculated (4.20 / 4.21)	
4.23	Mass of lime per bag	kg	25	https://www.condell-ltd.com/rugby-lime-25kg?gclid=EAIaIQobChMI5suZyJDO2gIVQucbCh2r-wUAEAQYASABEgJRHPD_BwE	
4.24	Number of lime bags per pallet	-	60	Assumed	
4.25	Maxiumum Volume of sand required per access	m³	1.48	Type 1 mortar 1 part cement, 1/4 parts lime and 3 parts sand	
4.26	Density of sand	tonnes/m³	1.70	https://www.smithsbletchington.co.uk/mixed-building-sand	
4.27	Mass of sand required per access	tonnes	0.87	Calculated (4.25 / 4.26)	
4.28	Mass of sand per bag	Tonnes	0.9	https://www.condell-ltd.com/rugby-lime-25kg?gclid=EAlalQobChMI5suZyJDO2glVQucbCh2r-wUAEAQYASABEgJRHPD_BwE	
4.29	Number of cement pallets / lime pallets / sand bags per delivery	-	4	Assumed (assumes all three items can be delivered in same delivery	
4.30	Depth of sub-base beneth kerb	m	0.150	Assumed	
4.31	Maximum volume of sub-base beneath kerb	m³	25.17	Calculated from design drawing and length of kerbing.	
4.32	Permanent access road sub-base depth	m	0.225	Suffolk County Council Estate Road Specification	
4.33	Permanat access road Asphalt Depth	m	0.25	Suffolk County Council Estate Road Specification	
4.34	Bulk Density of Asphalt	tonnes/m³	2.36	https://www.engineeringtoolbox.com/density-solids-d_1265.html	
4.35	Width of Permanent Access Corridor	m	10.1		
4.36	Width of Access Road to Sealing End Compounds	m	3.7	Instruction from PRW email 25/04/2019	

Access From Public Road Construction	Units	Access to Pylons 16, 17 and 18	Access to Pylons 19 and 20	Access to Pylons 21, 22 and 23	
Number of accesses	m	0	0	0	
Area of tarmac surface	m²	0	0	0	
Volume of Sub-base stone (Type 1)	m³	0	0	0	
Mass of Type 1 stone required	Tonnes	0	0	0	
Number of Type 1 stone deliveries	-	0	0	0	
Volume of Asphalt	m³	0	0	0	
Mass of Asphalt	Tonnes	0	0	0	
Number of Asphalt Deliveries	-	0	0	0	
Number of R2 8m external radi kerbs	-	0	0	0	
Number of K2 straight kerbs	-	0	0	0	
Total number of pallets of kerbs	-	0	0	0	
Number of kerb deliveries	-	0	0	0	
Volume of concrete required	m³	0.0	0.0	0.0	
Number of concrete deliveries	-	0	0	0	
Volume of mortor requred	m³	0	0	0	
Mass of cement required	Tonnes	0.00	0.00	0.00	
Mass of lime required	Tonnes	0.00	0.00	0.00	
Mass of sand required	Tonnes	0.00	0.00	0.00	
Number of Cement pallets required	-	0	0	0	
Number of lime pallets required		0	0	0	
Number of sand bags required		0	0	0	
Number of cement pallet, lime pallet and sand bag deliveries		0	0	0	
Volume of Topsoil to be removed from site (permanent access only)	m³	0	0	0	
Mass of Topsoil to be removed from site (permanent access only)	Tonnes	0	0	0	
Number of topsoil removal movements (permanent access only)	-	0	0	0	
Removal of tempoary access movements	-	0	0	0	Tot
Number of HGV movements	-	0	0	0	0
Total Number of Two-way HGV movements	-	0	0	0	0

Haul Road Construction	Units	Access to Pylons 16, 17 and 18	Access to Pylons 19 and 20	Access to Pylons 21, 22 and 23
Haul road length	m	1100		
Number of passing places required	-	13	0	0
Volume of Sub-base stone required	m³	992	0	0
Mass of sub-base stone required	Tonnes	2,282	0	0
Number of sub-base stone deliveries	-	115	0	0
Volume of Crusher Run stone required	m³	661	0	0
Mass of Crusher Run stone required	Tonnes	1,389	0	0
Number of Crusher Run stone deliveries	-	70	0	0
Surface area	m²	6,614	0	0
Mass of geogrid required	Tonnes	1.46	0.00	0.00
Number of geogrid deliveries	-	1	0	0
Length of stock proof fencing required	m	2,209.0	9.0	9.0
Number of Stockproof fencing deliveries	-	1	1	1
Removal of haul road movements	-	187	1	1
Number of HGV movements	-	374	2	2
Total Number of Two-way HGV movements	-	748	4	4

Tarmac Haul Road Construction to Sealing End Compounds	Units	Location TBC
Haul road length	m	500
Surface area	m²	1,850
Volume of Sub-base stone for road	m³	417
Mass of stone	Tonnes	959
Number of stone deliveries	-	48
Volume of Asphalt	m³	463
Mass of Asphalt	Tonnes	1,092
Number of Asphalt Deliveries	-	55
Length of stock proof fencing required	m	1,000
Number of stock proof fencing deliveries	-	1
Volume of Topsoil to be removed from site	m³	833
Mass of Topsoil to be removed from site	Tonnes	558
Number of topsoil removal movements	-	28
Number of HGV movements	-	132
Total Number of Two-way HGV movements	-	264