The Sizewell C Project

8.14 Water Framework Directive Compliance Assessment Report Appendices 2A-2C

Revision:	1.0
Applicable Regulation:	Regulation 5(2)(q)
PINS Reference Number:	EN010012

May 2020

Planning Act 2008
Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009

APPENDIX 2A:

EXTENDED WATER BODY SUMMARY REPORTS

Contents

2A1 Alde and Ore (GB520503503800)

Extended Waterbody Summary Report

20 December 2018
11:34:06

Environment Agency

Waveney and East Suffolk Chalk & Crag

Please be aware that data is based on the best available information as of the date shown above, and may be subject to change

WATERBODY ID	GB40501G400600	CYCLE / LATEST VERSION	Cycle 2	2
TYPE	Groundwater	DESIGNATION	Not Applicable	
LENGTH (km)		EASTING	628292	
AREA (km2)		NORTHING	245384	
Alkalinity		CATCHMENT AREA (Ha)		

Geographical Boundaries	
EA AREA	Essex Norfolk and Suffolk
RBD	Anglian
MAN CATCHMENT	Anglian GW
OP CATCHMENT	Waveney and Suffolk East Chalk and Crag

Bathing Water Directive	Nitrates Directive	Safeguard Zone	Shellfish Water Directive	Freshwater Fish Directive	Habitats and Species Directive	Drinking Water Protected Area	Conservation of Wild Birds Directive
NO	YES	NO	NO	NO	NO	YES	NO

Classifications

Yea	Overall	Chemical	Quantitative	Trend Assessment	Supporting Elements (Groundwater)
2013	Poor	Poor	Poor	Upward	
2014	Poor	Poor	Poor	Upward	
2015	Poor	Poor	Poor	Upward	
2016	Poor	Poor	Poor	Upward	

Note: DNSG = 'Does Not Support Good', DNRA = 'Does Not Require Assessment'

Extended Waterbody Summary Report

20 December 2018
11:34:06

Waveney and East Suffolk Chalk & Crag

Please be aware that data is based on the best available information as of the date shown above, and may be subject to change

Objectives and Predicted Outcomes

Type	Overall	Chemical	Quantitative	Trend Assessment	Supporting Elements (Groundwater)
- Objective	Poor	Poor	Good		
- Objective Year	2015	2015	2027		
2021 - Predicted	Poor	Poor	Poor		
2027 - Predicted	Poor	Poor	Good		

Risks

Pressure Level

Risk	Elements
At Risk	
Not At Risk	
Probably At Risk	

Extended Waterbody Summary Report

20 December 2018
11:34:07

Waveney and East Suffolk Chalk & Crag

Please be aware that data is based on the best available information as of the date shown above, and may be subject to change

Element Level

Risk	Elements
At Risk	Abstraction impact on saline intrusion, Abstraction impact on surface water, General chemical assessment, Impact on Drinking Water protected areas, Overall chemical assessment, Overall quantitative assessment, Saline intrusion, Trend assessment
Not At Risk	Impact on surface water chemistry and ecology
Probably At Risk	Abstraction impact on dependent terrestrial ecocsystems, Abstraction impact on water balance, Impact on dependent terrestrial ecosystems

Waveney and East Suffolk Chalk & Crag

Please be aware that data is based on the best available information as of the date shown above, and may be subject to change

Reasons for not achieving Good

Significant Water Management Issue	Reason	Element	Sector/Business Category	Pressures
Diffuse source	Livestock	Chemical Drinking Water Protected A	Agriculture - Livestock Agriculture and rural land management	
Confirmed	**Confirmed**		**Confirmed**	
Diffuse source	Livestock	General Chemical Test	Agriculture - Livestock Agriculture and rural land management	
Confirmed	**Confirmed**		**Confirmed**	
Diffuse source	Livestock	Trend Assessment	Agriculture - Livestock Agriculture and rural land management	
Confirmed	**Confirmed**		**Confirmed**	
Flow	Groundwater abstraction	Quantitative Water Balance	Agriculture - Arable Agriculture and rural land management	
Suspected	**Suspected**		**Suspected**	
Flow	Surface water abstraction	Quantitative Water Balance	Agriculture - Arable Agriculture and rural land management	
Suspected	**Suspected**		**Suspected**	

Waterbody Level Measure Actions

Waveney and East Suffolk Chalk & Crag

Please be aware that data is based on the best available information as of the date shown above, and may be subject to change

Wider Area Measures Actions

Waveney and East Suffolk Chalk & Crag

Please be aware that data is based on the best available information as of the date shown above, and may be subject to change

Mitigation Measures (if applicable)

Monitoring Sites

2A2 Blyth (S) (GB510503503700)

Extended Waterbody Summary Report

20 December 2018
11:33:40

Environment Agency

BLYTH (S)

Please be aware that data is based on the best available information as of the date shown above, and may be subject to change

WATERBODY ID	GB510503503700	CYCLE / LATEST VERSION	Cycle 2	2
TYPE	Transitional	DESIGNATION	Heavily Modified	
LENGTH (km)		EASTING	646818	
AREA (km2)		NORTHING	275782	
Alkalinity		CATCHMENT AREA (Ha)		

Geographical Boundaries	
EA AREA	Essex Norfolk and Suffolk
RBD	Anglian
MAN CATCHMENT	Anglian TraC
OP CATCHMENT	Suffolk TraC

Bathing Water Directive	Nitrates Directive	Safeguard Zone	Shellfish Water Directive	Freshwater Fish Directive	Habitats and Species Directive	Drinking Water Protected Area	Conservation of Wild Birds Directive
NO	YES	NO	NO	NO	NO	NO	YES

Classifications

Year	Overall	Ecological	Chemical	MMA	Phytoplankton Blooms	Invertebrates	Fish	Seagrass	Saltmarsh	Flucoid Extent	Opportunistic Macroalgae	Rocky Shore Macroalgae	Dissolved Oxygen	DIN	Hydrological Regime	Specific Pollutants
2013	Moderate	Moderate	Good	Good									High		Sup Good	Moderate
2014	Moderate	Moderate	Good	Good									High	Moderate	Sup Good	Moderate
2015	Moderate	Moderate	Good	Good							Good		High	Moderate	Sup Good	
2016	Moderate	Moderate	Good	Good							Good		High	Moderate	Sup Good	

Note: DNSG = 'Does Not Support Good', DNRA = 'Does Not Require Assessment'

Extended Waterbody Summary Report

20 December 2018
11:33:41

Environment Agency

BLYTH (S)

Please be aware that data is based on the best available information as of the date shown above, and may be subject to change

Objectives and Predicted Outcomes

Overall	Ecological	Chemical	MMA	Phytoplankton Blooms	Invertebrates	Fish	Seagrass	Saltmarsh	Flucoid Extent	Macroalgae	Dissolved Oxygen	DIN	Hydrological Regime	Specific Pollutants
- Objective														
Moderate	Moderate	Good	Good							Good	Good	Moderate	Sup Good	Not assessed
- Objective Year														
2015	2015	2015	2015							2015	2015	2015	2015	2015
2021 - Predicted														
Moderate	Moderate	Good	Good							Good	High	Moderate	Sup Good	Not assessed
2027 - Predicted														
Moderate	Moderate	Good	Good							Good	High	Moderate	Sup Good	Not assessed

Risks

Pressure Level

Risk	Elements
At Risk	
Not Assessed	Eutrophication
Not At Risk	Abstraction & Flow
Probably At Risk	
Probably Not At Risk	

BLYTH (S)

Please be aware that data is based on the best available information as of the date shown above, and may be subject to change

Element Level

Risk	Elements
At Risk	Colonial tunicate (non-native Didemnum spp.), Overall INNS pressure
Not Assessed	Benzo(a)pyrene, Copper, Di(2-ethylhexyl)phthalate (DEHP), Fluoranthene, Mercury, Nonylphenol, Polybrominateddiphenylether (PBDE), Tributyltin (TBT), Triclosan
Not At Risk	Australian swamp stonecrop (Crassula helmsii), Curly water-thyme (Lagarosiphon major), Floating pennywort (Hydrocotyle ranunculoides), Giant hogweed (Heracleum mantegazzianum), Leathery sea squirt (Styela clava), Parrot's feather (Myriophyllum aquaticum), Water fern (Azolla filiculoides and Azolla caroliniana), Water primrose (Ludwigia grandiflora), Zebra mussel (Dreissena polymorpha)
Probably At Risk	Chinese mitten crab (Eriocheir sinensis), Zinc
Probably Not At Risk	American oyster drill (Urosalpinx cinerea), Cadmium, Canadian pondweed and Nuttall's pondweeds (Elodea Canadensis and Elodea nuttallii), Common carp (Cyprinus carpio), Common cord-grass, Townsend's grass or ricegrass (Spartina anglica), Freshwater amphipod (Dikerogammarus villosus), Giant knotweed (Fallopia sachalensis), Goldfish (Carassius auratus), Himalayan balsam (Impatiens glandulifera), Japanese knotweed (Fallopia japonica), Japanese knotweed/ Giant knotweed hybrid (Fallopia x bohemica), Lead, Marine tubeworm (Ficopomatus enigmaticus), Mysid crustacean (Hemimysis anomola), Nickel, North American signal crayfish (Pacifastacus leniusculus), Ponto Caspian shrimp (Dikerogammarus haemobaphes), Red swamp crayfish (Procambarus clarkii), Rhododendron (Rhododendron ponticum), Slipper limpet (Crepidula fornicata), Topmouth gudgeon (Pseudorasbora parva), Virile crayfish (Orconectes virilis)

BLYTH (S)

Please be aware that data is based on the best available information as of the date shown above, and may be subject to change

Reasons for not achieving Good

Significant Water Management Issue	Reason	Element	Sector/Business Category	Pressures
Diffuse source	Poor nutrient management	Dissolved Inorganic Nitrogen	Agriculture - Arable Agriculture and rural land management	
Suspected	**Suspected**		**Suspected**	
Other pressures	Unknown (pending investigation)	Dissolved Inorganic Nitrogen	Not applicable Unknown (pending investigation)	
Confirmed	Not applicable		Not applicable	
Point source	Sewage discharge (continuous)	Dissolved Inorganic Nitrogen	Waste water treatment Water Industry	
Suspected	**Suspected**		**Suspected**	

Waterbody Level Measure Actions

CPS Action ID	Title	Measure Aim	Easting/Northing	Action Status / EA Team
32919	Mitigation measures deemed to be in place fRBMP	**1. Mitigation Measure** **2.** **3.**		Completed (cost beneficial) AN Eastern, Catchment Delivery Team

Wider Area Measures Actions

BLYTH (S)

Please be aware that data is based on the best available information as of the date shown above, and may be subject to change

Extended Waterbody Summary Report

20 December 2018
11:33:42

BLYTH (S)

Please be aware that data is based on the best available information as of the date shown above, and may be subject to change

Mitigation Measures (if applicable)

Designated Hydromorph Use	Working with physical form and function													Structural modification							Operations and maintenance																									Water management					Habitat creation	Navigation		Education		Recreation
	1.Modify channel	2.Remove obsolete structure	3.Re-engineer river	4.Remove or soften hard bank	5.Preserve or restore habitats	6.In-channel morph diversity	7.Bank rehabilitation	8.Re-opening culverts	9.Alter culvert channel bed	10.Flood bunds	11.Set-back embankments	12.Floodplain connectivity	13.Realign flood defence	14.Modify structure	15.Flow manipulation	16.Fish passes	17.Fish pass flow releases	18.Reduce fish entrainment	19.Enhance ecology	20.Changes to locks etc	21.Avoid the need to dred	22.Dredging disposal strategy	23.Reduce impact of dredging	24.Reduce sediment resuspension	25.Retime dredging or disposal	26.Sediment management	27. Dredge disposal site sel	28.Manage disturbance	29.Sediment management regime	30.Manage artificial drawdown	31.Manage seasonal water levels	32.Phased de-watering	33.Selective vegetation control	34.Vegetation control	35.Vegetation control timing	36.Invasive species techniques	37.Retain habitats	38.Sediment management strategy	39.Maintain channel bed/margins	40.Woody debris	41.Water level management	42.Access to feeder-streams	43.Downstream flow regime	44.Flows to move sediment	45.Good downstream DO levels	46.Good downstream temperature	47.Align and attenuate flo	48.Indirect mitigation	49.Modify vessel design	50.Vessel Management	51.Boats in central track	52.Invasive species awareness	53.Boat wash awareness	54.Educate landowners	55.Recreation awareness	56.Enhance ecology (recre
Coast protection use	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56
	Not Applicable			Not Applicable	Not Applicable	Not Applicable	Not Applicable						Not Applicable			Not Applicable			Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable									Not Applicable											Not Applicable								
Flood protection use	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56
	Not Applicable			Not Applicable	In Place	Not Applicable	Not Applicable						Not Applicable			Not Applicable			Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable									Not Applicable											Not Applicable								

BLYTH (S)

Please be aware that data is based on the best available information as of the date shown above, and may be subject to change

Monitoring Sites

Site ID	Site Name	Site Type	Site Waterbody Link	Easting	Northing	Elements Monitored
168703	BLYTH (S) (WHOLE WB) MACROALGAE	BIOSYS	Site in water body	646800	275800	

Classifications

2A3 Leiston Beck (GB105035046271)

Extended Waterbody Summary Report

20 December 2018
11:28:48

Environment Agency

Leiston Beck

Please be aware that data is based on the best available information as of the date shown above, and may be subject to change

WATERBODY ID	GB105035046271	CYCLE / LATEST VERSION	Cycle 2	1
TYPE	River	DESIGNATION	Heavily Modified	
LENGTH (km)		EASTING	646927	
AREA (km2)		NORTHING	264490	
Alkalinity		CATCHMENT AREA (Ha)		

Geographical Boundaries	
EA AREA	Essex Norfolk and Suffolk
RBD	Anglian
MAN CATCHMENT	Suffolk East
OP CATCHMENT	Suffolk Coastal

Bathing Water Directive	Nitrates Directive	Safeguard Zone	Shellfish Water Directive	Freshwater Fish Directive	Habitats and Species Directive	Drinking Water Protected Area	Conservation of Wild Birds Directive
NO	YES	NO	NO	NO	YES	NO	YES

Classifications

Yea	Overall	Ecological	Chemical	MMA	Invertebrates	Fish	Macrophytes and Phytobenthos Combined	Phosphate	Ammonia	Dissolved Oxygen	pH	Hydrological Regime
2013	Moderate	Moderate	Good					Bad	High	Good	High	DNSG
2014	Moderate	Moderate	Good		Good			Bad	High	Good	High	DNSG
2015	Moderate	Moderate	Good	Mod/less	Good			Good	High	Good	High	Sup Good
2016	Moderate	Moderate	Good	Mod/less	Good			Poor	Good	Bad	High	Sup Good

Note: DNSG = 'Does Not Support Good', DNRA = 'Does Not Require Assessment'

Extended Waterbody Summary Report

20 December 2018
11:28:48

Environment Agency

Leiston Beck

Please be aware that data is based on the best available information as of the date shown above, and may be subject to change

Objectives and Predicted Outcomes

Type	Overall	Ecological	Chemical	MMA	Invertebrates	Fish	Macrophytes and Phytobenthos Combined	Phosphate	Ammonia	Dissolved Oxygen	pH	Hydrological Regime
- Objective	Good	Good	Good	Good	Good		Not assessed	Good	Good	Good	Good	Sup Good
- Objective Year	2027	2027	2015	2027	2015		2015	2015	2015	2015	2015	2015
2021 - Predicted	Moderate	Moderate	Good	Mod/less	Good		Not assessed	Good	High	Good	High	Sup Good
2027 - Predicted	Good	Good	Good	Good	Good		Not assessed	Good	High	Good	High	Sup Good

Risks

Pressure Level

Risk	Elements
At Risk	Abstraction & Flow, Physical modification
Not Assessed	Phosphorus
Not At Risk	Sediment
Probably At Risk	Abstraction & Flow, Eutrophication, Sanitary pollutants
Probably Not At Risk	

Leiston Beck

Please be aware that data is based on the best available information as of the date shown above, and may be subject to change

Element Level

Risk	Elements
At Risk	Curly water-thyme (Lagarosiphon major), Floating pennywort (Hydrocotyle ranunculoides), Freshwater amphipod (Dikerogammarus villosus), North American signal crayfish (Pacifastacus leniusculus), Overall INNS pressure, Water primrose (Ludwigia grandiflora)
Not Assessed	Fluoranthene
Not At Risk	American oyster drill (Urosalpinx cinerea), Australian swamp stonecrop (Crassula helmsii), Colonial tunicate (non-native Didemnum spp.), Common cord-grass, Townsend's grass or ricegrass (Spartina anglica), Giant knotweed (Fallopia sachalensis), Leathery sea squirt (Styela clava), Marine tubeworm (Ficopomatus enigmaticus), Parrot's feather (Myriophyllum aquaticum), Slipper limpet (Crepidula fornicata)
Probably At Risk	Benzo(a)pyrene, Curly water-thyme (Lagarosiphon major), Himalayan balsam (Impatiens glandulifera), Mysid crustacean (Hemimysis anomola), Polybrominateddiphenylether (PBDE), Ponto Caspian shrimp (Dikerogammarus haemobaphes), Red swamp crayfish (Procambarus clarkii), Topmouth gudgeon (Pseudorasbora parva), Virile crayfish (Orconectes virilis), Water fern (Azolla filiculoides and Azolla caroliniana), Water primrose (Ludwigia grandiflora)
Probably Not At Risk	Australian swamp stonecrop (Crassula helmsii), Cadmium, Canadian pondweed and Nuttall's pondweeds (Elodea Canadensis and Elodea nuttallii), Chinese mitten crab (Eriocheir sinensis), Common carp (Cyprinus carpio), Copper, Di(2-ethylhexyl)phthalate (DEHP), Giant hogweed (Heracleum mantegazzianum), Goldfish (Carassius auratus), Japanese knotweed (Fallopia japonica), Japanese knotweed/ Giant knotweed hybrid (Fallopia x bohemica), Lead, Mysid crustacean (Hemimysis anomola), Nickel, Nonylphenol, Parrot's feather (Myriophyllum aquaticum), Ponto Caspian shrimp (Dikerogammarus haemobaphes), Red swamp crayfish (Procambarus clarkii), Rhododendron (Rhododendron ponticum), Tributyltin (TBT), Triclosan, Zebra mussel (Dreissena polymorpha), Zinc

Leiston Beck

Please be aware that data is based on the best available information as of the date shown above, and may be subject to change

Reasons for not achieving Good

Significant Water Management Issue	Reason	Element	Sector/Business Category	Pressures
Physical modification	Other (not in list, must add details in com	Mitigation Measures Assessment	Not applicable Unknown (pending investigation)	Land drainage
Confirmed	Confirmed		Confirmed	
Point source	Sewage discharge (continuous)	Dissolved oxygen	Waste water treatment Water Industry	
Confirmed	Confirmed		Confirmed	
Point source	Sewage discharge (continuous)	Phosphate	Waste water treatment Water Industry	
Confirmed	Confirmed		Confirmed	

Waterbody Level Measure Actions

Wider Area Measures Actions

Leiston Beck

Please be aware that data is based on the best available information as of the date shown above, and may be subject to change

Extended Waterbody Summary Report

20 December 2018
11:28:49

Environment Agency

Leiston Beck

Please be aware that data is based on the best available information as of the date shown above, and may be subject to change

Mitigation Measures (if applicable)

Designated Hydromorph Use	Working with physical form and function													Structural modification							Operations and maintenance																					Water management						Habitat creation	Navigation		Education		Recreation	
	1.Modify channel	2.Remove obsolete structure	3.Re-engineer river	4.Remove or soften hard bank	5.Preserve or restore habitats	6.In-channel morph diversity	7.Bank rehabilitation	8.Re-opening culverts	9.Alter culvert channel bed	10.Flood bunds	11.Set-back embankments	12.Floodplain connectivity	13.Realign flood defence	14.Modify structure	15.Flow manipulation	16.Fish passes	17.Fish pass flow releases	18.Reduce fish entrainment	19.Enhance ecology	20.Changes to locks etc	21.Avoid the need to dred	22.Dredging disposal strategy	23.Reduce impact of dredging	24.Reduce sediment resuspension	25.Retime dredging or disposal	26.Sediment management	27. Dredge disposal site sel	28.Manage disturbance	29.Sediment management regime	30.Manage artificial drawdown	31.Manage seasonal water levels	32.Phased de-watering	33.Selective vegetation control	34.Vegetation control	35.Vegetation control timing	36.Invasive species techniques	37.Retain habitats	38.Sediment management strategy	39.Maintain channel bed/margins	40.Woody debris	41.Water level management	42.Access to feeder-streams	43.Downstream flow regime	44.Flows to move sediment	45.Good downstream DO levels	46.Good downstream temperature	47.Align and attenuate flo	48.Indirect mitigation	49.Modify vessel design	50.Vessel Management	51.Boats in central track	52.Invasive species awareness	53.Boat wash awareness	54.Educate landowners	55.Recreation awareness	56.Enhance ecology (recre
Land drainage	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56
	Not In Place			Not In Place	Not In Place	Not In Place		Not In Place	Not In Place	Not In Place	Not In Place	Not In Place				Not In Place		Not In Place	Not In Place	Not In Place													Not In Place	Not In Place	Not In Place	Not In Place	Not In Place	Not In Place	Not In Place	Not In Place	Not In Place						Not In Place						Not In Place		

Monitoring Sites

Site ID	Site Name	Site Type	Site Waterbody Link	Easting	Northing	Elements Monitored
MIN035	LEISTON BECK AT RECKHAM PITS WOOD BR.	WIMS	Site in water body	646130	263730	

Classifications

Ammonia (Phys-Chem)	Good
Dissolved oxygen	Bad
pH Lower	High
pH Upper	High

Leiston Beck

Please be aware that data is based on the best available information as of the date shown above, and may be subject to change

Phosphate	Poor
Temperature	High

149964	RECKFORD BRIDGE MACROPHYTE SURVEY SITE	BIOSYS	Unknown	643700	267700

Classifications

Macrophytes Sub Element	Moderate

54882	YOXFORD BRIDGE (A12)	BIOSYS	Unknown	639900	268900

Classifications

Invertebrates	Good

Extended Waterbody Summary Report

20 December 2018
11:28:50

Leiston Beck

Please be aware that data is based on the best available information as of the date shown above, and may be subject to change

54884	EAST BRIDGE	BIOSYS	Unknown	645300	266400

Classifications

Invertebrates	Good

2A4 Minsmere Old River (GB105035046270)

Extended Waterbody Summary Report

20 December 2018
11:29:16

Environment Agency

Minsmere Old River

Please be aware that data is based on the best available information as of the date shown above, and may be subject to change

WATERBODY ID	GB105035046270	CYCLE / LATEST VERSION	Cycle 2	2
TYPE	River	DESIGNATION	Heavily Modified	
LENGTH (km)		EASTING	646552	
AREA (km2)		NORTHING	266200	
Alkalinity		CATCHMENT AREA (Ha)		

Geographical Boundaries	
EA AREA	Essex Norfolk and Suffolk
RBD	Anglian
MAN CATCHMENT	Suffolk East
OP CATCHMENT	Suffolk Coastal

Bathing Water Directive	Nitrates Directive	Safeguard Zone	Shellfish Water Directive	Freshwater Fish Directive	Habitats and Species Directive	Drinking Water Protected Area	Conservation of Wild Birds Directive
NO	YES	NO	NO	NO	YES	NO	YES

Classifications

Yea	Overall	Ecological	Chemical	MMA	Invertebrates	Fish	Macrophytes and Phytobenthos Combined	Phosphate	Ammonia	Dissolved Oxygen	pH	Hydrological Regime
2013	Moderate	Moderate	Good	Mod/less					High	Good	High	Sup Good
2014	Moderate	Moderate	Good	Mod/less	Good				High	Good	High	Sup Good
2015	Moderate	Moderate	Good	Mod/less	Good	Poor		Good	High	Good	High	Sup Good
2016	Moderate	Moderate	Good	Mod/less	Good	Poor		Good	High	Good	High	Sup Good

Note: DNSG = 'Does Not Support Good', DNRA = 'Does Not Require Assessment'

Extended Waterbody Summary Report

20 December 2018
11:29:16

Environment Agency

Minsmere Old River

Please be aware that data is based on the best available information as of the date shown above, and may be subject to change

Objectives and Predicted Outcomes

Type	Overall	Ecological	Chemical	MMA	Invertebrates	Fish	Macrophytes and Phytobenthos Combined	Phosphate	Ammonia	Dissolved Oxygen	pH	Hydrological Regime
- Objective	Good	Good	Good	Good	Good	Poor	Not assessed	Good	Good	Good	Good	Sup Good
- Objective Year	2027	2027	2015	2027	2015	2015	2015	2015	2015	2015	2015	2015
2021 - Predicted	Moderate	Moderate	Good	Mod/less	Good	Poor	Not assessed	Good	High	Good	High	Sup Good
2027 - Predicted	Good	Good	Good	Good	Good	Poor	Not assessed	Good	High	Good	High	Sup Good

Risks

Pressure Level

Risk	Elements
At Risk	Physical modification
Not Assessed	Phosphorus
Not At Risk	Sanitary pollutants
Probably At Risk	Abstraction & Flow, Eutrophication, Sediment
Probably Not At Risk	Abstraction & Flow

Minsmere Old River

Please be aware that data is based on the best available information as of the date shown above, and may be subject to change

Element Level

Risk	Elements
At Risk	Curly water-thyme (Lagarosiphon major), Floating pennywort (Hydrocotyle ranunculoides), Freshwater amphipod (Dikerogammarus villosus), North American signal crayfish (Pacifastacus leniusculus), Overall INNS pressure, Water primrose (Ludwigia grandiflora)
Not Assessed	Fluoranthene
Not At Risk	American oyster drill (Urosalpinx cinerea), Australian swamp stonecrop (Crassula helmsii), Colonial tunicate (non-native Didemnum spp.), Common cord-grass, Townsend's grass or ricegrass (Spartina anglica), Giant knotweed (Fallopia sachalensis), Leathery sea squirt (Styela clava), Marine tubeworm (Ficopomatus enigmaticus), Parrot's feather (Myriophyllum aquaticum), Slipper limpet (Crepidula fornicata)
Probably At Risk	Benzo(a)pyrene, Curly water-thyme (Lagarosiphon major), Himalayan balsam (Impatiens glandulifera), Mysid crustacean (Hemimysis anomola), Polybrominateddiphenylether (PBDE), Ponto Caspian shrimp (Dikerogammarus haemobaphes), Red swamp crayfish (Procambarus clarkii), Topmouth gudgeon (Pseudorasbora parva), Virile crayfish (Orconectes virilis), Water fern (Azolla filiculoides and Azolla caroliniana), Water primrose (Ludwigia grandiflora)
Probably Not At Risk	Australian swamp stonecrop (Crassula helmsii), Cadmium, Canadian pondweed and Nuttall's pondweeds (Elodea Canadensis and Elodea nuttallii), Chinese mitten crab (Eriocheir sinensis), Common carp (Cyprinus carpio), Copper, Di(2-ethylhexyl)phthalate (DEHP), Giant hogweed (Heracleum mantegazzianum), Goldfish (Carassius auratus), Japanese knotweed (Fallopia japonica), Japanese knotweed/ Giant knotweed hybrid (Fallopia x bohemica), Lead, Mysid crustacean (Hemimysis anomola), Nickel, Nonylphenol, Parrot's feather (Myriophyllum aquaticum), Ponto Caspian shrimp (Dikerogammarus haemobaphes), Red swamp crayfish (Procambarus clarkii), Rhododendron (Rhododendron ponticum), Tributyltin (TBT), Triclosan, Zebra mussel (Dreissena polymorpha), Zinc

Minsmere Old River

Please be aware that data is based on the best available information as of the date shown above, and may be subject to change

Reasons for not achieving Good

Significant Water Management Issue	Reason	Element	Sector/Business Category	Pressures
Physical modification	Barriers - ecological discontinuity	Fish	Not applicable	Morphology
			Conservation	Not applicable
Confirmed	Confirmed		Confirmed	
Physical modification	Land drainage - operational management	Fish	Not applicable	Morphology
			Agriculture and rural land management	Not applicable
Suspected	Suspected		Suspected	
Physical modification	Other (not in list, must add details in com	Mitigation Measures Assessment		Land drainage
			Agriculture and rural land management	
Confirmed	Confirmed		Confirmed	

Waterbody Level Measure Actions

CPS Action ID	Title	Measure Aim	Easting/Northing	Action Status / EA Team
32945	Mitigation measures deemed to be in place fRBMP	1. Mitigation Measure 2. 3.		Completed (cost beneficial) AN Eastern, Catchment Delivery Team

Wider Area Measures Actions

Minsmere Old River

Please be aware that data is based on the best available information as of the date shown above, and may be subject to change

Extended Waterbody Summary Report

20 December 2018
11:29:18

Environment Agency

Minsmere Old River

Please be aware that data is based on the best available information as of the date shown above, and may be subject to change

Mitigation Measures (if applicable)

Designated Hydromorph Use	Working with physical form and function													Structural modification							Operations and maintenance																	Water management							Habitat creation		Navigation			Education			Recreation	
	1.Modify channel	2.Remove obsolete structure	3.Re-engineer river	4.Remove or soften hard bank	5.Preserve or restore habitats	6.In-channel morph diversity	7.Bank rehabilitation	8.Re-opening culverts	9.Alter culvert channel bed	10.Flood bunds	11.Set-back embankments	12.Floodplain connectivity	13.Realign flood defence	14.Modify structure	15.Flow manipulation	16.Fish passes	17.Fish pass flow releases	18.Reduce fish entrainment	19.Enhance ecology	20.Changes to locks etc	21.Avoid the need to dred	22.Dredging disposal strategy	23.Reduce impact of dredging	24.Reduce sediment resuspension	25.Retime dredging or disposal	26.Sediment management	27. Dredge disposal site sel	28.Manage disturbance	29.Sediment management regime	30.Manage artificial drawdown	31.Manage seasonal water levels	32.Phased de-watering	33.Selective vegetation control	34.Vegetation control	35.Vegetation control timing	36.Invasive species techniques	37.Retain habitats	38.Sediment management strategy	39.Maintain channel bed/margins	40.Woody debris	41.Water level management	42.Access to feeder-streams	43.Downstream flow regime	44.Flows to move sediment	45.Good downstream DO levels	46.Good downstream temperature	47.Align and attenuate flo	48.Indirect mitigation	49.Modify vessel design	50.Vessel Management	51.Boats in central track	52.Invasive species awareness	53.Boat wash awareness	54.Educate landowners	55.Recreation awareness	56.Enhance ecology (recre
Land drainage	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56
	Not In Place			Not In Place	Not In Place	Not In Place		Not In Place	Not In Place	Not In Place	Not In Place	Not In Place				Not In Place		Not In Place	Not In Place	Not In Place													In Place	In Place	In Place	In Place	Not In Place	In Place	Not In Place	Not In Place	Not In Place						Not In Place						Not In Place		

Monitoring Sites

Site ID	Site Name	Site Type	Site Waterbody Link	Easting	Northing	Elements Monitored
149964	RECKFORD BRIDGE MACROPHYTE SURVEY SITE	BIOSYS	Site in water body	643700	267700	River Macrophytes C1, River Invertebrates C1, River diatoms (Phytobenthos) C1

Classifications

Macrophytes Sub Element	Moderate

Minsmere Old River

Please be aware that data is based on the best available information as of the date shown above, and may be subject to change

54882	YOXFORD BRIDGE (A12)	BIOSYS	Site in water body	639900	268900	River Invertebrates C1, River Macrophytes C1, River diatoms (Phytobenthos) C1

Classifications

Invertebrates	Good

54884	EAST BRIDGE	BIOSYS	Site in water body	645300	266400	River Invertebrates C1, River Macrophytes C1, River diatoms (Phytobenthos) C1

Classifications

Invertebrates	Good

Minsmere Old River

Please be aware that data is based on the best available information as of the date shown above, and may be subject to change

47163	YOX & MINSMERE CATCHMENT/RIVER YOX / MINSMERE RIVER/A12	NFPD	Site in water body	639969	268929

Classifications

Minsmere Old River

Please be aware that data is based on the best available information as of the date shown above, and may be subject to change

632	BLYTH CATCHMENT/DUNWICH RIVER/BRIDGE FARM/	NFPD	Unknown	647300	270700	River Fish C1

Classifications

Barbel	Info
Bleak	Info
Bream	Info
Bullhead	Info
Carp	Info
Chub	Info
Dace	Info
Eel	Info
Fish	Poor
Grayling	Info
Gudgeon	Info
Lamprey	Info
Minnow	Info
Perch	Info
Pike	Info
Roach	Info
Rudd	Info
Ruffe	Info
Salmon	Info
Spined loach	Info
Stickleback	Info
Stone loach	Info
Tench	Info
Trout	Info

Minsmere Old River

Please be aware that data is based on the best available information as of the date shown above, and may be subject to change

MIN006	MINSMERE RIVER A12 RD.BR.YOXFORD	WIMS	Unknown	639900	268900	River Phys-Chem C1, River Chemicals C1

Classifications

Ammonia (Phys-Chem)	High
Biochemical Oxygen Demand (BOD)	High
Dissolved oxygen	Good
pH Lower	High
pH Upper	High
Phosphate	Good
Temperature	High

MIN010	MINSMERE RIVER RECKFORD BRIDGE	WIMS	Unknown	643700	267700	River Phys-Chem C1, River Chemicals C1

Classifications

Ammonia (Phys-Chem)	High
Dissolved oxygen	Good
pH Lower	High
pH Upper	High
Phosphate	Good
Temperature	High

Extended Waterbody Summary Report

20 December 2018
11:29:19

Minsmere Old River

Please be aware that data is based on the best available information as of the date shown above, and may be subject to change

MIN020	MINSMERE RIVER EAST BRIDGE	WIMS	Unknown	645300	266400	River Phys-Chem C1, River Chemicals C1

Classifications

Ammonia (Phys-Chem)	High
Dissolved oxygen	Poor
pH Lower	High
pH Upper	High
Phosphate	Good
Temperature	High

2A5 Suffolk (GB650503520002)

Extended Waterbody Summary Report

20 December 2018
11:31:48

Environment Agency

Suffolk

Please be aware that data is based on the best available information as of the date shown above, and may be subject to change

WATERBODY ID	GB650503520002	CYCLE / LATEST VERSION	Cycle 2	2
TYPE	Coastal	DESIGNATION	Heavily Modified	
LENGTH (km)		EASTING	646705	
AREA (km2)		NORTHING	252695	
Alkalinity		CATCHMENT AREA (Ha)		

Geographical Boundaries	
EA AREA	Essex Norfolk and Suffolk
RBD	Anglian
MAN CATCHMENT	Anglian TraC
OP CATCHMENT	Suffolk TraC

Bathing Water Directive	Nitrates Directive	Safeguard Zone	Shellfish Water Directive	Freshwater Fish Directive	Habitats and Species Directive	Drinking Water Protected Area	Conservation of Wild Birds Directive
YES	YES	NO	NO	NO	YES	NO	YES

Classifications

Year	Overall	Ecological	Chemical	MMA	Phytoplankton Blooms	Invertebrates	Fish	Seagrass	Saltmarsh	Flucoid Extent	Opportunistic Macroalgae	Rocky Shore Macroalgae	Dissolved Oxygen	DIN	Hydrological Regime	Specific Pollutants
2013	Moderate	Moderate	Good	Good	Good								High	Moderate		High
2014	Moderate	Moderate	Good	Good	Good								High	Moderate		High
2015	Moderate	Moderate	Good	Good	Good								High	Moderate		
2016	Moderate	Moderate	Good	Good	Good								High	Moderate		

Note: DNSG = 'Does Not Support Good', DNRA = 'Does Not Require Assessment'

Extended Waterbody Summary Report

20 December 2018
11:31:49

Suffolk

Please be aware that data is based on the best available information as of the date shown above, and may be subject to change

Objectives and Predicted Outcomes

Overall	Ecological	Chemical	MMA	Phytoplankton Blooms	Invertebrates	Fish	Seagrass	Saltmarsh	Flucoid Extent	Macroalgae	Dissolved Oxygen	DIN	Hydrological Regime	Specific Pollutants
- Objective														
Moderate	Moderate	Good	Good	Good							Good	Moderate		Not assessed
- Objective Year														
2015	2015	2015	2015	2015							2015	2015		2015
2021 - Predicted														
Moderate	Moderate	Good	Good	Good							High	Moderate		Not assessed
2027 - Predicted														
Moderate	Moderate	Good	Good	Good							High	Moderate		Not assessed

Risks

Pressure Level

Risk	Elements
At Risk	
Not Assessed	
Not At Risk	
Probably Not At Risk	Eutrophication

Suffolk

Please be aware that data is based on the best available information as of the date shown above, and may be subject to change

Element Level

Risk	Elements
At Risk	Common cord-grass, Townsend's grass or ricegrass (Spartina anglica), Overall INNS pressure
Not Assessed	Benzo(a)pyrene, Copper, Di(2-ethylhexyl)phthalate (DEHP), Fluoranthene, Mercury, Nonylphenol, Polybrominateddiphenylether (PBDE), Tributyltin (TBT), Triclosan
Not At Risk	Australian swamp stonecrop (Crassula helmsii), Canadian pondweed and Nuttall's pondweeds (Elodea Canadensis and Elodea nuttallii), Colonial tunicate (non-native Didemnum spp.), Common carp (Cyprinus carpio), Curly water-thyme (Lagarosiphon major), Floating pennywort (Hydrocotyle ranunculoides), Freshwater amphipod (Dikerogammarus villosus), Giant hogweed (Heracleum mantegazzianum), Giant knotweed (Fallopia sachalensis), Himalayan balsam (Impatiens glandulifera), Japanese knotweed (Fallopia japonica), Japanese knotweed/ Giant knotweed hybrid (Fallopia x bohemica), Leathery sea squirt (Styela clava), Marine tubeworm (Ficopomatus enigmaticus), Mysid crustacean (Hemimysis anomola), North American signal crayfish (Pacifastacus leniusculus), Parrot's feather (Myriophyllum aquaticum), Ponto Caspian shrimp (Dikerogammarus haemobaphes), Red swamp crayfish (Procambarus clarkii), Rhododendron (Rhododendron ponticum), Slipper limpet (Crepidula fornicata), Topmouth gudgeon (Pseudorasbora parva), Virile crayfish (Orconectes virilis), Water fern (Azolla filiculoides and Azolla caroliniana), Water primrose (Ludwigia grandiflora), Zebra
Probably Not At Risk	American oyster drill (Urosalpinx cinerea), Cadmium, Chinese mitten crab (Eriocheir sinensis), Goldfish (Carassius auratus), Lead, Nickel, Zinc

Suffolk

Please be aware that data is based on the best available information as of the date shown above, and may be subject to change

Reasons for not achieving Good

Significant Water Management Issue	Reason	Element	Sector/Business Category	Pressures
Diffuse source **Suspected**	Livestock **Suspected**	Dissolved Inorganic Nitrogen	Agriculture - Livestock Agriculture and rural land management **Suspected**	
Diffuse source **Suspected**	Poor nutrient management **Suspected**	Dissolved Inorganic Nitrogen	Agriculture - Arable Agriculture and rural land management **Suspected**	
Point source **Suspected**	Sewage discharge (continuous) **Suspected**	Dissolved Inorganic Nitrogen	Waste water treatment Water Industry **Suspected**	

Waterbody Level Measure Actions

CPS Action ID	Title	Measure Aim	Easting/Northing	Action Status / EA Team
30860	GEP MEASURES IN PLACE AS AT GOOD	**1. Mitigation Measure** **2.** **3.**		Completed (cost beneficial) AN Eastern, Catchment Delivery Team

Wider Area Measures Actions

Suffolk

Please be aware that data is based on the best available information as of the date shown above, and may be subject to change

Extended Waterbody Summary Report

20 December 2018
11:31:50

Suffolk

Please be aware that data is based on the best available information as of the date shown above, and may be subject to change

Mitigation Measures (if applicable)

Designated Hydromorph Use	Working with physical form and function													Structural modification							Operations and maintenance																										Water management					Habitat creation	Navigation		Education		Recreation	
	1.Modify channel	2.Remove obsolete structure	3.Re-engineer river	4.Remove or soften hard bank	5.Preserve or restore habitats	6.In-channel morph diversity	7.Bank rehabilitation	8.Re-opening culverts	9.Alter culvert channel bed	10.Flood bunds	11.Set-back embankments	12.Floodplain connectivity	13.Realign flood defence	14.Modify structure	15.Flow manipulation	16.Fish passes	17.Fish pass flow releases	18.Reduce fish entrainment	19.Enhance ecology	20.Changes to locks etc	21.Avoid the need to dred	22.Dredging disposal strategy	23.Reduce impact of dredging	24.Reduce sediment resuspension	25.Retime dredging or disposal	26.Sediment management	27. Dredge disposal site sel	28.Manage disturbance	29.Sediment management regime	30.Manage artificial drawdown	31.Manage seasonal water levels	32.Phased de-watering	33.Selective vegetation control	34.Vegetation control	35.Vegetation control timing	36.Invasive species techniques	37.Retain habitats	38.Sediment management strategy	39.Maintain channel bed/margins	40.Woody debris	41.Water level management	42.Access to feeder-streams	43.Downstream flow regime	44.Flows to move sediment	45.Good downstream DO levels	46.Good downstream temperature	47.Align and attenuate flo	48.Indirect mitigation	49.Modify vessel design	50.Vessel Management	51.Boats in central track	52.Invasive species awareness	53.Boat wash awareness	54.Educate landowners	55.Recreation awareness	56.Enhance ecology (recre
Coast protection use	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56
		Not Applicable		Not Applicable	Not Applicable	Not Applicable	Not Applicable						Not Applicable			Not Applicable			Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable								
Flood protection use	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56
		Not Applicable		Not Applicable	Not Applicable	Not Applicable	Not Applicable						Not Applicable			Not Applicable			Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable								

Suffolk

Please be aware that data is based on the best available information as of the date shown above, and may be subject to change

Monitoring Sites

Site ID	Site Name	Site Type	Site Waterbody Link	Easting	Northing	Elements Monitored
157169	SUFFOLK NO.33 SUF001P	BIOSYS	Site in water body	657800	295400	
Classifications						
157170	SUFFOLK NO.34 SUF002P	BIOSYS	Site in water body	657400	291200	
Classifications						

Suffolk

Please be aware that data is based on the best available information as of the date shown above, and may be subject to change

157171	SUFFOLK NO.43B SUF003P	BIOSYS	Site in water body	647600	251700

Classifications

157172	SUFFOLK NO.46 SUF004P	BIOSYS	Site in water body	643700	246400

Classifications

Extended Waterbody Summary Report

20 December 2018
11:31:51

Suffolk

Please be aware that data is based on the best available information as of the date shown above, and may be subject to change

157173	SUFFOLK NO.51 SUF005P	BIOSYS	Site in water body	635300	236600

Classifications

2A6 Walberswick Marshes (GB610050076000)

Extended Waterbody Summary Report

20 December 2018
11:32:25

Environment Agency

Walberswick Marshes

Please be aware that data is based on the best available information as of the date shown above, and may be subject to change

WATERBODY ID	GB610050076000	CYCLE / LATEST VERSION	Cycle 2	2
TYPE	Coastal	DESIGNATION	Heavily Modified	
LENGTH (km)		EASTING	646185	
AREA (km2)		NORTHING	266740	
Alkalinity		CATCHMENT AREA (Ha)		

Geographical Boundaries	
EA AREA	Essex Norfolk and Suffolk
RBD	Anglian
MAN CATCHMENT	Anglian TraC
OP CATCHMENT	Suffolk TraC

Bathing Water Directive	Nitrates Directive	Safeguard Zone	Shellfish Water Directive	Freshwater Fish Directive	Habitats and Species Directive	Drinking Water Protected Area	Conservation of Wild Birds Directive
NO	YES	NO	NO	NO	YES	NO	YES

Classifications

Year	Overall	Ecological	Chemical	MMA	Phytoplankton Blooms	Invertebrates	Fish	Seagrass	Saltmarsh	Flucoid Extent	Opportunistic Macroalgae	Rocky Shore Macroalgae	Dissolved Oxygen	DIN	Hydrological Regime	Specific Pollutants
2013	Good	Good	Good	Good												
2014	Good	Good	Good	Good												
2015	Good	Good	Good	Good												
2016	Good	Good	Good	Good												

Note: DNSG = 'Does Not Support Good', DNRA = 'Does Not Require Assessment'

Extended Waterbody Summary Report

20 December 2018
11:32:25

Environment Agency

Walberswick Marshes

Please be aware that data is based on the best available information as of the date shown above, and may be subject to change

Objectives and Predicted Outcomes

Overall	Ecological	Chemical	MMA	Phytoplankton Blooms	Invertebrates	Fish	Seagrass	Saltmarsh	Flucoid Extent	Macroalgae	Dissolved Oxygen	DIN	Hydrological Regime	Specific Pollutants
- Objective														
Good	Good	Good	Good											Not assessed
- Objective Year														
2015	2015	2015	2015											2015
2021 - Predicted														
Good	Good	Good	Good											Not assessed
2027 - Predicted														
Good	Good	Good	Good											Not assessed

Risks

Pressure Level

Risk	Elements
At Risk	
Not Assessed	
Not At Risk	
Probably Not At Risk	

Extended Waterbody Summary Report

20 December 2018
11:32:26

Walberswick Marshes

Please be aware that data is based on the best available information as of the date shown above, and may be subject to change

Element Level

Risk	Elements
At Risk	Colonial tunicate (non-native Didemnum spp.), Overall INNS pressure
Not Assessed	Benzo(a)pyrene, Cadmium, Copper, Di(2-ethylhexyl)phthalate (DEHP), Fluoranthene, Lead, Mercury, Nickel, Nonylphenol, Polybrominateddiphenylether (PBDE), Tributyltin (TBT), Triclosan, Zinc
Not At Risk	Australian swamp stonecrop (Crassula helmsii), Canadian pondweed and Nuttall's pondweeds (Elodea Canadensis and Elodea nuttallii), Common carp (Cyprinus carpio), Common cord-grass, Townsend's grass or ricegrass (Spartina anglica), Curly water-thyme (Lagarosiphon major), Floating pennywort (Hydrocotyle ranunculoides), Freshwater amphipod (Dikerogammarus villosus), Giant hogweed (Heracleum mantegazzianum), Giant knotweed (Fallopia sachalensis), Himalayan balsam (Impatiens glandulifera), Japanese knotweed (Fallopia japonica), Japanese knotweed/ Giant knotweed hybrid (Fallopia x bohemica), Leathery sea squirt (Styela clava), Marine tubeworm (Ficopomatus enigmaticus), Mysid crustacean (Hemimysis anomola), North American signal crayfish (Pacifastacus leniusculus), Parrot's feather (Myriophyllum aquaticum), Ponto Caspian shrimp (Dikerogammarus haemobaphes), Red swamp crayfish (Procambarus clarkii), Rhododendron (Rhododendron ponticum), Topmouth gudgeon (Pseudorasbora parva), Virile crayfish (Orconectes virilis), Water fern (Azolla filiculoides and Azolla caroliniana), Water primrose (Ludwigia grandiflora), Zebra mussel (Dreissena polymorpha)
Probably Not At Risk	American oyster drill (Urosalpinx cinerea), Chinese mitten crab (Eriocheir sinensis), Goldfish (Carassius auratus), Slipper limpet (Crepidula fornicata)

Walberswick Marshes

Please be aware that data is based on the best available information as of the date shown above, and may be subject to change

Reasons for not achieving Good

Waterbody Level Measure Actions

CPS Action ID	Title	Measure Aim	Easting/Northing	Action Status / EA Team
30865	GEP MEASURES IN PLACE AS AT GOOD	**1. Mitigation Measure** **2.** **3.**		Completed (cost beneficial) AN Eastern, Catchment Delivery Team

Wider Area Measures Actions

Extended Waterbody Summary Report

20 December 2018
11:32:26

Walberswick Marshes

Please be aware that data is based on the best available information as of the date shown above, and may be subject to change

Mitigation Measures (if applicable)

Designated Hydromorph Use	Working with physical form and function												Structural modification							Operations and maintenance																	Water management					Habitat creation	Navigation		Education		Recreation	
	1.Modify channel	2.Remove obsolete structure	3.Re-engineer river	4.Remove or soften hard bank	5.Preserve or restore habitats	6.In-channel morph diversity	7.Bank rehabilitation	8.Re-opening culverts	9.Alter culvert channel bed	10.Flood bunds	11.Set-back embankments	12.Floodplain connectivity	13.Realign flood defence	14.Modify structure	15.Flow manipulation	16.Fish passes	17.Fish pass flow releases	18.Reduce fish entrainment	19.Enhance ecology	20.Changes to locks etc	21.Avoid the need to dred	22.Dredging disposal strategy	23.Reduce impact of dredging	24.Reduce sediment resuspension	25.Retime dredging or disposal	26.Sediment management	27. Dredge disposal site sel	28.Manage disturbance	29.Sediment management regime	30.Manage artificial drawdown	31.Manage seasonal water levels	32.Phased de-watering	33.Selective vegetation control	34.Vegetation control	35.Vegetation control timing	36.Invasive species techniques	37.Retain habitats	38.Sediment management strategy	39.Maintain channel bed/margins	40.Woody debris	41.Water level management	42.Access to feeder-streams	43.Downstream flow regime	44.Flows to move sediment	45.Good downstream DO levels	46.Good downstream temperature	47.Align and attenuate flo	48.Indirect mitigation	49.Modify vessel design	50.Vessel Management	51.Boats in central track	52.Invasive species awareness	53.Boat wash awareness	54.Educate landowners	55.Recreation awareness	56.Enhance ecology (recre
Flood protection use	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56
		Not Applicable		Not Applicable	Not Applicable	Not Applicable	Not Applicable						Not Applicable			Not Applicable			Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable								Not Applicable										Not Applicable								

Monitoring Sites

2A7 Waveney and East Suffolk Chalk and Crag (GB40501G400600)

Extended Waterbody Summary Report

20 December 2018
11:34:06

Environment Agency

Waveney and East Suffolk Chalk & Crag

Please be aware that data is based on the best available information as of the date shown above, and may be subject to change

WATERBODY ID	GB40501G400600	CYCLE / LATEST VERSION	Cycle 2	2
TYPE	Groundwater	DESIGNATION	Not Applicable	
LENGTH (km)		EASTING	628292	
AREA (km2)		NORTHING	245384	
Alkalinity		CATCHMENT AREA (Ha)		

Geographical Boundaries	
EA AREA	Essex Norfolk and Suffolk
RBD	Anglian
MAN CATCHMENT	Anglian GW
OP CATCHMENT	Waveney and Suffolk East Chalk and Crag

Bathing Water Directive	Nitrates Directive	Safeguard Zone	Shellfish Water Directive	Freshwater Fish Directive	Habitats and Species Directive	Drinking Water Protected Area	Conservation of Wild Birds Directive
NO	YES	NO	NO	NO	NO	YES	NO

Classifications

Yea	Overall	Chemical	Quantitative	Trend Assessment	Supporting Elements (Groundwater)
2013	Poor	Poor	Poor	Upward	
2014	Poor	Poor	Poor	Upward	
2015	Poor	Poor	Poor	Upward	
2016	Poor	Poor	Poor	Upward	

Note: DNSG = 'Does Not Support Good', DNRA = 'Does Not Require Assessment'

Extended Waterbody Summary Report

20 December 2018
11:34:06

Waveney and East Suffolk Chalk & Crag

Please be aware that data is based on the best available information as of the date shown above, and may be subject to change

Objectives and Predicted Outcomes

Type	Overall	Chemical	Quantitative	Trend Assessment	Supporting Elements (Groundwater)
- Objective	Poor	Poor	Good		
- Objective Year	2015	2015	2027		
2021 - Predicted	Poor	Poor	Poor		
2027 - Predicted	Poor	Poor	Good		

Risks

Pressure Level

Risk	Elements
At Risk	
Not At Risk	
Probably At Risk	

Extended Waterbody Summary Report

20 December 2018
11:34:07

Waveney and East Suffolk Chalk & Crag

Please be aware that data is based on the best available information as of the date shown above, and may be subject to change

Element Level

Risk	Elements
At Risk	Abstraction impact on saline intrusion, Abstraction impact on surface water, General chemical assessment, Impact on Drinking Water protected areas, Overall chemical assessment, Overall quantitative assessment, Saline intrusion, Trend assessment
Not At Risk	Impact on surface water chemistry and ecology
Probably At Risk	Abstraction impact on dependent terrestrial ecocsystems, Abstraction impact on water balance, Impact on dependent terrestrial ecosystems

Waveney and East Suffolk Chalk & Crag

Please be aware that data is based on the best available information as of the date shown above, and may be subject to change

Reasons for not achieving Good

Significant Water Management Issue	Reason	Element	Sector/Business Category	Pressures
Diffuse source	Livestock	Chemical Drinking Water Protected A	Agriculture - Livestock Agriculture and rural land management	
Confirmed	**Confirmed**		**Confirmed**	
Diffuse source	Livestock	General Chemical Test	Agriculture - Livestock Agriculture and rural land management	
Confirmed	**Confirmed**		**Confirmed**	
Diffuse source	Livestock	Trend Assessment	Agriculture - Livestock Agriculture and rural land management	
Confirmed	**Confirmed**		**Confirmed**	
Flow	Groundwater abstraction	Quantitative Water Balance	Agriculture - Arable Agriculture and rural land management	
Suspected	**Suspected**		**Suspected**	
Flow	Surface water abstraction	Quantitative Water Balance	Agriculture - Arable Agriculture and rural land management	
Suspected	**Suspected**		**Suspected**	

Waterbody Level Measure Actions

Waveney and East Suffolk Chalk & Crag

Please be aware that data is based on the best available information as of the date shown above, and may be subject to change

Wider Area Measures Actions

Waveney and East Suffolk Chalk & Crag

Please be aware that data is based on the best available information as of the date shown above, and may be subject to change

Mitigation Measures (if applicable)

Monitoring Sites

WATER FRAMEWORK DIRECTIVE
PART 2 - APPENDIX 2B

Contents

Tables

Plates

None provided.

Figures

None provided.

1. Stage 2 Assessment Tables

Table 1:1: Alde and Ore transitional water body (GB520503503800)

Activity	**C1 Initial site preparation**		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
Hydromorphology	Will the activity impact on the hydromorphology (for example morphology or tidal patterns) of a water body at high status?	No works to be undertaken within this water body.	No
	Is the activity in a water body that is heavily modified for the same use as the activity?	No works to be undertaken within this water body.	No
	Will the activity significantly impact the hydromorphology of any water body?	No works to be undertaken within this water body.	No
Chemistry	If the activity used or releases chemicals, are the chemicals on the Environmental Quality Standards Directive list?	No discharges to be released into this water body.	No
	If the activity has a mixing zone, are the chemicals released on the Environmental Quality Standards Directive List?	No discharges to be released into this water body.	No
	If the activity uses or releases chemicals, will it disturb sediment with contaminants above Cefas Action Level 1?	No marine sediment disturbance - land based activities only.	No
Phytoplankton/Physico-chemical	Will the activity affect water clarity, temperature, salinity, oxygen levels, nutrients or microbial patterns continuously for longer	No discharges to be released into this water body.	No

Activity	**C1 Initial site preparation**		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
	than a spring neap tidal cycle (about 14 days)?		
	Is the activity in a water body with a phytoplankton status of moderate, poor or bad or harmful algae?	No.	No
Biology – Habitats (Flora / fauna / angiosperms / benthic invertebrates / higher and lower sensitivity habitats)	-Which type of habitat is likely to be impacted and what percentage of the habitat is impacted within the water body. - If the footprint of the development is >0.5km^2 then scope element in. - If the activity is within 500m of a higher sensitivity habitat then scope that habitat in for further consideration and if >1% of a lower sensitivity habitat in a water body may be affected then scope in.	No mechanism for impact identified.	No
Biology - Fish	Will the activity be in an estuary and could affect fish in the estuary, outside the estuary but could delay or prevent fish entering it or could affect fish migrating through the estuary? Could the activity impact on normal fish behaviour like movement, migration or spawning?	No mechanism for impact identified.	No
	Could the activity cause entrainment or impingement of fish?	No mechanism for impact identified.	No

Activity	**C2 Earthworks for platform development**		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
Hydromorphology	Will the activity impact on the hydromorphology (for example morphology or tidal patterns) of a water body at high status?	No works to be undertaken within this water body.	No
	Is the activity in a water body that is heavily modified for the same use the own activity?	No works to be undertaken within this water body.	No
	Will the activity significantly impact the hydromorphology of any water body?	No works to be undertaken within this water body.	No
Chemistry	If the activity used or releases chemicals, are the chemicals on the Environmental Quality Standards Directive list?	No discharges to be released into this water body.	No
	If the activity has a mixing zone, are the chemicals released on the Environmental Quality Standards Directive List?	No discharges to be released into this water body.	No
	If the activity uses or releases chemicals, will it disturb sediment with contaminants above Cefas Action Level 1?	No marine sediment disturbance - land based only.	No
Phytoplankton/Physico-chemical	Will the activity affect water clarity, temperature, salinity, oxygen levels, nutrients or microbial patterns continuously for longer than a spring neap tidal cycle (about 14 days)?	No discharges to be released into this water body.	No
	Is the activity in a water body with a phytoplankton status of moderate, poor or bad or harmful algae?	No	No

Activity	C2 Earthworks for platform development		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
Biology – Habitats (Flora / fauna / angiosperms / benthic invertebrates / higher and lower sensitivity habitats)	- Which type of habitat is likely to be impacted and what percentage of the habitat is impacted within the water body. - If the footprint of the development is >0.5km^2 then scope element in. - If the activity is within 500m of a higher sensitivity habitat then scope that habitat in for further consideration and if >1% of a lower sensitivity habitat in a water body may be affected then scope in.	No mechanism for impact identified.	No
Biology - Fish	Will the activity be in an estuary and could affect fish in the estuary, outside the estuary but could delay or prevent fish entering it or could affect fish migrating through the estuary? Could the activity impact on normal fish behaviour like movement, migration or spawning?	No mechanism for impact identified.	No
	Could the activity cause entrainment or impingement of fish?	No mechanism for impact identified.	No

Activity	C3 Construction of marine structures		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
Hydromorphology	Will the activity impact on the hydromorphology (for example morphology or tidal patterns) of a water body at high status?	No works to be undertaken within this water body.	No
	Is the activity in a water body that is heavily modified for the same use as the activity?	No works to be undertaken within this water body.	No
	Will the activity significantly impact the hydromorphology of any water body?	No structures to be constructed in this water body.	No
Chemistry	If the activity used or releases chemicals, are the chemicals on the Environmental Quality Standards Directive list?	No works to be undertaken within this water body.	No
	If the activity has a mixing zone, are the chemicals released on the Environmental Quality Standards Directive List?	No works to be undertaken within this water body.	No
	If the activity uses or releases chemicals, will it disturb sediment with contaminants above Cefas Action Level 1?	No sediment disturbance in this water body.	No
Phytoplankton/Physico-chemical	Will the activity affect water clarity, temperature, salinity, oxygen levels, nutrients or microbial patterns continuously for longer than a spring neap tidal cycle (about 14 days)?	No structures to be constructed in this water body.	No
	Is the activity in a water body with a phytoplankton status of moderate, poor or bad or harmful algae?	No.	No

Activity	C3 Construction of marine structures		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
Biology – habitats (Flora / fauna / angiosperms / benthic invertebrates / higher and lower sensitivity habitats)	- Which type of habitat is likely to be impacted and what percentage of the habitat is impacted within the water body. - If the footprint of the development is >0.5km^2 then scope element in. - If the activity is within 500m of a higher sensitivity habitat then scope that habitat in for further consideration and if >1% of a lower sensitivity habitat in a water body may be affected then scope in.	No mechanism for impact identified.	No
Biology - Fish	Will the activity be in an estuary and could affect fish in the estuary, outside the estuary but could delay or prevent fish entering it or could affect fish migrating through the estuary? Could the activity impact on normal fish behaviour like movement, migration or spawning?	As a result of seabed preparation for head structures and the BLF there may be short term sediment plumes within the Suffolk coastal water body which could impact on fish migrating along the coast. Given that the extent of the plume is unclear, scoped in for further assessment	Yes
	Could the activity cause entrainment or impingement of fish?	No mechanism for impact identified.	No

Activity	**C4 Discharge of foul, surface and any other water**		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
Hydromorphology	Will the activity impact on the hydromorphology (for example morphology or tidal patterns) of a water body at high status?	The water body is not classed as being at high status. No mechanism for impact identified.	No
	Is the activity in a water body that is heavily modified for the same use as the activity?	No mechanism for impact identified.	No
	Will the activity significantly impact the hydromorphology of any water body?	No mechanism for impact identified.	No
Chemistry	If the activity used or releases chemicals, are the chemicals on the Environmental Quality Standards Directive list?	There is potential for foul water discharges to contain chemicals on the Environmental Quality Standards Directive list. Any effects on the Suffolk coastal water body water quality could impact on this water body given the extent of the plume is unknown.	Yes
	If the activity has a mixing zone, are the chemicals released on the Environmental Quality Standards Directive List?	There is potential for foul water discharges to contain chemicals on the Environmental Quality Standards Directive list that require a mixing zone. Any effects on the Suffolk coastal water body could impact on this water body.	Yes
	If the activity uses or releases chemicals, will it disturb sediment with contaminants above Cefas Action Level 1?	No sediment disturbance.	No
Phytoplankton/physico-chemical	Will the activity affect water clarity, temperature, salinity, oxygen levels, nutrients or microbial patterns	There is potential for foul water discharges to impact on these parameters for more	Yes

Activity	C4 Discharge of foul, surface and any other water		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
	continuously for longer than a spring neap tidal cycle (about 14 days)?	than 14 days in the Suffolk coastal water body therefore there is the potential for an effect on this water body.	
	Is the activity in a water body with a phytoplankton status of moderate, poor or bad or harmful algae?	No.	No
Biology - Habitats (Flora / fauna / angiosperms / benthic invertebrates / higher and lower sensitivity habitats)	Which type of habitat is likely to be impacted and what percentage of the habitat is impacted within the water body. - If the footprint of the development is >0.5km^2 then scope element in. - If the activity is within 500m of a higher sensitivity habitat then scope that habitat in for further consideration and if >1% of a lower sensitivity habitat in a water body may be affected then scope in.	Should a water quality effect be identified as a result of changes in the Suffolk coastal water body, there is the potential for effect on biology.	Yes
Biology - Fish	Will the activity be in an estuary and could affect fish in the estuary, outside the estuary but could delay or prevent fish entering it or could affect fish migrating through the estuary? Could the activity impact on normal fish behaviour like movement, migration or spawning?	The discharge of foul water could present a barrier to fish migrating between estuarine water bodies.	Yes
	Could the activity cause entrainment or impingement of fish?	The discharge of foul water would not lead to impingement.	No

Activity	**C5 Discharge of cold commissioning water via CDO.**		
Parameter	**Scoping question**	**Response**	Further assessment required?
Hydromorphology	Will the activity impact on the hydromorphology (for example morphology or tidal patterns) of a water body at high status?	The water body is not classed as being at high status. No mechanism for impact identified.	No
	Is the activity in a water body that is heavily modified for the same use as the activity?	No mechanism for impact identified.	No
	Will the activity significantly impact the hydromorphology of any water body?	No mechanism for impact identified.	No
Chemistry	If the activity used or releases chemicals, are the chemicals on the Environmental Quality Standards Directive list?	There is potential for commissioning water to contain chemicals on the Environmental Quality Standards Directive list. Any effects on the Suffolk coastal water body could impact on this water body given that the extent of the plume is unknown.	Yes
	If the activity has a mixing zone, are the chemicals released on the Environmental Quality Standards DirectiveList?	There is potential for commissioning water to contain chemicals on the Environmental Quality Standards Directive list that require a mixing zone. Any effects on the Suffolk coastal water body could impact on this water body.	Yes
	If the activity uses or releases chemicals, will it disturb sediment with contaminants above Cefas Action Level 1?	No mechanism for impact on sediment identified.	No
Phytoplankton/Physico-chemical	Will the activity affect water clarity, temperature, salinity, oxygen levels, nutrients or microbial patterns	There is the potential for changes in marine water quality due to release of commissioning water. Any effects on the	Yes

Activity	**C5 Discharge of cold commissioning water via CDO.**		
Parameter	**Scoping question**	**Response**	Further assessment required?
	continuously for longer than a spring neap tidal cycle (about 14 days)?	Suffolk coastal water body could impact on this water body.	
	Is the activity in a water body with a phytoplankton status of moderate, poor or bad or harmful algae?	No.	No
Biology - Habitats (Flora / fauna / angiosperms / benthic invertebrates / higher and lower sensitivity habitats)	Which type of habitat is likely to be impacted and what percentage of the habitat is impacted within the water body. - If the footprint of the development is >0.5km^2 then scope element in. - If the activity is within 500m of a higher sensitivity habitat then scope that habitat in for further consideration and if >1% of a lower sensitivity habitat in a water body may be affected then scope in.	Should a water quality effect be identified, there is the potential for effect on biology.	Yes
Biology - Fish	Will the activity be in an estuary and could affect fish in the estuary, outside the estuary but could delay or prevent fish entering it or could affect fish migrating through the estuary? Could the activity impact on normal fish behaviour like movement, migration or spawning?	The discharge of commissioning water could present a barrier to fish migrating between estuarine water bodies.	Yes
	Could the activity cause entrainment or impingement of fish?	The discharge of commissioning water would not lead to impingement.	No

Activity	**O1 Presence of power station platform and cut-off wall**		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
Hydromorphology	Will the activity impact on the hydromorphology (for example morphology or tidal patterns) of a water body at high status?	The water body is not classed as being at high status.	No
	Is the activity in a water body that is heavily modified for the same use as the activity?	No mechanism for impact identified.	No
	Will the activity significantly impact the hydromorphology of any water body?	These works will be located on land and therefore there is no mechanism for impact.	No
Chemistry	If the activity used or releases chemicals, are the chemicals on the Environmental Quality Standards Directive list?	The physical presence of the power station platform and cut-off wall will not require any discharges to the marine environment. No mechanism for impact identified.	No
	If the activity has a mixing zone, are the chemicals released on the Environmental Quality Standards Directive List?	The physical presence of the power station platform and cut-off wall will not require any discharges to the marine environment. No mechanism for impact identified.	No
	If the activity uses or releases chemicals, will it disturb sediment with contaminants above Cefas Action Level 1?	The physical presence of the power station platform and cut-off wall will not give rise to any sediment disturbance in the marine environment.	No
Phytoplankton/Physico-chemical	Will the activity affect water clarity, temperature, salinity, oxygen levels, nutrients or microbial patterns	The physical presence of the power station platform and cut-off	No

Activity	O1 Presence of power station platform and cut-off wall		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
	continuously for longer than a spring neap tidal cycle (about 14 days)?	wall will not affect the marine water quality.	
	Is the activity in a water body with a phytoplankton status of moderate, poor or bad or harmful algae?	No.	No
Biology - Habitats (Flora/fauna/angiosperms/benthic invertebrates/higher and lower sensitivity habitats)	-Which type of habitat is likely to be impacted and what percentage of the habitat is impacted within the water body. - If the footprint of the development is >0.5km^2 then scope element in. - If the activity is within 500m of a higher sensitivity habitat then scope that habitat in for further consideration and if >1% of a lower sensitivity habitat in a water body may be affected then scope in.	The physical presence of the power station platform and cut-off wall will not impact on marine ecology in this water body.	No
Biology - Fish	Will the activity be in an estuary and could affect fish in the estuary, outside the estuary but could delay or prevent fish entering it or could affect fish migrating through the estuary? Could the activity impact on normal fish behaviour like movement, migration or spawning?	The physical presence of the power station platform and cut-off wall will not cause a barrier to fish.	No
	Could the activity cause entrainment or impingement of fish?	No risk of impingement.	No

Activity	O2 Presence of permanent main site access road		
Parameter	**Scoping question**	**Response**	**Further Assessment required**
Hydromorphology	Will the activity impact on the hydromorphology (for example morphology or tidal patterns) of a water body at high status?	The water body is not classed as being at high status.	No
	Is the activity in a water body that is heavily modified for the same use as the activity?	No mechanism for impact identified.	No
	Will the activity significantly impact the hydromorphology of any water body?	These works will be located on land and therefore there is no mechanism for impact.	No
Chemistry	If the activity used or releases chemicals, are the chemicals on the Environmental Quality Standards Directive list?	The permanent access bridge will be located upstream of the Minsmere Sluice on the Leiston Beck water body. Since this bridge is not directly within the marine water body, no mechanism for effect was identified.	No
	If the activity has a mixing zone, are the chemicals released on the Environmental Quality Standards Directive List?	No mechanism for impact identified.	No
	If the activity uses or releases chemicals, will it disturb sediment with contaminants above Cefas Action Level 1?	No mechanism for impact identified.	No
Phytoplankton/Physico-chemical	Will the activity affect water clarity, temperature, salinity, oxygen levels, nutrients or microbial patterns continuously for longer than a spring neap tidal cycle (about 14 days)?	The permanent access bridge will be located upstream of the Minsmere Sluice on the Leiston Beck water body. Since this bridge is not directly within the marine	No

Activity	O2 Presence of permanent main site access road		
Parameter	**Scoping question**	**Response**	**Further Assessment required**
		water body, no mechanism for effect was identified.	
	Is the activity in a water body with a phytoplankton status of moderate, poor or bad or harmful algae?	No.	No
Biology - Habitats (Flora / fauna / angiosperms / benthic invertebrates / higher and lower sensitivity habitats)	-Which type of habitat is likely to be impacted and what percentage of the habitat is impacted within the water body. - If the footprint of the development is >0.5km^2 then scope element in. - If the activity is within 500m of a higher sensitivity habitat then scope that habitat in for further consideration and if >1% of a lower sensitivity habitat in a water body may be affected then scope in.	The permanent access bridge will be located upstream of the Minsmere Sluice on the Leiston Beck water body. Since this bridge is not directly within the marine water body, no mechanism for effect was identified.	No
Biology - Fish	Will the activity be in an estuary and could affect fish in the estuary, outside the estuary but could delay or prevent fish entering it or could affect fish migrating through the estuary? Could the activity impact on normal fish behaviour like movement, migration or spawning?	Works do not take place within the marine environment. No mechanism for impact identified.	No
	Could the activity cause entrainment or impingement of fish?	No risk of impingement.	No

Activity	O3 Presence of marine structures		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
Hydromorphology	Will the activity impact on the hydromorphology (for example morphology or tidal patterns) of a water body at high status?	The water body is not classed as being at high status.	No
	Is the activity in a water body that is heavily modified for the same use as the activity?	No works will take place within this water body.	No
	Will the activity significantly impact the hydromorphology of any water body?	No works will take place within this water body.	No
Chemistry	If the activity used or releases chemicals, are the chemicals on the Environmental Quality Standards Directive list?	Presence of marine structures will not discharge or release chemicals.	No
	If the activity has a mixing zone, are the chemicals released on the Environmental Quality Standards Directive List?	Presence of marine structures will not discharge or release chemicals.	No
	If the activity uses or releases chemicals, will it disturb sediment with contaminants above Cefas Action Level 1?	It is not anticipated that the presence of the marine structures or dredging to maintain access to the BLF will affect this water body given that the works will take place in the Suffolk coastal water body.	No
Phytoplankton / physico-chemical	Will the activity affect water clarity, temperature, salinity, oxygen levels, nutrients or microbial patterns continuously for longer than a spring neap tidal cycle (about 14 days)?	It is not anticipated that the presence of the marine structures or dredging to maintain access to the BLF will affect this water body.	No
	Is the activity in a water body with a phytoplankton status of moderate, poor or bad or harmful algae?	No.	No

Activity	**O3 Presence of marine structures**		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
Biology - Habitats Flora / fauna / angiosperms / benthic invertebrates / higher and lower sensitivity habitats	-Which type of habitat is likely to be impacted and what percentage of the habitat is impacted within the water body. - If the footprint of the development is >0.5km^2 then scope element in. - If the activity is within 500m of a higher sensitivity habitat then scope that habitat in for further consideration and if >1% of a lower sensitivity habitat in a water body may be affected then scope in.	It is not anticipated that the presence of the marine structures or dredging to maintain access to the BLF will affect this water body.	No
Biology - Fish	Will the activity be in an estuary and could affect fish in the estuary, outside the estuary but could delay or prevent fish entering it or could affect fish migrating through the estuary? Could the activity impact on normal fish behaviour like movement, migration or spawning?	It is not anticipated that the presence of the marine structures or dredging to maintain access to the BLF will affect this water body. Whilst dredging will be required to maintain access this will be infrequent and small scale.	No
	Could the activity cause entrainment or impingement of fish?	No risk of impingement.	No

Activity	O4 Presence of flood defence structures		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
Hydromorphology	Will the activity impact on the Hydromorphology (for example morphology or tidal patterns) of a water body at high status?	The water body is not classed as being at high status.	No
	Is the activity in a water body that is heavily modified for the same use as the activity?	There will be no flood defences located within this water body.	No
	Will the activity significantly impact the Hydromorphology of any water body?	There will be no flood defences located within this water body.	No
Chemistry	If the activity used or releases chemicals, are the chemicals on the Environmental Quality Standards Directive list?	Presence of flood defence structures will not lead to the release of chemicals into the water environment.	No
	If the activity has a mixing zone, are the chemicals released on the Environmental Quality Standards Directive List?	Presence of flood defence structures will not lead to the release of chemicals into the water environment.	No
	If the activity uses or releases chemicals, will it disturb sediment with contaminants above Cefas Action Level 1?	Presence of flood defence structures will not lead to the release of any sediments at risk of being contaminated. Material to be used to build up the soft defences will be sourced from non-contaminated material supplier.	No

Activity	O4 Presence of flood defence structures		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
Phytoplankton/Physico-chemical	Will the activity affect water clarity, temperature, salinity, oxygen levels, nutrients or microbial patterns continuously for longer than a spring neap tidal cycle (about 14 days)?	Presence of flood defence structures will not affect water quality.	No
	Is the activity in a water body with a phytoplankton status of moderate, poor or bad or harmful algae?	No.	No
Biology - Habitats (Flora / fauna / angiosperms / benthic invertebrates / higher and lower sensitivity habitats)	Which type of habitat is likely to be impacted and what percentage of the habitat is impacted within the water body. - If the footprint of the development is >0.5km^2 then scope element in. - If the activity is within 500m of a higher sensitivity habitat then scope that habitat in for further consideration and if >1% of a lower sensitivity habitat in a water body may be affected then scope in.	There will be no flood defences located within this water body.	No
Biology - Fish	Will the activity be in an estuary and could affect fish in the estuary, outside the estuary but could delay or prevent fish entering it or could affect fish migrating through the estuary? Could the activity impact on normal fish behaviour like movement, migration or spawning?	There will be no flood defences located within this water body.	No
	Could the activity cause entrainment or impingement of fish?	No risk of impingement.	No

Activity	O5 Discharge of foul water and surface water via cooling water system		
Parameter	**Scoping question**	**Response**	**Further Assessment**
Hydromorphology	Will the activity impact on the hydromorphology (for example morphology or tidal patterns) of a water body at high status?	No impact on hydromorphology identified.	No
	Is the activity in a water body that is heavily modified for the same use as the activity?	No impact on hydromorphology identified.	No
	Will the activity significantly impact the hydromorphology of any water body?	No impact on hydromorphology identified.	No
Chemistry	If the activity used or releases chemicals, are the chemicals on the Environmental Quality Standards Directive list?	Direct discharge of sewage effluent into the marine environment via the cooling water discharge system could release chemicals into the Suffolk water body. If it is shown that there is an effect in the Suffolk water body, then there could be an effect on this water body.	Yes
	If the activity has a mixing zone, are the chemicals released on the Environmental Quality Standards Directive List?	Direct discharge of sewage effluent into the marine environment via the cooling water discharge system could release chemicals into the Suffolk water body. If it is shown that there is an effect in the Suffolk water body, then there could be an effect on this water body.	Yes
	If the activity uses or releases chemicals, will it disturb sediment with contaminants above Cefas Action Level 1?	No disturbance of sediments and therefore no mechanism for impact identified.	No
Phytoplankton/Physico-chemical	Will the activity affect water clarity, temperature, salinity, oxygen levels, nutrients or microbial patterns continuously for longer than a spring neap tidal cycle (about 14 days)?	Direct discharge of sewage effluent into the marine environment via the cooling water discharge system could release chemicals into the Suffolk water body. If it is shown that there is	Yes

Activity	O5 Discharge of foul water and surface water via cooling water system		
Parameter	**Scoping question**	**Response**	**Further Assessment**
		an effect in the Suffolk water body, then there could be an effect on this water body.	
	Is the activity in a water body with a phytoplankton status of moderate, poor or bad or harmful algae?	No.	No
Biology - Habitats (Flora / fauna / angiosperms / benthic invertebrates / higher and lower sensitivity habitats)	- Which type of habitat is likely to be impacted and what percentage of the habitat is impacted within the water body. - If the footprint of the development is >0.5km^2 then scope element in. - If the activity is within 500m of a higher sensitivity habitat then scope that habitat in for further consideration and if >1% of a lower sensitivity habitat in a water body may be affected then scope in.	Direct discharge of sewage effluent into the marine environment via the cooling water discharge system could release chemicals into the Suffolk water body. If it is shown that there is an effect in the Suffolk water body, then there could be an effect on this water body.	Yes
Biology - Fish	Will the activity be in an estuary and could affect fish in the estuary, outside the estuary but could delay or prevent fish entering it or could affect fish migrating through the estuary? Could the activity impact on normal fish behaviour like movement, migration or spawning?	The discharge of foul water into the Suffolk coastal water body might present a barrier to fish migrating between estuaries.	Yes
	Could the activity cause entrainment or impingement of fish?	No risk of impingement.	No

Activity	O6 Intake of cooling water		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
Hydromorphology	Will the activity impact on the hydromorphology (for example morphology or tidal patterns) of a water body at high status?	The water body is not classified as being at high status.	No
	Is the activity in a water body that is heavily modified for the same use the own activity?	No mechanism for impact identified.	No
	Will the activity significantly impact the hydromorphology of any water body?	No mechanism for impact identified.	No
Chemistry	If the activity used or releases chemicals, are the chemicals on the Environmental Quality Standards Directive list?	Intake of cooling water will not cause release of chemicals into the water environment.	No
	If the activity has a mixing zone, are the chemicals released on the Environmental Quality Standards Directive List?	Intake of cooling water will not cause release of chemicals into the water environment.	No
	If the activity uses or releases chemicals, will it disturb sediment with contaminants above Cefas Action Level 1?	No mechanism for impact identified.	No
Phytoplankton/ physico-chemical	Will the activity affect water clarity, temperature, salinity, oxygen levels, nutrients or microbial patterns continuously for longer than a spring neap tidal cycle (about 14 days)?	There will be no changes to physico-chemical supporting elements as a result of cooling water intake.	No
	Is the activity in a water body with a phytoplankton status of moderate, poor or bad or harmful algae?	No.	No

Activity	O6 Intake of cooling water		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
Biology - Habitats Flora / fauna / angiosperms / benthic invertebrates / higher and lower sensitivity habitats	Which type of habitat is likely to be impacted and what percentage of the habitat is impacted within the water body. - If the footprint of the development is >0.5km^2 then scope element in. - If the activity is within 500m of a higher sensitivity habitat then scope that habitat in for further consideration and if >1% of a lower sensitivity habitat in a water body may be affected then scope in.	Intake of cooling water will not impact on habitats	No
Biology - Fish	Will the activity be in an estuary and could affect fish in the estuary, outside the estuary but could delay or prevent fish entering it or could affect fish migrating through the estuary? Could the activity impact on normal fish behaviour like movement, migration or spawning?	There is a risk of impingement of fish within the Suffolk coastal water body which could impact on fish moving between estuaries.	Yes
	Could the activity cause entrainment or impingement of fish?	There is a risk of impingement which could impact on fish moving between estuaries.	Yes

Activity	O7 Discharge of trade effluent via cooling water system		
Parameter	**Scoping question**	**Response**	**Further Assessment required**
Hydromorphology	Will the activity impact on the hydromorphology (for example morphology or tidal patterns) of a water body at high status?	The water body is not classified as being at high status. No mechanism for impact identified.	No
	Is the activity in a water body that is heavily modified for the same use as this activity?	The discharge of cooling water will not impact hydromorphology in this water body.	No
	Will the activity significantly impact the hydromorphology of any water body?	The discharge of cooling water will not impact hydromorphology in this water body.	No
Chemistry	If the activity used or releases chemicals, are the chemicals on the Environmental Quality Standards Directive list?	Cooling water is likely to include small volumes of chemicals on the Environmental Quality Standards Directive list which will be discharged to the Suffolk coastal water body. Should an effect be identified in the Suffolk coastal water body then there is the potential for effect in this water body.	Yes
	If the activity has a mixing zone, are the chemicals released on the Environmental Quality Standards Directive List?	Cooling water is likely to include small volumes of chemicals on the Environmental Quality Standards Directive list which will be discharged to the Suffolk coastal water body. Should an effect be identified in the Suffolk coastal water body then there is the potential for effect in this water body.	Yes
	If the activity uses or releases chemicals, will it disturb sediment with contaminants above Cefas Action Level 1?	No mechanism for impact identified.	No

Activity	O7 Discharge of trade effluent via cooling water system		
Parameter	**Scoping question**	**Response**	**Further Assessment required**
Phytoplankton / Physico- chemical	Will the activity affect water clarity, temperature, salinity, oxygen levels, nutrients or microbial patterns continuously for longer than a spring neap tidal cycle (about 14 days)?	The plume may extend far enough to provide a pathway for effect on this water body.	Yes
	Is the activity in a water body with a phytoplankton status of moderate, poor or bad or harmful algae?	No.	No
Biology - Habitats (Flora / fauna / angiosperms / benthic invertebrates / higher and lower sensitivity habitats)	Which type of habitat is likely to be impacted and what percentage of the habitat is impacted within the water body. - If the footprint of the development is >0.5km^2 then scope element in. - If the activity is within 500m of a higher sensitivity habitat then scope that habitat in for further consideration and if >1% of a lower sensitivity habitat in a water body may be affected then scope in.	Should an effect on water quality be identified, there could potentially be an effect on marine ecology in this water body.	Yes
Biology - Fish	Will the activity be in an estuary and could affect fish in the estuary, outside the estuary but could delay or prevent fish entering it or could affect fish migrating through the estuary? Could the activity impact on normal fish behaviour like movement, migration or spawning?	The discharge of trade effluent into the Suffolk coastal water could act as a barrier to fish migration between estuaries.	Yes
	Could the activity cause entrainment or impingement of fish?	No risk of impingement.	No

Activity	O8 Discharge of polluting matter via FRR system		
Parameter	**Scoping question**	**Response**	**Further Assessment**
Hydromorphology	Will the activity impact on the hydromorphology (for example morphology or tidal patterns) of a water body at high status?	No impact on hydromorphology identified.	No
	Is the activity in a water body that is heavily modified for the same use as the activity?	No impact on hydromorphology identified.	No
	Will the activity significantly impact the hydromorphology of any water body?	No impact on hydromorphology identified.	No
Chemistry	If the activity used or releases chemicals, are the chemicals on the Environmental Quality Standards Directive list?	No, discharge of dead fish would not release Environmental Quality Standards Directive chemicals. No disturbance of sediment	No
	If the activity has a mixing zone, are the chemicals released on the Environmental Quality Standards Directive List?		
	If the activity uses or releases chemicals, will it disturb sediment with contaminants above Cefas Action Level 1?		
Phytoplankton/Physico-chemical	Will the activity affect water clarity, temperature, salinity, oxygen levels, nutrients or microbial patterns continuously for longer than a spring neap tidal cycle (about 14 days)?	Whilst there is the potential to impact on water quality parameters associated with the decay of fish discharged from the FRR, it is unlikely that the effect will be large enough to impact on adjoining water bodies	No

Activity	O8 Discharge of polluting matter via FRR system		
Parameter	**Scoping question**	**Response**	**Further Assessment**
	Is the activity in a water body with a phytoplankton status of moderate, poor or bad or harmful algae?	No.	No
Biology - Habitats (Flora / fauna / angiosperms / benthic invertebrates / higher and lower sensitivity habitats)	- Which type of habitat is likely to be impacted and what percentage of the habitat is impacted within the water body. - If the footprint of the development is >0.5km^2 then scope element in. - If the activity is within 500m of a higher sensitivity habitat then scope that habitat in for further consideration and if >1% of a lower sensitivity habitat in a water body may be affected then scope in.	See comments on water quality. As a result, no potential effects on biology anticipated	No
Biology - Fish	Will the activity be in an estuary and could affect fish in the estuary, outside the estuary but could delay or prevent fish entering it or could affect fish migrating through the estuary? Could the activity impact on normal fish behaviour like movement, migration or spawning?	See comments on water quality. As a result, no potential effects on fish anticipated	No
	Could the activity cause entrainment or impingement of fish?	No risk of impingement.	No

Table 1:2: Blyth (S) transitional water body (GB510503503700)

Activity	C1 Initial site preparation		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
Hydromorphology	Will the activity impact on the hydromorphology (for example morphology or tidal patterns) of a water body at high status?	No works to be undertaken within this water body.	No
	Is the activity in a water body that is heavily modified for the same use as the activity?	No works to be undertaken within this water body.	No
	Will the activity significantly impact the hydromorphology of any water body?	No works to be undertaken within this water body.	No
Chemistry	If the activity used or releases chemicals, are the chemicals on the Environmental Quality Standards Directive list?	No discharges to be released into this water body.	No
	If the activity has a mixing zone, are the chemicals released on the Environmental Quality Standards Directive List?	No discharges to be released into this water body.	No
	If the activity uses or releases chemicals, will it disturb sediment with contaminants above Cefas Action Level 1?	No marine sediment disturbance - land based activities only.	No
Phytoplankton/Physico-chemical	Will the activity affect water clarity, temperature, salinity, oxygen levels, nutrients or microbial patterns continuously for longer than a spring neap tidal cycle (about 14 days)?	No discharges to be released into this water body.	No

Activity	C1 Initial site preparation		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
	Is the activity in a water body with a phytoplankton status of moderate, poor or bad or harmful algae?	No.	No
Biology – Habitats (Flora / fauna / angiosperms / benthic invertebrates / higher and lower sensitivity habitats)	- Which type of habitat is likely to be impacted and what percentage of the habitat is impacted within the water body. - If the footprint of the development is >0.5km^2 then scope element in. - If the activity is within 500m of a higher sensitivity habitat then scope that habitat in for further consideration and if >1% of a lower sensitivity habitat in a water body may be affected then scope in.	No mechanism for impact identified.	No
Biology - Fish	Will the activity be in an estuary and could affect fish in the estuary, outside the estuary but could delay or prevent fish entering it or could affect fish migrating through the estuary? Could the activity impact on normal fish behaviour like movement, migration or spawning?	No mechanism for impact identified.	No
	Could the activity cause entrainment or impingement of fish?	No mechanism for impact identified.	No

Activity	C2 Earthworks for platform development		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
Hydromorphology	Will the activity impact on the hydromorphology (for example morphology or tidal patterns) of a water body at high status?	No works to be undertaken within this water body.	No
	Is the activity in a water body that is heavily modified for the same use the own activity?	No works to be undertaken within this water body.	No
	Will the activity significantly impact the hydromorphology of any water body?	No works to be undertaken within this water body.	No
Chemistry	If the activity used or releases chemicals, are the chemicals on the Environmental Quality Standards Directive list?	No discharges to be released into this water body.	No
	If the activity has a mixing zone, are the chemicals released on the Environmental Quality Standards Directive List?	No discharges to be released into this water body.	No
	If the activity uses or releases chemicals, will it disturb sediment with contaminants above Cefas Action Level 1?	No marine sediment disturbance - land based only.	No
Phytoplankton/Physico-chemical	Will the activity affect water clarity, temperature, salinity, oxygen levels, nutrients or microbial patterns continuously for longer than a spring neap tidal cycle (about 14 days)?	No discharges to be released into this water body.	No
	Is the activity in a water body with a phytoplankton status of moderate, poor or bad or harmful algae?	No	No

Activity	**C2 Earthworks for platform development**		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
Biology – Habitats (Flora / fauna / angiosperms / benthic invertebrates / higher and lower sensitivity habitats)	- Which type of habitat is likely to be impacted and what percentage of the habitat is impacted within the water body. - If the footprint of the development is >0.5km^2 then scope element in. - If the activity is within 500m of a higher sensitivity habitat then scope that habitat in for further consideration and if >1% of a lower sensitivity habitat in a water body may be affected then scope in.	No mechanism for impact identified.	No
Biology - Fish	Will the activity be in an estuary and could affect fish in the estuary, outside the estuary but could delay or prevent fish entering it or could affect fish migrating through the estuary? Could the activity impact on normal fish behaviour like movement, migration or spawning?	No mechanism for impact identified.	No
	Could the activity cause entrainment or impingement of fish?	No mechanism for impact identified.	No

Activity	C3 Construction of marine structures		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
Hydromorphology	Will the activity impact on the hydromorphology (for example morphology or tidal patterns) of a water body at high status?	No works to be undertaken within this water body.	No
	Is the activity in a water body that is heavily modified for the same use as the activity?	No works to be undertaken within this water body.	No
	Will the activity significantly impact the hydromorphology of any water body?	No structures to be constructed in this water body.	No
Chemistry	If the activity used or releases chemicals, are the chemicals on the Environmental Quality Standards Directive list?	No works to be undertaken within this water body.	No
	If the activity has a mixing zone, are the chemicals released on the Environmental Quality Standards Directive List?	No works to be undertaken within this water body.	No
	If the activity uses or releases chemicals, will it disturb sediment with contaminants above Cefas Action Level 1?	No sediment disturbance in this water body.	No
Phytoplankton/Physico-chemical	Will the activity affect water clarity, temperature, salinity, oxygen levels, nutrients or microbial patterns continuously for longer than a spring neap tidal cycle (about 14 days)?	No structures to be constructed in this water body.	No
	Is the activity in a water body with a phytoplankton status of moderate, poor or bad or harmful algae?	No.	No

Activity	C3 Construction of marine structures		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
Biology – habitats (Flora / fauna / angiosperms / benthic invertebrates / higher and lower sensitivity habitats)	- Which type of habitat is likely to be impacted and what percentage of the habitat is impacted within the water body. - If the footprint of the development is >0.5km^2 then scope element in. - If the activity is within 500m of a higher sensitivity habitat then scope that habitat in for further consideration and if >1% of a lower sensitivity habitat in a water body may be affected then scope in.	No mechanism for impact identified.	No
Biology - Fish	Will the activity be in an estuary and could affect fish in the estuary, outside the estuary but could delay or prevent fish entering it or could affect fish migrating through the estuary? Could the activity impact on normal fish behaviour like movement, migration or spawning?	As a result of seabed preparation for head structures and the BLF there may be short term sediment plumes within the Suffolk coastal water body which could impact on fish migrating along the coast. Given that the extent of the plume is unclear, scoped in for further assessment	Yes
	Could the activity cause entrainment or impingement of fish?	No mechanism for impact identified.	No

Activity	C4 Discharge of foul, surface and any other water		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
Hydromorphology	Will the activity impact on the hydromorphology (for example morphology or tidal patterns) of a water body at high status?	The water body is not classed as being at high status. No mechanism for impact identified.	No
	Is the activity in a water body that is heavily modified for the same use as the activity?	No mechanism for impact identified.	No
	Will the activity significantly impact the hydromorphology of any water body?	No mechanism for impact identified.	No
Chemistry	If the activity used or releases chemicals, are the chemicals on the Environmental Quality Standards Directive list?	There is potential for foul water discharges to contain chemicals on the Environmental Quality Standards Directive list. Any effects on the Suffolk coastal water body water quality could impact on this water body given the extent of the plume is unknown.	Yes
	If the activity has a mixing zone, are the chemicals released on the Environmental Quality Standards Directive List?	There is potential for foul water discharges to contain chemicals on the Environmental Quality Standards Directive list that require a mixing zone. Any effects on the Suffolk coastal water body could impact on this water body.	Yes
	If the activity uses or releases chemicals, will it disturb sediment with contaminants above Cefas Action Level 1?	No sediment disturbance.	No
Phytoplankton/physico-chemical	Will the activity affect water clarity, temperature, salinity, oxygen levels, nutrients or microbial patterns	There is potential for foul water discharges to impact on these parameters for more	Yes

Activity	C4 Discharge of foul, surface and any other water		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
	continuously for longer than a spring neap tidal cycle (about 14 days)?	than 14 days in the Suffolk coastal water body therefore there is the potential for an effect on this water body.	
	Is the activity in a water body with a phytoplankton status of moderate, poor or bad or harmful algae?	No.	No
Biology - Habitats (Flora / fauna / angiosperms / benthic invertebrates / higher and lower sensitivity habitats)	Which type of habitat is likely to be impacted and what percentage of the habitat is impacted within the water body. - If the footprint of the development is >0.5km^2 then scope element in. - If the activity is within 500m of a higher sensitivity habitat then scope that habitat in for further consideration and if >1% of a lower sensitivity habitat in a water body may be affected then scope in.	Should a water quality effect be identified as a result of changes in the Suffolk coastal water body, there is the potential for effect on biology.	Yes
Biology - Fish	Will the activity be in an estuary and could affect fish in the estuary, outside the estuary but could delay or prevent fish entering it or could affect fish migrating through the estuary? Could the activity impact on normal fish behaviour like movement, migration or spawning?	The discharge of foul water could present a barrier to fish migrating between estuarine water bodies. Appropriate treatment levels will	Yes
	Could the activity cause entrainment or impingement of fish?	The discharge of foul water would not lead to impingement.	No

Activity	C5 Discharge of cold commissioning water via CDO.		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
Hydromorphology	Will the activity impact on the hydromorphology (for example morphology or tidal patterns) of a water body at high status?	The water body is not classed as being at high status. No mechanism for impact identified.	No
	Is the activity in a water body that is heavily modified for the same use as the activity?	No mechanism for impact identified.	No
	Will the activity significantly impact the hydromorphology of any water body?	No mechanism for impact identified.	No
Chemistry	If the activity used or releases chemicals, are the chemicals on the Environmental Quality Standards Directive list?	There is potential for commissioning water to contain chemicals on the Environmental Quality Standards Directive list. Any effects on the Suffolk coastal water body could impact on this water body.	Yes
	If the activity has a mixing zone, are the chemicals released on the Environmental Quality Standards Directive List?	There is potential for commissioning water to contain chemicals on the Environmental Quality Standards Directive list that require a mixing zone. Any effects on the Suffolk coastal water body could impact on this water body.	Yes
	If the activity uses or releases chemicals, will it disturb sediment with contaminants above Cefas Action Level 1?	No mechanism for impact on sediment identified.	No
Phytoplankton/Physico-chemical	Will the activity affect water clarity, temperature, salinity, oxygen levels, nutrients or microbial patterns	There is the potential for changes in marine water quality due to release of commissioning water. Any effects on the	Yes

Activity	C5 Discharge of cold commissioning water via CDO.		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
	continuously for longer than a spring neap tidal cycle (about 14 days)?	Suffolk coastal water body could impact on this water body.	
	Is the activity in a water body with a phytoplankton status of moderate, poor or bad or harmful algae?	No.	No
Biology - Habitats (Flora / fauna / angiosperms / benthic invertebrates / higher and lower sensitivity habitats)	- Which type of habitat is likely to be impacted and what percentage of the habitat is impacted within the water body. - If the footprint of the development is >0.5km^2 then scope element in. - If the activity is within 500m of a higher sensitivity habitat then scope that habitat in for further consideration and if >1% of a lower sensitivity habitat in a water body may be affected then scope in.	Should a water quality effect be identified as a result of changes in the Suffolk coastal water body, there is the potential for effect on biology.	Yes
Biology - Fish	Will the activity be in an estuary and could affect fish in the estuary, outside the estuary but could delay or prevent fish entering it or could affect fish migrating through the estuary? Could the activity impact on normal fish behaviour like movement, migration or spawning?	The discharge of commissioning water could present a barrier to fish migrating between estuarine water bodies.	Yes
	Could the activity cause entrainment or impingement of fish?	The discharge of commissioning water would not lead to impingement.	No

Activity	O1 Presence of power station platform and cut-off wall		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
Hydromorphology	Will the activity impact on the hydromorphology (for example morphology or tidal patterns) of a water body at high status?	The water body is not classed as being at high status.	No
	Is the activity in a water body that is heavily modified for the same use as the activity?	No mechanism for impact identified.	No
	Will the activity significantly impact the hydromorphology of any water body?	These works will be located on land and therefore there is no mechanism for impact.	No
Chemistry	If the activity used or releases chemicals, are the chemicals on the Environmental Quality Standards Directive list?	The physical presence of the power station platform and cut-off wall will not require any discharges to the marine environment. No mechanism for impact identified.	No
	If the activity has a mixing zone, are the chemicals released on the Environmental Quality Standards Directive List?	The physical presence of the power station platform and cut-off wall will not require any discharges to the marine environment. No mechanism for impact was identified.	No
	If the activity uses or releases chemicals, will it disturb sediment with contaminants above Cefas Action Level 1?	The physical presence of the power station platform and cut-off wall will not give rise to any sediment disturbance in the marine environment. No mechanism for impact was identified.	No

Activity	O1 Presence of power station platform and cut-off wall		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
Phytoplankton/Physico-chemical	Will the activity affect water clarity, temperature, salinity, oxygen levels, nutrients or microbial patterns continuously for longer than a spring neap tidal cycle (about 14 days)?	The physical presence of the power station platform and cut-off wall from station will not affect the marine water quality.	No
	Is the activity in a water body with a phytoplankton status of moderate, poor or bad or harmful algae?	No.	No
Biology - Habitats (Flora/fauna/angiosperms/benthic invertebrates/higher and lower sensitivity habitats)	- Which type of habitat is likely to be impacted and what percentage of the habitat is impacted within the water body. - If the footprint of the development is >0.5km^2 then scope element in. - If the activity is within 500m of a higher sensitivity habitat then scope that habitat in for further consideration and if >1% of a lower sensitivity habitat in a water body may be affected then scope in.	The physical presence of the power station platform and cut-off wall will not impact on marine ecology in this water body.	No
Biology - Fish	Will the activity be in an estuary and could affect fish in the estuary, outside the estuary but could delay or prevent fish entering it or could affect fish migrating through the estuary? Could the activity impact on normal fish behaviour like movement, migration or spawning?	The physical presence of the power station platform and cut-off wall will not cause a barrier to fish.	No
	Could the activity cause entrainment or impingement of fish?	No risk of impingement.	No

Activity	O2 Presence of permanent main site access road		
Parameter	**Scoping question**	**Response**	**Further Assessment required**
Hydromorphology	Will the activity impact on the hydromorphology (for example morphology or tidal patterns) of a water body at high status?	The water body is not classed as being at high status.	No
	Is the activity in a water body that is heavily modified for the same use as the activity?	No mechanism for impact identified.	No
	Will the activity significantly impact the hydromorphology of any water body?	These works will be located on land and therefore there is no mechanism for impact.	No
Chemistry	If the activity used or releases chemicals, are the chemicals on the Environmental Quality Standards Directive list?	The permanent access bridge will be located upstream of the Minsmere Sluice on the Leiston Beck water body. Since this bridge is not directly within the marine water body, no mechanism for effect was identified.	No
	If the activity has a mixing zone, are the chemicals released on the Environmental Quality Standards Directive List?	No mechanism for impact identified.	No
	If the activity uses or releases chemicals, will it disturb sediment with contaminants above Cefas Action Level 1?	No mechanism for impact identified.	No
Phytoplankton/Physico-chemical	Will the activity affect water clarity, temperature, salinity, oxygen levels, nutrients or microbial patterns continuously for longer than a spring neap tidal cycle (about 14 days)?	The permanent access bridge will be located upstream of the Minsmere Sluice on the Leiston Beck water body. Since this bridge is not directly within the marine	No

Activity	O2 Presence of permanent main site access road		
Parameter	**Scoping question**	**Response**	**Further Assessment required**
		water body, no mechanism for effect was identified.	
	Is the activity in a water body with a phytoplankton status of moderate, poor or bad or harmful algae?	No.	No
Biology - Habitats (Flora / fauna / angiosperms / benthic invertebrates / higher and lower sensitivity habitats)	- Which type of habitat is likely to be impacted and what percentage of the habitat is impacted within the water body. - If the footprint of the development is >0.5km^2 then scope element in. - If the activity is within 500m of a higher sensitivity habitat then scope that habitat in for further consideration and if >1% of a lower sensitivity habitat in a water body may be affected then scope in.	The permanent access bridge will be located upstream of the Minsmere Sluice on the Leiston Beck water body. Since this bridge is not directly within the marine water body, no mechanism for effect was identified.	No
Biology - Fish	Will the activity be in an estuary and could affect fish in the estuary, outside the estuary but could delay or prevent fish entering it or could affect fish migrating through the estuary? Could the activity impact on normal fish behaviour like movement, migration or spawning?	Works do not take place within the marine environment. No mechanism for impact identified.	No
	Could the activity cause entrainment or impingement of fish?	No risk of impingement.	No

Activity	O3 Presence of marine structures		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
Hydromorphology	Will the activity impact on the hydromorphology (for example morphology or tidal patterns) of a water body at high status?	The water body is not classed as being at high status.	No
	Is the activity in a water body that is heavily modified for the same use as the activity?	No works will take place within this water body.	No
	Will the activity significantly impact the hydromorphology of any water body?	No works will take place within this water body.	No
Chemistry	If the activity used or releases chemicals, are the chemicals on the Environmental Quality Standards Directive list?	Presence of marine structures will not discharge or release chemicals.	No
	If the activity has a mixing zone, are the chemicals released on the Environmental Quality Standards Directive List?	Presence of marine structures will not discharge or release chemicals.	No
	If the activity uses or releases chemicals, will it disturb sediment with contaminants above Cefas Action Level 1?	It is not anticipated that the presence of the marine structures or dredging to maintain access to the BLF will affect this water body given that the works will take place in the Suffolk coastal water body.	No
Phytoplankton / physico-chemical	Will the activity affect water clarity, temperature, salinity, oxygen levels, nutrients or microbial patterns continuously for longer than a spring neap tidal cycle (about 14 days)?	It is not anticipated that the presence of the marine structures or dredging to maintain access to the BLF will affect this water body.	No
	Is the activity in a water body with a phytoplankton status of moderate, poor or bad or harmful algae?	No.	No

Activity	O3 Presence of marine structures		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
Biology - Habitats Flora / fauna / angiosperms / benthic invertebrates / higher and lower sensitivity habitats	Which type of habitat is likely to be impacted and what percentage of the habitat is impacted within the water body. - If the footprint of the development is >0.5km^2 then scope element in. - If the activity is within 500m of a higher sensitivity habitat then scope that habitat in for further consideration and if >1% of a lower sensitivity habitat in a water body may be affected then scope in.	It is not anticipated that the presence of the marine structures or dredging to maintain access to the BLF will affect this water body.	No
Biology - Fish	Will the activity be in an estuary and could affect fish in the estuary, outside the estuary but could delay or prevent fish entering it or could affect fish migrating through the estuary? Could the activity impact on normal fish behaviour like movement, migration or spawning?	It is not anticipated that the presence of the marine structures or dredging to maintain access to the BLF will affect this water body. Whilst dredging will be required to maintain access this will be infrequent and small scale.	No
	Could the activity cause entrainment or impingement of fish?	No risk of impingement.	No

Activity	O4 Presence of flood defence structures		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
Hydromorphology	Will the activity impact on the Hydromorphology (for example morphology or tidal patterns) of a water body at high status?	The water body is not classed as being at high status.	No
	Is the activity in a water body that is heavily modified for the same use as the activity?	There will be no flood defences located within this water body.	No
	Will the activity significantly impact the Hydromorphology of any water body?	There will be no flood defences located within this water body.	No
Chemistry	If the activity used or releases chemicals, are the chemicals on the Environmental Quality Standards Directive list?	Presence of flood defence structures will not lead to the release of any chemicals into the water environment.	No
	If the activity has a mixing zone, are the chemicals released on the Environmental Quality Standards Directive List?	Presence of flood defence structures will not lead to the release of any chemicals into the water environment.	No
	If the activity uses or releases chemicals, will it disturb sediment with contaminants above Cefas Action Level 1?	Presence of flood defence structures will not lead to the release of any sediments at risk of being contaminated. Material to be used to build up the soft defences will be sourced from non-contaminated material supplier.	No

Activity	O4 Presence of flood defence structures		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
Phytoplankton/Physico-chemical	Will the activity affect water clarity, temperature, salinity, oxygen levels, nutrients or microbial patterns continuously for longer than a spring neap tidal cycle (about 14 days)?	Presence of flood defence structures will not affect water quality.	No
	Is the activity in a water body with a phytoplankton status of moderate, poor or bad or harmful algae?	No.	No
Biology - Habitats (Flora / fauna / angiosperms / benthic invertebrates / higher and lower sensitivity habitats)	Which type of habitat is likely to be impacted and what percentage of the habitat is impacted within the water body. - If the footprint of the development is >0.5km^2 then scope element in. - If the activity is within 500m of a higher sensitivity habitat then scope that habitat in for further consideration and if >1% of a lower sensitivity habitat in a water body may be affected then scope in.	There will be no flood defences located within this water body.	No
Biology - Fish	Will the activity be in an estuary and could affect fish in the estuary, outside the estuary but could delay or prevent fish entering it or could affect fish migrating through the estuary? Could the activity impact on normal fish behaviour like movement, migration or spawning?	There will be no flood defences located within this water body.	No
	Could the activity cause entrainment or impingement of fish?	No risk of impingement.	No

Activity	O5 Discharge of foul water and surface water via cooling water system		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
Hydromorphology	Will the activity impact on the hydromorphology (for example morphology or tidal patterns) of a water body at high status?	No impact on hydromorphology identified.	No
	Is the activity in a water body that is heavily modified for the same use as the activity?	No impact on hydromorphology identified.	No
	Will the activity significantly impact the hydromorphology of any water body?	No impact on hydromorphology identified.	No
Chemistry	If the activity used or releases chemicals, are the chemicals on the Environmental Quality Standards Directive list?	Direct discharge of sewage effluent into the marine environment via the cooling water discharge system could release chemicals into the Suffolk water body. If it is shown that there is an effect in the Suffolk water body, then there could be an effect on this water body.	Yes
	If the activity has a mixing zone, are the chemicals released on the Environmental Quality Standards Directive List?	Direct discharge of sewage effluent into the marine environment via the cooling water discharge system could release chemicals into the Suffolk water body. If it is shown that there is an effect in the Suffolk water body, then there could be an effect on this water body.	Yes
	If the activity uses or releases chemicals, will it disturb sediment with contaminants above Cefas Action Level 1?	No disturbance of sediments and therefore no mechanism for impact identified.	No
Phytoplankton/Physico-chemical	Will the activity affect water clarity, temperature, salinity, oxygen levels, nutrients or microbial	Direct discharge of sewage effluent into the marine environment via the cooling water discharge system could release chemicals into	Yes

Activity	O5 Discharge of foul water and surface water via cooling water system		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
	patterns continuously for longer than a spring neap tidal cycle (about 14 days)?	the Suffolk water body. If it is shown that there is an effect in the Suffolk water body, then there could be an effect on this water body.	
	Is the activity in a water body with a phytoplankton status of moderate, poor or bad or harmful algae?	No.	No
Biology - Habitats (Flora / fauna / angiosperms / benthic invertebrates / higher and lower sensitivity habitats)	Which type of habitat is likely to be impacted and what percentage of the habitat is impacted within the water body. - If the footprint of the development is >0.5km^2 then scope element in. - If the activity is within 500m of a higher sensitivity habitat then scope that habitat in for further consideration and if >1% of a lower sensitivity habitat in a water body may be affected then scope in.	Direct discharge of sewage effluent into the marine environment via the cooling water discharge system could release chemicals into the Suffolk water body. If it is shown that there is an effect in the Suffolk water body, then there could be an effect on this water body.	Yes
Biology - Fish	Will the activity be in an estuary and could affect fish in the estuary, outside the estuary but could delay or prevent fish entering it or could affect fish migrating through the estuary? Could the activity impact on normal fish behaviour like movement, migration or spawning?	The discharge of foul water into the Suffolk coastal water body might present a barrier to fish migrating between estuaries.	Yes
	Could the activity cause entrainment or impingement of fish?	No risk of impingement.	No

Activity	O6 Intake of cooling water		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
Hydromorphology	Will the activity impact on the hydromorphology (for example morphology or tidal patterns) of a water body at high status?	The water body is not classified as being at high status.	No
	Is the activity in a water body that is heavily modified for the same use the own activity?	No mechanism for impact identified.	No
	Will the activity significantly impact the hydromorphology of any water body?	No mechanism for impact identified.	No
Chemistry	If the activity used or releases chemicals, are the chemicals on the Environmental Quality Standards Directive list?	Intake of cooling water will not cause release of chemicals into the water environment.	No
	If the activity has a mixing zone, are the chemicals released on the Environmental Quality Standards Directive List?	Intake of cooling water will not cause release of chemicals into the water environment.	No
	If the activity uses or releases chemicals, will it disturb sediment with contaminants above Cefas Action Level 1?	No mechanism for impact identified.	No
Phytoplankton/ physico-chemical	Will the activity affect water clarity, temperature, salinity, oxygen levels, nutrients or microbial patterns continuously for longer than a spring neap tidal cycle (about 14 days)?	There will be no changes to physico-chemical supporting elements as a result of cooling water intake.	No
	Is the activity in a water body with a phytoplankton status of moderate, poor or bad or harmful algae?	No.	No

Activity	O6 Intake of cooling water		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
Biology - Habitats Flora / fauna / angiosperms / benthic invertebrates / higher and lower sensitivity habitats	Which type of habitat is likely to be impacted and what percentage of the habitat is impacted within the water body. - If the footprint of the development is >0.5km^2 then scope element in. - If the activity is within 500m of a higher sensitivity habitat then scope that habitat in for further consideration and if >1% of a lower sensitivity habitat in a water body may be affected then scope in.	Intake of cooling water will not impact on habitats	No
Biology - Fish	Will the activity be in an estuary and could affect fish in the estuary, outside the estuary but could delay or prevent fish entering it or could affect fish migrating through the estuary? Could the activity impact on normal fish behaviour like movement, migration or spawning?	There is a risk of impingement of fish within the Suffolk coastal water body which could impact on fish moving between estuaries.	Yes
	Could the activity cause entrainment or impingement of fish?	There is a risk of impingement which could impact on fish moving between estuaries.	Yes

Activity	O7 Discharge of trade effluent via cooling water system		
Parameter	**Scoping question**	**Response**	**Further Assessment required**
Hydromorphology	Will the activity impact on the hydromorphology (for example morphology or tidal patterns) of a water body at high status?	The water body is not classified as being at high status. No mechanism for impact identified.	No
	Is the activity in a water body that is heavily modified for the same use as this activity?	The discharge of cooling water will not impact hydromorphology in this water body.	No
	Will the activity significantly impact the hydromorphology of any water body?	The discharge of cooling water will not impact hydromorphology in this water body.	No
Chemistry	If the activity used or releases chemicals, are the chemicals on the Environmental Quality Standards Directive list?	Cooling water is likely to include small volumes of chemicals on the Environmental Quality Standards Directive list which will be discharged to the Suffolk coastal water body. Should an effect be identified in the Suffolk coastal water body then there is the potential for effect in this water body.	Yes
	If the activity has a mixing zone, are the chemicals released on the Environmental Quality Standards Directive List?	Cooling water is likely to include small volumes of chemicals on the Environmental Quality Standards Directive list which will be discharged to the Suffolk coastal water body. Should an effect be identified in the Suffolk coastal water body then there is the potential for effect in this water body.	Yes
	If the activity uses or releases chemicals, will it disturb sediment with contaminants above Cefas Action Level 1?	No mechanism for impact identified.	No
Phytoplankton / Physico- chemical	Will the activity affect water clarity, temperature, salinity, oxygen levels, nutrients or microbial	The plume may extend far enough to provide a pathway for effect on this water body.	Yes

Activity	O7 Discharge of trade effluent via cooling water system		
Parameter	**Scoping question**	**Response**	**Further Assessment required**
	patterns continuously for longer than a spring neap tidal cycle (about 14 days)?		
	Is the activity in a water body with a phytoplankton status of moderate, poor or bad or harmful algae?	No.	No
Biology - Habitats (Flora / fauna / angiosperms / benthic invertebrates / higher and lower sensitivity habitats)	Which type of habitat is likely to be impacted and what percentage of the habitat is impacted within the water body. - If the footprint of the development is >0.5km^2 then scope element in. - If the activity is within 500m of a higher sensitivity habitat then scope that habitat in for further consideration and if >1% of a lower sensitivity habitat in a water body may be affected then scope in.	Should an effect on water quality be identified, there could potentially be an effect on marine ecology in this water body.	Yes
Biology - Fish	Will the activity be in an estuary and could affect fish in the estuary, outside the estuary but could delay or prevent fish entering it or could affect fish migrating through the estuary? Could the activity impact on normal fish behaviour like movement, migration or spawning?	The discharge of trade effluent into the Suffolk coastal water could act as a barrier to fish migration between estuaries.	Yes
	Could the activity cause entrainment or impingement of fish?	No risk of impingement.	No

Activity	O8 Discharge of polluting matter via FRR system		
Parameter	**Scoping question**	**Response**	**Further Assessment**
Hydromorphology	Will the activity impact on the hydromorphology (for example morphology or tidal patterns) of a water body at high status?	No impact on hydromorphology identified.	No
	Is the activity in a water body that is heavily modified for the same use as the activity?	No impact on hydromorphology identified.	No
	Will the activity significantly impact the hydromorphology of any water body?	No impact on hydromorphology identified.	No
Chemistry	If the activity used or releases chemicals, are the chemicals on the Environmental Quality Standards Directive list?	No, discharge of dead fish would not release Environmental Quality Standards Directive chemicals. No disturbance of sediment	No
	If the activity has a mixing zone, are the chemicals released on the Environmental Quality Standards Directive List?		
	If the activity uses or releases chemicals, will it disturb sediment with contaminants above Cefas Action Level 1?		
Phytoplankton/Physico-chemical	Will the activity affect water clarity, temperature, salinity, oxygen levels, nutrients or microbial patterns continuously for longer than a spring neap tidal cycle (about 14 days)?	Whilst there is the potential to impact on water quality parameters associated with the decay of fish discharged from the FRR, it is unlikely that the effect will be large enough to impact on adjoining water bodies	No

Activity	O8 Discharge of polluting matter via FRR system		
Parameter	**Scoping question**	**Response**	**Further Assessment**
	Is the activity in a water body with a phytoplankton status of moderate, poor or bad or harmful algae?	No.	No
Biology - Habitats (Flora / fauna / angiosperms / benthic invertebrates / higher and lower sensitivity habitats)	- Which type of habitat is likely to be impacted and what percentage of the habitat is impacted within the water body. - If the footprint of the development is >0.5km^2 then scope element in. - If the activity is within 500m of a higher sensitivity habitat then scope that habitat in for further consideration and if >1% of a lower sensitivity habitat in a water body may be affected then scope in.	See comments on water quality. As a result, no potential effects on biology anticipated	No
Biology - Fish	Will the activity be in an estuary and could affect fish in the estuary, outside the estuary but could delay or prevent fish entering it or could affect fish migrating through the estuary? Could the activity impact on normal fish behaviour like movement, migration or spawning?	See comments on water quality. As a result, no potential effects on fish anticipated	No
	Could the activity cause entrainment or impingement of fish?	No risk of impingement.	No

Table 1:3: Suffolk coastal water body (GB650503520002)

Activity	C1 Initial site preparation		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
Hydromorphology	Will the activity impact on the hydromorphology (for example morphology or tidal patterns) of a water body at high status?	The water body is not classed as being at high status.	No
	Is the activity in a water body that is heavily modified for the same use as the activity?	The water body is heavily modified for coastal and flood protection. There is no mechanism for impact from the landside works as these will not further alter the hydromorphology of the water body.	No
	Will the activity significantly impact the hydromorphology of any water body?	No mechanism for impact identified.	No
Chemistry	If the activity used or releases chemicals, are the chemicals on the Environmental Quality Standards Directive list?	The only pathway for impact on the water body is discharge from Minsmere Sluice. Both Leiston Beck and Minsmere River discharge via Minsmere Sluice. There is potential for the release of chemicals into the water body from the construction site. Earthworks may result in the mobilisation of contaminants which could enter the surface water system of the water body through the drainage system or groundwater which might, in turn change its physico-chemistry. There is also the potential for accidental release of contaminants from the earthworks (e.g. hydrocarbons) and an increase in sediment from wind-blown dust derived from disturbed ground.	Yes

Activity	C1 Initial site preparation		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
	If the activity has a mixing zone, are the chemicals released on the Environmental Quality Standards Directive List?	Scoped in for potential release of Environmental Quality Standards Directive above therefore not considered further here	No
	If the activity uses or releases chemicals, will it disturb sediment with contaminants above Cefas Action Level 1?	Scoped in for potential release of Environmental Quality Standards Directive which includes the potential for release of contaminated sediment above therefore not considered further here	No
Phytoplankton/ Physico-chemical	Will the activity affect water clarity, temperature, salinity, oxygen levels, nutrients or microbial patterns continuously for longer than a spring neap tidal cycle (about 14 days)?	The only pathway for impact on the water body is discharge from the Minsmere Sluice since there will be no landside works with any direct discharges or works which could allow water into the marine environment. Any direct impacts to Leiston Beck and Minsmere Old River which discharge via Minsmere Sluice could therefore potentially have an effect on the coastal water body - these could be related to increases in suspended solids to the water courses (water transparency) and/or any changes to nutrient levels associated with changes to runoff across soils containing nutrients. No mechanism for impact on temperature is identified as no landside works will discharge any water below or above ambient temperature.	Yes
	Is the activity in a water body with a phytoplankton status of moderate, poor or bad or harmful algae?	No.	No
Biology – Habitats	Which type of habitat is likely to be impacted and what percentage of the	The only pathway for impact on the coastal water body is via discharges from Minsmere Sluice. If a water quality impact is	Yes

Activity	C1 Initial site preparation		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
Flora / fauna / angiosperms / benthic invertebrates / higher and lower sensitivity habitats	habitat is impacted within the water body. - If the footprint of the development is >0.5km^2 then scope element in. - If the activity is within 500m of a higher sensitivity habitat then scope that habitat in for further consideration and if >1% of a lower sensitivity habitat in a water body may be affected then scope in.	identified, then there is the potential pathway to impact on marine ecology.	

Activity	**C2 Earthworks**		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
Hydromorphology	Will the activity impact on the hydromorphology (for example morphology or tidal patterns) of a water body at high status?	The water body is not classed as being at high status.	No
	Is the activity in a water body that is heavily modified for the same use the own activity?	The water body is not classed as being at high status. The water body is heavily modified for coastal and flood protection. There is no mechanism for impact as works will not be undertaken within this waterbody and will not further alter the hydromorphology of the water body.	No
	Will the activity significantly impact the hydromorphology of any water body?	No mechanism for impact identified.	No
Chemistry	If the activity used or releases chemicals, are the chemicals on the Environmental Quality Standards Directive list?	The only pathway for impact on the water body is discharge from Minsmere Sluice. Both Leiston Beck and Minsmere River discharge via Minsmere Sluice. There is potential for the release of chemicals into the water body from the construction site. Earthworks may result in the mobilisation of contaminants which could enter the surface water system of the water body through the drainage system or groundwater which might, in turn change its physico-chemistry. There is also the potential for accidental release of contaminants from the earthworks (e.g. hydrocarbons) and an increase in sediment from wind-blown dust derived from disturbed ground.	Yes

Activity	C2 Earthworks		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
	If the activity has a mixing zone, are the chemicals released on the Environmental Quality Standards Directive List?	Mixing zone not applicable	No
	If the activity uses or releases chemicals, will it disturb sediment with contaminants above Cefas Action Level 1?	There is no anticipated marine sediment disturbance. Sediment release will be considered as scoped in above question	No
Phytoplankton/ Physico-chemical	Will the activity affect water clarity, temperature, salinity, oxygen levels, nutrients or microbial patterns continuously for longer than a spring neap tidal cycle (about 14 days)?	The only pathway for impact on the water body is discharges from Minsmere Sluice. Both Leiston Beck and Minsmere River discharge via Minsmere Sluice. There is potential for changes of water transparency and nutrients levels due to for example sediment run-off from the construction works or contaminates mobilisation. No mechanism for impact on the temperature was identified.	Yes
	Is the activity in a water body with a phytoplankton status of moderate, poor or bad or harmful algae?	No.	No
Biology – Habitats (Flora / fauna / angiosperms / benthic invertebrates / higher and lower sensitivity habitats)	Which type of habitat is likely to be impacted and what percentage of the habitat is impacted within the water body. - If the footprint of the development is >0.5km^2 then scope element in.	The only pathway for impact on the water body is discharges from Minsmere Sluice. Both Leiston Beck and Minsmere River discharge via Minsmere Sluice. Chemical/organic discharges from terrestrial groundworks could have a local impact on the water body and benthic species.	Yes

Activity	C2 Earthworks		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
	- If the activity is within 500m of a higher sensitivity habitat then scope that habitat in for further consideration and if >1% of a lower sensitivity habitat in a water body may be affected then scope in.		

Activity	**C3 Construction of marine structures**		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
Hydromorphology	Will the activity impact on the hydromorphology (for example morphology or tidal patterns) of a water body at high status?	The water body is not classed as being at high status.	No
	Is the activity in a water body that is heavily modified for the same use as the activity?	The water body is heavily modified for coastal and flood protection. The main hydrodynamic effects will be experienced in the operational phase so are considered there.	No
	Will the activity significantly impact the hydromorphology of any water body?	No mechanism for impact identified.	No
Chemistry	If the activity used or releases chemicals, are the chemicals on the Environmental Quality Standards Directive list?	See below regarding sediment quality. Any coatings or treatments applied to the BLF or other infrastructure must be suitable for use in the marine environment in accordance with best environmental practice i.e. be on the list of substances approved for use by the offshore oil and gas industry or have undergone a similar level of risk assessment. Work undertaken in the marine environment or in close proximity should have regard to best practice for pollution prevention as identified in Guidance for Pollution Prevention (GPP) i.e. GPP 5 works and maintenance in or near water, GPP 6 working at construction and demolition sites, GPP 8 safe storage and disposal of used oils, GPP 22 dealing with spills). By application of best practice, negligible effects from chemicals leaching from structures would be predicted.	No

Activity	C3 Construction of marine structures		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
		To construct the cooling water intake, outfall tunnels, CDO and FRR tunnels tunnel boring machines will be used and any waste water generated by drilling of the cooling water tunnels would be returned to land for treatment before being discharged via the CDO. Effects associated with this water are therefore considered in discharge of water from the CDO. Intake, outfall and FRR head structures to be pre-cast on land. In addition, an Environmental Management Plan will be implemented, part of which will cover the control of pollution incidences.	
	If the activity has a mixing zone, are the chemicals released on the Environmental Quality Standards Directive List?	See below regarding sediment quality. Potential for leaks and spills during construction from vessels will be managed by compliance with IMO regulations therefore reducing the risks as far as possible. Any chemicals used in marine construction will be selected from the list of notified chemicals assessed for use by the offshore oil and gas industry under the Offshore Chemicals (Amendment) Regulations 2011. Any coatings or treatments must be suitable for use in the marine environment in accordance with best environmental practice. Therefore, no chemical release of Environmental Quality Standards Directive substances is anticipated. Any waste water generated by drilling of the cooling water tunnels would be returned to land for treatment before being discharged via the CDO. Effects	No

Activity	C3 Construction of marine structures		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
		associated with this water are therefore considered in discharge of water from the CDO. To construct the cooling water intake and outfall tunnels tunnel boring machines will be used therefore no effects on marine water quality.	
	If the activity uses or releases chemicals, will it disturb sediment with contaminants above Cefas Action Level 1?	Sediment quality data available indicates concentrations above Action Level 1	Yes
Phytoplankton/Physico-chemical	Will the activity affect water clarity, temperature, salinity, oxygen levels, nutrients or microbial patterns continuously for longer than a spring neap tidal cycle (about 14 days)?	Construction in the marine environment might affect marine water transparency by increasing suspended solids concentrations as a result of seabed disturbance, drilling and dredging.	Yes
	Is the activity in a water body with a phytoplankton status of moderate, poor or bad or harmful algae?	No.	No
Biology - Habitats Flora / fauna / angiosperms / benthic invertebrates / higher and lower sensitivity habitats	Which type of habitat is likely to be impacted and what percentage of the habitat is impacted within the water body. - If the footprint of the development is >0.5km^2 then scope element in. - If the activity is within 500m of a higher sensitivity habitat then scope that habitat in for further consideration and if	Construction may potentially cause resuspension of sediments and localised habitat loss. There may be temporary increases in suspended solids concentrations during dredging for these structures for which the plume may exceed 0.5km^2.	Yes

Activity	C3 Construction of marine structures		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
	>1% of a lower sensitivity habitat in a water body may be affected then scope in.		

Activity	**C4 Discharge of foul, surface and any other water**		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
Hydromorphology	Will the activity impact on the hydromorphology (for example morphology or tidal patterns) of a water body at high status?	The water body is not classed as being at high status.	No
	Is the activity in a water body that is heavily modified for the same use the own activity?	The water body is heavily modified for coastal and flood protection. The provision of collection and treatment of foul water does not relate to the current designation associated with flood and coastal protection.	No
	Will the activity significantly impact the hydromorphology of any water body?	No mechanism for impact identified.	No
Chemistry	If the activity used or releases chemicals, are the chemicals on the Environmental Quality Standards Directive list?	There is potential for discharges to contain chemicals on the Environmental Quality Standards Directive list.	Yes
	If the activity has a mixing zone, are the chemicals released on the Environmental Quality Standards Directive List?	There is potential for discharges to contain chemicals on the Environmental Quality Standards Directive list that require a mixing zone.	Yes
	If the activity uses or releases chemicals, will it disturb sediment with contaminants above Cefas Action Level 1?	No mechanism for impacts on sediment due to discharges.	No

Activity	C4 Discharge of foul, surface and any other water		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
Phytoplankton/Physico-chemistry	Will the activity affect water clarity, temperature, salinity, oxygen levels, nutrients or microbial patterns continuously for longer than a spring neap tidal cycle (about 14 days)?	There is potential for water discharges to impact on these parameters for more than 14 days.	Yes
	Is the activity in a water body with a phytoplankton status of moderate, poor or bad or harmful algae?	No.	No
Biology - Habitats Flora / fauna / angiosperms / benthic invertebrates / higher and lower sensitivity habitats	- Which type of habitat is likely to be impacted and what percentage of the habitat is impacted within the water body. - If the footprint of the development is >0.5km^2 then scope element in. - If the activity is within 500m of a higher sensitivity habitat then scope that habitat in for further consideration and if >1% of a lower sensitivity habitat in a water body may be affected then scope in.	There is potential for foul water discharges to impact on biology.	Yes

Activity	C5 Discharge of cold commissioning water via CDO.		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
Hydromorphology	Will the activity impact on the hydromorphology (for example morphology or tidal patterns) of a water body at high status?	The water body is not classed as being at high status.	No
	Is the activity in a water body that is heavily modified for the same use as the activity	The water body is heavily modified for coastal and flood protection. The discharge of any commissioning water does not relate to the current designation associated with flood and coastal protection.	No
	Will the activity significantly impact the hydromorphology of any water body?	The discharge of any commissioning water will not impact on the hydromorphology of the water body.	No
Chemistry	If the activity used or releases chemicals, are the chemicals on the Environmental Quality Standards Directive list?	There is potential for discharges to contain chemicals on the Environmental Quality Standards Directive list.	Yes
	If the activity has a mixing zone, are the chemicals released on the Environmental Quality Standards Directive List?	There is potential for discharges to contain chemicals on the Environmental Quality Standards Directive list that require a mixing zone.	Yes
	If the activity uses or releases chemicals, will it disturb sediment with contaminants above Cefas Action Level 1?	No mechanism for impact on sediment.	No
Phytoplankton/Physico-chemical	Will the activity affect water clarity, temperature, salinity, oxygen levels, nutrients or microbial patterns continuously for longer than a spring neap tidal cycle (about 14 days)?	There is the potential for changes in marine water quality due to release of commissioning water.	Yes

Activity	C5 Discharge of cold commissioning water via CDO.		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
	Is the activity in a water body with a phytoplankton status of moderate, poor or bad or harmful algae?	No.	No
Biology - Habitats (Flora / fauna / angiosperms / benthic invertebrates / higher and lower sensitivity habitats)	-Which type of Which type of habitat is likely to be impacted and what percentage of the habitat is impacted within the water body. - If the footprint of the development is >0.5km^2 then scope element in. - If the activity is within 500m of a higher sensitivity habitat then scope that habitat in for further consideration and if >1% of a lower sensitivity habitat in a water body may be affected then scope in.	There is potential for commissioning discharges to impact on biology.	Yes

Activity	O1 Presence of power station platform and cut-off wall		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
Hydromorphology	Will the activity impact on the hydromorphology (for example morphology or tidal patterns) of a water body at high status?	The water body is not classed as being at high status.	No
	Is the activity in a water body that is heavily modified for the same use the own activity?	As the water body is heavily modified for coastal and flood protection no mechanism for impact was identified.	No
	Will the activity significantly impact the hydromorphology of any water body?	These works will be located on land and therefore there is no mechanism for impact.	No
Chemistry	If the activity used or releases chemicals, are the chemicals on the Environmental Quality Standards Directive list?	The physical presence of the power station platform and cut-off wall will not require any discharges to the marine environment. No mechanism for impact was identified.	No
	If the activity has a mixing zone, are the chemicals released on the Environmental Quality Standards Directive List?	The physical presence of the power station platform and cut-off wall will not require any discharges to the marine environment. No mechanism for impact was identified.	No
	If the activity uses or releases chemicals, will it disturb sediment with contaminants above Cefas Action Level 1?	The physical presence of the power station platform and cut-off wall will not require any discharges to the marine environment. No mechanism for impact was identified.	No

Activity	O1 Presence of power station platform and cut-off wall		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
Phytoplankton/Physico-chemical	Will the activity affect water clarity, temperature, salinity, oxygen levels, nutrients or microbial patterns continuously for longer than a spring neap tidal cycle (about 14 days)?	The physical presence of the power station platform and cut-off wall from station will not affect the marine water quality.	No
	Is the activity in a water body with a phytoplankton status of moderate, poor or bad or harmful algae?	No.	No
Biology – Habitats Flora / fauna / angiosperms / benthic invertebrates / higher and lower sensitivity habitats	- Which type of habitat is likely to be impacted and what percentage of the habitat is impacted within the water body. - If the footprint of the development is >0.5km^2 then scope element in. - If the activity is within 500m of a higher sensitivity habitat then scope that habitat in for further consideration and if >1% of a lower sensitivity habitat in a water body may be affected then scope in.	The physical presence of the power station platform and cut-off wall will not impact on marine ecology in this water body.	No

Activity	O2 Presence of permanent main site access road		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
Hydromorphology	Will the activity impact on the hydromorphology (for example morphology or tidal patterns) of a water body at high status?	The water body is not classed as being at high status.	No
	Is the activity in a water body that is heavily modified for the same use as the activity?	The presence of the access bridge will not contribute to flood or coastal defence structures and therefore no mechanism for impact was identified.	No
	Will the activity significantly impact the hydromorphology of any water body?	These structures are on land therefore no mechanism for impact.	No
Chemistry	If the activity used or releases chemicals, are the chemicals on the Environmental Quality Standards Directive list?	No mechanism for effect was identified.	No
	If the activity has a mixing zone, are the chemicals released on the Environmental Quality Standards Directive List?	No mechanism for effect.	No
	If the activity uses or releases chemicals, will it disturb sediment with contaminants above Cefas Action Level 1?	No mechanism for effect.	No
Phytoplankton/Physico-chemical	Will the activity affect water clarity, temperature, salinity, oxygen levels, nutrients or microbial patterns continuously for longer than a spring neap tidal cycle (about 14 days)?	No mechanism for effect was identified.	No

Activity	O2 Presence of permanent main site access road		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
	Is the activity in a water body with a phytoplankton status of moderate, poor or bad or harmful algae?	No.	No
Biology – Habitats Flora / fauna / angiosperms / benthic invertebrates / higher and lower sensitivity habitats	Which type of habitat is likely to be impacted and what percentage of the habitat is impacted within the water body. - If the footprint of the development is >0.5km^2 then scope element in. - If the activity is within 500m of a higher sensitivity habitat then scope that habitat in for further consideration and if >1% of a lower sensitivity habitat in a water body may be affected then scope in.	The permanent access bridge will be located upstream of the Minsmere Sluice on the Leiston Beck water body. Since this bridge is not directly within the marine water body, no mechanism for effect was identified.	No

Activity	O3 Presence of marine structures		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
Hydromorphology	Will the activity impact on the hydromorphology (for example morphology or tidal patterns) of a water body at high status?	The water body is not classed as being at high status.	No
	Is the activity in a water body that is heavily modified for the same use as the activity?	The water body is heavily modified for coastal and flood protection. There is the potential that the beach landing facility could affect coastal processes.	Yes
	Will the activity significantly impact the hydromorphology of any water body?	There is the potential that the beach landing facility could affect coastal processes.	Yes
Chemistry	If the activity used or releases chemicals, are the chemicals on the Environmental Quality Standards Directive list?	All substances and objects deposited are inert (or appropriately coated or protected) and do not contain toxic elements. Any coatings or treatments applied to infrastructure would be suitable for use in the marine environment in accordance with best environmental practice i.e. be on the list of substances approved for use by the offshore oil and gas industry or have undergone a similar level of risk assessment. By application of best practice, effects from chemicals leaching from structures is not predicted.	No
	If the activity has a mixing zone, are the chemicals released on the Environmental Quality Standards Directive List?	Presence of marine structures will not discharge or release chemicals.	No

Activity	O3 Presence of marine structures		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
	If the activity uses or releases chemicals, will it disturb sediment with contaminants above Cefas Action Level 1?	Dredging for the BLF could release sediments with concentrations of contaminants above Cefas Action Level 1.	Yes
Phytoplankton/Physico-chemical	Will the activity affect water clarity, temperature, salinity, oxygen levels, nutrients or microbial patterns continuously for longer than a spring neap tidal cycle (about 14 days)?	Operation of the beach landing facility may cause sediment resuspension which could lead to a change of water transparency. There could also be localised scour associated with the presence of structures which would release sediments into the water column. The requirement for dredging may also impact on water quality for greater than 14 days. Scour protection could potentially be required to minimise this effect.	Yes
	Is the activity in a water body with a phytoplankton status of moderate, poor or bad or harmful algae?	No.	No
Biology - Habitats Flora / fauna / angiosperms / benthic invertebrates / higher and lower sensitivity habitats	Which type of habitat is likely to be impacted and what percentage of the habitat is impacted within the water body. - If the footprint of the development is >0.5km^2 then scope element in. - If the activity is within 500m of a higher sensitivity habitat then scope that habitat in for further consideration and if	There will be a direct loss of ecological habitat associated with the presence of these structures and dredging to maintain access to the BLF. This could potentially be greater than 0.5km^2	Yes

Activity	O3 Presence of marine structures		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
	>1% of a lower sensitivity habitat in a water body may be affected then scope in.		

Activity	O4 Presence of flood defence structures		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
Hydromorphology	Will the activity impact on the hydromorphology (for example morphology or tidal patterns) of a water body at high status?	The water body is not classed as being at high status.	No
	Is the activity in a water body that is heavily modified for the same use as the activity?	The water body is heavily modified for the coastal and flood protection and therefore the presence of additional flood defences are in line with the reason for the heavily modified designation.	Yes
	Will the activity significantly impact the hydromorphology of any water body?	The water body is heavily modified for the coastal and flood protection and therefore the presence of additional flood defences are in line with the reason for the heavily modified designation	Yes
Chemistry	If the activity used or releases chemicals, are the chemicals on the Environmental Quality Standards Directive list?	Presence of flood defence structures will not lead to the release of any dangerous chemicals into the water body.	No
	If the activity has a mixing zone, are the chemicals released on the Environmental Quality Standards Directive List?	Presence of flood defence structures will not lead to the release of any dangerous chemicals into the water body.	No
	If the activity uses or releases chemicals, will it disturb sediment with contaminants above Cefas Action Level 1?	Presence of flood defence structures will not lead to the release of any sediments at risk of being contaminated.	No
Phytoplankton/Physico-chemical	Will the activity affect water clarity, temperature, salinity, oxygen levels, nutrients or microbial patterns continuously	Presence of flood defence structures will not affect water quality.	No

Activity	O4 Presence of flood defence structures		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
	for longer than a spring neap tidal cycle (about 14 days)?		
	Is the activity in a water body with a phytoplankton status of moderate, poor or bad or harmful algae?	No.	No
Biology - Habitat Flora / fauna / angiosperms / benthic invertebrates / higher and lower sensitivity habitats	Which type of habitat is likely to be impacted and what percentage of the habitat is impacted within the water body. - If the footprint of the development is >0.5km^2 then scope element in. - If the activity is within 500m of a higher sensitivity habitat then scope that habitat in for further consideration and if >1% of a lower sensitivity habitat in a water body may be affected then scope in.	Presence of flood defence structures will cause a direct loss of habitat however the hard coastal defences are not located within the WFD water body. The soft coastal defence will be mobile sediment of similar material to that already present and therefore no habitat loss is anticipated.	No

Activity	O5 Discharge of foul and surface water via cooling water system		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
Hydromorphology	Will the activity impact on the hydromorphology (for example morphology or tidal patterns) of a water body at high status?	The water body is not classed as being at high status.	No
	Is the activity in a water body that is heavily modified for the same use the activity?	The discharge of foul water to the marine environment will not impact on hydromorphology.	No
	Will the activity significantly impact the hydromorphology of any water body?	The discharge of foul water to the marine environment will not impact on hydromorphology.	No
Chemistry	If the activity used or releases chemicals, are the chemicals on the Environmental Quality Standards Directive list?	Direct discharge of sewage effluent and surface water drainage into the marine environment via the cooling water discharge system could release chemicals into the water body.	Yes
	If the activity has a mixing zone, are the chemicals released on the Environmental Quality Standards Directive List?	Direct discharge of sewage effluent and surface water drainage into the marine environment via the cooling water discharge system could release chemicals into the water body which require a mixing zone.	Yes
	If the activity uses or releases chemicals, will it disturb sediment with contaminants above Cefas Action Level 1?	No disturbance of sediments.	No
Phytoplankton/Physico-chemical	Will the activity affect water clarity, temperature, salinity, oxygen levels, nutrients or microbial patterns continuously for longer	Direct discharge of sewage effluent and surface water drainage into the marine environment via the cooling water discharge system could	Yes

Activity	O5 Discharge of foul and surface water via cooling water system		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
	than a spring neap tidal cycle (about 14 days)?	impact on the physical parameters of the water body.	
	Is the activity in a water body with a phytoplankton status of moderate, poor or bad or harmful algae?	No.	No
Biology - Habitats Flora / fauna / angiosperms / benthic invertebrates / higher and lower sensitivity habitats	Which type of habitat is likely to be impacted and what percentage of the habitat is impacted within the water body. - If the footprint of the development is >0.5km^2 then scope element in. - If the activity is within 500m of a higher sensitivity habitat then scope that habitat in for further consideration and if >1% of a lower sensitivity habitat in a water body may be affected then scope in.	Direct discharge of sewage effluent and surface water drainage into the marine environment via the cooling water discharge system could impact as a result of water quality changes.	Yes

Activity	O6 Intake of cooling water		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
Hydromorphology	Will the activity impact on the hydromorphology (for example morphology or tidal patterns) of a water body at high status?	The water body is not classed as being at high status.	No
	Is the activity in a water body that is heavily modified for the same use as the activity?	No mechanism for impact.	No
	Will the activity significantly impact the hydromorphology of any water body?	No mechanism for impact.	No
Chemistry	If the activity used or releases chemicals, are the chemicals on the Environmental Quality Standards Directive list?	Intake of cooling water will not cause release of chemicals into the water environment.	No
	If the activity has a mixing zone, are the chemicals released on the Environmental Quality Standards Directive List?	Intake of cooling water will not cause release of chemicals into the water environment.	No
	If the activity uses or releases chemicals, will it disturb sediment with contaminants above Cefas Action Level 1?	No mechanism for impact.	No
Phytoplankton/Physico-chemical	Will the activity affect water clarity, temperature, salinity, oxygen levels, nutrients or microbial patterns continuously for longer than a spring neap tidal cycle (about 14 days)?	There will be no changes to physico-chemical supporting elements as a result of cooling water intake.	No

Activity	O6 Intake of cooling water		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
	Is the activity in a water body with a phytoplankton status of moderate, poor or bad or harmful algae?	No.	No
Biology - Habitats Flora / fauna / angiosperms / benthic invertebrates / higher and lower sensitivity habitats	Which type of habitat is likely to be impacted and what percentage of the habitat is impacted within the water body. - If the footprint of the development is >0.5km^2 then scope element in. - If the activity is within 500m of a higher sensitivity habitat then scope that habitat in for further consideration and if >1% of a lower sensitivity habitat in a water body may be affected then scope in.	There will be no changes to biological quality elements as a result of cooling water intake, however there is potential for phytoplankton communities to be impacted by entrainment in the cooling water intake. Given there is not a specific question which allows this to be scoped in, scoped in here to ensure considered in further assessment.	Yes

Activity	O7 Discharge of trade effluent via cooling water system		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
Hydromorphology	Will the activity impact on the Hydromorphology (for example morphology or tidal patterns) of a water body at high status?	The water body is not classed as being at high status.	No
	Is the activity in a water body that is heavily modified for the same use as the activity?	The discharge of cooling water will not require any changes to existing flood protection or coastal defence and therefore will not alter the existing extent of modification.	No
	Will the activity significantly impact the hydromorphology of any water body?	No mechanisms for impact.	No
Chemistry	If the activity used or releases chemicals, are the chemicals on the Environmental Quality Standards Directive list?	The discharge of cooling water is likely to include small volumes of chemicals on the Environmental Quality Standards Directive list.	Yes
	If the activity has a mixing zone, are the chemicals released on the Environmental Quality Standards Directive List?	The discharge of cooling water is likely to include small volumes of chemicals on the Environmental Quality Standards Directive list.	Yes
	If the activity uses or releases chemicals, will it disturb sediment with contaminants above Cefas Action Level 1?	No mechanism for impact on sediment.	No
Phytoplankton / Physico-chemical	Will the activity affect water clarity, temperature, salinity, oxygen levels, nutrients or microbial patterns continuously for longer than a spring neap tidal cycle (about 14 days)?	The elevated temperature of the Sizewell C cooling water effluent will alter the thermal regime in the waterbody which could impact dissolved oxygen and ammonia levels.	Yes

Activity	O7 Discharge of trade effluent via cooling water system		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
	Is the activity in a water body with a phytoplankton status of moderate, poor or bad or harmful algae?	No.	No
Biology – Habitats Flora / fauna / angiosperms / benthic invertebrates / higher and lower sensitivity habitats	Which type of habitat is likely to be impacted and what percentage of the habitat is impacted within the water body. - If the footprint of the development is >0.5km^2 then scope element in. - If the activity is within 500m of a higher sensitivity habitat then scope that habitat in for further consideration and if >1% of a lower sensitivity habitat in a water body may be affected then scope in.	The thermo-chemical plume may have an effect on species which exist within any required mixing zone.	Yes

Activity	O8 Discharge of polluting matter via FRR system		
Parameter	**Scoping question**	**Response**	**Further Assessment**
Hydromorphology	Will the activity impact on the hydromorphology (for example morphology or tidal patterns) of a water body at high status?	No impact on hydromorphology identified.	No
	Is the activity in a water body that is heavily modified for the same use as the activity?	No impact on hydromorphology identified.	No
	Will the activity significantly impact the hydromorphology of any water body?	No impact on hydromorphology identified.	No
Chemistry	If the activity used or releases chemicals, are the chemicals on the Environmental Quality Standards Directive list?	No, discharge of dead fish would not release Environmental Quality Standards Directive chemicals. No disturbance of sediment	No
	If the activity has a mixing zone, are the chemicals released on the Environmental Quality Standards Directive List?		
	If the activity uses or releases chemicals, will it disturb sediment with contaminants above Cefas Action Level 1?		
Phytoplankton/Physico-chemical	Will the activity affect water clarity, temperature, salinity, oxygen levels, nutrients or microbial patterns continuously for longer than a spring neap tidal cycle (about 14 days)?	There is the potential to impact on water quality as a result of the decaying organic matter.	Yes
	Is the activity in a water body with a phytoplankton status of moderate, poor or bad or harmful algae?	No.	No

Activity	O8 Discharge of polluting matter via FRR system		
Parameter	**Scoping question**	**Response**	**Further Assessment**
Biology - Habitats (Flora / fauna / angiosperms / benthic invertebrates / higher and lower sensitivity habitats)	- Which type of habitat is likely to be impacted and what percentage of the habitat is impacted within the water body. - If the footprint of the development is >0.5km^2 then scope element in. - If the activity is within 500m of a higher sensitivity habitat then scope that habitat in for further consideration and if >1% of a lower sensitivity habitat in a water body may be affected then scope in.	As there is a potential risk to water quality there could be indirect effects on biology	Yes
Biology - Fish	Will the activity be in an estuary and could affect fish in the estuary, outside the estuary but could delay or prevent fish entering it or could affect fish migrating through the estuary? Could the activity impact on normal fish behaviour like movement, migration or spawning?	The potential effects on water quality are unlikely to be such that fish movement is impeded.	No
	Could the activity cause entrainment or impingement of fish?	No risk of impingement.	No

Table 1:4: Walberswick Marshes coastal water body (GB610050076000)

Activity	C1 Initial site preparation		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
Hydromorphology	Will the activity impact on the hydromorphology (for example morphology or tidal patterns) of a water body at high status?	No works to be undertaken within this water body.	No

Activity	C1 Initial site preparation		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
	Is the activity in a water body that is heavily modified for the same use as the activity?	No works to be undertaken within this water body.	No
	Will the activity significantly impact the hydromorphology of any water body?	No works to be undertaken within this water body.	No
Chemistry	If the activity used or releases chemicals, are the chemicals on the Environmental Quality Standards Directive list?	No discharges to be released into this water body.	No
	If the activity has a mixing zone, are the chemicals released on the Environmental Quality Standards Directive List?	No discharges to be released into this water body.	No
	If the activity uses or releases chemicals, will it disturb sediment with contaminants above Cefas Action Level 1?	No marine sediment disturbance - land based activities only.	No
Phytoplankton/Physico-chemical	Will the activity affect water clarity, temperature, salinity, oxygen levels, nutrients or microbial patterns continuously for longer than a spring neap tidal cycle (about 14 days)?	No discharges to be released into this water body.	No
	Is the activity in a water body with a phytoplankton status of moderate, poor or bad or harmful algae?	No.	No
Biology – Habitats (Flora / fauna / angiosperms / benthic invertebrates / higher and lower sensitivity habitats)	-Which type of habitat is likely to be impacted and what percentage of the habitat is impacted within the water body.	No mechanism for impact identified.	No

Activity	C1 Initial site preparation		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
	- If the footprint of the development is >0.5km^2 then scope element in. - If the activity is within 500m of a higher sensitivity habitat then scope that habitat in for further consideration and if >1% of a lower sensitivity habitat in a water body may be affected then scope in.		
Biology - Fish	Will the activity be in an estuary and could affect fish in the estuary, outside the estuary but could delay or prevent fish entering it or could affect fish migrating through the estuary? Could the activity impact on normal fish behaviour like movement, migration or spawning?	No mechanism for impact identified.	No
	Could the activity cause entrainment or impingement of fish?	No mechanism for impact identified.	No

Activity	C2 Earthworks for platform development		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
Hydromorphology	Will the activity impact on the hydromorphology (for example morphology or tidal patterns) of a water body at high status?	The water body is not classed as being at high status.	No
	Is the activity in a water body that is heavily modified for the same use the own activity?	The water body is not classed as being at high status. No mechanism for impact identified.	No
	Will the activity significantly impact the hydromorphology of any water body?	No mechanism for impact identified.	No
Chemistry	If the activity used or releases chemicals, are the chemicals on the Environmental Quality Standards Directive list?	No discharges to be released into this water body.	No
	If the activity has a mixing zone, are the chemicals released on the Environmental Quality Standards Directive List?	No discharges to be released into this water body.	No
	If the activity uses or releases chemicals, will it disturb sediment with contaminants above Cefas Action Level 1?	No marine sediment disturbance - land based only.	No
Phytoplankton/physico-chemical	Will the activity affect water clarity, temperature, salinity, oxygen levels, nutrients or microbial patterns continuously for longer than a spring neap tidal cycle (about 14 days)?	No discharges to be released into this water body.	No
	Is the activity in a water body with a phytoplankton status of moderate, poor or bad or harmful algae?	No.	No

Activity	**C2 Earthworks for platform development**		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
Biology – Habitats Flora / fauna / angiosperms / benthic invertebrates / higher and lower sensitivity habitats	Which type of habitat is likely to be impacted and what percentage of the habitat is impacted within the water body. - If the footprint of the development is >0.5km^2 then scope element in. - If the activity is within 500m of a higher sensitivity habitat then scope that habitat in for further consideration and if >1% of a lower sensitivity habitat in a water body may be affected then scope in.	No mechanism for impact identified.	No

Activity	C3 Construction of marine structures		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
Hydromorphology	Will the activity impact on the hydromorphology (for example morphology or tidal patterns) of a water body at high status?	The water body is not classed as being at high status.	No
	Is the activity in a water body that is heavily modified for the same use the own activity?	No structures to be constructed in this water body.	No
	Will the activity significantly impact the hydromorphology of any water body?	No structures to be constructed in this water body.	No
Chemistry	If the activity used or releases chemicals, are the chemicals on the Environmental Quality Standards Directive list?	No works to be undertaken within this water body.	No
	If the activity has a mixing zone, are the chemicals released on the Environmental Quality Standards Directive List?	No works to be undertaken within this water body.	No
	If the activity uses or releases chemicals, will it disturb sediment with contaminants above Cefas Action Level 1?	No works to be undertaken within this water body.	No
Phytoplankton/Physico-chemical	Will the activity affect water clarity, temperature, salinity, oxygen levels, nutrients or microbial patterns continuously for longer than a spring neap tidal cycle (about 14 days)?	No construction in this water body.	No
	Is the activity in a water body with a phytoplankton status of moderate, poor or bad or harmful algae?	No.	No

Activity	C3 Construction of marine structures		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
Biology – Habitats Flora / fauna / angiosperms / benthic invertebrates / higher and lower sensitivity habitats	- Which type of habitat is likely to be impacted and what percentage of the habitat is impacted within the water body. - If the footprint of the development is >0.5km^2 then scope element in. - If the activity is within 500m of a higher sensitivity habitat then scope that habitat in for further consideration and if >1% of a lower sensitivity habitat in a water body may be affected then scope in.	No works in this water body.	No

Activity	C4 Discharge of foul, surface and any other water		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
Hydromorphology	Will the activity impact on the hydromorphology (for example morphology or tidal patterns) of a water body at high status?	The water body is not classed as being at high status.	No
	Is the activity in a water body that is heavily modified for the same use the own activity?	The water body is not classed as being at high status. No mechanism for impact.	No
	Will the activity significantly impact the hydromorphology of any water body?	No mechanism for impact.	No
Chemistry	If the activity used or releases chemicals, are the chemicals on the Environmental Quality Standards Directive list?	There is potential for foul water discharges to contain chemicals on the Environmental Quality Standards Directive list. Any effects on the Suffolk coastal water body could impact on this water body.	Yes
	If the activity has a mixing zone, are the chemicals released on the Environmental Quality Standards Directive List?	There is potential for foul water discharges to contain chemicals on the Environmental Quality Standards Directive list that require a mixing zone. Any effects on the Suffolk coastal water body could impact on this water body.	Yes
	If the activity uses or releases chemicals, will it disturb sediment with contaminants above Cefas Action Level 1?	No mechanism for impact on sediment.	No
Phytoplankton/Physico-chemical	Will the activity affect water clarity, temperature, salinity, oxygen levels, nutrients or microbial patterns continuously for longer	There is potential for foul water discharges to impact on these parameters for more than 14 days in the Suffolk coastal water body therefore	Yes

Activity	C4 Discharge of foul, surface and any other water		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
	than a spring neap tidal cycle (about 14 days)?	there is the potential for an effect on this water body.	
	Is the activity in a water body with a phytoplankton status of moderate, poor or bad or harmful algae?	No.	No
Biology – Habitats Flora / fauna / angiosperms / benthic invertebrates / higher and lower sensitivity habitats	Which type of habitat is likely to be impacted and what percentage of the habitat is impacted within the water body. - If the footprint of the development is >0.5km^2 then scope element in. - If the activity is within 500m of a higher sensitivity habitat then scope that habitat in for further consideration and if >1% of a lower sensitivity habitat in a water body may be affected then scope in.	Should a water quality effect be identified as a result of changes in the Suffolk coastal water body, there is the potential for effect on biology.	Yes

Activity	C5 Discharge of cold commissioning water via CDO.		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
Hydromorphology	Will the activity impact on the hydromorphology (for example morphology or tidal patterns) of a water body at high status?	The water body is not classed as being at high status.	No
	Is the activity in a water body that is heavily modified for the same use the own activity?	The discharge of any commissioning water will not impact on the hydromorphology of the site or the reason for the heavily modified designation.	No
	Will the activity significantly impact the hydromorphology of any water body?	The discharge of any commissioning water will not impact on the hydromorphology of the water body.	No
Chemistry	If the activity used or releases chemicals, are the chemicals on the Environmental Quality Standards Directive list?	There is potential for commissioning water to contain chemicals on the Environmental Quality Standards Directive list. Any effects on the Suffolk coastal water body could impact on this water body.	Yes
	If the activity has a mixing zone, are the chemicals released on the Environmental Quality Standards Directive List?	There is potential for commissioning water to contain chemicals on the Environmental Quality Standards Directive list that require a mixing zone. Any effects on the Suffolk coastal water body could impact on this water body.	Yes
	If the activity uses or releases chemicals, will it disturb sediment with contaminants above Cefas Action Level 1?	No mechanism for impact on sediment.	No

Activity	C5 Discharge of cold commissioning water via CDO.		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
Phytoplankton/Physico-chemical	Will the activity affect water clarity, temperature, salinity, oxygen levels, nutrients or microbial patterns continuously for longer than a spring neap tidal cycle (about 14 days)?	There is the potential for changes in marine water quality due to release of commissioning water. Any effects on the Suffolk coastal water body could impact on this water body. Scoped in to consider treatment levels against appropriate protection for the environment	Yes
	Is the activity in a water body with a phytoplankton status of moderate, poor or bad or harmful algae?	No.	No
Biology – Habitats Flora / fauna / angiosperms / benthic invertebrates / higher and lower sensitivity habitats	- Which type of habitat is likely to be impacted and what percentage of the habitat is impacted within the water body. - If the footprint of the development is >0.5km^2 then scope element in. - If the activity is within 500m of a higher sensitivity habitat then scope that habitat in for further consideration and if >1% of a lower sensitivity habitat in a water body may be affected then scope in.	Should a water quality effect be identified as a result of changes in the Suffolk coastal water body, there is the potential for effect on biology.	Yes

Activity	O1 Presence of power station platform and cut-off wall		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
Hydromorphology	Will the activity impact on the hydromorphology (for example morphology or tidal patterns) of a water body at high status?	The water body is not classed as being at high status.	No
	Is the activity in a water body that is heavily modified for the same use the own activity?	As the water body is heavily modified for coastal and flood protection no mechanism for impact was identified.	No
	Will the activity significantly impact the hydromorphology of any water body?	These works will be located on land and therefore there is no mechanism for impact.	No
Chemistry	If the activity used or releases chemicals, are the chemicals on the Environmental Quality Standards Directive list?	The physical presence of the power station platform and cut-off wall will not require any discharges to the marine environment. No mechanism for impact was identified.	No
	If the activity has a mixing zone, are the chemicals released on the Environmental Quality Standards Directive List?	The physical presence of the power station platform and cut-off wall will not require any discharges to the marine environment. No mechanism for impact was identified.	No
	If the activity uses or releases chemicals, will it disturb sediment with contaminants above Cefas Action Level 1?	The physical presence of the power station platform and cut-off wall will not require any discharges to the marine environment. No mechanism for impact was identified.	No

Activity	O1 Presence of power station platform and cut-off wall		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
Phytoplankton/Physico-chemical	Will the activity affect water clarity, temperature, salinity, oxygen levels, nutrients or microbial patterns continuously for longer than a spring neap tidal cycle (about 14 days)?	The physical presence of the power station platform and cut-off wall from station will not affect the marine water quality.	No
	Is the activity in a water body with a phytoplankton status of moderate, poor or bad or harmful algae?	No.	No
Biology – Habitats Flora / fauna / angiosperms / benthic invertebrates / higher and lower sensitivity habitats	- Which type of habitat is likely to be impacted and what percentage of the habitat is impacted within the water body. - If the footprint of the development is >0.5km^2 then scope element in. - If the activity is within 500m of a higher sensitivity habitat then scope that habitat in for further consideration and if >1% of a lower sensitivity habitat in a water body may be affected then scope in.	The physical presence of the power station platform and cut-off wall will not impact on marine ecology in this water body.	No

Activity	O2 Presence of permanent main site access road		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
Hydromorphology	Will the activity impact on the hydromorphology (for example morphology or tidal patterns) of a water body at high status?	The water body is not classed as being at high status.	No
	Is the activity in a water body that is heavily modified for the same use the own activity?	No mechanism for impact was identified.	No
	Will the activity significantly impact the hydromorphology of any water body?	No mechanism for impact was identified.	No
Chemistry	If the activity used or releases chemicals, are the chemicals on the Environmental Quality Standards Directive list?	The permanent access bridge will be located upstream of the Minsmere Sluice on the Leiston Beck water body. Since this bridge is not directly within the marine water body, no mechanism for effect was identified.	No
	If the activity has a mixing zone, are the chemicals released on the Environmental Quality Standards Directive List?	No mechanism for impact was identified.	No
	If the activity uses or releases chemicals, will it disturb sediment with contaminants above Cefas Action Level 1?	No mechanism for impact was identified.	No
Phytoplankton/physico-chemical	Will the activity affect water clarity, temperature, salinity, oxygen levels, nutrients or microbial patterns continuously for longer than a spring neap tidal cycle (about 14 days)?	No discharges anticipated to this water body	No

Activity	O2 Presence of permanent main site access road		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
	Is the activity in a water body with a phytoplankton status of moderate, poor or bad or harmful algae?	No.	No
Biology - Habitats Flora / fauna / angiosperms / benthic invertebrates / higher and lower sensitivity habitats	Which type of habitat is likely to be impacted and what percentage of the habitat is impacted within the water body. - If the footprint of the development is >0.5km^2 then scope element in. - If the activity is within 500m of a higher sensitivity habitat then scope that habitat in for further consideration and if >1% of a lower sensitivity habitat in a water body may be affected then scope in.	The permanent access bridge will be located upstream of the Minsmere Sluice on the Leiston Beck water body. Since this bridge is not directly within the marine water body, no mechanism for effect was identified.	No

Activity	O3 Presence of marine structures		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
Hydromorphology	Will the activity impact on the hydromorphology (for example morphology or tidal patterns) of a water body at high status?	The water body is not classed as being at high status.	No
	Is the activity in a water body that is heavily modified for the same use the own activity?	No works required within this water body.	No
	Will the activity significantly impact the hydromorphology of any water body?	No works required within this water body.	No
Chemistry	If the activity used or releases chemicals, are the chemicals on the Environmental Quality Standards Directive list?	Presence of marine structures will not discharge or release chemicals.	No
	If the activity has a mixing zone, are the chemicals released on the Environmental Quality Standards Directive List?	Presence of marine structures will not discharge or release chemicals.	No
	If the activity uses or releases chemicals, will it disturb sediment with contaminants above Cefas Action Level 1?	It is not anticipated that the presence of the marine structures or dredging to maintain access to the BLF will affect this water body.	No
Phytoplankton/Physico-chemical	Will the activity affect water clarity, temperature, salinity, oxygen levels, nutrients or microbial patterns continuously for longer than a spring neap tidal cycle (about 14 days)?	It is not anticipated that the presence of the marine structures or dredging to maintain access to the BLF will affect this water body given that the material will have settled recently and has already been dredged.	No

Activity	O3 Presence of marine structures		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
	Is the activity in a water body with a phytoplankton status of moderate, poor or bad or harmful algae?	No.	No
Biology – Habitats Flora / fauna / angiosperms / benthic invertebrates / higher and lower sensitivity habitats	Which type of habitat is likely to be impacted and what percentage of the habitat is impacted within the water body. - If the footprint of the development is >0.5km^2 then scope element in. - If the activity is within 500m of a higher sensitivity habitat then scope that habitat in for further consideration and if >1% of a lower sensitivity habitat in a water body may be affected then scope in.	It is not anticipated that the presence of the marine structures or dredging to maintain access to the BLF will affect this water body.	No

Activity	O4 Presence of flood defence structures		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
Hydromorphology	Will the activity impact on the hydromorphology (for example morphology or tidal patterns) of a water body at high status?	The water body is not classed as being at high status.	No
	Is the activity in a water body that is heavily modified for the same use as this activity?	No works required within this water body.	No
	Will the activity significantly impact the hydromorphology of any water body?	No works required within this water body.	No
Chemistry	If the activity used or releases chemicals, are the chemicals on the Environmental Quality Standards Directive list?	Presence of marine structures will not discharge or release chemicals.	No
	If the activity has a mixing zone, are the chemicals released on the Environmental Quality Standards Directive List?	Presence of flood defence structures will not discharge or release chemicals.	No
	If the activity uses or releases chemicals, will it disturb sediment with contaminants above Cefas Action Level 1?	Presence of flood defence structures will not discharge or release chemicals.	No
Phytoplankton/Physico-chemical	Will the activity affect water clarity, temperature, salinity, oxygen levels, nutrients or microbial patterns continuously for longer than a spring neap tidal cycle (about 14 days)?	Presence of flood defence structures will not affect water quality.	No
	Is the activity in a water body with a phytoplankton status of moderate, poor or bad or harmful algae?	No.	No

Activity	O4 Presence of flood defence structures		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
Biology – Habitats Flora / fauna / angiosperms / benthic invertebrates / higher and lower sensitivity habitats	- Which type of habitat is likely to be impacted and what percentage of the habitat is impacted within the water body. - If the footprint of the development is >0.5km^2 then scope element in. - If the activity is within 500m of a higher sensitivity habitat then scope that habitat in for further consideration and if >1% of a lower sensitivity habitat in a water body may be affected then scope in.	No mechanism for impact identified.	No

Activity	O5 Discharge of foul water and surface water via cooling water system		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
Hydromorphology	Will the activity impact on the hydromorphology (for example morphology or tidal patterns) of a water body at high status?	The water body is not classed as being at high status.	No
	Is the activity in a water body that is heavily modified for the same use as this activity?	No mechanism for impact identified.	No
	Will the activity significantly impact the hydromorphology of any water body?	No mechanism for impact identified.	No
Chemistry	If the activity used or releases chemicals, are the chemicals on the Environmental Quality Standards Directive list?	Direct discharge of sewage effluent into the marine environment via the cooling water discharge system could release chemicals into the Suffolk water body. If it is shown that there is an effect in the Suffolk water body, then there could be an effect on this water body. Scoped in to ensure treatment levels suitable to protect the water body.	Yes
	If the activity has a mixing zone, are the chemicals released on the Environmental Quality Standards Directive List?	Direct discharge of sewage effluent into the marine environment via the cooling water discharge system could release chemicals into the Suffolk water body. If it is shown that there is an effect in the Suffolk water body, then there could be an effect on this water body.	Yes
	If the activity uses or releases chemicals, will it disturb sediment with contaminants above Cefas Action Level 1?	No disturbance of sediments.	No

Activity	O5 Discharge of foul water and surface water via cooling water system		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
Phytoplankton/Physico-chemical	Will the activity affect water clarity, temperature, salinity, oxygen levels, nutrients or microbial patterns continuously for longer than a spring neap tidal cycle (about 14 days)?	Direct discharge of sewage effluent into the marine environment via the cooling water discharge system could release chemicals into the Suffolk water body. If it is shown that there is an effect in the Suffolk water body, then there could be an effect on this water body.	Yes
	Is the activity in a water body with a phytoplankton status of moderate, poor or bad or harmful algae?	No.	No
Biology – Habitats Flora / fauna / angiosperms / benthic invertebrates / higher and lower sensitivity habitats	Which type of habitat is likely to be impacted and what percentage of the habitat is impacted within the water body. - If the footprint of the development is >0.5km^2 then scope element in. - If the activity is within 500m of a higher sensitivity habitat then scope that habitat in for further consideration and if >1% of a lower sensitivity habitat in a water body may be affected then scope in.	Direct discharge of sewage effluent into the marine environment via the cooling water discharge system could release chemicals into the Suffolk water body. If it is shown that there is an effect in the Suffolk water body, then there could be an effect on this water body.	Yes

Activity	O6 Intake of cooling water		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
Hydromorphology	Will the activity impact on the Hydromorphology (for example morphology or tidal patterns) of a water body at high status?	The water body is not classed as being at high status.	No
	Is the activity in a water body that is heavily modified for the same use as the activity?	No mechanism for impact identified.	No
	Will the activity significantly impact the hydromorphology of any water body?	No mechanism for impact identified.	No
Chemistry	If the activity used or releases chemicals, are the chemicals on the Environmental Quality Standards Directive list?	Intake of cooling water will not cause release of chemicals into the water environment.	No
	If the activity has a mixing zone, are the chemicals released on the Environmental Quality Standards Directive List?	Intake of cooling water will not cause release of chemicals into the water environment.	No
	If the activity uses or releases chemicals, will it disturb sediment with contaminants above Cefas Action Level 1?	No mechanism for impact identified.	No
Phytoplankton/Physico-chemical	Will the activity affect water clarity, temperature, salinity, oxygen levels, nutrients or microbial patterns continuously for longer than a spring neap tidal cycle (about 14 days)?	There will be no changes to physico-chemical supporting elements as a result of cooling water intake.	No
	Is the activity in a water body with a phytoplankton status of moderate, poor or bad or harmful algae?	No.	No

Activity	O6 Intake of cooling water		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
Biology - habitats Flora / fauna / angiosperms / benthic invertebrates / higher and lower sensitivity habitats	Which type of habitat is likely to be impacted and what percentage of the habitat is impacted within the water body. - If the footprint of the development is >0.5km^2 then scope element in. - If the activity is within 500m of a higher sensitivity habitat then scope that habitat in for further consideration and if >1% of a lower sensitivity habitat in a water body may be affected then scope in.	Intake of cooling water will not impact on marine ecology in this water body.	No

Activity	O7 Discharge of trade effluent via cooling water system		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
Hydromorphology	Will the activity impact on the hydromorphology (for example morphology or tidal patterns) of a water body at high status?	The water body is not classed as being at high status.	No
	Is the activity in a water body that is heavily modified for the same use the own activity?	The discharge of cooling water will not impact hydromorphology in this water body.	No
	Will the activity significantly impact the hydromorphology of any water body?	The discharge of cooling water will not impact hydromorphology in this water body.	No
Chemistry	If the activity used or releases chemicals, are the chemicals on the Environmental Quality Standards Directive list?	The discharge of cooling water is likely to include small volumes of chemicals on the Environmental Quality Standards Directive list to the Suffolk coastal water body. Should an effect be identified in the Suffolk coastal water body then there is the potential for effect in this water body.	Yes
	If the activity has a mixing zone, are the chemicals released on the Environmental Quality Standards Directive List?	The discharge of cooling water is likely to include small volumes of chemicals on the Environmental Quality Standards Directive list to the Suffolk coastal water body. Should an effect be identified in the Suffolk coastal water body then there is the potential for effect in this water body.	Yes
	If the activity uses or releases chemicals, will it disturb sediment with contaminants above Cefas Action Level 1?	No mechanism for impact identified.	No

Activity	O7 Discharge of trade effluent via cooling water system		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
Phytoplankton/physico-chemical	Will the activity affect water clarity, temperature, salinity, oxygen levels, nutrients or microbial patterns continuously for longer than a spring neap tidal cycle (about 14 days)?	The elevated temperature of the Sizewell C cooling water effluent will alter the thermal regime in the waterbody which could impact dissolved oxygen levels in the Suffolk coastal water body which may impact on this water body.	Yes
	Is the activity in a water body with a phytoplankton status of moderate, poor or bad or harmful algae?	No.	No
Biology-Habitats Flora / fauna / angiosperms / benthic invertebrates / higher and lower sensitivity habitats	Which type of habitat is likely to be impacted and what percentage of the habitat is impacted within the water body. - If the footprint of the development is >0.5km^2 then scope element in. - If the activity is within 500m of a higher sensitivity habitat then scope that habitat in for further consideration and if >1% of a lower sensitivity habitat in a water body may be affected then scope in.	Should an effect on water quality be identified, there could potentially be an effect on marine ecology in this water body.	Yes

Activity	O8 Discharge of polluting matter via FRR system		
Parameter	**Scoping question**	**Response**	**Further Assessment**
Hydromorphology	Will the activity impact on the hydromorphology (for example morphology or tidal patterns) of a water body at high status?	No impact on hydromorphology identified.	No
	Is the activity in a water body that is heavily modified for the same use as the activity?	No impact on hydromorphology identified.	No
	Will the activity significantly impact the hydromorphology of any water body?	No impact on hydromorphology identified.	No
Chemistry	If the activity used or releases chemicals, are the chemicals on the Environmental Quality Standards Directive list?	No, discharge of dead fish would not release Environmental Quality Standards Directive chemicals. No disturbance of sediment	No
	If the activity has a mixing zone, are the chemicals released on the Environmental Quality Standards Directive List?		
	If the activity uses or releases chemicals, will it disturb sediment with contaminants above Cefas Action Level 1?		
Phytoplankton/Physico-chemical	Will the activity affect water clarity, temperature, salinity, oxygen levels, nutrients or microbial patterns continuously for longer than a spring neap tidal cycle (about 14 days)?	Whilst there is the potential to impact on water quality parameters associated with the decay of fish discharged from the FRR, it is unlikely that the effect will be large enough to impact on adjoining water bodies	No

Activity	O8 Discharge of polluting matter via FRR system		
Parameter	**Scoping question**	**Response**	**Further Assessment**
	Is the activity in a water body with a phytoplankton status of moderate, poor or bad or harmful algae?	No.	No
Biology - Habitats (Flora / fauna / angiosperms / benthic invertebrates / higher and lower sensitivity habitats)	- Which type of habitat is likely to be impacted and what percentage of the habitat is impacted within the water body. - If the footprint of the development is >0.5km^2 then scope element in. - If the activity is within 500m of a higher sensitivity habitat then scope that habitat in for further consideration and if >1% of a lower sensitivity habitat in a water body may be affected then scope in.	See comments on water quality. As a result, no potential effects on biology anticipated	No
Biology - Fish	Will the activity be in an estuary and could affect fish in the estuary, outside the estuary but could delay or prevent fish entering it or could affect fish migrating through the estuary? Could the activity impact on normal fish behaviour like movement, migration or spawning?	See comments on water quality. As a result, no potential effects on fish anticipated	No
	Could the activity cause entrainment or impingement of fish?	No risk of impingement.	No

Table 1:5: Leiston Beck river water body (GB105035046271)

Activity	C1 Initial site preparation		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
Hydromorphology			
Hydrological regime	Could the activity change the volume, energy or distribution of flows in the water body?	This activity could affect the volume, energy and distribution of surface water flows as a result of land use changes, discharges from the site drainage system and direct modifications to the channel.	Yes
Morphological conditions	Could the activity change the width, depth, bank conditions, bed substrates and structure of the riparian zone?	This activity could increase sediment load as a result of increased sediment generation and entrainment through runoff and exacerbate existing sedimentation in the channels. The rerouting of existing ditches and the construction of a new watercourse crossing has the potential to directly impact upon channel morphology.	Yes
River continuity	Could the activity create a permanent barrier to the downstream movement of water and/or sediment, or the upstream movement of fish?	The construction of the main site access road and SSSI crossing has the potential to introduce artificial structures into the watercourse and riparian zone. The installation of a new culvert could potentially reduce river continuity by altering flow and sediment dynamics and result in geomorphological change.	Yes
Physico-chemistry			
General	Could the activity change the temperature, pH, oxygenation, salinity or nutrient concentrations in the water body?	There is potential for the activity to impact upon the temperature, pH, oxygenation and salinity concentrations in the water body, for example via sediment run off from the construction works.	Yes
Specific pollutants	Could the activity release dangerous chemicals into the water body?	The activity may potentially release dangerous chemicals into the water body via surface run off of hydrocarbons from construction equipment and roads, concrete leachate and accidental contaminant release.	Yes

Activity	C1 Initial site preparation		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
Biology			
Aquatic flora	Could the activity change the hydromorphology and/or physico-chemistry of the water body, or lead to the direct loss or modification of habitats for aquatic plants?	The activity could potentially affect the hydromorphology and physico-chemistry of the water body (see above for details) and could also therefore impact upon the aquatic flora that it supports.	Yes
Benthic invertebrates	Could the activity change the hydromorphology and/or physico-chemistry of the water body, or lead to the direct loss or modification of habitats for aquatic invertebrates?	The activity could potentially affect the hydromorphology and physico-chemistry of the water body (see above for details) and could also therefore impact upon the benthic invertebrates that it supports.	Yes
Fish	Could the activity change the hydromorphology and/or physico-chemistry of the water body, or lead to the direct loss or modification of shelter, feeding and spawning habitats for fish?	The activity could potentially affect the hydromorphology and physico-chemistry of the water body (see above for details) and could also therefore impact upon any fish that it supports.	Yes

Activity	C2 Earthworks for platform development		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
Hydromorphology			
Hydrological regime	Could the activity change the volume, energy or distribution of flows in the water body?	This activity has the potential to affect the volume, energy and distribution of surface water flows as a result of groundwater pumping and discharge.	Yes
Morphological conditions	Could the activity change the width, depth, bank conditions, bed substrates and structure of the riparian zone?	This activity could increase sediment load as a result of increased sediment generation and entrainment through runoff and exacerbate existing sedimentation in the channels. The discharge of pumped groundwater could potentially result in geomorphological adjustment.	Yes
River continuity	Could the activity create a permanent barrier to the downstream movement of water and/or sediment, or the upstream movement of fish?	This activity will not create a barrier to the downstream movement of water and/or sediment and therefore will not impact upon river continuity.	No
Physico-chemistry			
General	Could the activity change the temperature, pH, oxygenation, salinity or nutrient concentrations in the water body?	There is potential for the activity to impact upon the temperature, pH, oxygenation and salinity concentrations in the water body through sediment run off from the construction works. The discharge of pumped groundwater could also affect the physico-chemistry of the water body.	Yes
Specific pollutants	Could the activity release dangerous chemicals into the water body?	The activity may potentially release dangerous chemicals into the water body through leaks and spills of fuel, oils, lubricants and construction materials from the construction site and compounds.	Yes

Activity	C2 Earthworks for platform development		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
Biology			
Aquatic flora	Could the activity change the hydromorphology and/or physico-chemistry of the water body, or lead to the direct loss or modification of habitats for aquatic plants?	The activity could potentially affect the hydromorphology and physico-chemistry of the water body (see above for details) and could also impact upon the aquatic flora that they support.	Yes
Benthic invertebrates	Could the activity change the hydromorphology and/or physico-chemistry of the water body, or lead to the direct loss or modification of habitats for aquatic invertebrates?	The activity could potentially affect the hydromorphology and physico-chemistry of the water body (see above for details) and could also impact upon the benthic invertebrates that they support.	Yes
Fish	Could the activity change the hydromorphology and/or physico-chemistry of the water body, or lead to the direct loss or modification of shelter, feeding and spawning habitats for fish?	The activity could potentially affect the hydromorphology and physico-chemistry of the water body (see above for details) and could also impact upon any fish that they support.	Yes

Activity	C3 Construction of marine structures		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
Hydromorphology			
Hydrological regime	Could the activity change the volume, energy or distribution of flows in the water body?	No mechanism for impact on the volume, energy or distribution of flows in the water body was identified.	No
Morphological conditions	Could the activity change the width, depth, bank conditions, bed substrates and structure of the riparian zone?	No mechanism for impact on width, depth, bank conditions, bed substrates and structure of the riparian zone was identified.	No
River continuity	Could the activity create a permanent barrier to the downstream movement of water and/or sediment, or the upstream movement of fish?	No mechanism for the creation of permanent barrier to the downstream movement of water and/or sediment was identified.	No
Physico-chemistry			
General	Could the activity change the temperature, pH, oxygenation, salinity or nutrient concentrations in the water body?	No mechanisms for impact on temperature, pH, oxygenation, salinity or nutrient concentrations in the water body were identified.	No
Specific pollutants	Could the activity release dangerous chemicals into the water body?	No mechanism for the release of dangerous chemicals into the water body was identified.	No
Biology			
Aquatic flora	Could the activity change the hydromorphology and/or physico-chemistry of the water body, or lead to the direct loss or modification of habitats for aquatic plants?	No mechanism for impact on the hydromorphology and/or physico-chemistry of the water body or leading to direct impacts on aquatic plants was identified.	No
Benthic invertebrates	Could the activity change the hydromorphology and/or physico-chemistry of the water body, or lead to the	No mechanism for impact on the hydromorphology and/or physico-chemistry of the water body or leading to	No

Activity	C3 Construction of marine structures		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
	direct loss or modification of habitats for aquatic invertebrates?	the direct loss or modification of habitats for aquatic invertebrates was identified.	
Fish	Could the activity change the hydromorphology and/or physico-chemistry of the water body, or lead to the direct loss or modification of shelter, feeding and spawning habitats for fish?	No mechanism for impact on the hydromorphology and/or physico-chemistry of the water body or leading to the direct loss or modification of habitats direct impacts on fish was identified.	No

Activity	C4 Discharge of foul, surface and any other water		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
Hydromorphology			
Hydrological regime	Could the activity change the volume, energy or distribution of flows in the water body?	Discharge of surface water from the site drainage system, groundwater from dewatering, and treated foul effluent could affect the volume, energy and distribution of surface water flows.	Yes
Morphological conditions	Could the activity change the width, depth, bank conditions, bed substrates and structure of the riparian zone?	Changes to surface drainage patterns could result in corresponding changes to the geomorphology of surface waters (e.g. in response to increases or decreases in flow volumes and velocities in parts of the drainage network).	Yes
River continuity	Could the activity create a permanent barrier to the downstream movement of water and/or sediment, or the upstream movement of fish?	This activity will not create a barrier to the downstream movement of water and/or sediment and therefore will not impact upon river continuity.	No
Physico-chemistry			
General	Could the activity change the temperature, pH, oxygenation, salinity or nutrient concentrations in the water body?	Discharge of site drainage, groundwater and treated effluent may impact upon the general physico-chemistry of this water body, including temperature, nutrient concentrations (e.g. an increase in ammonia concentrations) and oxygenation (e.g. as a result of increased biological oxygen demand).	Yes
Specific pollutants	Could the activity release dangerous chemicals into the water body?	Discharge of site drainage, groundwater and treated effluent could potentially release dangerous chemicals into the water body, for example through leaks or accidental spillage.	Yes
Biology			

Activity	C4 Discharge of foul, surface and any other water		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
Aquatic flora	Could the activity change the hydromorphology and/or physico-chemistry of the water body, or lead to the direct loss or modification of habitats for aquatic plants?	The activity could potentially affect the hydromorphology and physico-chemistry of the water body (see above for details) and could also impact upon the aquatic flora that they support.	Yes
Benthic invertebrates	Could the activity change the hydromorphology and/or physico-chemistry of the water body, or lead to the direct loss or modification of habitats for aquatic invertebrates?	The activity could potentially affect the hydromorphology and physico-chemistry of the water body (see above for details) and could also impact upon the benthic invertebrates that they support.	Yes
Fish	Could the activity change the hydromorphology and/or physico-chemistry of the water body, or lead to the direct loss or modification of shelter, feeding and spawning habitats for fish?	The activity could potentially affect the hydromorphology and physico-chemistry of the water body (see above for details) and could also impact upon any fish that they support.	Yes

Activity	C5 Discharge of cold test commissioning water		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
Hydromorphology			
Hydrological regime	Could the activity change the volume, energy or distribution of flows in the water body?	Cold test commissioning water will be discharged to sea via the CDO. No mechanism for impact on the river water body was identified.	No
Morphological conditions	Could the activity change the width, depth, bank conditions, bed substrates and structure of the riparian zone?	Cold test commissioning water will be discharged to sea via the CDO. No mechanism for impact on the river water body was identified.	No
River continuity	Could the activity create a permanent barrier to the downstream movement of water and/or sediment, or the upstream movement of fish?	Cold test commissioning water will be discharged to sea via the CDO. No mechanism for impact on the river water body was identified.	No
Physico-chemistry			
General	Could the activity change the temperature, pH, oxygenation, salinity or nutrient concentrations in the water body?	Direct discharge of cold test commissioning water into the marine environment via the CDO could release chemicals into the Suffolk coastal water body. If it is shown that there is an effect on the coastal water body, then there could be an effect on this water body.	Yes
Specific pollutants	Could the activity release dangerous chemicals into the water body?	Direct discharge of cold test commissioning water into the marine environment via the CDO could release chemicals into the Suffolk coastal water body. If it is shown that there is an effect on the coastal water body, then there could be an effect on this water body.	Yes
Biology			
Aquatic flora	Could the activity change the hydromorphology and/or physico-chemistry of the water body, or	The activity could potentially affect the physico-chemistry of the water body (see entries for these quality elements for	Yes

Activity	C5 Discharge of cold test commissioning water		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
	lead to the direct loss or modification of habitats for aquatic plants?	details) and could also impact upon the aquatic flora that they support.	
Benthic invertebrates	Could the activity change the hydromorphology and/or physico-chemistry of the water body, or lead to the direct loss or modification of habitats for aquatic invertebrates?	The activity could potentially affect the physico-chemistry of the water body (see entries for these quality elements for details) and could also impact upon the benthic invertebrates that they support.	Yes
Fish	Could the activity change the hydromorphology and/or physico-chemistry of the water body, or lead to the direct loss or modification of shelter, feeding and spawning habitats for fish?	The activity could potentially affect the physico-chemistry of the water body (see entries for these quality elements for details) and could also impact upon the fish that they support.	Yes

Activity	O1 Presence of power station platform and cut off wall		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
Hydromorphology			
Hydrological regime	Could the activity change the volume, energy or distribution of flows in the water body?	Direct changes to groundwater flow patterns and volumes could result in impacts on surface waters. The operational activity could therefore affect the overall hydrological regime of the water body.	Yes
Morphological conditions	Could the activity change the width, depth, bank conditions, bed substrates and structure of the riparian zone?	There is potential for geomorphological adjustment as a result of changes to surface water flows.	Yes
River continuity	Could the activity create a permanent barrier to the downstream movement of water and/or sediment, or the upstream movement of fish?	The activities will not create a barrier to the downstream movement of water and/or sediment and therefore will not impact upon river continuity.	No
Physico-chemistry			
General	Could the activity change the temperature, pH, oxygenation, salinity or nutrient concentrations in the water body?	The presence of the cut off wall could lead to changes in the proportion of groundwater that contributes to surface waters within the ditch network (e.g. by increasing or decreasing groundwater upwelling). This could potentially impact upon the physico-chemistry of the surface water body.	Yes
Specific pollutants	Could the activity release dangerous chemicals into the water body?	No mechanism for the groundwater cut off wall to impact upon concentrations of potentially hazardous chemicals has been identified.	No
Biology			

Activity	O1 Presence of power station platform and cut off wall		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
Aquatic flora	Could the activity change the hydromorphology and/or physico-chemistry of the water body, or lead to the direct loss or modification of habitats for aquatic plants?	No mechanism for impact on the hydromorphology and/or physico-chemistry of the water body or leading to the direct loss or modification of habitats for aquatic plants was identified.	No
Benthic invertebrates	Could the activity change the hydromorphology and/or physico-chemistry of the water body, or lead to the direct loss or modification of habitats for aquatic invertebrates?	No mechanism for impact on the hydromorphology and/or physico-chemistry of the water body or leading to the direct loss or modification of habitats for aquatic invertebrates was identified.	No
Fish	Could the activity change the hydromorphology and/or physico-chemistry of the water body, or lead to the direct loss or modification of shelter, feeding and spawning habitats for fish?	No mechanism for impact on the hydromorphology and/or physico-chemistry of the water body or leading to the direct loss or modification of habitats for fish was identified.	No

Activity	O2 Presence of permanent main site access road		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
Hydromorphology			
Hydrological regime	Could the activity change the volume, energy or distribution of flows in the water body?	Depending upon the design option that is selected, the presence of a permanent crossing could potentially affect the volume and distribution of surface water flows. The bridge options that are currently under consideration are unlikely to impact upon the water body. However, the causeway options incorporate a culvert, and this could potentially affect the volume, energy and distribution of flows in the water body. In addition, these options could potentially cause increases in groundwater levels that cause indirect effects on surface water hydrology.	Yes
Morphological conditions	Could the activity change the width, depth, bank conditions, bed substrates and structure of the riparian zone?	Depending upon the design option that is selected, the presence of a permanent crossing could potentially affect the geomorphology of the water body. The bridge options that are currently under consideration are unlikely to impact upon the water body. However, the causeway options incorporate a culvert, and this would lead to the direct loss of natural morphology in the footprint of the structure. In addition, a culvert could disrupt downstream sediment transport patterns, increase flow velocities and create downstream scour and result in geomorphological adjustment.	Yes
River continuity	Could the activity create a permanent barrier to the downstream movement of water and/or sediment, or the upstream movement of fish?	Depending upon the design option that is selected, the presence of a permanent SSSI crossing/main site access road could potentially affect river continuity. The bridge options that are currently under consideration are unlikely to impact upon the water body. However, the causeway options incorporate a culvert, and this could disrupt the downstream movement of water and sediment.	Yes

Activity	O2 Presence of permanent main site access road		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
Physico-chemistry			
General	Could the activity change the temperature, pH, oxygenation, salinity or nutrient concentrations in the water body?	There is the potential for the generation of runoff from surfaces which have been exposed to contamination from vehicle and equipment use. The physical presence of the structure could also locally change hydrological conditions and create an area of dense shading. Furthermore, piling undertaken for the crossing could potentially change the proportion of groundwater that is supplied to the surface water system. These changes could affect temperature, pH, oxygenation, salinity and nutrient concentrations in the water body.	Yes
Specific pollutants	Could the activity release dangerous chemicals into the water body?	The activity may potentially release dangerous chemicals into the water body via surface run off of fuels, oils, lubricants, tyres and brake dust, and the accidental release of contaminants from vehicles using the crossing.	Yes
Biology			
Aquatic flora	Could the activity change the hydromorphology and/or physico-chemistry of the water body, or lead to the direct loss or modification of habitats for aquatic plants?	The activity may potentially affect the hydromorphology and physico-chemistry of the water body (see entries relating to the hydromorphological and physico-chemical quality elements), which may also affect aquatic flora.	Yes
Benthic invertebrates	Could the activity change the hydromorphology and/or physico-chemistry of the water body, or lead to the direct loss or modification of habitats for aquatic invertebrates?	The activity may potentially affect the hydromorphology and physico-chemistry of the water body (see entries relating to the hydromorphological and physico-chemical quality elements), which may also affect aquatic invertebrates.	Yes

Activity	O2 Presence of permanent main site access road		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
Fish	Could the activity change the hydromorphology and/or physico-chemistry of the water body, or lead to the direct loss or modification of shelter, feeding and spawning habitats for fish?	The activity may potentially affect the hydromorphology and physico-chemistry of the water body (see entries relating to the hydromorphological and physico-chemical quality elements), which may also affect fish.	Yes

Activity	O3 Presence of marine structures and beach landing facility		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
Hydromorphology			
Hydrological regime	Could the activity change the volume, energy or distribution of flows in the water body?	No mechanism for the presence of marine structures, beach landing facility and maintenance dredging to impact on the water body was identified.	No
Morphological conditions	Could the activity change the width, depth, bank conditions, bed substrates and structure of the riparian zone?	No mechanism for the presence of marine structures, beach landing facility and maintenance dredging to impact on the water body was identified.	No
River continuity	Could the activity create a permanent barrier to the downstream movement of water and/or sediment, or the upstream movement of fish?	No mechanism for the presence of marine structures, beach landing facility and maintenance dredging to impact on the water body was identified.	No
Physico-chemistry			
General	Could the activity change the temperature, pH, oxygenation, salinity or nutrient concentrations in the water body?	No mechanism for the presence of marine structures, beach landing facility and maintenance dredging to impact on the water body was identified.	No
Specific pollutants	Could the activity release dangerous chemicals into the water body?	No mechanism for the presence of marine structures, beach landing facility and maintenance dredging to impact on the water body was identified.	No
Biology			

Activity	O3 Presence of marine structures and beach landing facility		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
Aquatic flora	Could the activity change the hydromorphology and/or physico-chemistry of the water body, or lead to the direct loss or modification of habitats for aquatic plants?	No mechanism for the presence of marine structures, beach landing facility and maintenance dredging to impact on the water body was identified.	No
Benthic invertebrates	Could the activity change the hydromorphology and/or physico-chemistry of the water body, or lead to the direct loss or modification of habitats for aquatic invertebrates?	No mechanism for the presence of marine structures, beach landing facility and maintenance dredging to impact on the water body was identified.	No
Fish	Could the activity change the hydromorphology and/or physico-chemistry of the water body, or lead to the direct loss or modification of shelter, feeding and spawning habitats for fish?	No mechanism for the presence of marine structures, beach landing facility and maintenance dredging to impact on the water body was identified.	No

Activity	O4 Presence of flood defence structures		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
Hydromorphology			
Hydrological regime	Could the activity change the volume, energy or distribution of flows in the water body?	No mechanism for the presence of flood defence structures to impact on the water body was identified.	No
Morphological conditions	Could the activity change the width, depth, bank conditions, bed substrates and structure of the riparian zone?	No mechanism for the presence of flood defence structures to impact on the water body was identified.	No
River continuity	Could the activity create a permanent barrier to the downstream movement of water and/or sediment, or the upstream movement of fish?	No mechanism for the presence of flood defence structures to impact on the water body was identified.	No
Physico-chemistry			
General	Could the activity change the temperature, pH, oxygenation, salinity or nutrient concentrations in the water body?	No mechanism for the presence of flood defence structures to impact on the water body was identified.	No
Specific pollutants	Could the activity release dangerous chemicals into the water body?	No mechanism for the presence of flood defence structures to impact on the water body was identified.	No
Biology			
Aquatic flora	Could the activity change the hydromorphology and/or physico-chemistry of the water body, or lead to the direct loss or modification of habitats for aquatic plants?	No mechanism for the presence of flood defence structures to impact on the water body was identified.	No
Benthic invertebrates	Could the activity change the hydromorphology and/or physico-chemistry of the water body, or lead to the direct loss or modification of habitats for aquatic invertebrates?	No mechanism for the presence of flood defence structures to impact on the water body was identified.	No

Activity	O4 Presence of flood defence structures		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
Fish	Could the activity change the hydromorphology and/or physico-chemistry of the water body, or lead to the direct loss or modification of shelter, feeding and spawning habitats for fish?	No mechanism for the presence of flood defence structures to impact on the water body was identified.	No

Activity	O5 Discharge of foul and surface water via cooling water system		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
Hydromorphology			
Hydrological regime	Could the activity change the volume, energy or distribution of flows in the water body?	Treated sewage effluent and surface water runoff will be discharged to sea via the cooling water outfall. No mechanism for impact on the river water body was identified.	No
Morphological conditions	Could the activity change the width, depth, bank conditions, bed substrates and structure of the riparian zone?	Treated sewage effluent and surface water runoff will be discharged to sea via the cooling water outfall. No mechanism for impact on the river water body was identified.	No
River continuity	Could the activity create a permanent barrier to the downstream movement of water and/or sediment, or the upstream movement of fish?	Treated sewage effluent and surface water runoff will be discharged to sea via the cooling water outfall. No mechanism for impact on the river water body was identified.	No
Physico-chemistry			
General	Could the activity change the temperature, pH, oxygenation, salinity or nutrient concentrations in the water body?	Direct discharge of sewage effluent into the marine environment via the cooling water discharge system could release chemicals into the Suffolk coastal water body. If it is shown that there is an effect on the coastal water body, then there could be an effect on this water body.	Yes
Specific pollutants	Could the activity release dangerous chemicals into the water body?	Direct discharge of sewage effluent into the marine environment via the cooling water discharge system could release chemicals into the Suffolk coastal water body. If it is shown that there is an effect on the coastal water body, then there could be an effect on this water body.	Yes

Activity	O5 Discharge of foul and surface water via cooling water system		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
Biology			
Aquatic flora	Could the activity change the hydromorphology and/or physico-chemistry of the water body, or lead to the direct loss or modification of habitats for aquatic plants?	The activity could potentially affect the physico-chemistry of the water body (see entries for these quality elements for details) and could also impact upon the aquatic flora that they support.	Yes
Benthic invertebrates	Could the activity change the hydromorphology and/or physico-chemistry of the water body, or lead to the direct loss or modification of habitats for aquatic invertebrates?	The activity could potentially affect the physico-chemistry of the water body (see entries for these quality elements for details) and could also impact upon the benthic invertebrates that they support.	Yes
Fish	Could the activity change the hydromorphology and/or physico-chemistry of the water body, or lead to the direct loss or modification of shelter, feeding and spawning habitats for fish?	The activity could potentially affect the physico-chemistry of the water body (see entries for these quality elements for details) and could also impact upon the fish that they support.	Yes

Activity	O6 Intake of cooling water		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
Hydromorphology			
Hydrological regime	Could the activity change the volume, energy or distribution of flows in the water body?	No mechanism for the intake of intake of cooling water to impact on the water body was identified.	No
Morphological conditions	Could the activity change the width, depth, bank conditions, bed substrates and structure of the riparian zone?	No mechanism for the intake of intake of cooling water to impact on the water body was identified.	No
River continuity	Could the activity create a permanent barrier to the downstream movement of water and/or sediment, or the upstream movement of fish?	No mechanism for the intake of intake of cooling water to impact on the water body was identified.	No
Physico-chemistry			
General	Could the activity change the temperature, pH, oxygenation, salinity or nutrient concentrations in the water body?	No mechanism for the intake of intake of cooling water to impact on the water body was identified.	No
Specific pollutants	Could the activity release dangerous chemicals into the water body?	No mechanism for the intake of intake of cooling water to impact on the water body was identified.	No
Biology			
Aquatic flora	Could the activity change the hydromorphology and/or physico-chemistry of the water body, or lead to the direct loss or modification of habitats for aquatic plants?	No mechanism for the intake of intake of cooling water to impact on the water body was identified.	No
Benthic invertebrates	Could the activity change the hydromorphology and/or physico-chemistry of the water body, or lead to the direct loss or modification of habitats for aquatic invertebrates?	No mechanism for the intake of intake of cooling water to impact on the water body was identified.	No

Activity	O6 Intake of cooling water		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
Fish	Could the activity change the hydromorphology and/or physico-chemistry of the water body, or lead to the direct loss or modification of shelter, feeding and spawning habitats for fish?	No mechanism for the intake of intake of cooling water to impact on the water body was identified.	No

Activity	O7 Discharge of trade effluent via the cooling water system		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
Hydromorphology			
Hydrological regime	Could the activity change the volume, energy or distribution of flows in the water body?	Trade effluent will be discharged to sea via the cooling water outfall. No mechanism for impact on the hydrological regime of the river water body was identified.	No
Morphological conditions	Could the activity change the width, depth, bank conditions, bed substrates and structure of the riparian zone?	Trade effluent will be discharged to sea via the cooling water outfall. No mechanism for impact on width, depth, bank conditions, bed substrates and structure of the riparian zone was identified.	No
River continuity	Could the activity create a permanent barrier to the downstream movement of water and/or sediment, or the upstream movement of fish?	Trade effluent will be discharged to sea via the cooling water outfall. No mechanism for the creation of a permanent barrier to the downstream movement of water and/or sediment was identified.	No
Physico-chemistry			
General	Could the activity change the temperature, pH, oxygenation, salinity or nutrient concentrations in the water body?	Direct discharge of trade effluent into the marine environment via the cooling water discharge system could release chemicals into the Suffolk coastal water body. If it is shown that there is an effect on the coastal water body, then there could be an effect on this water body.	Yes
Specific pollutants	Could the activity release dangerous chemicals into the water body?	Direct discharge of trade effluent into the marine environment via the cooling water discharge system could release chemicals into the Suffolk coastal water body. If it is shown that there is an effect on the coastal water body, then there could be an effect on this water body.	Yes

Activity	O7 Discharge of trade effluent via the cooling water system		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
Biology			
Aquatic flora	Could the activity change the hydromorphology and/or physico-chemistry of the water body, or lead to the direct loss or modification of habitats for aquatic plants?	The activity could potentially affect the physico-chemistry of the water body (see entries for these quality elements for details) and could also impact upon the aquatic flora that they support.	Yes
Benthic invertebrates	Could the activity change the hydromorphology and/or physico-chemistry of the water body, or lead to the direct loss or modification of habitats for aquatic invertebrates?	The activity could potentially affect the physico-chemistry of the water body (see entries for these quality elements for details) and could also impact upon the benthic invertebrates that they support.	Yes
Fish	Could the activity change the hydromorphology and/or physico-chemistry of the water body, or lead to the direct loss or modification of shelter, feeding and spawning habitats for fish?	The activity could potentially affect the physico-chemistry of the water body (see entries for these quality elements for details) and could also impact upon the fish that they support.	Yes

Activity	O8 Discharge of polluting matter via the FRR system		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
Hydromorphology			
Hydrological regime	Could the activity change the volume, energy or distribution of flows in the water body?	Discharged via FFR system. No mechanism for impact on the river water body was identified.	No
Morphological conditions	Could the activity change the width, depth, bank conditions, bed substrates and structure of the riparian zone?		
River continuity	Could the activity create a permanent barrier to the downstream movement of water and/or sediment, or the upstream movement of fish?		
Physico-chemistry			
General	Could the activity change the temperature, pH, oxygenation, salinity or nutrient concentrations in the water body?	There is the potential that decaying matter could impact on water quality parameters. However the effect is likely to be limited to the Suffolk coastal water body given the dispersive environment and nature of effect.	No
Specific pollutants	Could the activity release dangerous chemicals into the water body?	No chemicals to be released	No
Biology			
Aquatic flora	Could the activity change the hydromorphology and/or physico-chemistry of the water body, or lead to the direct loss or modification of habitats for aquatic plants?	There is the potential that decaying matter could impact on water quality parameters. However the effect is likely to be limited to the Suffolk coastal water body given the dispersive environment and nature of effect.	No
Benthic invertebrates	Could the activity change the hydromorphology and/or physico-chemistry of the water body, or lead to the		

Activity	O8 Discharge of polluting matter via the FRR system		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
	direct loss or modification of habitats for aquatic invertebrates?		
Fish	Could the activity change the hydromorphology and/or physico-chemistry of the water body, or lead to the direct loss or modification of shelter, feeding and spawning habitats for fish?		

Table 1:6: Minsmere Old River water body (GB105035046270)

Activity	C1 Initial site preparation		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
Hydromorphology			
Hydrological regime	Could the activity change the volume, energy or distribution of flows in the water body?	These activities could affect the volume and rate of surface water discharge as a result of land use changes, discharges from the site drainage system and direct changes to the channel. Note that the north western part of the development site boundary is located within this water body catchment.	Yes
Morphological conditions	Could the activity change the width, depth, bank conditions, bed substrates and structure of the riparian zone?	These activities could increase sediment load as a result of increased sediment generation and entrainment through runoff and exacerbate existing sedimentation in the channels.	Yes
River continuity	Could the activity create a permanent barrier to the downstream movement of water and/or sediment, or the upstream movement of fish?	The activities will not create a barrier to the downstream movement of water and/or sediment and therefore will not impact upon river continuity.	No
Physico-chemistry			
General	Could the activity change the temperature, pH, oxygenation, salinity or nutrient concentrations in the water body?	There is potential for the activity to impact upon the temperature, pH, oxygenation and salinity concentrations in the water body, for example via sediment run off from the construction works.	Yes
Specific pollutants	Could the activity release dangerous chemicals into the water body?	The activity may potentially release dangerous chemicals into the water body via surface run off of hydrocarbons from construction equipment and roads, concrete leachate and accidental contaminant release.	Yes

Activity	C1 Initial site preparation		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
Biology			
Aquatic flora	Could the activity change the hydromorphology and/or physico-chemistry of the water body, or lead to the direct loss or modification of habitats for aquatic plants?	The activity could potentially affect the hydromorphology and physico-chemistry of the water body and could also impact upon the aquatic flora that it supports.	Yes
Benthic invertebrates	Could the activity change the hydromorphology and/or physico-chemistry of the water body, or lead to the direct loss or modification of habitats for aquatic invertebrates?	The activity could potentially affect the hydromorphology and physico-chemistry of the water body and could also impact upon the benthic invertebrates that it supports.	Yes
Fish	Could the activity change the hydromorphology and/or physico-chemistry of the water body, or lead to the direct loss or modification of shelter, feeding and spawning habitats for fish?	The activity could potentially affect the hydromorphology and physico-chemistry of the water body and could also impact upon any fish that it supports.	Yes

Activity	C2 Earthworks for platform development		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
Hydromorphology			
Hydrological regime	Could the activity change the volume, energy or distribution of flows in the water body?	This activity has the potential to affect the volume, energy and distribution of surface water flows as a result of groundwater pumping and discharge.	Yes
Morphological conditions	Could the activity change the width, depth, bank conditions, bed substrates and structure of the riparian zone?	This activity could increase sediment load as a result of increased sediment generation and entrainment through runoff and exacerbate existing sedimentation in the channels. The discharge of pumped groundwater could potentially result in geomorphological adjustment.	Yes
River continuity	Could the activity create a permanent barrier to the downstream movement of water and/or sediment, or the upstream movement of fish?	This activity will not create a barrier to the downstream movement of water and/or sediment and therefore will not impact upon river continuity.	No
Physico-chemistry			
General	Could the activity change the temperature, pH, oxygenation, salinity or nutrient concentrations in the water body?	There is potential for the activity to impact upon the temperature, pH, oxygenation and salinity concentrations in the water body through sediment run off from the construction works. The discharge of pumped groundwater could also affect the physico-chemistry of the water body.	Yes
Specific pollutants	Could the activity release dangerous chemicals into the water body?	The activity may potentially release dangerous chemicals into the water body through leaks and spills of fuel, oils, lubricants and construction materials from the construction site and compounds.	Yes

Activity	C2 Earthworks for platform development		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
Biology			
Aquatic flora	Could the activity change the hydromorphology and/or physico-chemistry of the water body, or lead to the direct loss or modification of habitats for aquatic plants?	The activity could potentially affect the hydromorphology and physico-chemistry of the water body (see above for details) and could also impact upon the aquatic flora that they support.	Yes
Benthic invertebrates	Could the activity change the hydromorphology and/or physico-chemistry of the water body, or lead to the direct loss or modification of habitats for aquatic invertebrates?	The activity could potentially affect the hydromorphology and physico-chemistry of the water body (see above for details) and could also impact upon the benthic invertebrates that they support.	Yes
Fish	Could the activity change the hydromorphology and/or physico-chemistry of the water body, or lead to the direct loss or modification of shelter, feeding and spawning habitats for fish?	The activity could potentially affect the hydromorphology and physico-chemistry of the water body (see above for details) and could also impact upon any fish that they support.	Yes

Activity	C3 Construction of marine structures		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
Hydromorphology			
Hydrological regime	Could the activity change the volume, energy or distribution of flows in the water body?	No mechanism for impact on the volume, energy or distribution of flows in the water body was identified.	No
Morphological conditions	Could the activity change the width, depth, bank conditions, bed substrates and structure of the riparian zone?	No mechanism for impact on width, depth, bank conditions, bed substrates and structure of the riparian zone was identified.	No
River continuity	Could the activity create a permanent barrier to the downstream movement of water and/or sediment, or the upstream movement of fish?	No mechanism for the creation of a permanent barrier to the downstream movement of water and/or sediment was identified.	No
Physico-chemistry			
General	Could the activity change the temperature, pH, oxygenation, salinity or nutrient concentrations in the water body?	No mechanism for impact temperature, pH, oxygenation, salinity or nutrient concentrations in the water body was identified.	No
Specific pollutants	Could the activity release dangerous chemicals into the water body?	No mechanism for impact leading to release of dangerous chemicals into the water body was identified.	No
Biology			
Aquatic flora	Could the activity change the hydromorphology and/or physico-chemistry of the water body, or lead to the direct loss or modification of habitats for aquatic plants?	No mechanism for impact on the hydromorphology and/or physico-chemistry of the water body or leading to the direct loss or modification of habitats for aquatic plants was identified.	No
Benthic invertebrates	Could the activity change the hydromorphology and/or physico-chemistry of the water body, or lead to the	No mechanism for impact on hydromorphology and/or physico-chemistry of the water body or leading to the	No

Activity	C3 Construction of marine structures		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
	direct loss or modification of habitats for aquatic invertebrates?	direct loss or modification of habitats for aquatic invertebrates was identified.	
Fish	Could the activity change the hydromorphology and/or physico-chemistry of the water body, or lead to the direct loss or modification of shelter, feeding and spawning habitats for fish?	No mechanism for impact on hydromorphology and/or physico-chemistry of the water body or leading to the direct loss or modification of habitats for fish was identified.	No

Activity	C4 Discharge of foul, surface and any other water		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
Hydromorphology			
Hydrological regime	Could the activity change the volume, energy or distribution of flows in the water body?	Discharge of surface water from the site drainage system, groundwater from dewatering, and treated foul effluent could affect the volume, energy and distribution of surface water flows.	Yes
Morphological conditions	Could the activity change the width, depth, bank conditions, bed substrates and structure of the riparian zone?	Changes to surface drainage patterns could result in corresponding changes to the geomorphology of surface waters (e.g. in response to increases or decreases in flow volumes and velocities in parts of the drainage network).	Yes
River continuity	Could the activity create a permanent barrier to the downstream movement of water and/or sediment, or the upstream movement of fish?	This activity will not create a barrier to the downstream movement of water and/or sediment and therefore will not impact upon river continuity.	No
Physico-chemistry			
General	Could the activity change the temperature, pH, oxygenation, salinity or nutrient concentrations in the water body?	Discharge of site drainage, groundwater and treated effluent may impact upon the general physico-chemistry of this water body, including temperature, nutrient concentrations (e.g. an increase in ammonia concentrations) and oxygenation (e.g. as a result of increased biological oxygen demand).	Yes
Specific pollutants	Could the activity release dangerous chemicals into the water body?	Discharge of site drainage, groundwater and treated effluent could potentially release dangerous chemicals into the water body, for example through leaks or accidental spillage.	Yes

Activity	C4 Discharge of foul, surface and any other water		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
Biology			
Aquatic flora	Could the activity change the hydromorphology and/or physico-chemistry of the water body, or lead to the direct loss or modification of habitats for aquatic plants?	The activity could potentially affect the hydromorphology and physico-chemistry of the water body (see above for details) and could also impact upon the aquatic flora that they support.	Yes
Benthic invertebrates	Could the activity change the hydromorphology and/or physico-chemistry of the water body, or lead to the direct loss or modification of habitats for aquatic invertebrates?	The activity could potentially affect the hydromorphology and physico-chemistry of the water body (see above for details) and could also impact upon the benthic invertebrates that they support.	Yes
Fish	Could the activity change the hydromorphology and/or physico-chemistry of the water body, or lead to the direct loss or modification of shelter, feeding and spawning habitats for fish?	The activity could potentially affect the hydromorphology and physico-chemistry of the water body (see above for details) and could also impact upon any fish that they support.	Yes

Activity	C5 Discharge of cold commissioning water via CDO.		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
Hydromorphology			
Hydrological regime	Could the activity change the volume, energy or distribution of flows in the water body?	Cold test commissioning water will be discharged to sea via the CDO. No mechanism for impact on the river water body was identified.	No
Morphological conditions	Could the activity change the width, depth, bank conditions, bed substrates and structure of the riparian zone?	Cold test commissioning water will be discharged to sea via the CDO. No mechanism for impact on the river water body was identified.	No
River continuity	Could the activity create a permanent barrier to the downstream movement of water and/or sediment, or the upstream movement of fish?	Cold test commissioning water will be discharged to sea via the CDO. No mechanism for impact on the river water body was identified.	No
Physico-chemistry			
General	Could the activity change the temperature, pH, oxygenation, salinity or nutrient concentrations in the water body?	Direct discharge of cold test commissioning water into the marine environment via the CDO could release chemicals into the Suffolk coastal water body. If it is shown that there is an effect on the coastal water body, then there could be an effect on this water body.	Yes
Specific pollutants	Could the activity release dangerous chemicals into the water body?	Direct discharge of cold test commissioning water into the marine environment via the CDO could release chemicals into the Suffolk coastal water body. If it is shown that there is an effect on the coastal water body, then there could be an effect on this water body.	Yes
Biology			
Aquatic flora	Could the activity change the hydromorphology and/or physico-chemistry of the water body, or	The activity could potentially affect the physico-chemistry of the water body (see entries for these quality elements for	Yes

Activity	C5 Discharge of cold commissioning water via CDO.		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
	lead to the direct loss or modification of habitats for aquatic plants?	details) and could also impact upon the aquatic flora that they support.	
Benthic invertebrates	Could the activity change the hydromorphology and/or physico-chemistry of the water body, or lead to the direct loss or modification of habitats for aquatic invertebrates?	The activity could potentially affect the physico-chemistry of the water body (see entries for these quality elements for details) and could also impact upon the benthic invertebrates that they support.	Yes
Fish	Could the activity change the hydromorphology and/or physico-chemistry of the water body, or lead to the direct loss or modification of shelter, feeding and spawning habitats for fish?	The activity could potentially affect the physico-chemistry of the water body (see entries for these quality elements for details) and could also impact upon the fish that they support.	Yes

Activity	O1 Presence of power station platform and cut-off wall		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
Hydromorphology			
Hydrological regime	Could the activity change the volume, energy or distribution of flows in the water body?	Direct changes to groundwater flow patterns and volumes could result in impacts on surface waters. The operational activity could therefore affect the overall hydrological regime of the water body.	Yes
Morphological conditions	Could the activity change the width, depth, bank conditions, bed substrates and structure of the riparian zone?	There is potential for geomorphological adjustment as a result of changes to surface water flows.	Yes
River continuity	Could the activity create a permanent barrier to the downstream movement of water and/or sediment, or the upstream movement of fish?	The activities will not create a barrier to the downstream movement of water and/or sediment and therefore will not impact upon river continuity.	No
Physico-chemistry			
General	Could the activity change the temperature, pH, oxygenation, salinity or nutrient concentrations in the water body?	The presence of the cut off wall could lead to changes in the proportion of groundwater that contributes to surface waters within the ditch network (e.g. by increasing or decreasing groundwater upwelling). This could potentially impact upon the physico-chemistry of the surface water body.	Yes
Specific pollutants	Could the activity release dangerous chemicals into the water body?	No mechanism for the groundwater cut off wall to impact upon concentrations of potentially hazardous chemicals has been identified.	No

Activity	O1 Presence of power station platform and cut-off wall		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
Biology			
Aquatic flora	Could the activity change the hydromorphology and/or physico-chemistry of the water body, or lead to the direct loss or modification of habitats for aquatic plants?	No mechanism for impact on the hydromorphology and/or physico-chemistry of the water body or leading to the direct loss or modification of habitats for aquatic plants was identified.	No
Benthic invertebrates	Could the activity change the hydromorphology and/or physico-chemistry of the water body, or lead to the direct loss or modification of habitats for aquatic invertebrates?	No mechanism for impact on the hydromorphology and/or physico-chemistry of the water body or leading to the direct loss or modification of habitats for aquatic invertebrates was identified.	No
Fish	Could the activity change the hydromorphology and/or physico-chemistry of the water body, or lead to the direct loss or modification of shelter, feeding and spawning habitats for fish?	No mechanism for impact on the hydromorphology and/or physico-chemistry of the water body or leading to the direct loss or modification of habitats for fish was identified.	No

Activity	O2 Presence of main site access road		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
Hydromorphology			
Hydrological regime	Could the activity change the volume, energy or distribution of flows in the water body?	The crossing will not impact upon channels within the water body; there is therefore no mechanism for impact on the volume, energy or distribution of flows.	No
Morphological conditions	Could the activity change the width, depth, bank conditions, bed substrates and structure of the riparian zone?	The crossing will not impact upon channels within the water body; there is therefore no mechanism for impact on width, depth, bank conditions, bed substrates and structure of the riparian zone was identified.	No
River continuity	Could the activity create a permanent barrier to the downstream movement of water and/or sediment, or the upstream movement of fish?	No mechanism for impact which could lead to creation of permanent barrier to the downstream movement of water and/or sediment.	No
Physico-chemistry			
General	Could the activity change the temperature, pH, oxygenation, salinity or nutrient concentrations in the water body?	No mechanism for impact temperature, pH, oxygenation, salinity or nutrient concentrations in the water body was identified.	No
Specific pollutants	Could the activity release dangerous chemicals into the water body?	No mechanism for impact leading to release of dangerous chemicals into the water body was identified.	No
Biology			
Aquatic flora	Could the activity change the hydromorphology and/or physico-chemistry of the water body, or lead to the direct loss or modification of habitats for aquatic plants?	No mechanism for impact on the hydromorphology and/or physico-chemistry of the water body or leading to the direct loss or modification of habitats for aquatic plants was identified.	No

Activity	O2 Presence of main site access road		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
Benthic invertebrates	Could the activity change the hydromorphology and/or physico-chemistry of the water body, or lead to the direct loss or modification of habitats for aquatic invertebrates?	No mechanism for impact on the hydromorphology and/or physico-chemistry of the water body or leading to the direct loss or modification of habitats for aquatic invertebrates was identified.	No
Fish	Could the activity change the hydromorphology and/or physico-chemistry of the water body, or lead to the direct loss or modification of shelter, feeding and spawning habitats for fish?	No mechanism for impact on the hydromorphology and/or physico-chemistry of the water body or leading to the direct loss or modification of shelter, feeding and spawning habitats for fish.	No

Activity	O3 Presence of marine structures		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
Hydromorphology			
Hydrological regime	Could the activity change the volume, energy or distribution of flows in the water body?	No mechanism for impact on the volume, energy or distribution of flows in the water body was identified.	No
Morphological conditions	Could the activity change the width, depth, bank conditions, bed substrates and structure of the riparian zone?	No mechanism for impact on width, depth, bank conditions, bed substrates and structure of the riparian zone was identified.	No
River continuity	Could the activity create a permanent barrier to the downstream movement of water and/or sediment, or the upstream movement of fish?	No mechanism for the creation of a permanent barrier to the downstream movement of water and/or sediment was identified.	No
Physico-chemistry			
General	Could the activity change the temperature, pH, oxygenation, salinity or nutrient concentrations in the water body?	No mechanism for impact on temperature, pH, oxygenation, salinity or nutrient concentrations in the water body was identified.	No
Specific pollutants	Could the activity release dangerous chemicals into the water body?	No mechanism for impact leading to release of dangerous chemicals into the water body was identified.	No
Biology			
Aquatic flora	Could the activity change the hydromorphology and/or physico-chemistry of the water body, or lead to the direct loss or modification of habitats for aquatic plants?	No mechanism for impact on hydromorphology and/or physico-chemistry of the water body or leading to the direct loss or modification of habitats for aquatic plants was identified.	No

Activity	O3 Presence of marine structures		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
Benthic invertebrates	Could the activity change the hydromorphology and/or physico-chemistry of the water body, or lead to the direct loss or modification of habitats for aquatic invertebrates?	No mechanism for impact on hydromorphology and/or physico-chemistry of the water body or leading to the direct loss or modification of habitats for aquatic invertebrates was identified.	No
Fish	Could the activity change the hydromorphology and/or physico-chemistry of the water body, or lead to the direct loss or modification of shelter, feeding and spawning habitats for fish?	No mechanism for impact on hydromorphology and/or physico-chemistry of the water body or leading to the direct loss or modification of shelter, feeding and spawning habitats for fish.	No

Activity	O4 Presence of flood defence structures		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
Hydromorphology			
Hydrological regime	Could the activity change the volume, energy or distribution of flows in the water body?	No mechanism for impact on the volume, energy or distribution of flows in the water body was identified.	No
Morphological conditions	Could the activity change the width, depth, bank conditions, bed substrates and structure of the riparian zone?	No mechanism for impact on width, depth, bank conditions, bed substrates and structure of the riparian zone was identified.	No
River continuity	Could the activity create a permanent barrier to the downstream movement of water and/or sediment, or the upstream movement of fish?	No mechanism for the creation of a permanent barrier to the downstream movement of water and/or sediment was identified.	No
Physico-chemistry			
General	Could the activity change the temperature, pH, oxygenation, salinity or nutrient concentrations in the water body?	No mechanism for impact on temperature, pH, oxygenation, salinity or nutrient concentrations in the water body was identified.	No
Specific pollutants	Could the activity release dangerous chemicals into the water body?	No mechanism for impact leading to release of dangerous chemicals into the water body was identified.	No
Biology			
Aquatic flora	Could the activity change the hydromorphology and/or physico-chemistry of the water body, or lead to the direct loss or modification of habitats for aquatic plants?	No mechanism for impact on hydromorphology and/or physico-chemistry of the water body or leading to the direct loss or modification of habitats for aquatic plants was identified.	No
Benthic invertebrates	Could the activity change the hydromorphology and/or physico-chemistry of the water body, or lead to the	No mechanism for impact on hydromorphology and/or physico-chemistry of the water body or leading to the	No

Activity	O4 Presence of flood defence structures		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
	direct loss or modification of habitats for aquatic invertebrates?	direct loss or modification of habitats for aquatic invertebrates was identified.	
Fish	Could the activity change the hydromorphology and/or physico-chemistry of the water body, or lead to the direct loss or modification of shelter, feeding and spawning habitats for fish?	No mechanism for impact on hydromorphology and/or physico-chemistry of the water body or leading to the direct loss or modification of shelter, feeding and spawning habitats for fish.	No

Activity	O5 Discharge of foul and surface water via cooling water system		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
Hydromorphology			
Hydrological regime	Could the activity change the volume, energy or distribution of flows in the water body?	Treated sewage effluent and surface water runoff will be discharged to sea via the cooling water outfall. No mechanism for impact on the river water body was identified.	No
Morphological conditions	Could the activity change the width, depth, bank conditions, bed substrates and structure of the riparian zone?	Treated sewage effluent and surface water runoff will be discharged to sea via the cooling water outfall. No mechanism for impact on the river water body was identified.	No
River continuity	Could the activity create a permanent barrier to the downstream movement of water and/or sediment, or the upstream movement of fish?	Treated sewage effluent and surface water runoff will be discharged to sea via the cooling water outfall. No mechanism for impact on the river water body was identified.	No
Physico-chemistry			
General	Could the activity change the temperature, pH, oxygenation, salinity or nutrient concentrations in the water body?	Direct discharge of sewage effluent into the marine environment via the cooling water discharge system could release chemicals into the Suffolk coastal water body. If it is shown that there is an effect on the coastal water body, then there could be an effect on this water body.	Yes
Specific pollutants	Could the activity release dangerous chemicals into the water body?	Direct discharge of sewage effluent into the marine environment via the cooling water discharge system could release chemicals into the Suffolk coastal water body. If it is shown that there is an effect on the coastal water body, then there could be an effect on this water body.	Yes

Activity	O5 Discharge of foul and surface water via cooling water system		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
Biology			
Aquatic flora	Could the activity change the hydromorphology and/or physico-chemistry of the water body, or lead to the direct loss or modification of habitats for aquatic plants?	The activity could potentially affect the physico-chemistry of the water body (see entries for these quality elements for details) and could also impact upon the aquatic flora that they support.	Yes
Benthic invertebrates	Could the activity change the hydromorphology and/or physico-chemistry of the water body, or lead to the direct loss or modification of habitats for aquatic invertebrates?	The activity could potentially affect the physico-chemistry of the water body (see entries for these quality elements for details) and could also impact upon the benthic invertebrates that they support.	Yes
Fish	Could the activity change the hydromorphology and/or physico-chemistry of the water body, or lead to the direct loss or modification of shelter, feeding and spawning habitats for fish?	The activity could potentially affect the physico-chemistry of the water body (see entries for these quality elements for details) and could also impact upon the fish that they support.	Yes

Activity	O6 Intake of cooling water		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
Hydromorphology			
Hydrological regime	Could the activity change the volume, energy or distribution of flows in the water body?	No mechanism for impact on the volume, energy or distribution of flows in the water body was identified.	No
Morphological conditions	Could the activity change the width, depth, bank conditions, bed substrates and structure of the riparian zone?	No mechanism for impact on width, depth, bank conditions, bed substrates and structure of the riparian zone was identified.	No
River continuity	Could the activity create a permanent barrier to the downstream movement of water and/or sediment, or the upstream movement of fish?	No mechanism for the creation of a permanent barrier to the downstream movement of water and/or sediment was identified.	No
Physico-chemistry			
General	Could the activity change the temperature, pH, oxygenation, salinity or nutrient concentrations in the water body?	No mechanism for impact on temperature, pH, oxygenation, salinity or nutrient concentrations in the water body was identified.	No
Specific pollutants	Could the activity release dangerous chemicals into the water body?	No mechanism for impact leading to release of dangerous chemicals into the water body was identified.	No
Biology			
Aquatic flora	Could the activity change the hydromorphology and/or physico-chemistry of the water body, or lead to the direct loss or modification of habitats for aquatic plants?	No mechanism for impact on hydromorphology and/or physico-chemistry of the water body or leading to the direct loss or modification of habitats for aquatic plants was identified.	No
Benthic invertebrates	Could the activity change the hydromorphology and/or physico-chemistry of the water body, or lead to the	No mechanism for impact on hydromorphology and/or physico-chemistry of the water body or leading to the	No

Activity	O6 Intake of cooling water		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
	direct loss or modification of habitats for aquatic invertebrates?	direct loss or modification of habitats for aquatic invertebrates was identified.	
Fish	Could the activity change the hydromorphology and/or physico-chemistry of the water body, or lead to the direct loss or modification of shelter, feeding and spawning habitats for fish?	No mechanism for impact on hydromorphology and/or physico-chemistry of the water body or leading to the direct loss or modification of shelter, feeding and spawning habitats for fish.	No

Activity	O7 Discharge of trade effluent via cooling water system		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
Hydromorphology			
Hydrological regime	Could the activity change the volume, energy or distribution of flows in the water body?	Trade effluent will be discharged to sea via the cooling water outfall. No mechanism for impact on the hydrological regime of the river water body was identified.	No
Morphological conditions	Could the activity change the width, depth, bank conditions, bed substrates and structure of the riparian zone?	Trade effluent will be discharged to sea via the cooling water outfall. No mechanism for impact on width, depth, bank conditions, bed substrates and structure of the riparian zone was identified.	No
River continuity	Could the activity create a permanent barrier to the downstream movement of water and/or sediment, or the upstream movement of fish?	Trade effluent will be discharged to sea via the cooling water outfall. No mechanism for the creation of a permanent barrier to the downstream movement of water and/or sediment was identified.	No
Physico-chemistry			
General	Could the activity change the temperature, pH, oxygenation, salinity or nutrient concentrations in the water body?	Direct discharge of trade effluent into the marine environment via the cooling water discharge system could release chemicals into the Suffolk coastal water body. If it is shown that there is an effect on the coastal water body, then there could be an effect on this water body.	Yes
Specific pollutants	Could the activity release dangerous chemicals into the water body?	Direct discharge of trade effluent into the marine environment via the cooling water discharge system could release chemicals into the Suffolk coastal water body. If it is shown that there is an effect on the coastal water body, then there could be an effect on this water body.	Yes

Activity	O7 Discharge of trade effluent via cooling water system		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
Biology			
Aquatic flora	Could the activity change the hydromorphology and/or physico-chemistry of the water body, or lead to the direct loss or modification of habitats for aquatic plants?	The activity could potentially affect the physico-chemistry of the water body (see entries for these quality elements for details) and could also impact upon the aquatic flora that they support.	Yes
Benthic invertebrates	Could the activity change the hydromorphology and/or physico-chemistry of the water body, or lead to the direct loss or modification of habitats for aquatic invertebrates?	The activity could potentially affect the physico-chemistry of the water body (see entries for these quality elements for details) and could also impact upon the benthic invertebrates that they support.	Yes
Fish	Could the activity change the hydromorphology and/or physico-chemistry of the water body, or lead to the direct loss or modification of shelter, feeding and spawning habitats for fish?	The activity could potentially affect the physico-chemistry of the water body (see entries for these quality elements for details) and could also impact upon the fish that they support.	Yes

Activity	O8 Discharge of polluting matter via the FRR system		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
Hydromorphology			
Hydrological regime	Could the activity change the volume, energy or distribution of flows in the water body?	Discharged via FFR system. No mechanism for impact on the river water body was identified.	No
Morphological conditions	Could the activity change the width, depth, bank conditions, bed substrates and structure of the riparian zone?		
River continuity	Could the activity create a permanent barrier to the downstream movement of water and/or sediment, or the upstream movement of fish?		
Physico-chemistry			
General	Could the activity change the temperature, pH, oxygenation, salinity or nutrient concentrations in the water body?	There is the potential that decaying matter could impact on water quality parameters. However, the effect is likely to be limited to the Suffolk coastal water body given the dispersive environment and nature of effect.	No
Specific pollutants	Could the activity release dangerous chemicals into the water body?	No chemicals to be released	No
Biology			
Aquatic flora	Could the activity change the hydromorphology and/or physico-chemistry of the water body, or lead to the direct loss or modification of habitats for aquatic plants?	There is the potential that decaying matter could impact on water quality parameters. However, the effect is likely to be limited to the Suffolk coastal water body given the dispersive environment and nature of effect.	No
Benthic invertebrates	Could the activity change the hydromorphology and/or physico-chemistry of the water body, or lead to the		

Activity	O8 Discharge of polluting matter via the FRR system		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
	direct loss or modification of habitats for aquatic invertebrates?		
Fish	Could the activity change the hydromorphology and/or physico-chemistry of the water body, or lead to the direct loss or modification of shelter, feeding and spawning habitats for fish?		

Table 1:7: Waveney and East Suffolk Chalk and Crag groundwater body (GB40501G400600)

Activity	C1 Initial site preparation		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
Quantity			
Groundwater quantity	Could the activity change groundwater levels, affecting Groundwater Dependent Terrestrial Ecosystems (GWDTEs) or dependent surface water features?	This activity could affect groundwater levels in the superficial and Crag aquifers through dewatering and changes to the rate of groundwater recharge. Any changes in groundwater levels could potentially impact upon the surface drainage network and associated GWDTEs.	Yes
	Could the activity lead to saline intrusion?	Rerouting of precipitation into surface water drains (and away from recharge to groundwater) and dewatering of superficial and Crag aquifers could result in movement of the saline water/freshwater interface zone.	Yes
	Could the activity result in groundwater abstraction in excess of recharge at a water body scale?	This activity could negatively affect the water balance through dewatering and changes to the rate of groundwater recharge.	Yes
	Could the activity lead to an additional surface water body becoming non-compliant and lead to failure of the Dependent Surface Water test?	This activity could affect groundwater levels in the superficial and Crag aquifers through dewatering and changes to the rate of groundwater recharge. Any changes in groundwater levels could potentially impact upon the surface drainage network.	Yes
	Could the activity result in additional abstraction that will exceed any groundwater body scale headroom between the fully licensed quantity and the limit imposed by the total recharge?	This activity could negatively affect the water balance through dewatering and changes to the rate of groundwater recharge.	Yes
	Could the activity result in additional groundwater depletion of surface water flows that will exceed any	This activity could affect the water balance through dewatering and changes to the rate of groundwater recharge.	Yes

Activity	C1 Initial site preparation		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
	groundwater body scale headroom between Fully Licensed depletion and the limit imposed by the total low flows resource?	The groundwater body is currently over-abstracted, and any activity resulting in further depletion of the water balance could limit future status improvements.	
Quality			
Groundwater quality	Could the activity result in or exacerbate diffuse pollution at a water body scale?	The activity could introduce new sources of contamination the underlying groundwater and remobilise existing sources of contamination.	Yes
	Could the activity result in pollution of groundwater dependent terrestrial ecosystems (GWDTEs) or other dependent surface water features?	The activity could introduce new sources of contamination the underlying groundwater and remobilise existing sources of contamination. This could introduce a new pathway for the contamination of GWDTEs and other dependent surface water features.	Yes
	Could the activity lead to saline intrusion?	Rerouting of precipitation into surface water drains (and away from recharge to groundwater) and dewatering of superficial and Crag aquifers could potentially reduce the gradient of groundwater towards the direction of the sea.	Yes
	Could the activity cause deterioration in the quality of a drinking water abstraction?	The activity could introduce new sources of contamination the underlying groundwater and remobilise existing sources of contamination. This could potentially result in deterioration of the water quality of drinking water abstractions in the water body.	Yes
	Could the activity result in increasing trends in pollutant concentrations or reduce the ability to reverse significant trends in groundwater pollutants?	The activity could introduce new sources of contamination the underlying groundwater and remobilise existing sources of contamination. This could potentially result in increasing	Yes

Activity	C1 Initial site preparation		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
		trends in pollutant concentrations or reduce the probability of reversing significant trends.	
	Could the activity result in the failure of the 'prevent or limit' objective of the Groundwater Daughter Directive?	The activity could introduce new sources of contamination the underlying groundwater and remobilise existing sources of contamination. This could potentially result in the failure to meet the 'prevent' or 'limit' objectives of the Groundwater Daughter Directive.	Yes

Activity	C2 Earthworks for platform development		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
Quantity			
Groundwater quantity	Could the activity change groundwater levels, affecting Groundwater Dependent Terrestrial Ecosystems (GWDTEs) or dependent surface water features?	This activity could affect groundwater levels in the superficial and Crag aquifers through dewatering and changes to the rate of groundwater recharge. Any changes in groundwater levels could potentially impact upon the surface drainage network and associated GWDTEs.	Yes
	Could the activity lead to saline intrusion?	Dewatering and excavation could result in movement of the saline water/freshwater interface zone.	Yes
	Could the activity result in groundwater abstraction in excess of recharge at a water body scale?	This activity could negatively affect the water balance through dewatering and changes to the rate of groundwater recharge.	Yes
	Could the activity lead to an additional surface water body becoming non-compliant and lead to failure of the Dependent Surface Water test?	This activity could affect groundwater levels in the superficial and Crag aquifers through dewatering and changes to the rate of groundwater recharge. Any changes in groundwater levels could potentially impact upon the surface drainage network.	Yes
	Could the activity result in additional abstraction that will exceed any groundwater body scale headroom between the fully licensed quantity and the limit imposed by the total recharge?	This activity could negatively affect the water balance through dewatering and changes to the rate of groundwater recharge.	Yes
	Could the activity result in additional groundwater depletion of surface water flows that will exceed any groundwater body scale headroom between Fully Licensed depletion and the limit imposed by the total low flows resource?	This activity could affect the water balance through dewatering and changes to the rate of groundwater recharge. The groundwater body is currently over-abstracted, and any activity resulting in further depletion of the water balance could limit future status improvements.	Yes

Activity	C2 Earthworks for platform development		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
Quality			
Groundwater quality	Could the activity result in or exacerbate diffuse pollution at a water body scale?	The activity could introduce new sources of contamination the underlying groundwater and remobilise existing sources of contamination.	Yes
	Could the activity result in pollution of groundwater dependent terrestrial ecosystems (GWDTEs) or other dependent surface water features?	The activity could introduce new sources of contamination the underlying groundwater and remobilise existing sources of contamination. This could introduce a new pathway for the contamination of GWDTEs and other dependent surface water features.	Yes
	Could the activity lead to saline intrusion?	Dewatering could potentially reduce the gradient of groundwater towards the direction of the sea.	Yes
	Could the activity cause deterioration in the quality of a drinking water abstraction?	The activity could introduce new sources of contamination the underlying groundwater and remobilise existing sources of contamination. This could potentially result in deterioration of the water quality of drinking water abstractions in the water body.	Yes
	Could the activity result in increasing trends in pollutant concentrations or reduce the ability to reverse significant trends in groundwater pollutants?	The activity could introduce new sources of contamination the underlying groundwater and remobilise existing sources of contamination. This could potentially result in increasing trends in pollutant concentrations or reduce the probability of reversing significant trends.	Yes

Activity	C2 Earthworks for platform development		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
	Could the activity result in the failure of the 'prevent or limit' objective of the Groundwater Daughter Directive?	The activity could introduce new sources of contamination the underlying groundwater and remobilise existing sources of contamination. This could potentially result in the failure to meet the 'prevent' or 'limit' objectives of the Groundwater Daughter Directive.	Yes

Activity	C3 Construction of marine structures		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
Quantity			
Groundwater quantity	Could the activity change groundwater levels, affecting Groundwater Dependent Terrestrial Ecosystems (GWDTEs) or dependent surface water features?	No mechanisms for impact on groundwater levels were identified.	No
	Could the activity lead to saline intrusion?	No mechanisms for impact on the degree of saline intrusion were identified	No
	Could the activity result in groundwater abstraction in excess of recharge at a water body scale?	No mechanisms for impact on the water balance were identified.	No
	Could the activity lead to an additional surface water body becoming non-compliant and lead to failure of the Dependent Surface Water test?	No mechanisms for impact on dependent surface waters were identified.	No
	Could the activity result in additional abstraction that will exceed any groundwater body scale headroom between the fully licensed quantity and the limit imposed by the total recharge?	No mechanisms for impact on the water balance were identified.	No
	Could the activity result in additional groundwater depletion of surface water flows that will exceed any groundwater body scale headroom between Fully Licensed depletion and the limit imposed by the total low flows resource?	No mechanisms for impact on the water balance were identified.	No

Activity	C3 Construction of marine structures		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
Quality			
Groundwater quality	Could the activity result in or exacerbate diffuse pollution at a water body scale?	No mechanisms to result in or exacerbate diffuse pollution of groundwaters were identified.	No
	Could the activity result in pollution of groundwater dependent terrestrial ecosystems (GWDTEs) or other dependent surface water features?	No mechanisms to result in the pollution of GWDTEs or other dependent surface water features were identified.	No
	Could the activity lead to saline intrusion?	No mechanisms for impact on the degree of saline intrusion were identified	No
	Could the activity cause deterioration in the quality of a drinking water abstraction?	No mechanisms for impact on the quality of drinking water abstractions were identified	No
	Could the activity result in increasing trends in pollutant concentrations or reduce the ability to reverse significant trends in groundwater pollutants?	No mechanisms for impact on trends in pollutant concentrations were identified.	No
	Could the activity result in the failure of the 'prevent or limit' objective of the Groundwater Daughter Directive?	No mechanisms which could result in the failure to meet the 'prevent' or 'limit' objectives of the Groundwater Daughter Directive were identified.	No

Activity	C4 Discharge of foul, surface and any other water		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
Quantity			
Groundwater quantity	Could the activity change groundwater levels, affecting Groundwater Dependent Terrestrial Ecosystems (GWDTEs) or dependent surface water features?	Discharge of surface water from the site drainage system, groundwater from dewatering, and treated foul effluent could locally affect groundwater levels.	Yes
	Could the activity lead to saline intrusion?	No mechanisms for impact on the degree of saline intrusion were identified	No
	Could the activity result in groundwater abstraction in excess of recharge at a water body scale?	No mechanisms for impact on the water balance were identified.	No
	Could the activity lead to an additional surface water body becoming non-compliant and lead to failure of the Dependent Surface Water test?	No mechanisms for impact on dependent surface waters were identified.	No
	Could the activity result in additional abstraction that will exceed any groundwater body scale headroom between the fully licensed quantity and the limit imposed by the total recharge?	No mechanisms for impact on the water balance were identified.	No
	Could the activity result in additional groundwater depletion of surface water flows that will exceed any groundwater body scale headroom between Fully Licensed depletion and the limit imposed by the total low flows resource?	No mechanisms for impact on the water balance were identified.	No

Activity	C4 Discharge of foul, surface and any other water		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
Quality			
Groundwater quality	Could the activity result in or exacerbate diffuse pollution at a water body scale?	Discharge of site drainage, groundwater and treated effluent could introduce contaminants into the groundwater body.	Yes
	Could the activity result in pollution of groundwater dependent terrestrial ecosystems (GWDTEs) or other dependent surface water features?	Discharge of site drainage, groundwater and treated effluent could introduce contaminants into the groundwater body and affect GWDTEs and other dependent surface water features.	Yes
	Could the activity lead to saline intrusion?	No mechanisms for impact on the degree of saline intrusion were identified	No
	Could the activity cause deterioration in the quality of a drinking water abstraction?	Discharge of site drainage, groundwater and treated effluent could introduce contaminants into the groundwater body and cause deterioration in the quality of drinking water abstractions.	Yes
	Could the activity result in increasing trends in pollutant concentrations or reduce the ability to reverse significant trends in groundwater pollutants?	Discharge of site drainage, groundwater and treated effluent could introduce contaminants into the groundwater body and cause deterioration in the quality of drinking water abstractions.	Yes

Activity	C4 Discharge of foul, surface and any other water		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
	Could the activity result in the failure of the 'prevent or limit' objective of the Groundwater Daughter Directive?	Discharge of site drainage, groundwater and treated effluent could introduce contaminants into the groundwater body and result in the failure to meet the 'prevent' or 'limit' objectives of the Groundwater Daughter Directive were identified.	Yes

Activity	C5 Discharge of cold commissioning water via CDO.		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
Quantity			
Groundwater quantity	Could the activity change groundwater levels, affecting Groundwater Dependent Terrestrial Ecosystems (GWDTEs) or dependent surface water features?	No mechanisms for impact on groundwater levels were identified.	No
	Could the activity lead to saline intrusion?	No mechanisms for impact on the degree of saline intrusion were identified	No
	Could the activity result in groundwater abstraction in excess of recharge at a water body scale?	No mechanisms for impact on the water balance were identified.	No
	Could the activity lead to an additional surface water body becoming non-compliant and lead to failure of the Dependent Surface Water test?	No mechanisms for impact on dependent surface waters were identified.	No
	Could the activity result in additional abstraction that will exceed any groundwater body scale headroom between the fully licensed quantity and the limit imposed by the total recharge?	No mechanisms for impact on the water balance were identified.	No
	Could the activity result in additional groundwater depletion of surface water flows that will exceed any groundwater body scale headroom between Fully Licensed depletion and the limit imposed by the total low flows resource?	No mechanisms for impact on the water balance were identified.	No

Activity	C5 Discharge of cold commissioning water via CDO.		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
Quality			
Groundwater quality	Could the activity result in or exacerbate diffuse pollution at a water body scale?	No mechanisms to result in or exacerbate diffuse pollution of groundwaters were identified.	No
	Could the activity result in pollution of groundwater dependent terrestrial ecosystems (GWDTEs) or other dependent surface water features?	No mechanisms to result in the pollution of GWDTEs or other dependent surface water features were identified.	No
	Could the activity lead to saline intrusion?	No mechanisms for impact on the degree of saline intrusion were identified	No
	Could the activity cause deterioration in the quality of a drinking water abstraction?	No mechanisms for impact on the quality of drinking water abstractions were identified	No
	Could the activity result in increasing trends in pollutant concentrations or reduce the ability to reverse significant trends in groundwater pollutants?	No mechanisms for impact on trends in pollutant concentrations were identified.	No
	Could the activity result in the failure of the 'prevent or limit' objective of the Groundwater Daughter Directive?	No mechanisms which could result in the failure to meet the 'prevent' or 'limit' objectives of the Groundwater Daughter Directive were identified.	No

Activity	O1 Presence of power station platform and cut-off wall		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
Quantity			
Groundwater quantity	Could the activity change groundwater levels, affecting Groundwater Dependent Terrestrial Ecosystems (GWDTEs) or dependent surface water features?	This activity could affect groundwater levels in the superficial and Crag aquifers through changes to groundwater flows and recharge. Any changes in groundwater levels could potentially impact upon the surface drainage network and associated GWDTEs.	Yes
	Could the activity lead to saline intrusion?	Changes to groundwater flows and recharge could result in movement of the saline water/freshwater interface zone.	Yes
	Could the activity result in groundwater abstraction in excess of recharge at a water body scale?	This activity does not include additional abstraction from groundwater.	No
	Could the activity lead to an additional surface water body becoming non-compliant and lead to failure of the Dependent Surface Water test?	This activity could affect groundwater levels in the superficial and Crag aquifers through changes to groundwater flows and recharge. Any changes in groundwater levels could potentially impact upon the surface drainage network.	Yes
	Could the activity result in additional abstraction that will exceed any groundwater body scale headroom between the fully licensed quantity and the limit imposed by the total recharge?	This activity does not include additional abstraction from groundwater.	No
	Could the activity result in additional groundwater depletion of surface water flows that will exceed any groundwater body scale headroom between Fully Licensed depletion and the limit imposed by the total low flows resource?	This activity could affect groundwater levels in the superficial and Crag aquifers through changes to groundwater flows and recharge. Any changes in groundwater levels could potentially impact upon the surface drainage network.	Yes

Activity	O1 Presence of power station platform and cut-off wall		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
Quality			
Groundwater quality	Could the activity result in or exacerbate diffuse pollution at a water body scale?	The activity could introduce new sources of contamination to the underlying groundwater.	Yes
	Could the activity result in pollution of groundwater dependent terrestrial ecosystems (GWDTEs) or other dependent surface water features?	The activity could introduce new sources of contamination to the underlying groundwater. This could introduce a new pathway for the contamination of GWDTEs and other dependent surface water features.	Yes
	Could the activity lead to saline intrusion?	Changes to groundwater flows and recharge could result in movement of the saline water/freshwater interface zone.	Yes
	Could the activity cause deterioration in the quality of a drinking water abstraction?	The activity could introduce new sources of contamination to the underlying groundwater. This could potentially result in deterioration of the water quality of drinking water abstractions in the water body.	Yes
	Could the activity result in increasing trends in pollutant concentrations or reduce the ability to reverse significant trends in groundwater pollutants?	The activity could introduce new sources of contamination to the underlying groundwater. This could potentially result in increasing trends in pollutant concentrations or reduce the probability of reversing significant trends.	Yes

Activity	O1 Presence of power station platform and cut-off wall		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
	Could the activity result in the failure of the 'prevent or limit' objective of the Groundwater Daughter Directive?	The activity could introduce new sources of contamination to the underlying groundwater. This could potentially result in the failure to meet the 'prevent' or 'limit' objectives of the Groundwater Daughter Directive.	Yes

Activity	O2 Presence of permanent main site access road		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
Quantity			
Groundwater quantity	Could the activity change groundwater levels, affecting Groundwater Dependent Terrestrial Ecosystems (GWDTEs) or dependent surface water features?	No mechanisms for impact on groundwater levels were identified.	No
	Could the activity lead to saline intrusion?	No mechanisms for impact on the degree of saline intrusion were identified	No
	Could the activity result in groundwater abstraction in excess of recharge at a water body scale?	No mechanisms for impact on the water balance were identified.	No
	Could the activity lead to an additional surface water body becoming non-compliant and lead to failure of the Dependent Surface Water test?	No mechanisms for impact on dependent surface waters were identified.	No
	Could the activity result in additional abstraction that will exceed any groundwater body scale headroom between the fully licensed quantity and the limit imposed by the total recharge?	No mechanisms for impact on the water balance were identified.	No
	Could the activity result in additional groundwater depletion of surface water flows that will exceed any groundwater body scale headroom between Fully Licensed depletion and the limit imposed by the total low flows resource?	No mechanisms for impact on the water balance were identified.	No
Quality			
Groundwater quality	Could the activity result in or exacerbate diffuse pollution at a water body scale?	No mechanisms to result in or exacerbate diffuse pollution of groundwaters were identified.	No

Activity	O2 Presence of permanent main site access road		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
	Could the activity result in pollution of groundwater dependent terrestrial ecosystems (GWDTEs) or other dependent surface water features?	No mechanisms to result in the pollution of GWDTEs or other dependent surface water features were identified.	No
	Could the activity lead to saline intrusion?	No mechanisms for impact on the degree of saline intrusion were identified	No
	Could the activity cause deterioration in the quality of a drinking water abstraction?	No mechanisms for impact on the quality of drinking water abstractions were identified	No
	Could the activity result in increasing trends in pollutant concentrations or reduce the ability to reverse significant trends in groundwater pollutants?	No mechanisms for impact on trends in pollutant concentrations were identified.	No
	Could the activity result in the failure of the 'prevent or limit' objective of the Groundwater Daughter Directive?	No mechanisms which could result in the failure to meet the 'prevent' or 'limit' objectives of the Groundwater Daughter Directive were identified.	No

Activity	O3 Presence of marine structures		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
Quantity			
Groundwater quantity	Could the activity change groundwater levels, affecting Groundwater Dependent Terrestrial Ecosystems (GWDTEs) or dependent surface water features?	No mechanisms for impact on groundwater levels were identified.	No
	Could the activity lead to saline intrusion?	No mechanisms for impact on the degree of saline intrusion were identified	No
	Could the activity result in groundwater abstraction in excess of recharge at a water body scale?	No mechanisms for impact on the water balance were identified.	No
	Could the activity lead to an additional surface water body becoming non-compliant and lead to failure of the Dependent Surface Water test?	No mechanisms for impact on dependent surface waters were identified.	No
	Could the activity result in additional abstraction that will exceed any groundwater body scale headroom between the fully licensed quantity and the limit imposed by the total recharge?	No mechanisms for impact on the water balance were identified.	No
	Could the activity result in additional groundwater depletion of surface water flows that will exceed any groundwater body scale headroom between Fully Licensed depletion and the limit imposed by the total low flows resource?	No mechanisms for impact on the water balance were identified.	No
Quality			
Groundwater quality	Could the activity result in or exacerbate diffuse pollution at a water body scale?	No mechanisms to result in or exacerbate diffuse pollution of groundwaters were identified.	No

Activity	O3 Presence of marine structures		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
	Could the activity result in pollution of groundwater dependent terrestrial ecosystems (GWDTEs) or other dependent surface water features?	No mechanisms to result in the pollution of GWDTEs or other dependent surface water features were identified.	No
	Could the activity lead to saline intrusion?	No mechanisms for impact on the degree of saline intrusion were identified	No
	Could the activity cause deterioration in the quality of a drinking water abstraction?	No mechanisms for impact on the quality of drinking water abstractions were identified	No
	Could the activity result in increasing trends in pollutant concentrations or reduce the ability to reverse significant trends in groundwater pollutants?	No mechanisms for impact on trends in pollutant concentrations were identified.	No
	Could the activity result in the failure of the 'prevent or limit' objective of the Groundwater Daughter Directive?	No mechanisms which could result in the failure to meet the 'prevent' or 'limit' objectives of the Groundwater Daughter Directive were identified.	No

Activity	O4 Presence of flood defence structures		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
Quantity			
Groundwater quantity	Could the activity change groundwater levels, affecting Groundwater Dependent Terrestrial Ecosystems (GWDTEs) or dependent surface water features?	No mechanisms for impact on groundwater levels were identified.	No
	Could the activity lead to saline intrusion?	No mechanisms for impact on the degree of saline intrusion were identified	No
	Could the activity result in groundwater abstraction in excess of recharge at a water body scale?	No mechanisms for impact on the water balance were identified.	No
	Could the activity lead to an additional surface water body becoming non-compliant and lead to failure of the Dependent Surface Water test?	No mechanisms for impact on dependent surface waters were identified.	No
	Could the activity result in additional abstraction that will exceed any groundwater body scale headroom between the fully licensed quantity and the limit imposed by the total recharge?	No mechanisms for impact on the water balance were identified.	No
	Could the activity result in additional groundwater depletion of surface water flows that will exceed any groundwater body scale headroom between Fully Licensed depletion and the limit imposed by the total low flows resource?	No mechanisms for impact on the water balance were identified.	No
Quality			
Groundwater quality	Could the activity result in or exacerbate diffuse pollution at a water body scale?	No mechanisms to result in or exacerbate diffuse pollution of groundwaters were identified.	No

Activity	O4 Presence of flood defence structures		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
	Could the activity result in pollution of groundwater dependent terrestrial ecosystems (GWDTEs) or other dependent surface water features?	No mechanisms to result in the pollution of GWDTEs or other dependent surface water features were identified.	No
	Could the activity lead to saline intrusion?	No mechanisms for impact on the degree of saline intrusion were identified	No
	Could the activity cause deterioration in the quality of a drinking water abstraction?	No mechanisms for impact on the quality of drinking water abstractions were identified	No
	Could the activity result in increasing trends in pollutant concentrations or reduce the ability to reverse significant trends in groundwater pollutants?	No mechanisms for impact on trends in pollutant concentrations were identified.	No
	Could the activity result in the failure of the 'prevent or limit' objective of the Groundwater Daughter Directive?	No mechanisms which could result in the failure to meet the 'prevent' or 'limit' objectives of the Groundwater Daughter Directive were identified.	No

Activity	O5 Discharge of foul and surface water via cooling water system		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
Quantity			
Groundwater quantity	Could the activity change groundwater levels, affecting Groundwater Dependent Terrestrial Ecosystems (GWDTEs) or dependent surface water features?	No mechanisms for impact on groundwater levels were identified.	No
	Could the activity lead to saline intrusion?	No mechanisms for impact on the degree of saline intrusion were identified	No
	Could the activity result in groundwater abstraction in excess of recharge at a water body scale?	No mechanisms for impact on the water balance were identified.	No
	Could the activity lead to an additional surface water body becoming non-compliant and lead to failure of the Dependent Surface Water test?	No mechanisms for impact on dependent surface waters were identified.	No
	Could the activity result in additional abstraction that will exceed any groundwater body scale headroom between the fully licensed quantity and the limit imposed by the total recharge?	No mechanisms for impact on the water balance were identified.	No
	Could the activity result in additional groundwater depletion of surface water flows that will exceed any groundwater body scale headroom between Fully Licensed depletion and the limit imposed by the total low flows resource?	No mechanisms for impact on the water balance were identified.	No
Quality			
Groundwater quality	Could the activity result in or exacerbate diffuse pollution at a water body scale?	No mechanisms to result in or exacerbate diffuse pollution of groundwaters were identified.	No

Activity	O5 Discharge of foul and surface water via cooling water system		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
	Could the activity result in pollution of groundwater dependent terrestrial ecosystems (GWDTEs) or other dependent surface water features?	No mechanisms to result in the pollution of GWDTEs or other dependent surface water features were identified.	No
	Could the activity lead to saline intrusion?	No mechanisms for impact on the degree of saline intrusion were identified	No
	Could the activity cause deterioration in the quality of a drinking water abstraction?	No mechanisms for impact on the quality of drinking water abstractions were identified	No
	Could the activity result in increasing trends in pollutant concentrations or reduce the ability to reverse significant trends in groundwater pollutants?	No mechanisms for impact on trends in pollutant concentrations were identified.	No
	Could the activity result in the failure of the 'prevent or limit' objective of the Groundwater Daughter Directive?	No mechanisms which could result in the failure to meet the 'prevent' or 'limit' objectives of the Groundwater Daughter Directive were identified.	No

Activity	O6 Intake of cooling water		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
Quantity			
Groundwater quantity	Could the activity change groundwater levels, affecting Groundwater Dependent Terrestrial Ecosystems (GWDTEs) or dependent surface water features?	No mechanisms for impact on groundwater levels were identified.	No
	Could the activity lead to saline intrusion?	No mechanisms for impact on the degree of saline intrusion were identified	No
	Could the activity result in groundwater abstraction in excess of recharge at a water body scale?	No mechanisms for impact on the water balance were identified.	No
	Could the activity lead to an additional surface water body becoming non-compliant and lead to failure of the Dependent Surface Water test?	No mechanisms for impact on dependent surface waters were identified.	No
	Could the activity result in additional abstraction that will exceed any groundwater body scale headroom between the fully licensed quantity and the limit imposed by the total recharge?	No mechanisms for impact on the water balance were identified.	No
	Could the activity result in additional groundwater depletion of surface water flows that will exceed any groundwater body scale headroom between Fully Licensed depletion and the limit imposed by the total low flows resource?	No mechanisms for impact on the water balance were identified.	No
Quality			
Groundwater quality	Could the activity result in or exacerbate diffuse pollution at a water body scale?	No mechanisms to result in or exacerbate diffuse pollution of groundwaters were identified.	No

Activity	O6 Intake of cooling water		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
	Could the activity result in pollution of groundwater dependent terrestrial ecosystems (GWDTEs) or other dependent surface water features?	No mechanisms to result in the pollution of GWDTEs or other dependent surface water features were identified.	No
	Could the activity lead to saline intrusion?	No mechanisms for impact on the degree of saline intrusion were identified	No
	Could the activity cause deterioration in the quality of a drinking water abstraction?	No mechanisms for impact on the quality of drinking water abstractions were identified	No
	Could the activity result in increasing trends in pollutant concentrations or reduce the ability to reverse significant trends in groundwater pollutants?	No mechanisms for impact on trends in pollutant concentrations were identified.	No
	Could the activity result in the failure of the 'prevent or limit' objective of the Groundwater Daughter Directive?	No mechanisms which could result in the failure to meet the 'prevent' or 'limit' objectives of the Groundwater Daughter Directive were identified.	No

Activity	O7 Discharge of trade effluent via cooling water system		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
Quantity			
Groundwater quantity	Could the activity change groundwater levels, affecting Groundwater Dependent Terrestrial Ecosystems (GWDTEs) or dependent surface water features?	No mechanisms for impact on groundwater levels were identified.	No
	Could the activity lead to saline intrusion?	No mechanisms for impact on the degree of saline intrusion were identified	No
	Could the activity result in groundwater abstraction in excess of recharge at a water body scale?	No mechanisms for impact on the water balance were identified.	No
	Could the activity lead to an additional surface water body becoming non-compliant and lead to failure of the Dependent Surface Water test?	No mechanisms for impact on dependent surface waters were identified.	No
	Could the activity result in additional abstraction that will exceed any groundwater body scale headroom between the fully licensed quantity and the limit imposed by the total recharge?	No mechanisms for impact on the water balance were identified.	No
	Could the activity result in additional groundwater depletion of surface water flows that will exceed any groundwater body scale headroom between Fully Licensed depletion and the limit imposed by the total low flows resource?	No mechanisms for impact on the water balance were identified.	No
Quality			
Groundwater quality	Could the activity result in or exacerbate diffuse pollution at a water body scale?	No mechanisms to result in or exacerbate diffuse pollution of groundwaters were identified.	No

Activity	O7 Discharge of trade effluent via cooling water system		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
	Could the activity result in pollution of groundwater dependent terrestrial ecosystems (GWDTEs) or other dependent surface water features?	No mechanisms to result in the pollution of GWDTEs or other dependent surface water features were identified.	No
	Could the activity lead to saline intrusion?	No mechanisms for impact on the degree of saline intrusion were identified	No
	Could the activity cause deterioration in the quality of a drinking water abstraction?	No mechanisms for impact on the quality of drinking water abstractions were identified	No
	Could the activity result in increasing trends in pollutant concentrations or reduce the ability to reverse significant trends in groundwater pollutants?	No mechanisms for impact on trends in pollutant concentrations were identified.	No
	Could the activity result in the failure of the 'prevent or limit' objective of the Groundwater Daughter Directive?	No mechanisms which could result in the failure to meet the 'prevent' or 'limit' objectives of the Groundwater Daughter Directive were identified.	No

Activity	O8 Discharge of polluting matter from the FRR system		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
Quantity			
Groundwater quantity	Could the activity change groundwater levels, affecting Groundwater Dependent Terrestrial Ecosystems (GWDTEs) or dependent surface water features?	No mechanisms for impact on groundwater levels were identified.	No
	Could the activity lead to saline intrusion?	No mechanisms for impact on the degree of saline intrusion were identified	No
	Could the activity result in groundwater abstraction in excess of recharge at a water body scale?	No mechanisms for impact on the water balance were identified.	No
	Could the activity lead to an additional surface water body becoming non-compliant and lead to failure of the Dependent Surface Water test?	No mechanisms for impact on dependent surface waters were identified.	No
	Could the activity result in additional abstraction that will exceed any groundwater body scale headroom between the fully licensed quantity and the limit imposed by the total recharge?	No mechanisms for impact on the water balance were identified.	No
	Could the activity result in additional groundwater depletion of surface water flows that will exceed any groundwater body scale headroom between Fully Licensed depletion and the limit imposed by the total low flows resource?	No mechanisms for impact on the water balance were identified.	No
Quality			
Groundwater quality	Could the activity result in or exacerbate diffuse pollution at a water body scale?	No mechanisms to result in or exacerbate diffuse pollution of groundwaters were identified.	No

Activity	O8 Discharge of polluting matter from the FRR system		
Parameter	**Scoping question**	**Response**	**Further assessment required?**
	Could the activity result in pollution of groundwater dependent terrestrial ecosystems (GWDTEs) or other dependent surface water features?	No mechanisms to result in the pollution of GWDTEs or other dependent surface water features were identified.	No
	Could the activity lead to saline intrusion?	No mechanisms for impact on the degree of saline intrusion were identified	No
	Could the activity cause deterioration in the quality of a drinking water abstraction?	No mechanisms for impact on the quality of drinking water abstractions were identified	No
	Could the activity result in increasing trends in pollutant concentrations or reduce the ability to reverse significant trends in groundwater pollutants?	No mechanisms for impact on trends in pollutant concentrations were identified.	No
	Could the activity result in the failure of the 'prevent or limit' objective of the Groundwater Daughter Directive?	No mechanisms which could result in the failure to meet the 'prevent' or 'limit' objectives of the Groundwater Daughter Directive were identified.	No

APPENDIX 2C

SIZEWELL B RELOCATED FACILITIES WFD COMPLIANCE ASSESSMENT

[This page is intentionally left blank]

CONTENTS

TABLES

FIGURES

[This page is intentionally left blank]

1. INTRODUCTION

1.1.1 EDF Energy Nuclear Generation Limited, herein referred to as 'EDF Energy (NGL)', is seeking planning permission from East Suffolk Council (ESC) for the demolition and relocation of a number of existing facilities at Sizewell B nuclear power station (known as the Sizewell B Relocated Facilities Project and herein referred to as the 'Proposed Development'). The facilities that would be relocated, demolished or replaced are ancillary to the process of electricity generation and have a broad range of functions.

1.1.2 On the 1st April 2019, ESC was created, covering the former districts of Suffolk Coastal District Council (SCDC) and Waveney District Council (WDC). As such, all the pre application consultation and engagement which has taken place to date with the local planning authority was carried out with SCDC and is therefore referred to as such within the documentation submitted with the planning application for the Proposed Development.

1.1.3 This report provides the results of the compliance assessment for the Proposed Development with the requirements of the Water Framework Directive (WFD).

1.1.4 The existing facilities buildings to be replaced are currently sited to the north and west of the existing Sizewell B power station site. These include existing buildings such as the Outage Storage, Training Centre and Visitor Centre, and car parking facilities. A brief description of the Proposed Development is provided in **Section 3.2** of this report.

1.1.5 This assessment will consider the potential for adverse effects upon surface and groundwater bodies to occur during the construction and operational phases of the Proposed Development. The assessment will consider the potential for impacts on all the quality elements associated with these water bodies (e.g. hydromorphology, physico-chemistry and biology for surface waters and quality and quantity for groundwaters). Further details regarding the approach adopted for this assessment are provided in **Section 0** of this report.

1.2 Objectives of the assessment

1.2.1 The objectives of the assessment were to:

- identify water bodies that could potentially be affected by the proposed works;
- assess potential impacts on water body status resulting from the scheme; and
- determine the compliance of the Proposed Development with the requirements of the WFD.

1.3 Legislative background

a) The Water Framework Directive

1.3.1 The Water Framework Directive (Council Directive 2000/60/EC establishing a framework for community action in the field of water policy) was adopted by the European Commission in December 2000 [1]. The WFD requires that all EU Member States must prevent deterioration and protect and enhance the status of aquatic ecosystems. This means that Member States must ensure that new schemes do not adversely impact upon the status of aquatic ecosystems, and that historical modifications that are already impacting it need to be addressed.

1.3.2 Unlike the EU Birds and Habitats Directives (EC Directive on the Conservation of Wild Birds (2009/147/EC) [2] and EC Directive on the Conservation of Natural Habitats and of Wild Fauna and Flora (92/43/EEC) [3], respectively), which apply only to designated sites, the WFD applies to all water bodies, including those that are man-made.

1.3.3 There are two separate classifications for surface water bodies (rivers, lakes, estuaries and coastal waters); ecological and chemical. The ecological status of a surface water body is assessed according to the condition of the:

- biological quality elements, including fish, benthic invertebrates and aquatic flora;
- physico-chemical quality elements, including thermal conditions, salinity, pH, nutrient concentrations and concentrations of specific pollutants such as copper; and
- hydromorphological quality elements, including morphological conditions, hydrological regime and tidal regime.

1.3.4 The ecological status of surface waters is recorded on a scale of “high”, “good”, “moderate”, “poor” and “bad”. The ecological status of a water body is determined by the worst scoring quality element, which means that the condition of a single quality element can cause a water body to fail to reach its WFD classification objectives. The overall environmental objective of reaching Good Ecological Status (GES) applies to these water bodies.

1.3.5 The chemical status of surface waters is assessed by compliance with environmental standards that are listed in the Environmental Quality Standards Directive (2008/105/EC) [4]. These chemicals include priority substances, priority hazardous substances. Chemical status is recorded as either “good” or “fail”, and is determined by the lowest scoring chemical.

1.3.6 Where the hydromorphology of a surface water body has been significantly altered as a result of anthropogenic activities, it can be designated as an Artificial or Heavily Modified Water Body (A/HMWB). An alternative environmental objective, Good Ecological Potential (GEP), applies in these cases.

1.3.7 Groundwaters are assessed in a different way to surface waters, and are classified as either “good” or “poor” in terms of quantity (groundwater levels, flow directions) and chemical quality (pollutant concentrations and conductivity).

b) UK legislation

1.3.8 The Directive was transposed into law in England and Wales by the Water Environment (Water Framework Directive) (England and Wales) Regulations 2003 [5], which mean that the requirements of the WFD need to be considered at all stages of the planning and development process.

1.3.9 The standards used to determine the ecological or chemical status of a water body are listed in the Water Framework Directive (Standards and Classification) Directions (England and Wales) 2015 [6]. This includes the thresholds for determining the status of the biological, hydromorphological, physico-chemical and chemical status of surface water bodies, and the quantitative and chemical status of groundwater bodies.

2. METHOD

2.1 Overall approach to the WFD compliance assessment

2.1.1 The way in which WFD impacts are assessed is different to the approach conventionally used within the Environmental Impact Assessment (EIA) process. The standard EIA approach assesses whether an impact is minor, moderate or major, and whether it is beneficial or adverse. This is not compatible with the requirements of the WFD, which requires an assessment of whether a scheme (or element of a scheme) is compliant or non-compliant with the environmental objectives of the Directive, as outlined in **Table 2.1**.

Table 2.1: Environmental objectives in the WFD

Objectives (taken from Article 4 of the WFD)	Reference Article
Surface water	
Member States shall implement the necessary measures to prevent deterioration of the status of all bodies of surface water.	4.1(a)(i)
Member States shall protect, enhance and restore all bodies of surface water, subject to the application of subparagraph (iii) for artificial and heavily modified bodies of water, with the aim of achieving good surface water status by 2015.	4.1(a)(ii)
Heavily Modified and Artificial Water Bodies	
Member States shall protect and enhance all artificial and heavily modified bodies of water, with the aim of achieving good ecological potential and good surface water chemical status by 2015.	4.1(a)(iii)
Progressively reduce pollution from priority substances and cease or phase out emissions, discharges and losses of priority hazardous substances.	4.1(a)(iv)
Groundwater	
Prevent Deterioration in status and prevent or limit input of pollutants to groundwater (Daughter Directive).	4.1(b)(i)

2.1.2 There is no detailed published methodology for the assessment of plans or projects in relation to undertaking WFD compliance assessments across all types of water bodies. There are, however, several sets of guidance that have been developed to support these assessments in the different water body types, predominantly written by the Environment Agency. The following are considered to be the most relevant to the Proposed Development:

- Advice Note 18: The WFD [7], which provides an overview of the WFD and provides an outline methodology for considering WFD as part of the Development Consent Order (DCO) process;

- WFD risk assessment: How to assess the risk of your activity [8], which provides guidance for bodies planning to undertake activities that would require a flood risk activity permit; and
- protecting and improving the water environment: WFD compliance of physical works in rivers [9] and associated supplementary guidance [10], which provides more detailed guidance for assessing WFD compliance of various activities in river water bodies.

2.1.3 For the purposes of this assessment, the broad methodologies outlined in the guidance documents listed above have been brought together to develop a three-stage assessment methodology that can be used for all types of water bodies. These stages are described in more detail in the subsequent sections.

2.2 Stage 1: Screening assessment

2.2.1 Water bodies that could potentially be affected by the scheme were identified using the Environment Agency's online WFD mapping system (the "Catchment Data Explorer" tool) [11], which supports the Anglian River Basin Management Plan (RBMP) [12]. Water bodies were selected for consideration in the compliance assessment based on the following criteria:

- all surface water bodies that could potentially be directly impacted by the scheme (i.e. those within the scheme footprint);
- any surface water bodies that have direct connectivity (i.e. upstream and downstream) that could potentially be affected by the proposed works; and
- any groundwater bodies that underlie the Proposed Development.

2.2.2 To facilitate this identification process and in particular to inform the decision on whether connectivity might lead to impacts, a hydromorphological assessment of the potential impacts of the scheme and potential extent of upstream and downstream propagation has been made, using the Joint Defra/Environment Agency Flood and Coastal Erosion Risk Management R&D Programme (2009) Expert Assessment Framework [13] as a basis.

2.3 Stage 2: Scoping assessment

2.3.1 The scoping assessment determines whether there is the potential for the individual activities to cause deterioration in the status or potential of any of the water bodies identified during Stage 1, and whether there is potential to cause a failure to meet GES or GEP targets for these water bodies (cf. **Table 2.1**). The scoping assessment considered:

- the potential of each activity to adversely impact on any of the quality elements sufficient to cause deterioration in water body status. This assessment was based on expert judgement, informed by available data and, in the case of hydromorphological impacts, using the guidance included in the Flood and Coastal Erosion Risk Management R&D Programme Expert Assessment Framework (DEFRA/EA, 2009) [13]. It was broken down into

the potential impact of the various scheme components on each quality element so that any areas of potential impact could be clearly identified;

- the potential for the scheme to impact upon proposed WFD mitigation measures and improvements, and therefore prevent GES or GEP being achieved;
- the potential for cumulative impacts as a result of existing pressures, new or recent schemes in the area, and any planned schemes. These are discussed in the separate cumulative impact assessment for the proposed Sizewell B development (see **ES Volume I, Chapter 16: Cumulative Effects**); and
- the potential for impacts on critical and sensitive habitats, including designated sites and habitats with particular ecological importance.

2.3.2 Water bodies and activities can be screened out of further assessment if it can be satisfactorily demonstrated that there will be no impacts. If impacts are predicted, it will be necessary to undertake a Stage 3 detailed compliance assessment. If no impacts are predicted, the assessment will be completed at the end of Stage 2.

2.4 Stage 3: Detailed compliance assessment

2.4.1 The Stage 3 assessment determines whether the activities and/or project components that have been put forward from the Stage 2 scoping assessment will cause deterioration and whether this deterioration will have a significant non-temporary effect on the status of one or more WFD quality elements at water body level. For priority substances, the process requires the assessment to consider whether the activity is likely to cause the quality element to achieve good chemical status. Note that this stage is referred to as a WFD Impact Assessment in the Planning Inspectorate (2017) guidance [7].

2.4.2 If it is established that an activity and/or scheme component is likely to affect water status at water body level (that is, by causing deterioration in status or by preventing achievement of WFD objectives (including those for Protected Areas) and the implementation of mitigation measures for HMWBs), or that an opportunity may exist to contribute to improving status at a water body level, potential measures to avoid the effect or achieve improvement must be investigated. This stage will consider such measures and, where necessary, evaluate them in terms of cost and proportionality.

2.4.3 As outlined above, the end result of Stage 2 would be an agreed list of water bodies, scheme activities and quality elements to be carried forward for further assessment. Stage 3 would then consider the potential for status deterioration associated with each scheme activity (i.e. not the scheme as a whole) on the biological, hydromorphological and physico-chemical and chemical quality elements of each relevant surface water body, and the quantitative and chemical quality elements of each relevant groundwater body.

2.4.4 The assessment would establish whether the scheme activities will:

- cause deterioration within a water body;
- prevent WFD status objectives (i.e. GES or GEP) being achieved, including prevention of the delivery of mitigation measures identified in the RBMP; and/or
- prevent status objectives being achieved in any other water bodies, including prevention of the delivery of mitigation measures identified in the RBMP.

2.4.5 Following the broad principles of the WFD, the scheme will be considered to be non-compliant if any of the scheme components are likely to cause a non-temporary deterioration in any of the quality elements individually or cumulatively at a water body level.

2.4.6 Impacts of the scheme on other European legislation, including the Habitats Directive [3], Birds Directive [2], Bathing Waters Directive [14] and Freshwater Fish Directive [15] will also be considered in line with Articles 4.8 and 4.9 of the WFD. Where necessary, reference will be made to supporting information contained in the relevant ES chapters, and in the case of Natura 2000 protected areas, the **Shadow Habitat Regulations Assessment** (HRA), both of which are submitted alongside the planning application.

2.4.7 If, at the end of the Stage 3 assessment process, negative impacts have been identified, measures to mitigate the impacts and, if possible, to improve the state of the water environment would be considered. Where possible, multiple benefits will be sought from each measure (e.g. across different water bodies or improving more than one quality element). Appropriate guidance will be consulted, such as the online “Healthy Catchments” guidance [16] and “Estuary Edges: Ecological Design Guidance” [17]. The scope of all measures will be agreed in consultation with the appropriate regulatory authorities.

2.5 Assumptions, constraints and limitations

2.5.1 The following assumptions have been made in this assessment:

- control measures to mitigate impacts on demolition, construction and operational stage will be part of the design. These are described in **Section 3.2d)**.

3. STAGE 1: SCREENING ASSESSMENT

3.1 Purpose of this section

3.1.1 The purpose of this section is to describe the baseline characteristics of the WFD receptors that are hydraulically connected to the Proposed Development site, against which potential impacts on WFD compliance will be assessed. The section includes a description of the Proposed Development and provides a summary of the main characteristics of the water bodies that could be impacted by development activities at the Proposed Development site.

3.2 Description of Proposed Development

a) Overview

3.2.1 Sizewell B power station is situated on the Suffolk coast, north-east of Ipswich and south of Lowestoft. A number of existing Sizewell B facilities need to be relocated from the area of land that is nominated as a potentially suitable site for the development of the new Sizewell C power station. The facilities have a broad range of functions including industrial, workplace, education, cultural and infrastructure.

3.2.2 **Environmental Statement (ES) Volume I, Chapter 3 Proposed Development** contains a full description of the works of the Proposed Development.

b) Construction

3.2.3 The Proposed Development would take place in two distinct phases. Phase One will include the majority of the construction works outside the existing Sizewell B power station site perimeter, including the relocation of the Outage Storage within the Sizewell B power station and the demolition of the existing Visitor Centre, operations training building, Outage Storage and civils workshop and store. Phase Two will include the remaining construction and demolition works within the existing Sizewell B station site perimeter as well as the relocation of the Visitor Centre.

3.2.4 The proposed works in Phase One would comprise:

- Coronation Wood clearance;
- Coronation Wood Development Area construction, including the construction of the Western Access Road, Training Centre, Laydown Area and Replacement Car Park;
- Outage Store construction, following demolition of the existing General Store; in which the excavation of the basement will broach the groundwater table;
- temporary relocation of the existing Visitor Centre within the existing Technical Training Centre;

- construction of Outage Car Park and associated access; and
- demolition of the existing Visitor Centre, Operations Training Centre. Outage Store and Civils Workshop and Store.

3.2.5 The proposed works in Phase Two would comprise:

- construction of facilities in Outline Development Zone (offices, canteen and welfare facilities);
- construction of a new Visitor Centre; and
- remaining demolition works.

3.2.6 The proposed works in Phase Two would provide for the relocation of the administration, storage, welfare and canteen facilities within the Outline Development Zone. Foundations for the Outline Development Zone would likely include ground bearing solutions. However, should the development of geotechnical design or a particular facility design require it, piled foundations could also be considered as an alternative.

c) Operation

3.2.7 Operating regimes and activities associated with the new facilities will be the same as the existing facilities displaced.

3.2.8 It is proposed that surface water run-off from the facilities within the Coronation Wood Development Area (Training Centre, Visitor Centre, Laydown Area, Replacement Car Park and Western Access Road) would drain through infiltration techniques, such as heavy duty permeable block paving. Surface water run-off from the Outage Car Park within Pillbox Field would also drain through infiltration techniques. This philosophy will ensure no additional impervious areas are added to the existing side wide drainage network.

d) Control measures to minimise impacts

3.2.9 As detailed in the ES, a number of control measures have been incorporated into the design and construction planning of the Proposed Development. As these mitigation measures are embedded in the design, are legal requirements or are standard practices that will be implemented, the assessment of effects assumes that they are in place. The mitigation measures that are relevant for the WFD compliance assessment are outlined below.

i. Measures to control impacts associated with site drainage

3.2.10 The Sizewell B Relocated Facilities Surface Water Drainage Strategy [18], which covers the entire area to be redeveloped, has been developed in such a way that the surface water run-off volumes and rates discharging into the existing drainage network will not change significantly and therefore alterations to increase capacity are not required.

3.2.11 The existing on-site surface water drainage network comprises a northern and southern branch, with both branches draining to the main site surface water outfall to sea to the north-east.

3.2.12 Assets within the station perimeter will drain into the southern branch of the existing piped drainage network, with any exceedance flows addressed through overland flow. Assets located outside the station perimeter will be independent of the existing site drainage system, and will instead drain by infiltration.

3.2.13 The drainage system will intercept and retain the first 5mm of every rainfall event as far as reasonably practicable, which is important in the retention of fine sediment and pollutants from impermeable areas. Furthermore, the drainage system will incorporate Sustainable Drainage (SuDS) measures such as permeable paving, swales and interceptors for silt and hydrocarbons where appropriate. In areas where space is constrained, catch pits and trapped outfalls will be used (e.g. adjacent to the new Outage Storage).

3.2.14 **Table 3.1** demonstrates the proposed drainage solution for each aspect of the Proposed Development, and the net change in permeable area associated with each of the relocated facilities.

Table 3.1: Surface water runoff volume summary for all facilities

Facility	Proposed drainage solution
Outage Store	Discharge into existing surface water drainage network. Channel drains may need to be incorporated in order to drain water away from foundations. Trapped outfalls and catch pits will be installed to trap debris and silt. The Proposed Development will not alter the balance between permeable and impermeable land, and will not therefore impose additional loading on the surface drainage system.
Replacement Car Park and Laydown Area	Infiltration techniques such as heavy duty permeable block paving and catch pit soakaways. The Proposed Development will not alter the amount of impermeable area contributing to the Site surface drainage network.
Western Access Road	Directing surface water into suitably located grilles, from where it will be conveyed into soakaway chambers and infiltrated to ground. The Proposed Development will not alter the amount of impermeable area contributing to the Site surface drainage network.
Training Centre	Directing surface water into soakaway chambers or permeable paving and infiltrated to ground. The Proposed Development will not alter the amount of impermeable area contributing to the Site surface drainage network.

Facility	Proposed drainage solution
Visitor Centre	Run-off to be conveyed from roofed and surrounding impermeable areas to the permeable paving proposed for the car park and Laydown Area. The overarching strategy for the surface water run-off associated with the Visitor Centre is infiltration. Infiltration rates would be no worse than for a greenfield site.
Outage Car Park	Infiltration techniques such as permeable paving. Runoff would be conveyed by channel drainage and below ground pipework to a soakaway below the proposed car park.

ii. Measures to control impacts associated with construction activities

3.2.15 All construction phase activities would be undertaken in line with best working practices (Pollution Prevention Guidance (PPG)[1]), which would include:

- PPG01 – General guide to the prevention of water pollution [19];
- PPG05 – Works near or liable to affect watercourses [20];
- PPG06 – Working at construction and demolition sites [21];
- PPG08 – Storage and disposal of used oils [22];
- PPG11 – Preventing pollution at industrial sites [23];
- PPG21 – Pollution incident response planning [24]; and
- Control of water pollution from construction sites – A guide to good practice, CIRIA (2001) [25].

3.2.16 An **Outline Construction Environmental Management Plan (CEMP)** is included within the planning application for the Proposed Development. The Outline CEMP provides details of the measures that will be followed to ensure that surface runoff, sediment and other contaminants generated during the construction process do not enter the surface drainage network. Specific measures include:

- temporary connections will deal with incoming water supply onto site and discharges. Water from site, once treated, will run into the nearest sewer where possible;
- concrete washout will be in controlled areas to prevent groundwater contamination;
- wash down of vehicles will only take place in designated areas;
- a suitable settlement system will be implemented for all site water run-off and construction water used for washing and dampening down;

[1] Note that the PPG series of documents have now been revoked in England, they still provide a source of best practice that should be adhered to where practicable.

- all plant fuel stored on-site will be bunded to contain any spillage and will be secured when not in use. Spill kits will be available and any spillage will be disposed of in accordance with the current Hazardous Waste and Landfill Regulations;
- refuelling will only be allowed in designated, hardstanding areas and a minimum of 10m from a drain. Fuel systems will have automatic shut off 'pistol grip' nozzles;
- training will be given to site operatives via Tool Box Talks (TBTs) on water protection measures and oil and chemical control;
- hardstanding areas will be kept clean of silt and soils;
- washout water to be directed to sump for settlement;
- oil, fuel and chemicals will be stored in compliance with their COSHH assessment;
- oil storage containers (mobile bowers and drums) must be bunded (to 110%), and be located at least 10m away from watercourses or road gulleys and away from drainage systems. Furthermore, all pipework must be stored within the bund;
- mobile bowsers must be lockable and be locked when not in use. They will also be double bunded;
- foul discharge from the contractor's site cabins/compound will endeavour to be tied into the nearest foul sewerage system where possible. Otherwise a self-contained chemical system will be provided; and
- wheel wash facilities will be fed from a mobile bowser.

3.3 Identification of WFD water bodies

3.3.1 **Figures 3.1** and **3.2** show the extent of the Site Boundary and the surface and groundwater bodies that could potentially be impacted by the proposals (identified using the criteria set out in **Section 2.2.1**.

3.3.2 There are two river water river bodies, a coastal water body and a groundwater body that are likely to be hydrologically connected to the Site. WFD classification details are provided in **Table 3.2** to **Table 3.5**.

3.3.3 Note that the information presented below is based on River Basin Management Plan 2 Class Objective Data presented on the Catchment Data Explorer [11] and the 'Cycle 2 Extended Water Body Summary Report' produced for each water body by the Environment Agency in 2016.

a) Surface water bodies

3.3.4 The land immediately to the west of the Site forms part of the catchment of the Leiston Beck[2] river water body (GB105035046271) (**Table 3.2**). The water body is designated as Heavily Modified for an ongoing land drainage function, and is currently at Moderate Ecological Potential as a result of pressures on hydromorphology and high phosphate concentrations. Sizewell Drain, which is located adjacent to the Proposed Development, forms part of the Leiston Beck water body for WFD classification purposes.

3.3.5 The Leiston Beck joins the Minsmere Old River water body (GB105035046270) (**Table 3.3**) downstream of the site. Minsmere Old River is a river water body that is Heavily Modified as a result of a current land drainage function. The water body is currently at Moderate Ecological Potential due to pressures on fish populations.

3.3.6 Both the Leiston Beck and Minsmere Old River water bodies drain into the sea through a surface water outfall to the north-east of the Site. Furthermore, drainage from the Sizewell B power station is channelled through an outfall into the sea. There could therefore potentially be indirect impacts on the Suffolk (GB650503520002) coastal water body (**Table 3.4**).

3.3.7 should impacts occur within the river water bodies or directly via the existing Sizewell B outfalls. The water body is Heavily Modified for flood and coastal protection, and is currently at Moderate Ecological Potential as a result of elevated concentrations of dissolved inorganic nitrogen.

b) Groundwater bodies

3.3.8 The whole Site is underlain by the Waveney and East Suffolk Chalk and Crag groundwater body (GB40501G400600) (**Table 3.5**). The groundwater body is currently at 'Poor Quantitative Status' as a result of an unfavourable water balance due to pressures from agricultural abstraction of groundwater and connected surface waters. Furthermore, the water body has a 'Poor Chemical Status' as a result of pressures from agricultural diffuse pollution (largely contaminants from grazing livestock, and therefore unrelated to the Proposed Development).

[2] Note that although the watercourse is known locally as “Leiston Drain”, it is referred to as “Leiston Beck” in the River Basin Management Plan.

Table 3.2 Leiston Beck (GB105035046271)

Water Body Details	**Water body name**		Leiston Beck	
	Water body ID		GB105035046271	
	Water body type		River	
	Management catchment		Suffolk East	
	Operational catchment		Suffolk Coastal	
	Hydromorphological designation		Heavily Modified	
	Sensitive habitats		Nitrates Directive, Habitats and Species Directive, and Conservation of Wild Birds Directive	
	Current Overall Status		Moderate	
	Ecological Status / Potential		Good	
	Chemical Status		Moderate	
Ecological	**Quality elements**	**Elements**	**Classification**	**Objective**
	Biological	Overall	Good	Good
		Macrophytes	Not assessed	Not assessed
		Invertebrates	Good	Good
	Hydromorphological	Overall	Supports Good	Supports Good
		Hydrological Regime	Supports Good	Supports Good
	Physico-chemical	Overall	Moderate	Good
		Ammonia (Phys-Chem)	High	High
		Biochemical Oxygen Demand (BOD)	High	-
		Dissolved oxygen	Bad	Good
		pH	High	High
		Phosphate		
		Temperature	High	High
	Specific pollutants	Overall	Not assessed	Not assessed
	Supporting elements (Surface Water)	Overall	Moderate	Good
		Mitigation Measures Assessment	Moderate or less	Good
Chemical	Priority hazardous substances	Overall	Does not require assessment	Does not require assessment

	Priority substances	Overall	Does not require assessment	Does not require assessment
	Other Pollutants	Overall	Does not require assessment	Does not require assessment
Mitigation Measures Assessment	Reasons for not achieving Good Status	Dissolved Oxygen: Waste water treatment – operational management (confirmed)		
		Mitigation Measures Assessment: Other (land drainage) (confirmed)		
		Phosphate: Waste water treatment – water industry (confirmed)		
Risks	At Risk	Abstraction & Flow, Physical modification		
	Not Assessed	Phosphorus		
	Not At Risk	Sediment		
	Probably At Risk	Abstraction & Flow, Eutrophication, Sanitary pollutants		
	Probably Note At Risk	-		
Water Body Level Measures (Not in place)	Educate landowners		Flood bunds	
	Selective vegetation control		Set-back embankments	
	Vegetation control		Floodplain connectivity	
	Vegetation control timing		Remove obsolete structure	
	Invasive species techniques		Remove or soften hard bank	
	Retain habitats		Preserve or restore habitats	
	Sediment management strategy		In-channel morphological diversity	
	Enhance ecology		Re-opening culverts	
	Changes to locks etc.		After culvert channel bed	
	Align and attenuate flow		Water level management	
	Woody debris		Maintain channel bed/margins	
	Reduce fish entrainment		Flow manipulation	

Table 3.3 Minsmere Old River (GB105035046270)

Water Body Details	**Water body name**		Minsmere Old River	
	Water body ID		GB105035046270	
	Water body type		River	
	Management catchment		Suffolk East	
	Operational catchment		Suffolk Coastal	
	Hydromorphological designation		Heavily Modified	
	Sensitive habitats		Nitrates Directive, Habitats and Species Directive, and Conservation of Wild Birds Directive	
	Current Overall Status		Moderate	
	Objective Status		Good	
	Ecological Status / Potential		Moderate	
	Chemical Status		Good	
Ecological	**Quality elements**	**Elements**	**Classification**	**Objective**
	Biological	Overall	Poor	Poor
		Fish	Poor	Poor
		Invertebrates	Good	Good
		Macrophytes	Not assessed	Not assessed
	Hydromorphological	Overall	Supports good	Supports good
		Hydrological Regime	Supports good	Supports good
	Physico-chemical	Overall	Good	Good
		Ammonia (Phys-Chem)	High	Good
		BOD	High	-
		Dissolved oxygen	Good	Good
		pH	High	Good
		Phosphate	Good	Good
		Temperature	High	Good
	Specific pollutants	Overall	Not assessed	Not assessed
	Supporting elements (Surface Water)	Overall	Moderate	Good
		Mitigation Measures Assessment	Moderate or less	Good
Chemical	Priority hazardous substances	Overall	Does not require assessment	Does not require assessment
	Priority substances	Overall	Does not require assessment	Does not require assessment

Water Body Details	**Water body name**		Minsmere Old River	
	Water body ID		GB105035046270	
	Water body type		River	
	Management catchment		Suffolk East	
	Operational catchment		Suffolk Coastal	
	Hydromorphological designation		Heavily Modified	
	Sensitive habitats		Nitrates Directive, Habitats and Species Directive, and Conservation of Wild Birds Directive	
	Current Overall Status		Moderate	
	Objective Status		Good	
	Ecological Status / Potential		Moderate	
	Chemical Status		Good	
	Other Pollutants	Overall	Does not require assessment	Does not require assessment
Mitigation Measures Assessment	Reasons for not achieving Good Status	Fish: Barriers to fish migration – ecological discontinuity (morphology) (confirmed)		
		Fish: Land drainage – operational management (morphology) (suspected)		
		Mitigation Measures Assessment: Other (land drainage) (confirmed)		
Risks	At Risk	Physical modification		
	Not Assessed	Phosphorus		
	Not At Risk	Sanitary pollutants		
	Probably At Risk	Abstraction & Flow, Eutrophication, Sediment		
	Probably Not At Risk	Abstraction & Flow		

Water Body Level Measures (Not in place)	Educate landowners	Floodplain connectivity
	Retain habitats	Remove obsolete structure
	Maintain channel bed/margins	Remove or soften hard bank
	Water level management	Preserve or restore habitats
	Fish passes	In-channel morphological diversity
	Reduce fish entrainment	Re-opening culverts
	Enhance ecology	Alter culvert channel bed
	Changes to locks etc.	Flood bunds
	Align and attenuate flow	Set-back embankments
		Woody debris

Table 3.4 Suffolk (GB650503520002)

Water Body Details	**Water body name**		Suffolk	
	Water body ID		GB650503520002	
	Water body type		Coastal	
	Management catchment		Anglian TraC	
	Operational catchment		Suffolk TraC	
	Hydromorphological designation		Heavily Modified	
	Sensitive habitats		Bathing Water, Nitrates Directive, Habitats and Species Directive, Conservation of Wilde Birds Directive	
	Current Overall Status		Moderate	
	Objective Status		Moderate	
	Ecological Status / Potential		Moderate	
	Chemical Status		Good	
Ecological	**Quality elements**	**Elements**	**Classification**	**Objective**
	Biological	Overall	Good	Good
		Phytoplankton blooms	Good	Good
	Hydromorphological	Overall	Not assessed	Not assessed
	Physico-chemical	Overall	Moderate	Moderate
		Dissolved Inorganic Nitrogen	Moderate	Moderate
		Dissolved oxygen	High	Good
	Specific pollutants	Overall	Not assessed	Not assessed
	Supporting elements (Surface Water)	Overall	Good	Good
		Mitigation Measures Assessment	Good	Good
Chemical	Priority hazardous substances	Overall	Does not require assessment	Does not require assessment
	Priority substances	Overall	Does not require assessment	Does not require assessment
	Other Pollutants	Overall	Does not require assessment	Does not require assessment
Mitigation Measures Assessment	Reasons for not achieving Good Status	Dissolved Inorganic Nitrogen: Arable field - poor nutrient management (suspected)		
		Agriculture - livestock (suspected),		
		waste water treatment sewage discharge (continuous) (suspected)		
Risks	At Risk	-		
	Not Assessed	-		

Water Body Details	**Water body name**	Suffolk
	Water body ID	GB650503520002
	Water body type	Coastal
	Management catchment	Anglian TraC
	Operational catchment	Suffolk TraC
	Hydromorphological designation	Heavily Modified
	Sensitive habitats	Bathing Water, Nitrates Directive, Habitats and Species Directive, Conservation of Wilde Birds Directive
	Current Overall Status	Moderate
	Objective Status	Moderate
	Ecological Status / Potential	Moderate
	Chemical Status	Good
	Not At Risk	-
	Probably At Risk	-
	Probably Not At Risk	Eutrophication

Table 3.5 Waveney and East Suffolk Chalk & Crag (GB40501G400600)

Water Body Details	**Water body name**		Waveney and East Suffolk Chalk & Crag	
	Water body ID		GB40501G400600	
	Water body type		Groundwater	
	Management catchment		Anglian GW	
	Operational catchment		Waveney and East Suffolk Chalk and Crag	
	Hydromorphological designation		Not applicable	
	Sensitive habitats		Nitrates Directive, Drinking Water Protected Area	
	Current Overall Status		Poor	
	Objective Status		Poor	
	Chemical Status		Poor	
	Quantitative Status		Poor	
Ecological	**Quality elements**	**Elements**	**Classification**	**Objective**
	Chemical status assessment	Overall	Poor	Poor
		Chemical Drinking Water Protected Area	Poor	Good
		General Chemical Test	Poor	Poor
		Chemical GWDTEs test	Good	Good
		Chemical Dependent Surface Water Body Status	Good	Good

Water Body Details	**Water body name**		Waveney and East Suffolk Chalk & Crag	
	Water body ID		GB40501G400600	
	Water body type		Groundwater	
	Management catchment		Anglian GW	
	Operational catchment		Waveney and East Suffolk Chalk and Crag	
	Hydromorphological designation		Not applicable	
	Sensitive habitats		Nitrates Directive, Drinking Water Protected Area	
	Current Overall Status		Poor	
	Objective Status		Poor	
	Chemical Status		Poor	
	Quantitative Status		Poor	
		Chemical Saline Intrusion	Good	Good
	Quantitative status assessment	Overall	Poor	Good
		Quantitative GWDTEs test	Good	Good
		Quantitative Dependent Surface Water Body Status	Good	Good
		Quantitative Saline Intrusion	Good	Good
		Quantitative Water Balance	Poor	Good
	Supporting elements	Trend assessment	Upward trend	-
Mitigation Measures Assessment	Reasons for not achieving Good Status	Chemical Drinking Water Protection: Livestock diffuse source (confirmed)		
		General Chemical Test: Livestock diffuse source (confirmed)		
		Trend Assessment: Livestock diffuse source (confirmed)		
		Quantitative Water Balance: Groundwater and Surface water abstraction for agriculture (suspected)		
Risks	At Risk	-		
	Not Assessed	Abstraction effect on saline intrusion; Abstraction effect on surface water; General chemical assessment, effect on Drinking Water Protected Areas; Overall chemical assessment; Overall quantitative assessment; Saline intrusion; Trend assessment		
	Not At Risk	Effect on surface water chemistry and ecology		
	Probably At Risk	Abstraction effect on dependent terrestrial ecosystems; Abstraction effect on water balance; Impact on dependent terrestrial ecosystems		
	Probably Not At Risk	-		

4. STAGE 2: SCOPING ASSESSMENT

4.1 Purpose of this section

4.1.1 The aim of this section is to identify the WFD quality elements within each water body that could be impacted by the Proposed Development, and determine whether there is potential for deterioration in water body status.

4.2 Assessment of potential impacts on Leiston Beck (GB105035046271)

a) Hydromorphology

i. Demolition and construction phase

4.2.1 There is potential for impacts on the hydrological regime, morphological conditions and river continuity of the water body as a result of:

- Alteration of surface water flows entering watercourses within the Leiston Beck catchment (including Sizewell Drain and an unnamed drain), as a result of changes in land use during demolition and construction. This could impact upon the hydrology of the surface water system.
- Increased sediment supply to surface waters through erosion of exposed soils by surface runoff, which could impact upon the geomorphology of the water body.
- Alteration of surface water flows and geomorphology in the Sizewell Drain and the unnamed drain during the in-channel works associated with construction of two footbridges. This could impact upon the hydrology of the surface water system, change patterns of erosion and sedimentation, and impede river continuity.

4.2.2 However, the proposed control measures outlined in **Section 3.2d)** will prevent changes in the frequency and magnitude of runoff from the site. Furthermore, the construction working width associated with bridge construction will be minimised to avoid intrusion on the Sizewell Marshes SSSI ditch habitats and minimise the direct disturbance of the channel bed and banks.

4.2.3 The proposed footbridges will be supported using screw piles to a depth of 4m, and their concrete footings will be offset from the edge of the channel. Changes to bank habitats will therefore be limited, and there is no mechanism for the supply of concrete or other construction materials to the channel. Furthermore, in-channel supports are unlikely to be required and as such the footbridges are unlikely to significantly restrict flows. The prevailing low energy conditions in the two watercourses that will be crossed (Sizewell Drain and an unnamed drainage channel) mean that there are unlikely to be any significant hydromorphological changes as a result of bridge installation. Furthermore, depending upon the final design of the footbridges, measures such as coffer dams or silt curtains would be used to prevent the ingress of sediment into the channel.

ii. Operational phase

4.2.4 There is potential for impacts on the hydrological regime, morphological conditions and river continuity of the water body as a result of:

- Changes in surface water run-off from the Site to the Sizewell Drain and other surface watercourses which drain into Leiston Beck, as a result of changes in land use, changes in impermeable area and new or increased piped discharges during operation. This could affect the hydrology and geomorphology of the surface water system; and
- Alteration of surface water flows in the Sizewell Drain and an unnamed drain to the south, caused by the presence of in-stream supports for the footbridges. This could affect local hydrology and geomorphology, increasing the risk of erosion downstream of the support and sediment deposition upstream, as well as an increased risk of blockage by debris.

4.2.5 However, the proposed control measures outlined in **Section 3.2d)** will prevent changes in the frequency and magnitude of runoff from the site. In addition, the proposed footbridge supports will consist of screw piles to a depth of 4m, and as such are unlikely to significantly restrict flows. Furthermore, the prevailing low energy conditions in the two watercourses that will be crossed (Sizewell Drain and an unnamed drainage channel) mean that there are unlikely to be any significant hydromorphological changes as a result of bridge installation.

b) Physico-chemistry

i. Demolition and construction phase

4.2.6 There is potential for changes to the oxygenation conditions, salinity and acidification status of the water body as a result of:

- increased sediment supply to surface waters through erosion of exposed soils by surface runoff, which could impact upon surface water quality;
- supply of contaminants to surface waters through surface runoff or accidental spillage during demolition of existing buildings, excavation of contaminated soils, or accidental spillage or leakage of fuel oils or lubricants from construction vehicles, which could impact upon surface water quality; and
- supply of contaminants to the surface waters from the groundwater abstracted during dewatering of the construction works which could enter surface water through surface water runoff. This could impact upon surface water quality.

4.2.7 However, the proposed control measures outlined in **Section 3.2d)** will prevent the supply of fine sediment and other contaminants and therefore avoid changes to the physico-chemistry of the water body. Furthermore, no mechanisms for impact on nutrient conditions or thermal conditions have been identified.

ii. Operational phase

4.2.8 There is potential for changes to the oxygenation conditions, salinity and acidification status of the water body as a result of the supply of sediment, fuel oils, lubricants and other contaminants to surface waters during operation, as a result of accidental spillage or leakage from vehicles using the site. However, the proposed control mitigation measures outlined in **Section 3.2d)** will prevent the supply of fine sediment and other contaminants and therefore avoid changes to the physico-chemistry of the water body. Furthermore, no mechanisms for impact on nutrient conditions or thermal conditions have been identified.

c) Biology

i. Demolition and construction phase

4.2.9 There is potential for impacts on aquatic flora, benthic invertebrate fauna and fish fauna in the water body as a result of the potential changes to hydromorphology and physico-chemistry described above. However, the control measures that will be in place to prevent any impacts on these quality elements will also prevent impacts on the biological quality elements.

ii. Operational phase

4.2.10 There is potential for impacts on aquatic flora, benthic invertebrate fauna and fish fauna in the water body as a result of the potential changes to hydromorphology and physico-chemistry described above. However, the control measures that will be in place to prevent any impacts on these quality elements will also prevent impacts on the biological quality elements.

d) Impacts on mitigation measures

4.2.11 The control measures outlined in **Section 3.2d)** will prevent the scheme impacting upon the WFD mitigation measures identified for the water body in **Table 3.2**Error! Reference source not found. during the demolition and construction and operation phases.

e) Impacts on sensitive habitats

4.2.12 The control measures outlined in **Section 3.2d)** will prevent the scheme impacting upon the sensitive habitats identified for the water body in Error! R eference source not found. during the demolition and construction and operational phases. Note that potential impacts on Protected Areas will be considered in more detail in the separate shadow Habitat Regulations Assessment Screening Report.

f) Chemistry

4.2.13 There is potential for the release of priority substances into surface runoff from demolition and construction activities and the operation of the site. However, the control measures outlined in **Section 3.2d)** will prevent the supply of contaminants and therefore avoid changes to the chemistry of the water body.

g) Summary of impacts on water body status

4.2.14 The previous sections demonstrate that the Proposed Development will not impact upon the hydromorphology, physico-chemistry or biology of the Leiston Beck water body during either the demolition and construction or operational phases. Furthermore, the Proposed Development will not affect any mitigation measures or sensitive habitats identified in the RBMP. This means that the Proposed Development will not adversely affect the ecological status of the Leiston Beck water body.

4.2.15 In addition, the Proposed Development will not impact upon the chemical quality elements during either the demolition and construction or operational phases. This means that the Proposed Development will not adversely affect the chemical status of the Leiston Beck water body.

4.3 Assessment of potential impacts on Minsmere Old River (GB105035046270)

a) Hydromorphology

4.3.1 No activities will take place directly in this water body during either the demolition and construction or operation phases of the Proposed Development. This means that there are no direct mechanisms for the Proposed Development to affect the hydromorphology of the Minsmere Old River water body.

4.3.2 However, there is potential for impacts on hydromorphology as a result of increased fine sediment supply into the Leiston Drain water body during the demolition, construction and operational phases. This could potentially impact upon receiving waters downstream. However, the control measures outlined in **Section 3.2d)** will prevent the supply of fine sediment and other contaminants into the surface drainage network. These measures will therefore prevent impacts on the Leiston Drain and there is therefore no mechanism for the downstream Minsmere Old River water body to be affected.

b) Physico-chemistry

4.3.3 No activities will take place directly in this water body during either the demolition and construction or operational phases of the Proposed Development. This means that there are no direct mechanisms for the Proposed Development to affect the physico-chemistry of the Minsmere Old River water body.

4.3.4 However, there is potential for impacts on physico-chemistry as a result of increased fine sediment supply and the release of contaminants into the Leiston Drain water body during the demolition and construction and operational phases. This could potentially impact upon receiving waters downstream. However, the control measures outlined in **Section 3.2d)** will prevent the supply of fine sediment and other contaminants into the surface drainage network. These measures will therefore prevent impacts on the Leiston Drain and there is therefore no mechanism for the downstream Minsmere Old River water body to be affected.

c) Biology

4.3.5 The Proposed Development will not impact upon the hydromorphology of physico-chemistry of the Minsmere Old River or the Leiston Beck upstream. There is therefore no mechanism for any changes to the biology of the Minsmere Old River water body.

d) Impacts on mitigation measures

The lack of connectivity between the Site and this water body means that the Proposed Development will not impact upon the mitigation measures identified for the water body in **Table 3.3**Table 3.2 Leiston Beck (GB105035046271)

Water Body Details	**Water body name**		Leiston Beck	
	Water body ID		GB105035046271	
	Water body type		River	
	Management catchment		Suffolk East	
	Operational catchment		Suffolk Coastal	
	Hydromorphological designation		Heavily Modified	
	Sensitive habitats		Nitrates Directive, Habitats and Species Directive, and Conservation of Wild Birds Directive	
	Current Overall Status		Moderate	
	Ecological Status / Potential		Good	
	Chemical Status		Moderate	
Ecological	**Quality elements**	**Elements**	**Classification**	**Objective**
	Biological	Overall	Good	Good
		Macrophytes	Not assessed	Not assessed
		Invertebrates	Good	Good
	Hydromorphological	Overall	Supports Good	Supports Good
		Hydrological Regime	Supports Good	Supports Good
	Physico-chemical	Overall	Moderate	Good
		Ammonia (Phys-Chem)	High	High
		Biochemical Oxygen Demand (BOD)	High	-
		Dissolved oxygen	Bad	Good
		pH	High	High

		Phosphate		
		Temperature	High	High
	Specific pollutants	Overall	Not assessed	Not assessed
	Supporting elements (Surface Water)	Overall	Moderate	Good
		Mitigation Measures Assessment	Moderate or less	Good
Chemical	Priority hazardous substances	Overall	Does not require assessment	Does not require assessment
	Priority substances	Overall	Does not require assessment	Does not require assessment
	Other Pollutants	Overall	Does not require assessment	Does not require assessment
Mitigation Measures Assessment	Reasons for not achieving Good Status	Dissolved Oxygen: Waste water treatment – operational management (confirmed)		
		Mitigation Measures Assessment: Other (land drainage) (confirmed)		
		Phosphate: Waste water treatment – water industry (confirmed)		
Risks	At Risk	Abstraction & Flow, Physical modification		
	Not Assessed	Phosphorus		
	Not At Risk	Sediment		
	Probably At Risk	Abstraction & Flow, Eutrophication, Sanitary pollutants		
	Probably Note At Risk	-		
Water Body Level Measures (Not in place)	Educate landowners		Flood bunds	
	Selective vegetation control		Set-back embankments	
	Vegetation control		Floodplain connectivity	
	Vegetation control timing		Remove obsolete structure	
	Invasive species techniques		Remove or soften hard bank	
	Retain habitats		Preserve or restore habitats	
	Sediment management strategy		In-channel morphological diversity	
	Enhance ecology		Re-opening culverts	
	Changes to locks etc.		After culvert channel bed	
	Align and attenuate flow		Water level management	
	Woody debris		Maintain channel bed/margins	
	Reduce fish entrainment		Flow manipulation	

4.3.6 .

e) Impacts on sensitive habitats

4.3.7 The lack of connectivity between the Site and this water body means that the Proposed Development will not impact upon the sensitive habitats identified for the water body in Error! Reference source not found.. Note that potential impacts o n Protected Areas will be considered in more detail in the shadow Habitat Regulations Assessment.

f) Chemistry

4.3.8 The Proposed Development will not impact upon the chemical status of the Leiston Beck water body, in which the works will be located. There is therefore no mechanism for any changes to the chemistry of the downstream Minsmere Old River water body.

g) Summary of impacts on water body status

4.3.9 The previous sections demonstrate that the Proposed Development will not impact upon the hydromorphology, physico-chemistry or biology of the Minsmere Old River water body during either the demolition and construction or operational phases. Furthermore, the Proposed Development will not affect any mitigation measures or sensitive habitats identified in the RBMP. This means that the Proposed Development will not adversely affect the ecological status of the water body.

4.3.10 In addition, the Proposed Development will not impact upon the chemical quality elements during either the demolition and construction or operation phases. This means that the Proposed Development will not adversely affect the chemical status of the water body.

4.4 Assessment of potential impacts on Suffolk (GB650503520002)

a) Hydromorphology

4.4.1 No activities will take place directly in this water body during either the demolition and construction or operational phases of the Proposed Development. This means that there are no direct mechanisms for the Proposed Development to affect the hydromorphology of the Suffolk coastal water body.

4.4.2 However, there is potential for impacts on hydromorphology as a result of increased fine sediment supply into the Leiston Drain water body during the demolition and construction and operational phases. This could potentially impact upon receiving waters downstream. However, the control measures outlined in **Section 3.2d)** will prevent the supply of fine sediment and other contaminants into the surface drainage network. These measures will therefore prevent impacts on the Leiston Drain and there is therefore no mechanism for the downstream Suffolk coastal water body to be affected.

b) Physico-chemistry

4.4.3 No activities will take place directly in this water body during either the demolition and construction or operational phases of the Proposed Development. This means that there are no direct mechanisms for the Proposed Development to affect the physico-chemistry of the Suffolk coastal water body.

4.4.4 However, there is potential for impacts on physico-chemistry as a result of increased fine sediment supply and the release of contaminants into the Leiston Drain water body, and additional effects on receiving waters downstream. However, the control measures outlined in **Section 3.2d)** will prevent the supply of fine sediment and other contaminants into the surface drainage network. These measures will therefore prevent impacts on the Leiston Drain and there is therefore no mechanism for the downstream coastal water body to be affected.

c) Biology

4.4.5 The Proposed Development will not impact upon the hydromorphology of physico-chemistry of the Suffolk coastal water body or the Leiston Beck upstream. There is therefore no mechanism for any changes to the biology of the Suffolk Coastal water body.

d) Impacts on mitigation measures

4.4.6 The lack of connectivity between the Proposed Development site and this water body means that the Proposed Development will not impact upon the mitigation measures identified for the water body in **Table 3.4.**

e) Impacts on sensitive habitats

4.4.7 The lack of connectivity between the Proposed Development site and this water body means that the Proposed Development will not impact upon the sensitive habitats identified for the water body in in Error! Reference source not found.. N ote that potential impacts on Protected Areas will be considered in more detail in the **Shadow Habitats Regulations Assessment** submitted with the planning application.

f) Chemistry

4.4.8 The Proposed Development will not impact upon the chemical status of the Leiston Beck water body, in which the works will be located. There is therefore no mechanism for any changes to the chemistry of the downstream Suffolk coastal water body.

g) Summary of impacts on water body status

4.4.9 The previous sections demonstrate that the Proposed Development will not impact upon the hydromorphology, physico-chemistry or biology of the Suffolk coastal water body during either the demolition and construction or operation phases. Furthermore, the Proposed Development will not affect any mitigation measures or sensitive habitats identified in the RBMP [12]. This means that the

Proposed Development will not adversely affect the ecological status of the water body.

4.4.10 In addition, the Proposed Development will not impact upon the chemical quality elements during either the demolition and construction or operational phases. This means that the Proposed Development will not adversely affect the chemical status of the water body.

4.5 Assessment of potential impacts on Waveney and East Suffolk Chalk and Crag groundwater body (GB40501G400600)

a) Quantitative status

4.5.1 There is potential for direct impacts to the quantitative quality elements (Impact on wetlands; Impact on surface waters; Water balance) as a result of the installation of a temporary sheet pile wall at the Outage Storage site for the construction of a basement, and its presence during the operational phase. These piles would be a maximum of 20m deep and would breach the groundwater table. However, this impact will be spatially limited to the area within the sheet pile wall (approximately 10m x 15m, with a small additional area to accommodate a wider construction platform). Furthermore, the volume of water abstracted is also likely to be limited to between 153m^3 and 305m^3, at rates of less than 20m^3/day during initial drawdown and less than 10m^3/day through the construction period (see **ES Volume I, Chapter 13 Hydrogeology** for further information). No further groundwater abstraction will be required during the operational phase of the development. This means that any impacts on groundwater quantity are unlikely to result in any non-temporary impacts at water body scale during construction or operation.

b) Chemical status

4.5.2 The proposed piling activities in the location of the Outage Storage during the demolition and construction phase have the potential to introduce a source of contaminants into the groundwater. Groundwater samples collected within the Site boundary as part of the wider Sizewell Preliminary Phase 2 Contamination Assessment [26] indicate some minor exceedances of metals (specifically iron, boron, nickel and zinc) and nitrate in 25% or more of the samples. Sporadic, slightly elevated occurrences of lead, mercury, copper, PAHs, chloride, ammonium and singular elevated concentrations of 1,2-dichloroethane and tetrachloroethylene were also noted (see **ES Volume I, Chapter 12 Land Quality** and **Chapter 13 Hydrogeology** for further information).

4.5.3 The low concentrations of contaminants and the small scale of the proposed piling in relation to the groundwater body mean that there will not be any adverse impacts on groundwater quality as a result of the proposed activity. Furthermore, groundwater quality testing will be undertaken to confirm the quality of abstracted groundwater and determine the most appropriate disposal method; this will ensure that there is no redistribution of existing contaminants (see **ES Volume I, Chapter 13 Hydrogeology** for further information).

4.5.4 The unintended spillage of fuels, lubricants and other potentially contaminating substances during construction and operation has the potential to impact on the chemical quality of groundwater in and around the Proposed Development if these substances are allowed to enter the surface water system (which is closely linked to groundwaters) or infiltrate into the ground. However, the control measures proposed in **Section 3.2d)** will prevent the release of contaminants into groundwater and will therefore avoid non-temporary impacts on the chemical quality elements supported within the water body.

c) Summary of impacts on water body status

4.5.5 The previous sections demonstrate that the Proposed Development will not impact upon the quantitative or chemical quality elements of the Waveney and East Suffolk Chalk and Crag groundwater body during either the demolition and construction or operational phases. This means that the Proposed Development will not adversely affect the status of the water body.

5. SUMMARY OF ASSESSMENT

5.1.1 The Proposed Development has the potential to cause impacts on following surface water and groundwater bodies during the demolition and construction, and/or operational phases of the project:

- Leiston Beck water body (GB105035046271);
- Minsmere Old River water body (GB105035046270);
- Suffolk costal water body (GB650503520002); and
- Waveney and East Suffolk Chalk and Crag groundwater body (GB40501G400600).

5.1.2 However, the scoping assessment presented in **Section 4** has demonstrated that these impacts can be minimised given implementation of the control measures proposed as part of the design and described in **Section 3.2d)**.

5.1.3 This means that the Proposed Development will not cause deterioration in the status of any of the surface or groundwater bodies in the area and can therefore be considered to be compliant with the requirements of the Water Framework Directive. As a result, Stage 3 of the compliance process is not required.

References

[1] European Commission, *Directive 2000/60/EC of the European Parliament and of the Council estabishing a framework for Community action in the field of water policy,* Brussels: European Commission, 2000.

[2] European Commission, *Directive 2009/147/EC on the Conservation of Wild Birds,* Brussels: European Commission, 2009.

[3] European Commission, *Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora,* Brussels: European Commission, 1992.

[4] European Commission, *Directive 2008/105/EC of the European Parliament and of the Council on environmental standards in the field of water policy,* Brussels: European Commission, 2008.

[5] HM Government, *The Water Environment (Water Framework Directive) (England and Wales) Regulations,* London: HM Government, 2003.

[6] HM Government, *The Water Environment (Water Framework Directive) (England and Wales) (Amendment) Regulations,* London: HM Government, 2015.

[7] Planning Inspectorate, *Advice Note 18: The Water Framework Directive,* London: Planning Inspectorate, 2017.

[8] Environment Agency, *Water Framework Directive risk assessment: How to assess the risk of your activity,* Bristol: Environment Agency, 2016.

[9] Environment Agency, *Protecting and improving the water environment: Water Framework Directive compliance of physical works in rivers.,* Bristol: Environment Agency, 2016.

[10] Environment Agency, *WFD deterioration and risk to the status objectives of river water bodies (488_10_SD06),* Bristol: Environment Agency, 2016.

[11] Environment Agency, “Catchment Data Explorer,” 2018. [Online]. Available: http://environment.data.gov.uk/catchment-planning/.

[12] Environment Agency, *Anglian River Basin District: River Basin Management Plan,* Bristol: Environment Agency, 2015.

[13] Joint Defra/Environment Agency Flood and Coastal Erosion Risk Management R&D Programme, *WFD Expert Assessment of Flood Risk Management Impacts,* London: Defra, 2009.

[14] European Commission, *Diretive 2006/7/EC of the European Parliament and of the Council of 15 February 2006 concerning the management of bathing water quality and repealing Directive 76/160/EEC,* Brussels: European Commission, 2007.

[15] European Commission, *Directive 2006/44/EC of the European Parliament and of the Council of 6 September 2006 on the quality of fresh waters needing protection of improvement in order to support fish life,* Brussels: European Commission, 2006.

[16] European Centre for River Restoration, “Healthy Catchments: Managing water for flood risk and the Water Framework Directive,” undated. [Online]. Available: http://www.ecrr.org/RiverRestoration/Floodriskmanagement/Healthy/Catchments-managingforfloodriskWFD/tabid/3098/Default.aspx.

[17] Thames Estuary Partnership, “Estuary Edges,” undated. [Online]. Available: http://thamesestuarypartnership.org/our-projects/estuary-edges/.

[18] EDF Energy, *Sizewell B Relocated Facilities Surface Water Drainage Strategy,* 2016.

[19] Environment Agency; Scottish Environment Protection Agency; Northern Ireland Environment Agency, *01 General guide to the prevention of water pollution,* Bristol: Environment Agency, 2013.

[20] Environment Agency; Scottish Environment Protection Agency; Environment and Heritage Service, *05 Works near or liable to affect watercourses,* Bristol, 2007.

[21] Environment Agency; Scottish Environment Protection Agency; Northern Ireland Environment Agency, *06 Working at construction and demolition sites,* Bristol: Environment Agency, 2012.

[22] Environment Agency; Scottish Environment Protection Agency; Environment and Heritage Service, *08 Storage and disposal of used oils,* Bristol: Environment Agency, 2004.

[23] Environment Agency, *11 Preventing pollution at industrial sites,* Bristol: Environment Agency.

[24] Environment Agency; Scottish Environment Protection Agency; Northern Ireland Environment Agency, *21 Pollution incident response planning,* Bristol: Environment Agency, 2009.

[25] CIRIA, *Control of water pollution from construction sites,* London: CIRIA, 2001.

[26] AMEC, *Sizewell Preliminary Phase 2 Contamination Assessment,* 2012.

[27] Atkins, *Sizewell B Power Station Groundwater Monitoring Review. Version 2,* 2011.

GLOSSARY OF TERMS

Term	Definition
Artificial Water Body	A water body that has been created artificially (e.g. a canal).
Chemical Status	A measure of the overall chemical quality of a water body.
Ecological Potential	A measure of the overall quality of an Artificial or Heavily Modified Water Body, recognising that physical modifications may prevent the delivery of Ecological Status targets.
Ecological Status	A measure of the overall quality of the ecological structure and functioning of a surface water body, defined with reference to the biology, hydromorphology and physico-chemistry of the waters.
Good Ecological Potential	The target condition for Artificial and Heavily Modified Water Bodies, recognising that physical modifications may prevent Good Ecological Status being achieved.
Good Ecological Status	The default target condition for a surface water body, this represents a slight deviation from natural reference conditions and limited anthropogenic pressures.
Heavily Modified Water Body	A water body that is not able to achieve natural reference conditions as a result of physical modifications which support a defined use (e.g. flood protection or land drainage).
Mitigation measure	A measure identified for water body to address pressures or modifications which prevent Good Ecological Status or Potential being achieved.
Quality element	Parameters used to define the Ecological Status or Potential of a water body, including biology (e.g. fish, macrophytes and phytoplankton), hydromorphology (e.g. flow regime, tidal regime, physical structure) and physico-chemistry (e.g. transparency, temperature, salinity, pH, concentrations of nutrients and pollutants).
River Basin Management Plan	A plan that outlines the current status of water bodies within each River Basin District, sets future status objectives and identifies the mitigation measures that are required to address pressures and achieve these objectives.
Water body	A distinct body of water, including rivers, streams, canals, lakes, reservoirs, estuaries, coastal waters and groundwaters.
Water Framework Directive	*Directive of the European Parliament and of the Council 2000/60/EC establishing a framework for community action in the field of water policy*, adopted by the European Commission in December 2000. Referred to as the Water Framework Directive (WFD), the Directive establishes environmental objectives for the status of surface (rivers, lakes, estuaries and coastal waters) and ground waters based on a series of ecological and chemical parameters. The WFD requires that all European Union Member States must prevent deterioration and protect and enhance the status of aquatic ecosystems. This means that Member States must ensure that new schemes do not adversely impact upon the status of aquatic ecosystems, and that historical modifications that are already impacting it need to be addressed.

LIST OF ABBREVIATIONS

Abbreviation	Term
AWB	Artificial Water Body
GEP	Good Ecological Potential
ESC	East Suffolk Council
GES	Good Ecological Status
HMWB	Heavily Modified Water Body
MTBE	Methyl Tert-Butyl Ether
NGL	EDF Energy Nuclear Generation Limited
PAH	Polycyclic Aromatic Hydrocarbons
RBMP	River Basin Management Plan
SCDC	Suffolk Coastal District Council
SuDS	Sustainable Drainage Systems
TPH	Total Petroleum Hydrocarbons
WDC	Waveney District Council
WFD	Water Framework Directive

FIGURES