



The Sizewell C Project

8.14 Water Framework Directive Compliance Assessment Report Appendices 3B-3H

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





SIZEWELL C PROJECT – WFD COMPLIANCE ASSESSMENT

NOT PROTECTIVELY MARKED

WATER FRAMEWORK DIRECTIVE

PART 3 - APPENDICES 3B-3H

edfenergy.com

Building **better energy** together

NOT PROTECTIVELY MARKED



APPENDIX 3B: NORTHERN PARK AND RIDE

Minsmere Old River water body (GB105035046270)

Activity	C1 Site preparation, earthworks and construction R1 Removal and reinstatement		
Quality element	Scoping question	Response	Further assessment required?
Hydromorphology			
Hydrological regime	Could the activity change the volume, energy or distribution of flows in the water body?	<p>The activities could affect the volume and rate of surface water discharge as a result of land use changes and discharges from the site drainage system.</p> <p>The CoCP (Doc Ref. 8.11) has been prepared for submission with the DCO application for the Sizewell C Project, which sets out the measures and controls that EDF Energy will require its contractors to adopt during the construction, and removal and reinstatement phases of the proposed development, where appropriate, and provides an outline of the environmental management plans that will be implemented on-site. Examples of control measures applicable include the requirement that all temporary stockpiles would be managed to prevent soil erosion, windblown dust and surface water run-off by hydroseeding, water spraying and avoiding over stockpiling to reduce compaction of soil and loss of integrity in line with the Soil Management Plan appended to the CoCP (Doc Ref. 8.11). Further detail on the CoCP actions relevant the WFD Compliance Assessment is provided in section 2 of Part 3.</p>	No

SIZEWELL C PROJECT – WFD COMPLIANCE ASSESSMENT



NOT PROTECTIVELY MARKED

Activity	C1 Site preparation, earthworks and construction R1 Removal and reinstatement		
Quality element	Scoping question	Response	Further assessment required?
		<p>An Outline Drainage Strategy is also provided in Appendix 2A of Volume 2 of the ES (Doc Ref. 6.3). In summary, construction drainage would be contained within the site through the implementation of temporary SuDS early in the construction phase. This would also include the consideration of the area at risk from surface water flooding in the south west of the site.</p> <p>Foul sewage arising on site during construction from the temporary welfare facilities will be collected and tankered off site for appropriate treatment and disposal until the operational package treatment plant is in place.</p> <p>Similar measures would be put in place during removal and restoration.</p> <p>Any impacts on the hydrological regime during construction and removal and reinstatement are therefore predicted to be insufficient to result in a change in the status of this quality element.</p>	
Morphological conditions	Could the activity change the width, depth, bank conditions, bed substrates and structure of the riparian zone?	<p>The activities could increase sediment load as a result of increased sediment generation and entrainment through runoff and exacerbate existing sedimentation in the channels. As outlined above in hydrological regime, surface water run-off would be contained within the site and soil stripped in accordance with the Soil Management Plan appended to the CoCP (Doc Ref. 8.11). There would be no discharges to water courses.</p> <p>Any impacts on morphological conditions during construction and removal and reinstatement are therefore predicted to be insufficient to result in a change in the status of this quality element.</p>	No

NOT PROTECTIVELY MARKED

SIZEWELL C PROJECT – WFD COMPLIANCE ASSESSMENT



NOT PROTECTIVELY MARKED

Activity			
C1 Site preparation, earthworks and construction R1 Removal and reinstatement			
Quality element	Scoping question	Response	Further assessment required?
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 would not create a barrier to the downstream movement of water and/or sediment and therefore would 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 activities to impact upon pH, oxygenation, salinity and specific pollutant concentrations in the water body through the runoff of sediment and construction and reinstatement materials. However, all surface water would be contained and treated where required in accordance with the Outline Drainage Strategy (Doc Ref. 6.3) and CoCP (Doc Ref. 8.11). The site would be isolated from the wider environment until the SuDS measures are operational. Implementation of appropriate pollution incident control in accordance with the CoCP (Doc Ref. 8.11) will further minimise the impacts of site construction activities on the surface drainage network. Any impacts on water quality during construction and removal and reinstatement are, therefore, predicted to be insufficient to result in a change in the status of this quality element.	No
Specific pollutants	Could the activity release dangerous chemicals into the water body?		No
Biology			
Aquatic flora	Could the activity change the hydromorphology and/or physico-chemistry	Impacts on the hydromorphology and water quality of the water body during construction and removal and reinstatement are predicted to be insufficient to result in a change in the status of these quality elements (see above for details).	No

NOT PROTECTIVELY MARKED

SIZEWELL C PROJECT – WFD COMPLIANCE ASSESSMENT



NOT PROTECTIVELY MARKED

Activity	C1 Site preparation, earthworks and construction R1 Removal and reinstatement		
Quality element	Scoping question	Response	Further assessment required?
	of the water body, or lead to the direct loss or modification of habitats for aquatic plants?	Therefore no mechanisms for impact upon the aquatic flora that they support have been identified.	
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?	Impacts on the hydromorphology and water quality of the water body during construction and removal and reinstatement are predicted to be insufficient to result in a change in the status of these quality elements (see above for details). Therefore no mechanisms for impact upon the benthic invertebrates that they support have been 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?	Impacts on the hydromorphology and water quality of the water body during construction and removal and reinstatement are predicted to be insufficient to result in a change in the status of those quality elements (see above for details). Therefore no mechanisms for impact upon the fish that they support have been identified.	No

NOT PROTECTIVELY MARKED

SIZEWELL C PROJECT – WFD COMPLIANCE ASSESSMENT



NOT PROTECTIVELY MARKED

Activity			
O1 Management of drainage			
Quality element	Scoping question	Response	Further assessment required?
Hydromorphology			
Hydrological regime	Could the activity change the volume, energy or distribution of flows in the water body?	<p>Direct changes to flow patterns and volumes could result in impacts on surface waters. Therefore, the operational activity could affect the overall hydrological regime of the water body.</p> <p>A 10m buffer in the south-west of the site, and in the east where residential properties back onto the site would also be maintained. All proposed SuDS, landscape bunds and operational facilities would be positioned outside of these buffer zones, where practicable. Existing ditches, the watercourse and the pond within the buffer zones would be retained.</p> <p>SuDS would be implemented to attenuate surface water run-off and minimise sediment generation. Nine swales and up to three potential infiltration basins would be provided on the site. The proposed drainage strategy would be to drain the surface water run-off through infiltration techniques, such as heavy-duty permeable block paving, infiltration trenches, and/or catchpit soakaways, with the infiltration basins and swales providing additional storage. The swales and infiltration basins are part of the SuDS system which moves runoff around the site, allowing natural filtration and infiltration. In the unlikely event of an exceedance event, exceedance flows would be routed via the access roads to the lowest parts of the site. Permeable surfaces would be used where possible, e.g. in the main car parking area. Rainwater will percolate through the surface and be temporarily stored in the base of the paving and then be disposed to ground by infiltration.</p>	No

NOT PROTECTIVELY MARKED

SIZEWELL C PROJECT – WFD COMPLIANCE ASSESSMENT



NOT PROTECTIVELY MARKED

Activity	O1 Management of drainage		
Quality element	Scoping question	Response	Further assessment required?
		<p>Foul sewage from the administration and welfare buildings would be treated on-site via a package treatment works. It is assumed that the treated foul sewage would be discharged to ground so as to not cause a measurable change in the integrity of the underlying aquifers, and that the discharge would be localised only for the duration of the presence of the development.</p> <p>Where impermeable surfacing is necessary, the proposed drainage would convey run-off from these areas into either the permeable paving systems proposed for the car park and laydown areas, infiltration trenches or into discrete soakaways located alongside the proposed operational car park.</p> <p>Runoff from roofed areas would be drained via downpipes and collected in an underground drainage network. The runoff from roof areas will be combined with runoff from paved areas either within the piped network (after runoff from the paved areas has passed through the bypass separator) or within the SuDS system.</p> <p>Whilst it is proposed that all on-site surface water drainage would be infiltrated to ground, if infiltration testing indicates that this is not entirely possible there may be some discharge to the existing local ditch network. If 100% infiltration is not achievable, a controlled flow at greenfield rates to the watercourse may be required. All on-site water would pass through swales (and the bypass separator in the case of rainfall runoff from the impermeable areas) before being discharged to the local ditches.</p>	

NOT PROTECTIVELY MARKED

SIZEWELL C PROJECT – WFD COMPLIANCE ASSESSMENT



NOT PROTECTIVELY MARKED

Activity			
O1 Management of drainage			
Quality element	Scoping question	Response	Further assessment required?
		<p>There will also be a 20m buffer zone between Little Nursery Wood and the operational park and ride facility to minimise disturbance to the existing watercourse along the western site boundary.</p> <p>During the operational period, the drainage system would be maintained in line with CIRIA requirements (see Outline Drainage Strategy (Doc Ref. 6.3)).</p> <p>Impacts on the hydrological regime during operation are therefore predicted to be insufficient to result in a change in the status of this quality element.</p>	
Morphological conditions	Could the activity change the width, depth, bank conditions, bed substrates and structure of the riparian zone?	<p>There is potential for geomorphological adjustment as a result of changes to surface water flows. As outlined above for hydrological regime surface water run-off would be controlled.</p> <p>Impacts on the morphological regime during operation are therefore predicted to be insufficient to result in a change in the status of this quality element.</p>	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?	The operational activities would not create a barrier to the downstream movement of water and/or sediment and, therefore, would not impact upon river continuity.	No
Physico-chemistry			
General	Could the activity change the temperature, pH, oxygenation, salinity or	There is potential for the activity to impact upon pH, oxygenation, salinity and specific pollutant concentrations in the water body through the runoff of sediment	No

NOT PROTECTIVELY MARKED

SIZEWELL C PROJECT – WFD COMPLIANCE ASSESSMENT



NOT PROTECTIVELY MARKED

Activity			
O1 Management of drainage			
Quality element	Scoping question	Response	Further assessment required?
	nutrient concentrations in the water body?	and contaminants from the operational site. Additionally, any waste water from the site could affect surface waters if not managed appropriately.	
Specific pollutants	Could the activity release dangerous chemicals into the water body?	<p>Road paved areas and locations where there is a risk of potential highway runoff pollution will be designed to be impermeable. Rainfall runoff water will be removed from the surface via highway gullies, combined kerb drains and channels, etc. These will discharge into an underground drainage network which will outfall to swales and infiltration basin where the rainfall runoff will infiltrate to ground. If required the underground drainage network will include a Class 1 Bypass Separator which will remove pollutants prior to discharge into the swales/infiltration basins.</p> <p>Foul sewage from the operational facility would be treated on-site via a package treatment works, prior to its discharge to ground via the SuDS infrastructure. There would also be a small cess pit serving the more isolated security booth, on the access road just south of Willow Marsh Lane, with field drain infiltration.</p> <p>Impacts on water quality during operation are predicted to be insufficient to result in a change in the status of this quality element.</p>	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	As outlined above surface water run-off would be contained and treated where necessary. Impacts on the hydromorphology and water quality of the water body during operation are therefore predicted to be insufficient to result in a change in the status of those quality elements (see above for details). Therefore no mechanisms for impact upon the aquatic flora that they support have been identified.	No

NOT PROTECTIVELY MARKED

SIZEWELL C PROJECT – WFD COMPLIANCE ASSESSMENT



NOT PROTECTIVELY MARKED

Activity			
O1 Management of drainage			
Quality element	Scoping question	Response	Further assessment required?
	modification of habitats for aquatic plants?		
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?	As outlined above surface water run-off would be contained and treated where necessary. Impacts on the hydromorphology and water quality of the water body during operation are therefore predicted to be insufficient to result in a change in the status of those quality elements (see above for details). Therefore no mechanisms for impact upon the benthic invertebrates that they support have been 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?	As outlined above surface water run-off would be contained and treated where necessary. Impacts on the hydromorphology and water quality of the water body during operation are predicted to be insufficient to result in a change in the status of those quality elements (see above for details). Therefore no mechanisms for impact upon the fish that they support have been identified.	No

NOT PROTECTIVELY MARKED



NOT PROTECTIVELY MARKED

Waveney and East Suffolk Chalk and Crag groundwater body (GB40501G400600)

Activity	C1 Site preparation, earthworks and construction R1 Removal and reinstatement		
Quality element	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?	<p>The lower reaches of the Minsmere Old River system has been designated for its nature conservation value. The southern parts of the surface water drainage network comprise the nationally and internationally designated Minsmere to Walberswick Heaths and Marshes Site of Special Scientific Interest (SSSI), Special Area of Conservation (SAC), Special Protected Area (SPA) and Ramsar site approximately 4km to the east of the site.</p> <p>See response for Minsmere Old River re control of surface water during construction and removal and reinstatement.</p> <p>Although the removal of on-site vegetation and the compaction of soils due to movements of construction vehicles and storage of materials may locally reduce the rate at which rainfall makes its way into the groundwater for a short duration, the overall volume of water discharging to ground is unlikely to change during either the construction phase or removal and reinstatement phase. Excavation is anticipated to be shallow and therefore, it has been assumed that groundwater in the underlying aquifers would not be encountered during construction.</p>	No

NOT PROTECTIVELY MARKED

SIZEWELL C PROJECT – WFD COMPLIANCE ASSESSMENT



NOT PROTECTIVELY MARKED

Activity			
C1 Site preparation, earthworks and construction			
R1 Removal and reinstatement			
Quality element	Scoping question	Response	Further assessment required?
		Any changes to groundwater levels are predicted to be insufficient to result in a change in the status of this quality element.	
	Could the activity lead to saline intrusion?	No mechanisms for impact on the degree of saline intrusion have been 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 have been 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 have been 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 have been 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 have been identified.	No
Quality			

NOT PROTECTIVELY MARKED

SIZEWELL C PROJECT – WFD COMPLIANCE ASSESSMENT



NOT PROTECTIVELY MARKED

Activity	C1 Site preparation, earthworks and construction R1 Removal and reinstatement		
Quality element	Scoping question	Response	Further assessment required?
Groundwater quality	Could the activity result in or exacerbate diffuse pollution at a water body scale?	<p>These activities could potentially introduce new sources of contamination to the site through spills or leaks of contaminants used during construction. Construction works, such as excavation and stockpiling, can pose a risk to groundwater receptors through leaching and run-off of contaminants. Intrusive activities and removal of low permeability material can pose a risk to groundwater by creating new contaminant pathways or mobilising existing contamination through exposure of contaminated soil or remobilisation of contaminants through soil disturbance.</p> <p>The CoCP and Outline Drainage Strategy as outline for the Minsmere Old River would be designed to remove any risk to surface and groundwater bodies. Additionally, the Crag groundwater would be protected from any spills or leaks where it is overlain by the low permeability superficial deposits of the Lowestoft Formation (diamicton) and Head deposits. There is also considered to be a low risk of significant volumes of contaminated material likely to be present. A piling risk assessment would be undertaken to ensure that appropriate piling techniques are implemented at the site to minimise risks to groundwater.</p>	No

NOT PROTECTIVELY MARKED

SIZEWELL C PROJECT – WFD COMPLIANCE ASSESSMENT



NOT PROTECTIVELY MARKED

Activity	C1 Site preparation, earthworks and construction		
R1 Removal and reinstatement			
Quality element	Scoping question	Response	Further assessment required?
		Impacts on the concentrations of specific pollutants in the water body during operation are predicted to be insufficient to result in a change in the status of this quality element.	
	Could the activity result in pollution of groundwater dependent terrestrial ecosystems (GWDTEs) or other dependent surface water features?	The lower reaches of the Minsmere Old River system has been designated for its nature conservation value. The southern parts of the surface water drainage network comprise the nationally and internationally designated Minsmere to Walberswick Heaths and Marshes Site of Special Scientific Interest (SSSI), Special Area of Conservation (SAC), Special Protected Area (SPA) and Ramsar site approximately 4km to the east of the site. However, the control measure to be put in place and the distance to these sites enable a mechanism for effect to be ruled out.	No
	Could the activity lead to saline intrusion?	No mechanisms for impact on the degree of saline intrusion have been identified.	No
	Could the activity cause deterioration in the quality of a drinking water abstraction?	The nearest licensed groundwater abstraction is located approximately 800m south east of the proposed development site which is potentially used for drinking water. The distance between the site and the proposed containment and treatment of surface water mean that no mechanisms for the deterioration in the quality of groundwater abstractions have been identified.	No
	Could the activity result in increasing trends in pollutant concentrations or reduce the ability to reverse significant trends in groundwater pollutants?	As outlined above surface water run-off would be contained within the site and soil stripped in accordance with the Soil Management Plan. There would be no discharges to water courses.	No

NOT PROTECTIVELY MARKED

SIZEWELL C PROJECT – WFD COMPLIANCE ASSESSMENT



NOT PROTECTIVELY MARKED

Activity			
C1 Site preparation, earthworks and construction			
R1 Removal and reinstatement			
Quality element	Scoping question	Response	Further assessment required?
		Impacts on groundwater quality during construction and removal and reinstatement are predicted to be insufficient to result in a change in the status of this quality element.	
	Could the activity result in the failure of the 'prevent or limit' objective of the Groundwater Daughter Directive?	As outlined above surface water run-off would be contained within the site and soil stripped in accordance with the Soil Management Plan. There would be no discharges to water courses. Impacts on groundwater quality during construction and removal and reinstatement are predicted to be insufficient to result in a change in the status of this quality element.	No

Activity			
O1 Management of drainage			
Quality element	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?	As outlined above surface water run-off and foul water would be contained and treated where necessary. There would be no discharges to water courses. Although the operational drainage system could locally change the spatial distribution of infiltration to groundwater on a very small scale, the overall volume of infiltration would not be significantly changed.	No

NOT PROTECTIVELY MARKED

SIZEWELL C PROJECT – WFD COMPLIANCE ASSESSMENT



NOT PROTECTIVELY MARKED

Activity			
O1 Management of drainage			
Quality element	Scoping question	Response	Further assessment required?
		Any changes to groundwater levels are, therefore, predicted to be insufficient to result in a change in the status of this quality element.	
	Could the activity lead to saline intrusion?	No mechanisms for impact on the degree of saline intrusion have been 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 have been 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 have been 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 have been 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 have been identified.	No
Quality			

NOT PROTECTIVELY MARKED

SIZEWELL C PROJECT – WFD COMPLIANCE ASSESSMENT



NOT PROTECTIVELY MARKED

Activity	O1 Management of drainage		
Quality element	Scoping question	Response	Further assessment required?
Groundwater quality	Could the activity result in or exacerbate diffuse pollution at a water body scale?	As outlined above surface water run-off and foul water would be contained and treated where necessary. There would be no discharges to water courses. Impacts on groundwater quality during operation are predicted to be insufficient to result in a change in the status of this quality element.	No
	Could the activity result in pollution of groundwater dependent terrestrial ecosystems (GWDTEs) or other dependent surface water features?	None identified nearby.	No
	Could the activity lead to saline intrusion?	No mechanisms for impact on the degree of saline intrusion have been identified.	No
	Could the activity cause deterioration in the quality of a drinking water abstraction?	The nearest licensed groundwater abstraction is located approximately 800m south east of the site. The distance between the proposed site and the containment and treatment of surface water and foul water mean that no mechanisms for the deterioration in the quality of groundwater abstractions have been identified.	No
	Could the activity result in increasing trends in pollutant concentrations or reduce the ability to reverse significant trends in groundwater pollutants?	As outlined above surface water run-off and foul water would be contained and treated where necessary. There would be no discharges to water courses. Impacts on groundwater quality during operation are predicted to be insufficient to result in a change in the status of this quality element.	No

NOT PROTECTIVELY MARKED

SIZEWELL C PROJECT – WFD COMPLIANCE ASSESSMENT



NOT PROTECTIVELY MARKED

Activity	O1 Management of drainage		
Quality element	Scoping question	Response	Further assessment required?
	<p>Could the activity result in the failure of the 'prevent or limit' objective of the Groundwater Daughter Directive?</p>	<p>As outlined above surface water run-off and foul water would be contained and treated where necessary. There would be no discharges to water courses. Impacts on groundwater quality during operation are predicted to be insufficient to result in a change in the status of this quality element.</p>	<p>No</p>

NOT PROTECTIVELY MARKED

APPENDIX 3C: SOUTHERN PARK AND RIDE

River Deben (Brandeston Bridge - Melton) GB105035046310

Activity			
C1 Site preparation, earthworks and construction R1 Removal and reinstatement			
Quality element	Scoping question	Response	Further assessment required?
Hydromorphology			
Hydrological regime	Could the activity change the volume, energy or distribution of flows in the water body?	<p>The activities could affect the volume and rate of surface water discharge as a result of land use changes and discharges from the site drainage system. However, construction phase water management is embedded in the design, with on-site surface water run-off being infiltrated or discharged at greenfield run-off rates until the SuDS infrastructure is operational to avoid off-site contamination.</p> <p>It is envisaged that foul sewage arising on site during construction from the site compounds will be tankered off site until the operational package plant facility is in place.</p> <p>Impacts on the hydrological regime during construction and removal and reinstatement are predicted to be insufficient to result in a change in the status of this quality element.</p>	No
Morphological conditions	Could the activity change the width, depth, bank conditions, bed	The activities could increase sediment load as a result of increased sediment generation and entrainment through runoff and exacerbate existing	No

SIZEWELL C PROJECT – WFD COMPLIANCE ASSESSMENT



NOT PROTECTIVELY MARKED

Activity			
C1 Site preparation, earthworks and construction R1 Removal and reinstatement			
Quality element	Scoping question	Response	Further assessment required?
	substrates and structure of the riparian zone?	sedimentation in the channels. As outlined above, all surface water would be contained within the site and treated where necessary. Any impacts on morphological conditions during construction and removal and reinstatement are, therefore, predicted to be insufficient to result in a change in the status of this quality element.	
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 would not create a barrier to the downstream movement of water and/or sediment and, therefore, would 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 activities to impact upon pH, oxygenation and salinity concentrations in the water body through the runoff of sediment and construction materials. However, all activities would be undertaken in line with best practice guidance and where required, pollution removal techniques will be installed. Any contaminated material will be removed from the site. Impacts on general physico-chemistry during construction and removal and reinstatement are, therefore, predicted to be insufficient to result in a change in the status of this quality element.	No
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. However, all activities would be undertaken in line with	No

NOT PROTECTIVELY MARKED

SIZEWELL C PROJECT – WFD COMPLIANCE ASSESSMENT



NOT PROTECTIVELY MARKED

Activity			
C1 Site preparation, earthworks and construction R1 Removal and reinstatement			
Quality element	Scoping question	Response	Further assessment required?
		<p>best practice guidance and where required, pollution removal techniques will be installed. Any contaminated material will be removed from the site.</p> <p>Following implementation of the measures outlined in the CoCP and Demolition and Restoration Plan, any impacts on the concentrations of specific pollutants in the water body during construction and removal and reinstatement are, therefore, predicted to be insufficient to result in a change in the status of this quality element.</p>	
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?	Impacts on the hydromorphology and physico-chemistry of the water body during construction and removal and reinstatement are predicted to be insufficient to result in a change in the status of these quality elements (see above for details). Therefore no mechanisms for impact upon the aquatic flora that they support have been 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?	Impacts on the hydromorphology and physico-chemistry of the water body during construction and removal and reinstatement are predicted to be insufficient to result in a change in the status of these quality elements (see above for details). Therefore no mechanisms for impact upon the benthic invertebrates that they support have been identified.	No
Fish	Could the activity change the hydromorphology	Impacts on the hydromorphology and physico-chemistry of the water body during construction and removal and reinstatement are predicted to be insufficient to	No

NOT PROTECTIVELY MARKED

SIZEWELL C PROJECT – WFD COMPLIANCE ASSESSMENT



NOT PROTECTIVELY MARKED

Activity			
C1 Site preparation, earthworks and construction R1 Removal and reinstatement			
Quality element	Scoping question	Response	Further assessment required?
	and/or physico-chemistry of the water body, or lead to the direct loss or modification of shelter, feeding and spawning habitats for fish?	result in a change in the status of these quality elements (see above for details). Therefore no mechanisms for impact upon the fish that they support have been identified.	

Activity			
O1 Management of drainage			
Quality element	Scoping question	Response	Further assessment required?
Hydromorphology			
Hydrological regime	Could the activity change the volume, energy or distribution of flows in the water body?	<p>Direct changes to flow patterns and volumes could result in impacts on surface waters. SuDS would be implemented for the operation of the park and ride facility to allow surface water runoff to infiltrate into the ground. This design would include five swales and four infiltration basins. Swales would attenuate and convey surface water runoff into the existing field ditch system at a rate not exceeding existing green field run-off rates. An existing pond adjacent to the site is located close to the western boundary and would be retained.</p> <p>Permeable surfaces would be used where possible, e.g. in the main car parking area. Water falling onto impermeable surfaces (e.g. access roads, areas used by HGVs, or the TIMA) would pass through a petrol interceptor before being channelled into the SuDS infrastructure where it can be further passed through</p>	No

NOT PROTECTIVELY MARKED

SIZEWELL C PROJECT – WFD COMPLIANCE ASSESSMENT



NOT PROTECTIVELY MARKED

Activity			
O1 Management of drainage			
Quality element	Scoping question	Response	Further assessment required?
		<p>vegetated filters. It is envisaged that foul sewage from the security building, security booth, postal consolidation building and welfare building would be treated on-site. Effluent would be passed through a package treatment works prior to being discharged into the SuDS infrastructure where it can be further passed through vegetated filters.</p> <p>Impacts on the hydrological regime during operation are predicted to be insufficient to result in a change in the status of this quality element.</p>	
Morphological conditions	Could the activity change the width, depth, bank conditions, bed substrates and structure of the riparian zone?	<p>As outlined above surface water run-off would be contained and treated where necessary. There would be no discharges to water courses.</p> <p>Impacts on the hydrological regime during operation are predicted to be insufficient to result in a change in the status of this quality element.</p>	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?	This activity would not create a barrier to the downstream movement of water and/or sediment and, therefore, would 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 pH, oxygenation and salinity concentrations in the water body through the runoff of sediment and contaminants from the operational site. As outlined above surface water run-off would be contained and treated where necessary.	No

NOT PROTECTIVELY MARKED

SIZEWELL C PROJECT – WFD COMPLIANCE ASSESSMENT



NOT PROTECTIVELY MARKED

Activity			
O1 Management of drainage			
Quality element	Scoping question	Response	Further assessment required?
		Impacts on general physico-chemistry during operation are predicted to be insufficient to result in a change in the status of this quality element.	
Specific pollutants	Could the activity release dangerous chemicals into the water body?	<p>The activity may release dangerous chemicals into the water body through leaks and spills of fuel, oils and lubricants from the operational site. As outlined above surface water run-off would be contained and treated where necessary.</p> <p>Impacts on the concentrations of specific pollutants in the water body during operation are predicted to be insufficient to result in a change in the status of this quality element.</p>	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?	As outlined above surface water run-off would be contained and treated where necessary. Impacts on the hydromorphology and physico-chemistry of the water body during operation are therefore predicted to be insufficient to result in a change in the status of these quality elements (see above for details). Therefore no mechanisms for impact upon the aquatic flora that they support have been 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?	As outlined above surface water run-off would be contained and treated where necessary. Impacts on the hydromorphology and physico-chemistry of the water body during operation are therefore predicted to be insufficient to result in a change in the status of these quality elements (see above for details). Therefore no mechanisms for impact upon the benthic invertebrates that they support have been identified.	No
Fish	Could the activity change the hydromorphology	As outlined above surface water run-off would be contained and treated where necessary. Impacts on the hydromorphology and physico-chemistry of the water	No

NOT PROTECTIVELY MARKED

SIZEWELL C PROJECT – WFD COMPLIANCE ASSESSMENT



NOT PROTECTIVELY MARKED

Activity			
O1 Management of drainage			
Quality element	Scoping question	Response	Further assessment required?
	and/or physico-chemistry of the water body, or lead to the direct loss or modification of shelter, feeding and spawning habitats for fish?	body during operation are predicted to be insufficient to result in a change in the status of these quality elements (see above for details). Therefore no mechanisms for impact upon the fish that they support have been identified.	

NOT PROTECTIVELY MARKED

River Ore GB105035045970

Activity			
C1 Site preparation, earthworks and construction R1 Removal and reinstatement			
Quality element	Scoping question	Response	Further assessment required?
Hydromorphology			
Hydrological regime	Could the activity change the volume, energy or distribution of flows in the water body?	As for the River Deben (Brandeston Bridge - Melton) GB105035046310	No
Morphological conditions	Could the activity change the width, depth, bank conditions, bed substrates and structure of the riparian zone?	As for the River Deben (Brandeston Bridge - Melton) GB105035046310	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?	The activities would 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?	As for the River Deben (Brandeston Bridge - Melton) GB105035046310	No

SIZEWELL C PROJECT – WFD COMPLIANCE ASSESSMENT



NOT PROTECTIVELY MARKED

Activity			
C1 Site preparation, earthworks and construction R1 Removal and reinstatement			
Quality element	Scoping question	Response	Further assessment required?
Specific pollutants	Could the activity release dangerous chemicals into the water body?	As for the River Deben (Brandeston Bridge - Melton) GB105035046310	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?	As for the River Deben (Brandeston Bridge - Melton) GB105035046310	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?	As for the River Deben (Brandeston Bridge - Melton) GB105035046310	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,	As for the River Deben (Brandeston Bridge - Melton) GB105035046310	No

NOT PROTECTIVELY MARKED

SIZEWELL C PROJECT – WFD COMPLIANCE ASSESSMENT



NOT PROTECTIVELY MARKED

Activity	C1 Site preparation, earthworks and construction R1 Removal and reinstatement		
Quality element	Scoping question	Response	Further assessment required?
	feeding and spawning habitats for fish?		

Activity	O1 Management of drainage		
Quality element	Scoping question	Response	Further assessment required?
Hydromorphology			
Hydrological regime	Could the activity change the volume, energy or distribution of flows in the water body?	As for the River Deben (Brandeston Bridge - Melton) GB105035046310	No
Morphological conditions	Could the activity change the width, depth, bank conditions, bed substrates and structure of the riparian zone?	As for the River Deben (Brandeston Bridge - Melton) GB105035046310	No
River continuity	Could the activity create a permanent barrier to the downstream movement of water and/or sediment, or the	This activity would not create a barrier to the downstream movement of water and/or sediment and therefore will not impact upon river continuity.	No

NOT PROTECTIVELY MARKED

SIZEWELL C PROJECT – WFD COMPLIANCE ASSESSMENT



NOT PROTECTIVELY MARKED

Activity			
O1 Management of drainage			
Quality element	Scoping question	Response	Further assessment required?
	upstream movement of fish?		
Physico-chemistry			
General	Could the activity change the temperature, pH, oxygenation, salinity or nutrient concentrations in the water body?	As for the River Deben (Brandeston Bridge - Melton) GB105035046310	No
Specific pollutants	Could the activity release dangerous chemicals into the water body?	As for the River Deben (Brandeston Bridge - Melton) GB105035046310	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?	As for the River Deben (Brandeston Bridge - Melton) GB105035046310	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?	As for the River Deben (Brandeston Bridge - Melton) GB105035046310	No

NOT PROTECTIVELY MARKED

SIZEWELL C PROJECT – WFD COMPLIANCE ASSESSMENT



NOT PROTECTIVELY MARKED

Activity			
O1 Management of drainage			
Quality element	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?	As for the River Deben (Brandeston Bridge - Melton) GB105035046310	No

Waveney and East Suffolk Chalk and Crag groundwater body (GB40501G400600)

Activity			
C1 Site preparation, earthworks and construction			
R1 Removal and reinstatement			
Quality element	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?	Although the removal of on-site vegetation and the compaction of soils due to movements of construction vehicles and storage of materials may locally reduce the rate at which rainfall makes its way into the groundwater for a short duration, the overall volume of water discharging to ground is unlikely to change during either the construction phase or removal and reinstatement phase. Additionally, excavation is anticipated to be shallow and therefore	No

NOT PROTECTIVELY MARKED

SIZEWELL C PROJECT – WFD COMPLIANCE ASSESSMENT



NOT PROTECTIVELY MARKED

Activity			
C1 Site preparation, earthworks and construction			
R1 Removal and reinstatement			
Quality element	Scoping question	Response	Further assessment required?
		<p>it has been assumed that groundwater in the underlying Crag aquifers would not be encountered during construction.</p> <p>Any changes to groundwater levels are predicted to be insufficient to result in a change in the status of this quality element.</p>	
	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	No mechanisms for impact on the water balance were identified.	No

NOT PROTECTIVELY MARKED

SIZEWELL C PROJECT – WFD COMPLIANCE ASSESSMENT



NOT PROTECTIVELY MARKED

Activity			
C1 Site preparation, earthworks and construction R1 Removal and reinstatement			
Quality element	Scoping question	Response	Further assessment required?
	imposed by the total low flows resource?		
Quality			
Groundwater quality	Could the activity result in or exacerbate diffuse pollution at a water body scale?	The activity may release chemicals into the water body through leaks and spills of fuel, oils and lubricants from the operational site. As outlined above surface water run-off would be contained and treated where necessary. Impacts on the concentrations of specific pollutants in the water body during operation are predicted to be insufficient to result in a change in the status of this quality element.	No
	Could the activity result in pollution of groundwater dependent terrestrial ecosystems (GWDTEs) or other dependent surface water features?	None identified nearby	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?	There are four groundwater abstractions within 1km of the site, all for agricultural and farming use and not for drinking water. The seasonal groundwater abstraction borehole at Hacheston is located within 60m east of the site boundary and assumed to abstract from either the Crag aquifer, or the sand and gravel of the Lowestoft Formation. Due to its close proximity to the site, it is considered that there is the potential for any contamination from	No

NOT PROTECTIVELY MARKED

SIZEWELL C PROJECT – WFD COMPLIANCE ASSESSMENT



NOT PROTECTIVELY MARKED

Activity			
C1 Site preparation, earthworks and construction			
R1 Removal and reinstatement			
Quality element	Scoping question	Response	Further assessment required?
		the site activities to migrate to the abstraction, through leaching through the soil or via the creation of preferential pathways. Although there is potential for adverse impacts on this abstraction point, it is not used for drinking water and as such any changes to the single agricultural abstraction are not considered to be sufficient to result in deterioration in water body status.	
	Could the activity result in increasing trends in pollutant concentrations or reduce the ability to reverse significant trends in groundwater pollutants?	As outlined above surface water run-off would be contained within the site and soil stripped in accordance with the Soil Management Plan. There would be no discharges to water courses. Impacts on groundwater quality during construction and removal and reinstatement are predicted to be insufficient to result in a change in the status of this quality element.	No
	Could the activity result in the failure of the 'prevent or limit' objective of the Groundwater Daughter Directive?	As outlined above surface water run-off would be contained within the site and soil stripped in accordance with the Soil Management Plan. There would be no discharges to water courses. Impacts on groundwater quality during construction and removal and reinstatement are predicted to be insufficient to result in a change in the status of this quality element.	No

NOT PROTECTIVELY MARKED

SIZEWELL C PROJECT – WFD COMPLIANCE ASSESSMENT



NOT PROTECTIVELY MARKED

Activity	O1 Management of drainage		
Quality element	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?	As outlined above surface water run-off and foul water would be contained and treated where necessary. There would be no discharges to water courses. Although the operational drainage system could locally change the spatial distribution of infiltration to groundwater on a very small scale, the overall volume of infiltration would not be significantly changed. Any changes to groundwater levels are, therefore, predicted to be insufficient to result in a change in the status of this quality element.	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	No mechanisms for impact on the water balance were identified.	No

NOT PROTECTIVELY MARKED

SIZEWELL C PROJECT – WFD COMPLIANCE ASSESSMENT



NOT PROTECTIVELY MARKED

Activity			
O1 Management of drainage			
Quality element	Scoping question	Response	Further assessment required?
	flows that will exceed any groundwater body scale headroom between Fully Licensed depletion and the limit imposed by the total low flows resource?		
Quality			
Groundwater quality	Could the activity result in or exacerbate diffuse pollution at a water body scale?	As outlined above surface water run-off and foul water would be contained and treated where necessary. There would be no discharges to water courses.	No
	Could the activity result in pollution of groundwater dependent terrestrial ecosystems (GWDTEs) or other dependent surface water features?	None identified nearby	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?	There are four groundwater abstractions within 1km of the site, all for agricultural use and not for drinking water. The distance between the proposed site and the containment and treatment of surface water and foul water mean that no mechanisms for the deterioration in the quality of groundwater abstractions have been identified.	No
	Could the activity result in increasing trends in pollutant concentrations or reduce the ability to reverse significant trends in groundwater pollutants?	As outlined above surface water run-off and foul water would be contained and treated where necessary. There would be no discharges to water courses. Impacts on groundwater quality	No

NOT PROTECTIVELY MARKED

SIZEWELL C PROJECT – WFD COMPLIANCE ASSESSMENT



NOT PROTECTIVELY MARKED

Activity	O1 Management of drainage		
Quality element	Scoping question	Response	Further assessment required?
		during operation are predicted to be insufficient to result in a change in the status of this quality element.	
	Could the activity result in the failure of the 'prevent or limit' objective of the Groundwater Daughter Directive?	As outlined above surface water run-off and foul water would be contained and treated where necessary. There would be no discharges to water courses. Impacts on groundwater quality during operation are predicted to be insufficient to result in a change in the status of this quality element.	No

NOT PROTECTIVELY MARKED

APPENDIX 3D – TWO VILLAGE BYPASS

River Alde GB105035046060

Activity	C1 Site preparation, earthworks and construction		
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?	<p>The activities could affect the volume and rate of surface water discharge as a result of land use changes and discharges from the site drainage system.</p> <p>Early in the construction phase, swales and infiltration ponds would be used as appropriate to ensure that surface water run-off would be contained within the site.</p> <p>A Code of Construction Practice (CoCP) (see Doc Ref. 8.11) is included in the Development Consent Order application for the Sizewell C Project, which sets out the measures and controls that EDF Energy will require its contractors to adopt during construction and removal and reinstatement phases of the proposed development, where appropriate. An Outline Drainage Strategy has also been prepared (Appendix 2A of Volume 2 of the ES (Doc Ref.6.3)).</p>	No

SIZEWELL C PROJECT – WFD COMPLIANCE ASSESSMENT



NOT PROTECTIVELY MARKED

Activity			
C1 Site preparation, earthworks and construction			
Parameter	Scoping question	Response	Further assessment required?
		Impacts on the hydrological regime during construction are therefore predicted to be insufficient to result in a change in the status of this quality element..	
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. As outlined in hydrological regime, early in the construction phase swales and infiltration ponds would be used to contain the water. A Soil Management Plan appended to the CoCP (Doc Ref. 8.11) would also be put in place to reduce sediment laden water entering the water environment. Impacts on morphological conditions during construction are therefore predicted to be insufficient to result in a change in the status of this quality element.	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?	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 pH, oxygenation, salinity and specific pollutant concentrations through the runoff of sediment from stockpiles/working areas. The activity may also potentially release dangerous chemicals into the water body through leaks and spills of fuel, oils, lubricants and construction materials from the construction compounds. Early in the construction phase, swales and infiltration ponds would be used as appropriate to ensure that surface water run-off would be contained within the site. The	No
Specific pollutants	Could the activity release dangerous chemicals into the water body?		No

NOT PROTECTIVELY MARKED

SIZEWELL C PROJECT – WFD COMPLIANCE ASSESSMENT



NOT PROTECTIVELY MARKED

Activity			
C1 Site preparation, earthworks and construction			
Parameter	Scoping question	Response	Further assessment required?
		<p>CoCP (Doc Ref. 8.11) also identifies specific actions to be implemented to remove pollutant risk to the water environment.</p> <p>Impacts on water quality during construction are therefore predicted to be insufficient to result in a change in the status of this quality element.</p>	
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?	Drainage would be designed to ensure any impacts on the hydromorphology and water quality of the waterbody are insufficient to result in a change in the status of those quality elements (see above for details). Therefore, no mechanisms for impact upon the aquatic flora that they support have been 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?	Drainage would be designed to ensure any impacts on the hydromorphology and water quality of the water body during construction are predicted to be insufficient to result in a change in the status of those quality elements (see above for details). Therefore, no mechanisms for impact upon the benthic invertebrates that they support have therefore been 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?	Drainage would be designed to ensure any impacts on the on the hydromorphology and water quality of the water body during construction are predicted to be insufficient to result in a change in the status of those quality elements (see above for details). Therefore, no mechanisms for impact upon the fish that they support have therefore been identified.	No

NOT PROTECTIVELY MARKED

SIZEWELL C PROJECT – WFD COMPLIANCE ASSESSMENT



NOT PROTECTIVELY MARKED

Activity	C2 Construction of watercourse crossings		
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?	Early in the construction phase, swales and infiltration ponds would be used as appropriate to ensure that surface water run-off would be contained within the site. However, the River Alde flows through the boundary of the proposed bypass in the western area of the site and several drains within the floodplain will need to be crossed as part of the construction. As a result, a number of impacts, such as loss and fragmentation of riverine habitat, disruption of riverine processes and loss of floodplain habitats could potentially occur. The road alignment may also disrupt in-channel and floodplain flows and morphological processes.	Yes and consider indirect effects on River Alde – Ore (d/s confluence) GB105035045950
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 potential for the activity to impact upon pH, oxygenation, salinity and specific pollutant concentrations in the water body through the runoff of sediment and construction materials. There is also the potential for leaks and spills to release contamination during construction of the bridge. Early in the construction phase, swales and infiltration ponds would be used as appropriate to ensure that surface water run-off would be contained within the site. Impacts on water quality during construction are therefore predicted to be insufficient to result in a change in the status of this quality element.	No
Specific pollutants	Could the activity release dangerous		No

NOT PROTECTIVELY MARKED

SIZEWELL C PROJECT – WFD COMPLIANCE ASSESSMENT



NOT PROTECTIVELY MARKED

Activity			
C2 Construction of watercourse crossings			
Parameter	Scoping question	Response	Further assessment required?
	chemicals into the water body?		
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?	Early in the construction phase, swales and infiltration ponds would be used as appropriate to ensure that surface water run-off would be contained within the site. However, the River Alde flows through the boundary of the proposed bypass in the western area of the site and several drains within the floodplain will be crossed during construction. As a result, a number of impacts, such as loss and fragmentation of riverine habitat, disruption of riverine processes and loss of floodplain habitats would need mitigation. The road alignment may also disrupt in-channel and floodplain flows and morphological processes.	Yes and consider indirect effects on River Alde – Ore (d/s confluence) GB105035045950
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?		
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,	The potential effects outlined above for hydromorphology could potentially impact on fish species in the River Alde water body and smaller drains.	Yes and consider indirect effects on River Alde – Ore (d/s confluence) GB105035045950

NOT PROTECTIVELY MARKED

SIZEWELL C PROJECT – WFD COMPLIANCE ASSESSMENT



NOT PROTECTIVELY MARKED

Activity	C2 Construction of watercourse crossings		
Parameter	Scoping question	Response	Further assessment required?
	feeding and spawning habitats for fish?		

Activity	O1 Management of drainage		
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?	<p>Direct changes to flow patterns and volumes could result in impacts on surface waters. The operational activity, therefore, could affect the overall hydrological regime of the water body.</p> <p>SuDS would be implemented to attenuate surface water run-off and minimise sediment generation and provide water treatment. It is envisaged that surface water run-off would be contained within the site, with drainage to ground via infiltration using infiltration basins and swales (see Outline Drainage Strategy (Doc Ref. 8.11).</p> <p>Swales would be provided alongside the proposed route of the two village bypass road, except along the River Alde overbridge and along the embankment within the floodplain. The swales would attenuate and infiltrate to ground the surface water runoff. It is envisaged that three infiltration basins would be located along the length of the route. The exact location, footprint and depth of the infiltration basins will be confirmed at the detailed design stage. The</p>	No

NOT PROTECTIVELY MARKED

SIZEWELL C PROJECT – WFD COMPLIANCE ASSESSMENT



NOT PROTECTIVELY MARKED

Activity	O1 Management of drainage		
Parameter	Scoping question	Response	Further assessment required?
		<p>infiltration basins would be designed to cater for a 100 years flood event plus a 40% allowance for climate change.</p> <p>Surface water from the roundabouts will be collected via gullies and discharge via an outfall drain to the adjacent infiltration basins. Existing local drainage from surrounding fields would be culverted so that their use would continue and would not be impacted by the proposed development. Field drains located at the western end of the bypass, either side of the proposed River Alde overbridge, would be diverted along the base of the embankment to the River Alde where possible with additional/excess water culverted through the embankments.</p> <p>The section of road between the eastern end of the embankment and the River Alde bridge will be drained either by underground drainage or drainage channel towards the bridge and then outfall with discharge into the river. Discharge will be fixed at greenfield rates and infrastructure for the removal of highway runoff pollutants provided, if required as determined at Detailed Design stage.</p> <p>The section of road between the River Alde bridge and the western end of the embankment will be drained either by underground drainage or drainage channel to the west and then discharge into the infiltration basin.</p>	

NOT PROTECTIVELY MARKED

SIZEWELL C PROJECT – WFD COMPLIANCE ASSESSMENT



NOT PROTECTIVELY MARKED

Activity			
O1 Management of drainage			
Parameter	Scoping question	Response	Further assessment required?
		Impacts on the hydrological regime during operation are therefore predicted to be insufficient to result in a change in the status of this quality element.	
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 As outlined in hydrological regime, the drainage system would be designed to reduce any impacts on the hydrological regime so that changes would be insufficient to result in a change in the status of this quality element.	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?	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 pH, oxygenation and salinity concentrations in the water body through the runoff of sediment. The activity may potentially release dangerous chemicals into the water body through leaks and spills of fuel, oils and lubricants from the operational site. The swales and infiltration basins will provide a certain level of treatment for highway runoff. The adequacy of these facilities for removal of pollutants will be accessed as part of Detailed Design. If necessary additional treatment measures such as Class 1 Bypass Separators will be provided.	No
Specific pollutants	Could the activity release dangerous chemicals into the water body?		No

NOT PROTECTIVELY MARKED

SIZEWELL C PROJECT – WFD COMPLIANCE ASSESSMENT



NOT PROTECTIVELY MARKED

Activity			
O1 Management of drainage			
Parameter	Scoping question	Response	Further assessment required?
		Impacts on water quality during construction are therefore predicted to be insufficient to result in a change in the status of this quality element.	
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 Outline Drainage Strategy would be designed to remove impacts to hydromorphology and physico-chemistry of the water body. Impacts are therefore predicted to be insufficient to result in a change in the status of those quality elements (see above for details). No mechanisms for impact upon the aquatic flora that they support have therefore been 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?	As above. No mechanisms for impact upon the benthic invertebrates that they support have therefore been 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?	As above. No mechanisms for impact upon the fish that they support have therefore been identified.	No

Activity			
O2 Permanent presence of watercourse crossings			
Parameter	Scoping question	Response	Further assessment required?
Hydromorphology			

NOT PROTECTIVELY MARKED

SIZEWELL C PROJECT – WFD COMPLIANCE ASSESSMENT



NOT PROTECTIVELY MARKED

Activity			
O2 Permanent presence of watercourse crossings			
Parameter	Scoping question	Response	Further assessment required?
Hydrological regime	Could the activity change the volume, energy or distribution of flows in the water body?	Potential effects relate to the loss of riverine and floodplain habitats and the fragmentation of remnant habitats of the River Alde water body and other water courses affected. The road alignment may also disrupt in-channel and floodplain flows and morphological processes.	Yes and consider indirect effects on River Alde – Ore (d/s confluence) GB105035045950
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?	Surface water arrangements are outlined in O1.	No
Specific pollutants	Could the activity release dangerous chemicals into the water body?		
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?	Potential effects relate to the loss of riverine and floodplain habitats and the fragmentation of remnant habitats of the River Alde water body and other water courses affected. The road alignment may also disrupt in-channel and floodplain flows and morphological processes.	Yes and consider indirect effects on River Alde – Ore (d/s confluence) GB105035045950
Benthic invertebrates	Could the activity change the hydromorphology and/or physico-chemistry of the water body, or lead to the		

NOT PROTECTIVELY MARKED

SIZEWELL C PROJECT – WFD COMPLIANCE ASSESSMENT



NOT PROTECTIVELY MARKED

Activity	O2 Permanent presence of watercourse crossings		
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?	The potential effects outlined above for hydromorphology could potentially impact on fish species in the River Alde water body and other water courses.	Yes and consider indirect effects on River Alde – Ore (d/s confluence) GB105035045950

NOT PROTECTIVELY MARKED

River Fromus (GB105035045980)

Activity	C1 Site preparation, earthworks and construction		
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 area of works required in the River Fromus catchment is small in scale. The Outline Drainage Strategy would ensure effects reduced as far as possible.	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?	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?	See C1 for the River Alde.	No
Specific pollutants	Could the activity release dangerous chemicals into the water body?		
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?	See C1 for the River Alde.	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?	See C1 for the River Alde.	No

SIZEWELL C PROJECT – WFD COMPLIANCE ASSESSMENT



NOT PROTECTIVELY MARKED

Activity			
C1 Site preparation, earthworks and construction			
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?	See C1 for the River Alde.	No

Activity			
C2 Construction of bridge			
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 pathway for effect given that the bridge/culverts will not be located in this catchment	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?	No pathway for effect given that the bridge/culverts will not be located in this catchment	No
Specific pollutants	Could the activity release dangerous chemicals into the water body?		
Biology			

NOT PROTECTIVELY MARKED

SIZEWELL C PROJECT – WFD COMPLIANCE ASSESSMENT



NOT PROTECTIVELY MARKED

Activity			
O2 Construction of bridge			
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 pathway for effect given that the bridge/culverts will not be located in this catchment	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?		
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?		

Activity			
O1 Management of drainage			
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?	See O1 for the River Alde.	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?	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			

NOT PROTECTIVELY MARKED

SIZEWELL C PROJECT – WFD COMPLIANCE ASSESSMENT



NOT PROTECTIVELY MARKED

Activity			
O1 Management of drainage			
Parameter	Scoping question	Response	Further assessment required?
General	Could the activity change the temperature, pH, oxygenation, salinity or nutrient concentrations in the water body?	See O1 for the River Alde.	No
Specific pollutants	Could the activity release dangerous chemicals into the water body?		
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?	See O1 for the River Alde.	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?		
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?		

Activity			
O2 Permanent presence of watercourse crossings			
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

NOT PROTECTIVELY MARKED

SIZEWELL C PROJECT – WFD COMPLIANCE ASSESSMENT



NOT PROTECTIVELY MARKED

Activity			
O2 Permanent presence of watercourse crossings			
Parameter	Scoping question	Response	Further assessment required?
Morphological conditions	Could the activity change the width, depth, bank conditions, bed substrates and structure of the riparian zone?	No pathway for effect as no requirement for crossings of water courses in this catchment.	
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?	No pathway for effect as no requirement for crossings of water courses in this catchment.	No
Specific pollutants	Could the activity release dangerous chemicals into the water body?		
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 pathway for effect as no requirement for crossings of water courses in this catchment.	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?		
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?		

NOT PROTECTIVELY MARKED



NOT PROTECTIVELY MARKED

Waveney and East Suffolk Chalk and Crag groundwater body (GB40501G400600)

Activity	C1 Site preparation, earthworks and construction		
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?	The construction includes a section of cutting of up to 4.5m below ground level. However based on the information available at the time of writing, it is anticipated that this cutting will be wholly within the Lowestoft Formation, and so it is considered unlikely that the groundwater of the sands and gravels of the Lowestoft Formation, alluvium and the bedrock groundwater will be encountered during the proposed works. Due to the anticipated limited lateral extent of groundwater within the Lowestoft Formation and its low permeability, it is likely that any groundwater control measures required to dewater the superficial aquifer during the construction of the cuttings would be localised and of short duration. The impact to the very low value Lowestoft Formation aquifer would be low and the effect would not be significant.	No
	Could the activity lead to saline intrusion?	No mechanisms for impact	No
	Could the activity result in groundwater abstraction in excess of recharge at a water body scale?	No mechanisms for impact	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	No
	Could the activity result in additional abstraction that will exceed any	No mechanisms for impact	No

NOT PROTECTIVELY MARKED

SIZEWELL C PROJECT – WFD COMPLIANCE ASSESSMENT



NOT PROTECTIVELY MARKED

Activity			
C1 Site preparation, earthworks and construction			
Parameter	Scoping question	Response	Further assessment required?
	groundwater body scale headroom between the fully licensed quantity and the limit imposed by the total recharge?		
	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	No
Quality			
Groundwater quality	Could the activity result in or exacerbate diffuse pollution at a water body scale?	Cutting activities create a potential pathway for contamination generated during the construction process to reach groundwater. It is unlikely the cutting would extend beyond the base of the low permeability Lowestoft Till aquifer and into the underlying Crag aquifer. Should contamination be introduced it would likely be confined to the superficial aquifer. The impact on the Lowestoft Till groundwater would be low and the effect not significant. The impact on the Crag groundwater would be very low and the effect not significant.	No
	Could the activity result in pollution of groundwater dependent terrestrial ecosystems (GWDTEs) or other dependent surface water features?	No GWDE within the vicinity of the proposed works.	No
	Could the activity lead to saline intrusion?	No mechanisms for impact on the degree of saline intrusion were identified	No

NOT PROTECTIVELY MARKED

SIZEWELL C PROJECT – WFD COMPLIANCE ASSESSMENT



NOT PROTECTIVELY MARKED

Activity	C1 Site preparation, earthworks and construction		
Parameter	Scoping question	Response	Further assessment required?
	Could the activity cause deterioration in the quality of a drinking water abstraction?	Groundwater/surface water abstractions: five water abstractions located within 1km of the site, all associated with agricultural uses. There are no drinking water abstractions within the area of influence of the proposed works. The Outline Drainage Strategy would be designed to remove risks to the groundwater body.	No
	Could the activity result in increasing trends in pollutant concentrations or reduce the ability to reverse significant trends in groundwater pollutants?	See above comments on pollution pathways	No
	Could the activity result in the failure of the 'prevent or limit' objective of the Groundwater Daughter Directive?	The Outline Drainage Strategy would be designed to remove risks to the groundwater body.	No

Activity	C2 Construction of bridge		
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 mechanism for impact	No
	Could the activity lead to saline intrusion?	No mechanisms for impact	No

NOT PROTECTIVELY MARKED

SIZEWELL C PROJECT – WFD COMPLIANCE ASSESSMENT



NOT PROTECTIVELY MARKED

Activity	C2 Construction of bridge		
Parameter	Scoping question	Response	Further assessment required?
	Could the activity result in groundwater abstraction in excess of recharge at a water body scale?	No mechanisms for impact	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	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	No
Quality			
Groundwater quality	Could the activity result in or exacerbate diffuse pollution at a water body scale?	The Outline Drainage Strategy would be designed to remove risks to the groundwater body.	No
	Could the activity result in pollution of groundwater dependent terrestrial ecosystems (GWDTEs) or other dependent surface water features?	No GWDTEs identified	No

NOT PROTECTIVELY MARKED

SIZEWELL C PROJECT – WFD COMPLIANCE ASSESSMENT



NOT PROTECTIVELY MARKED

Activity			
C2 Construction of bridge			
Parameter	Scoping question	Response	Further assessment required?
	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?	Groundwater/surface water abstractions: five water abstractions located within 1km of the site, all associated with agricultural uses. There are no drinking water abstractions within the area of influence of the proposed works. The Outline Drainage Strategy would be designed to remove risks to the groundwater body.	No
	Could the activity result in increasing trends in pollutant concentrations or reduce the ability to reverse significant trends in groundwater pollutants?	The Outline Drainage Strategy would be designed to remove risks to the groundwater body.	No
	Could the activity result in the failure of the 'prevent or limit' objective of the Groundwater Daughter Directive?	The Outline Drainage Strategy would be designed to remove risks to the groundwater body.	No

Activity			
O1 Management of drainage			
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 effect on groundwater quantity identified during operational phase	No
	Could the activity lead to saline intrusion?		

edfenergy.com

Building better energy together

NOT PROTECTIVELY MARKED

SIZEWELL C PROJECT – WFD COMPLIANCE ASSESSMENT



NOT PROTECTIVELY MARKED

Activity			
O1 Management of drainage			
Parameter	Scoping question	Response	Further assessment required?
	Could the activity result in groundwater abstraction in excess of recharge at a water body scale? Could the activity lead to an additional surface water body becoming non-compliant and lead to failure of the Dependent Surface Water test? 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? 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?		
Quality			
Groundwater quality	Could the activity result in or exacerbate diffuse pollution at a water body scale?	The Outline Drainage Strategy would be designed to remove risks to the groundwater body.	No
	Could the activity result in pollution of groundwater dependent terrestrial ecosystems (GWDTEs) or other dependent surface water features?		
	Could the activity lead to saline intrusion?	No mechanisms for impact	No
	Could the activity cause deterioration in the quality of a drinking water abstraction?	The Outline Drainage Strategy would be designed to remove risks to the groundwater body.	No
	Could the activity result in increasing trends in pollutant concentrations or reduce the ability to reverse significant trends in groundwater pollutants?	The Outline Drainage Strategy would be designed to remove risks to the groundwater body.	No

NOT PROTECTIVELY MARKED

SIZEWELL C PROJECT – WFD COMPLIANCE ASSESSMENT



NOT PROTECTIVELY MARKED

Activity	O1 Management of drainage		
Parameter	Scoping question	Response	Further assessment required?
	<p>Could the activity result in the failure of the 'prevent or limit' objective of the Groundwater Daughter Directive?</p>	<p>The Outline Drainage Strategy would be designed to remove risks to the groundwater body.</p>	<p>No</p>

NOT PROTECTIVELY MARKED

Activity	O2 Permanent presence of bridge		
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 mechanism for impact on GWDTEs	No
	Could the activity lead to saline intrusion?	No mechanisms for impact	No
	Could the activity result in groundwater abstraction in excess of recharge at a water body scale?	No mechanisms for impact	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	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	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	No
Quality			
Groundwater quality	Could the activity result in or exacerbate diffuse pollution at a water body scale?	No mechanism for impact	No
	Could the activity result in pollution of groundwater dependent terrestrial ecosystems (GWDTEs) or other dependent surface water features?	No GWDTEs identified	No
	Could the activity lead to saline intrusion?	No mechanisms for impact	No

SIZEWELL C PROJECT – WFD COMPLIANCE ASSESSMENT



NOT PROTECTIVELY MARKED

Activity	O2 Permanent presence of bridge		
Parameter	Scoping question	Response	Further assessment required?
	Could the activity cause deterioration in the quality of a drinking water abstraction?	No mechanism for impact	No
	Could the activity result in increasing trends in pollutant concentrations or reduce the ability to reverse significant trends in groundwater pollutants?	No mechanism for impact	No
	Could the activity result in the failure of the 'prevent or limit' objective of the Groundwater Daughter Directive?	No mechanism for impact	No

NOT PROTECTIVELY MARKED

APPENDIX 3E – SIZEWELL LINK ROAD

Minsmere Old River (GB105035046270)

Activity	C1 Site preparation, earthworks and construction		
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?	<p>These activities could affect the volume and rate of surface water discharge as a result of land use changes and discharges from the site drainage system.</p> <p>Early in the construction phase, swales and infiltration basins would be used as appropriate to ensure that surface water run-off would be contained within the site. Treatment would also be provided where required. On-site surface water run-off would be infiltrated or discharged at Greenfield run-off rates until the SuDS infrastructure is operational.</p> <p>A Code of Construction Practice (CoCP) (Doc Ref. 8.11) is included in the Development Consent Order application for the Sizewell C Project, which sets out the measures and controls that EDF Energy will require its contractors to adopt during construction and removal and reinstatement phases of the proposed development, where appropriate.</p> <p>Impacts on the hydrological regime during construction are predicted to be insufficient to result in a change in the status of this quality element.</p>	No

SIZEWELL C PROJECT – WFD COMPLIANCE ASSESSMENT



NOT PROTECTIVELY MARKED

Activity			
C1 Site preparation, earthworks and construction			
Parameter	Scoping question	Response	Further assessment required?
Morphological conditions	Could the activity change the width, depth, bank conditions, bed substrates and structure of the riparian zone?	As above. Any impacts on morphological conditions during construction are therefore predicted to be insufficient to result in a change in the status of this quality element.	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?	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?	Contamination of surface waters arising from construction activities through the disturbance/mobilisation of existing sources of contamination or the introduction of new sources/contaminants have the potential to adversely affect the water quality of the Minsmere River, Theberton and Middleton Watercourses, the unnamed watercourses, surface drain, existing ponds and the Walberswick Heaths and Marshes SSSI, increasing existing pressures on these receptors. Early in the construction phase, swales and infiltration basins would be used as appropriate to ensure that surface water run-off would be contained and treated where required within the site. The implementation of control measures as outlined in the CoCP (Doc Ref. 8.11) would also reduce the risk of releasing contaminants to the surrounding water environment.	No
Specific pollutants	Could the activity release dangerous chemicals into the water body?		No

NOT PROTECTIVELY MARKED

SIZEWELL C PROJECT – WFD COMPLIANCE ASSESSMENT



NOT PROTECTIVELY MARKED

Activity			
C1 Site preparation, earthworks and construction			
Parameter	Scoping question	Response	Further assessment required?
		Impacts on water quality during construction are therefore predicted to be insufficient to result in a change in the status of this quality element.	
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?	Impacts on the hydromorphology and physico-chemistry of the water body during construction are predicted to be insufficient to result in a change in the status of those quality elements (see above for details). No mechanisms for impact upon the aquatic flora that they support have therefore been 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?	Impacts on the hydromorphology and physico-chemistry of the water body during construction are predicted to be insufficient to result in a change in the status of those quality elements (see above for details). No mechanisms for impact upon the benthic invertebrates that they support have therefore been 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?	Impacts on the hydromorphology and physico-chemistry of the water body during construction are predicted to be insufficient to result in a change in the status of those quality elements (see above for details). No mechanisms for impact upon the fish that they support have therefore been identified.	No

NOT PROTECTIVELY MARKED

SIZEWELL C PROJECT – WFD COMPLIANCE ASSESSMENT



NOT PROTECTIVELY MARKED

Activity			
C2 Construction of watercourse crossings			
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?	Two tributaries to the Minsmere Old River flow through the boundary of the proposed link road and will be culverted beneath the road as part of the development. As a result, a number of impacts, such as loss and fragmentation of riverine habitat and disruption of riverine processes could potentially occur during construction. The road alignment may also disrupt in-channel flows and morphological processes in these minor tributaries during construction.	Yes
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 potential for the activity to impact upon pH, oxygenation and salinity concentrations in the water body through the runoff of sediment and construction materials. Early in the construction phase, swales and infiltration basins would be used as appropriate to ensure that surface water run-off would be contained and treated where required within the site. Impacts on general physico-chemistry during construction are therefore predicted to be insufficient to result in a change in the status of this quality element.	No
Specific pollutants	Could the activity release dangerous chemicals into the water body?		

NOT PROTECTIVELY MARKED

SIZEWELL C PROJECT – WFD COMPLIANCE ASSESSMENT



NOT PROTECTIVELY MARKED

C2 Construction of watercourse crossings			
Activity	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?	Two tributaries to the Minsmere Old River flow through the boundary of the proposed link road and will be culverted beneath the road as part of the development. As a result, a number of impacts, such as loss and fragmentation of riverine habitat and disruption of riverine processes could potentially occur during construction. The road alignment may also disrupt in-channel and floodplain flows and morphological processes in these minor tributaries during construction.	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?		
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 potential effects outlined above for hydromorphology could potentially impact on fish species in the Minsmere Old River water body.	Yes

NOT PROTECTIVELY MARKED

SIZEWELL C PROJECT – WFD COMPLIANCE ASSESSMENT



NOT PROTECTIVELY MARKED

Activity			
O1 Management of drainage			
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?	<p>Direct changes to flow patterns and volumes could result in impacts on surface waters. The operational activity could therefore potentially affect the overall hydrological regime of the water body.</p> <p>SuDS would be implemented to attenuate surface water run-off, minimise sediment generation and provide water treatment. It is envisaged that surface water run-off would be contained within the site, with drainage to ground via infiltration using infiltration basins and swales, wherever feasible. 12 infiltration basins would be located along the length of the site. The exact location, footprint and depth of these basins is to be confirmed at the detailed design stage, however the infiltration basins would be designed to cater for a 100 years flood event plus a 40% allowance for climate change.</p> <p>Surface water from the roundabouts will be collected via gullies and discharge via an outfall drain to the adjacent basins. Swales would be provided along the length of the route of the Sizewell link road, up to 3.5m wide. The swales would attenuate and infiltrate to ground the surface water runoff.</p> <p>Periodic inspection and maintenance of the SuDS would be undertaken by the highway authority to ensure the continued efficacy of the drainage system.</p> <p>Impacts on the hydrological regime during operation are predicted to be insufficient to result in a change in the status of this quality element.</p>	No

NOT PROTECTIVELY MARKED

SIZEWELL C PROJECT – WFD COMPLIANCE ASSESSMENT



NOT PROTECTIVELY MARKED

Activity			
O1 Management of drainage			
Parameter	Scoping question	Response	Further assessment required?
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. However, as outlined above measures will be implemented to contain and treat water on site. Impacts on the hydrological regime during operation are predicted to be insufficient to result in a change in the status of this quality element.	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?	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 pH, oxygenation and salinity concentrations in the water body through the runoff of sediment and contaminants from the operational site. The activity may also potentially release dangerous chemicals into the water body through leaks and spills of fuel, oils and lubricants from the operational site.	No
Specific pollutants	Could the activity release dangerous chemicals into the water body?	The swales and infiltration basins will provide a certain level of treatment for highway runoff. The adequacy of these facilities for removal of pollutants will be accessed as part of Detailed Design. If necessary additional treatment measures such as Class 1 Bypass Separators will be provided.	No

NOT PROTECTIVELY MARKED

SIZEWELL C PROJECT – WFD COMPLIANCE ASSESSMENT



NOT PROTECTIVELY MARKED

Activity			
O1 Management of drainage			
Parameter	Scoping question	Response	Further assessment required?
		<p>Periodic inspection and maintenance of the SuDS would be undertaken by the highway authority to ensure the continued efficacy of the drainage system.</p> <p>Impacts on water quality during operation are therefore predicted to be insufficient to result in a change in the status of this quality element.</p>	
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?	Impacts on the hydromorphology and physico-chemistry of the water body during operation are predicted to be insufficient to result in a change in the status of those quality elements (see above for details). No mechanisms for impact upon the aquatic flora that they support have therefore been 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?	Impacts on the hydromorphology and physico-chemistry of the water body during operation are predicted to be insufficient to result in a change in the status of those quality elements (see above for details). No mechanisms for impact upon the benthic invertebrates that they support have therefore been 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,	Impacts on the hydromorphology and physico-chemistry of the water body during operation are predicted to be insufficient to result in a change in the status of those quality elements (see above for details). No mechanisms for impact upon the fish that they support have therefore been identified.	No

NOT PROTECTIVELY MARKED

SIZEWELL C PROJECT – WFD COMPLIANCE ASSESSMENT



NOT PROTECTIVELY MARKED

Activity			
O1 Management of drainage			
Parameter	Scoping question	Response	Further assessment required?
	feeding and spawning habitats for fish?		

Activity			
O2 Presence of culvert 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?	Potential effects relate to the loss of riverine habitats and the fragmentation of remnant habitats of the Minsmere Old River water body. The road alignment may also disrupt in-channel and floodplain flows and morphological processes.	Yes
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			

NOT PROTECTIVELY MARKED

SIZEWELL C PROJECT – WFD COMPLIANCE ASSESSMENT



NOT PROTECTIVELY MARKED

Activity			
O2 Presence of culvert structures			
Parameter	Scoping question	Response	Further assessment required?
General	Could the activity change the temperature, pH, oxygenation, salinity or nutrient concentrations in the water body?	Surface water arrangements are as outlined in O1 and conclude no significant effects are anticipated on the status of this quality element.	No
Specific pollutants	Could the activity release dangerous chemicals into the water body?		
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?	Potential effects relate to the loss of riverine habitats and the fragmentation of remnant habitats of the Minsmere Old River water body. The road alignment may also disrupt in-channel and floodplain flows and morphological processes.	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?		
Fish	Could the activity change the hydromorphology and/or physico-chemistry	The potential effects outlined above for hydromorphology could potentially impact on fish species in the Minsmere Old River water body.	Yes

NOT PROTECTIVELY MARKED

SIZEWELL C PROJECT – WFD COMPLIANCE ASSESSMENT



NOT PROTECTIVELY MARKED

Activity	O2 Presence of culvert structures		
Parameter	Scoping question	Response	Further assessment required?
	of the water body, or lead to the direct loss or modification of shelter, feeding and spawning habitats for fish?		

NOT PROTECTIVELY MARKED



NOT PROTECTIVELY MARKED

Waveney and East Suffolk Chalk and Crag groundwater body (GB40501G400600)

Activity	C1 Site preparation, earthworks and construction		
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?	<p>The lower reaches of the Minsmere Old River system has been designated for its nature conservation value. The eastern parts of the surface water drainage network comprise the nationally and internationally designated Minsmere to Walberswick Heaths and Marshes SSSI, Special Area of Conservation (SAC), Special Protected Area and Ramsar site. These nationally and internationally designated sites are directly downstream of the site.</p> <p>The construction of the proposed development would require earthworks, including the excavation of cuttings. Due to the shallow nature of the cuttings and the anticipated depth to the Crag, it is considered that the construction phase would not have an impact on the groundwater levels or flow of groundwater in the Crag. Additionally implementation of the CoCP (Doc Ref. 8.11) and the Outline Drainage Strategy (Doc Ref. 6.3) would ensure run-off and surface water drainage would be managed and discharged at appropriate rates.</p> <p>Although the removal of on-site vegetation and the compaction of soils due to movement of construction vehicles and storage of materials may locally reduce the rate at which rainfall makes its way into the groundwater for a short duration, the overall volume of water discharging to ground is unlikely to change.</p> <p>Any changes to groundwater levels are predicted to be insufficient to result in a change in the status of this quality element.</p>	No

NOT PROTECTIVELY MARKED

SIZEWELL C PROJECT – WFD COMPLIANCE ASSESSMENT



NOT PROTECTIVELY MARKED

Activity	C1 Site preparation, earthworks and construction		
Parameter	Scoping question	Response	Further assessment required?
	Could the activity lead to saline intrusion?	No mechanisms for impact.	No
	Could the activity result in groundwater abstraction in excess of recharge at a water body scale?	No mechanisms for impact.	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.	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.	No
	Could the activity result in additional groundwater depletion of surface water flows that will	No mechanisms for impact.	No

NOT PROTECTIVELY MARKED

SIZEWELL C PROJECT – WFD COMPLIANCE ASSESSMENT



NOT PROTECTIVELY MARKED

Activity			
C1 Site preparation, earthworks and construction			
Parameter	Scoping question	Response	Further assessment required?
	exceed any groundwater body scale headroom between Fully Licensed depletion and the limit imposed by the total low flows resource?		
Quality			
Groundwater quality	Could the activity result in or exacerbate diffuse pollution at a water body scale?	<p>The construction phase would potentially introduce new sources of contamination to the site through spills or leaks of contaminants used during construction. Construction works, such as excavation and stockpiling, can pose a risk to groundwater receptors through leaching and run-off of contaminants. Intrusive activities and removal of low permeability material can pose a risk to groundwater by creating new contaminant pathways, or mobilising existing contamination through exposure of contaminated soil or remobilisation of contaminants through soil disturbance.</p> <p>It is unlikely that the cuttings would extend beyond the base of the low permeability Lowestoft Formation (diamicton) aquifer, and into the underlying sand and gravel Lowestoft Formation and Crag aquifers.</p> <p>Impacts on groundwater quality during construction are therefore predicted to be insufficient to result in a change in the status of this quality element.</p>	No
	Could the activity result in pollution of groundwater dependent terrestrial ecosystems	Control measures within the CoCP (Doc Ref. 8.11) and the Outline Drainage Strategy (Doc Ref. 6.3) would remove the risk to the downstream GWDTEs.	No

NOT PROTECTIVELY MARKED

SIZEWELL C PROJECT – WFD COMPLIANCE ASSESSMENT



NOT PROTECTIVELY MARKED

Activity	C1 Site preparation, earthworks and construction		
Parameter	Scoping question	Response	Further assessment required?
	(GWDTEs) or other dependent surface water features?	Impacts on groundwater quality during construction are therefore predicted to be insufficient to result in a change in the status of this quality element.	
	Could the activity lead to saline intrusion?	No mechanisms for impact on the degree of saline intrusion have been identified.	No
	Could the activity cause deterioration in the quality of a drinking water abstraction?	<p>Nine licensed groundwater abstractions are located within 500m of the proposed development. Most are for spray/irrigation purposes.</p> <p>The abstraction boreholes located at Theberton Grange are located within 100m of the site boundary. Due to its proximity to the site, it is considered that there is the potential for contamination from the site activities to migrate to the abstractions, through leaching through the soil or via the creation of preferential pathways. However, with the implementation of control measures (see CoCP, Doc Ref. 8.11), it is anticipated that the risk to the abstractions is the same as for the aquifer from which they abstract groundwater.</p> <p>The other licensed groundwater abstractions identified are located over 400m from the site. Due to their distance from the site and with the implementation of control measures (see CoCP, Doc Ref. 8.11), it is concluded that there would be no effect on the abstractions with respect to water quality.</p>	No

NOT PROTECTIVELY MARKED

SIZEWELL C PROJECT – WFD COMPLIANCE ASSESSMENT



NOT PROTECTIVELY MARKED

Activity	C1 Site preparation, earthworks and construction		
Parameter	Scoping question	Response	Further assessment required?
	Could the activity result in increasing trends in pollutant concentrations or reduce the ability to reverse significant trends in groundwater pollutants?	Impacts on groundwater quality during construction are predicted to be insufficient to result in a change in the status of this quality element.	No
	Could the activity result in the failure of the 'prevent or limit' objective of the Groundwater Daughter Directive?	Impacts on groundwater quality during construction are predicted to be insufficient to result in a change in the status of this quality element.	No

Activity	C2 Construction of watercourse crossings		
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.	No
	Could the activity lead to saline intrusion?	No mechanisms for impact.	No
	Could the activity result in groundwater abstraction in excess of recharge at a water body scale?	No mechanisms for impact.	No

NOT PROTECTIVELY MARKED

SIZEWELL C PROJECT – WFD COMPLIANCE ASSESSMENT



NOT PROTECTIVELY MARKED

Activity	C2 Construction of watercourse crossings		
Parameter	Scoping question	Response	Further assessment required?
	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.	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.	No
Quality			
Groundwater quality	Could the activity result in or exacerbate diffuse pollution at a water body scale?	No mechanisms for impact.	No
	Could the activity result in pollution of groundwater dependent terrestrial ecosystems (GWDTEs) or other dependent surface water features?	No GWDTEs 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?	Groundwater/surface water abstractions: three water abstractions located within 500m of the site, associated with agricultural uses. There are no drinking water abstractions close to the proposed works.	No

NOT PROTECTIVELY MARKED

SIZEWELL C PROJECT – WFD COMPLIANCE ASSESSMENT



NOT PROTECTIVELY MARKED

Activity	C2 Construction of watercourse crossings		
Parameter	Scoping question	Response	Further assessment required?
	Could the activity result in increasing trends in pollutant concentrations or reduce the ability to reverse significant trends in groundwater pollutants?	Impacts on groundwater quality during construction are predicted to be insufficient to result in a change in the status of this quality element.	No
	Could the activity result in the failure of the 'prevent or limit' objective of the Groundwater Daughter Directive?	Impacts on groundwater quality during construction are predicted to be insufficient to result in a change in the status of this quality element.	No

Activity	O1 Management of drainage		
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?	The operational drainage system would be designed to include measures to minimise changes in surface runoff or infiltration. Although the operational drainage system could locally change the spatial distribution of infiltration to groundwater, the overall volume of infiltration would not be significantly changed. Any changes to groundwater levels are therefore predicted to be insufficient to result in a change in the status of this quality element.	No
	Could the activity lead to saline intrusion?	No mechanisms for impact on the degree of saline intrusion have been identified.	No

NOT PROTECTIVELY MARKED

SIZEWELL C PROJECT – WFD COMPLIANCE ASSESSMENT



NOT PROTECTIVELY MARKED

Activity			
O1 Management of drainage			
Parameter	Scoping question	Response	Further assessment required?
	Could the activity result in groundwater abstraction in excess of recharge at a water body scale?	No mechanisms for impact on the water balance have been 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 have been 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 have been 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 have been identified.	No
Quality			
Groundwater quality	Could the activity result in or exacerbate diffuse pollution at a water body scale?	Contamination from vehicles using the road would be of limited magnitude, and longevity, and would be mitigated through control measures. The presence of silt traps and hydrocarbon separators within the drainage design would prevent the supply of sediment, and other contamination to the drainage network. The provision of infiltration basins would protect the underlying groundwater from hydrocarbon contamination.	No

NOT PROTECTIVELY MARKED

SIZEWELL C PROJECT – WFD COMPLIANCE ASSESSMENT



NOT PROTECTIVELY MARKED

Activity			
O1 Management of drainage			
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?	Water draining from the road infrastructure will pass through appropriate drainage, including the incorporation of SuDS and bypass separators as necessary. This will allow infiltration to the superficial aquifer, whilst also protecting the underlying groundwater from hydrocarbon contamination and the Walberswick Heaths and Marshes SSSI and SAC that lies downstream.	No
	Could the activity lead to saline intrusion?	No mechanisms for impact.	No
	Could the activity cause deterioration in the quality of a drinking water abstraction?	See construction C1.	No
	Could the activity result in increasing trends in pollutant concentrations or reduce the ability to reverse significant trends in groundwater pollutants?	Impacts on groundwater quality during operation are predicted to be insufficient to result in a change in the status of this quality element.	No
	Could the activity result in the failure of the 'prevent or limit' objective of the Groundwater Daughter Directive?	Impacts on groundwater quality during operation are predicted to be insufficient to result in a change in the status of this quality element.	No

Activity			
O2 Presence of culvert structures			
Parameter	Scoping question	Response	Further assessment required?
Quantity			
Groundwater quantity	Could the activity change groundwater levels, affecting Groundwater Dependent Terrestrial	No mechanisms for impact	No

NOT PROTECTIVELY MARKED

SIZEWELL C PROJECT – WFD COMPLIANCE ASSESSMENT



NOT PROTECTIVELY MARKED

Activity			
O2 Presence of culvert structures			
Parameter	Scoping question	Response	Further assessment required?
	Ecosystems (GWDTEs) or dependent surface water features?		
	Could the activity lead to saline intrusion?	No mechanisms for impact	No
	Could the activity result in groundwater abstraction in excess of recharge at a water body scale?	No mechanisms for impact	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	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	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	No
Quality			
Groundwater quality	Could the activity result in or exacerbate diffuse pollution at a water body scale?	The activity may potentially release dangerous chemicals into the water body through leaks and spills of fuel, oils and lubricants from the operational site. However, the drainage strategy would be designed to remove these risks.	No

NOT PROTECTIVELY MARKED

SIZEWELL C PROJECT – WFD COMPLIANCE ASSESSMENT



NOT PROTECTIVELY MARKED

Activity	O2 Presence of culvert structures		
Parameter	Scoping question	Response	Further assessment required?
		Impacts on groundwater quality during operation are therefore predicted to be insufficient to result in a change in the status of this quality element.	
	Could the activity result in pollution of groundwater dependent terrestrial ecosystems (GWDTEs) or other dependent surface water features?	Impacts on groundwater quality during operation are predicted to be insufficient to result in a change in the status of this quality element.	No
	Could the activity lead to saline intrusion?	No mechanisms for impact.	No
	Could the activity cause deterioration in the quality of a drinking water abstraction?	The nearest licensed groundwater abstractions are located 200m west of the site's eastern extent, in the vicinity of Theberton Grange and Cottages. The distance between the proposed site and the proposal to contain and treat surface water mean that no mechanisms for the deterioration in the quality of groundwater abstractions have been identified.	No
	Could the activity result in increasing trends in pollutant concentrations or reduce the ability to reverse significant trends in groundwater pollutants?	Impacts on groundwater quality during operation are predicted to be insufficient to result in a change in the status of this quality element.	No
	Could the activity result in the failure of the 'prevent or limit' objective of the Groundwater Daughter Directive?	Impacts on groundwater quality during operation are predicted to be insufficient to result in a change in the status of this quality element.	No

NOT PROTECTIVELY MARKED

APPENDIX 3F – YOXFORD AND OTHER HIGHWAY IMPROVEMENTS

Minsmere Old River water body (GB105035046270)

Activity	C1 Site preparation, earthworks and construction at Yoxford roundabout		
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?	<p>Where construction increases the extent of bare and compacted ground for a prolonged period, there is the potential for an increase in surface run-off. The proposed development would create new areas of bare ground for prolonged periods during the construction phase. Any changes to the flow regime have the potential to increase existing pressures and adversely affect the hydromorphology of the River Yox.</p> <p>A CoCP (Doc. Ref. 8.11) is included in Development Consent Order application for the Sizewell C Project, which sets out the measures and controls that EDF Energy will require its contractors to adopt during construction and removal and reinstatement phases of the proposed development, where appropriate.</p> <p>Additionally, construction drainage would be contained within the site to infiltrate into the underlying strata and, where appropriate, the existing drainage system would be used (i.e. at the junction with the existing A12 and the B1122).</p>	No

SIZEWELL C PROJECT – WFD COMPLIANCE ASSESSMENT



NOT PROTECTIVELY MARKED

Activity			
C1 Site preparation, earthworks and construction at Yoxford roundabout			
Parameter	Scoping question	Response	Further assessment required?
		<p>Design of the infiltration basin would consider the ground conditions including the permeability of the strata and the level of contamination present on site to reduce potential for contamination to migrate and impact on the ground, groundwater and surface waters.</p> <p>Foul sewage arising on site compound during construction will be tankered off site.</p> <p>Following implementation of the Outline Drainage Strategy (Doc Ref. 6.3) and CoCP (Doc Ref. 8.11), any impacts on the hydrological regime during construction are predicted to be insufficient to result in a change in the status of this quality element.</p>	
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. Measures outlined above for hydrological regime would be implemented (see the COCP, Doc Ref. 8.11, for further details). Any impacts on morphological conditions during construction are therefore predicted to be insufficient to result in a change in the status of this quality element.	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?	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			

NOT PROTECTIVELY MARKED

SIZEWELL C PROJECT – WFD COMPLIANCE ASSESSMENT



NOT PROTECTIVELY MARKED

Activity			
C1 Site preparation, earthworks and construction at Yoxford roundabout			
Parameter	Scoping question	Response	Further assessment required?
General	Could the activity change the temperature, pH, oxygenation, salinity or nutrient concentrations in the water body?	Contamination of surface waters arising from construction activities through the disturbance/mobilisation of existing sources of contamination or the introduction of new sources/contaminants have the potential to adversely affect the water quality of the River Yox, the existing pond to the north-east of the A12 and B1122 site and the surface water abstraction (Trustans Farm, Darsham) from the River Yox. Where excavations and the introduction of contaminants to a site take place, there is the potential for an increase in the risk of contaminating the nearest receptor. All activities would be undertaken in line with the requirements of the CoCP (Doc Ref. 8.11) and the Outline Drainage Strategy (Doc Ref. 6.3) and the site would be isolated from the wider environment until the SuDS is operational. It is envisaged that foul sewage arising on site compound during construction will be tankered off site and design of the infiltration basin would consider the ground conditions including the permeability of the strata and the level of contamination present on site to reduce potential for contamination to migrate and impact on the ground, groundwater and surface waters. Following implementation of the measures outlined above, any impacts on water quality during construction are therefore predicted to be insufficient to result in a change in the status of this quality element.	No
Specific pollutants	Could the activity release dangerous chemicals into the water body?		No
Biology			
Aquatic flora	Could the activity change the hydromorphology and/or physico-chemistry of the water body, or lead	Following implementation of the CoCP (Doc Ref. 8.11) and Outline Drainage Strategy (Doc Ref. 6.3), impacts on the hydromorphology and water quality of the water body during construction are predicted to be insufficient to result in a change in the status of those quality elements (see above for details). No	No

NOT PROTECTIVELY MARKED

SIZEWELL C PROJECT – WFD COMPLIANCE ASSESSMENT



NOT PROTECTIVELY MARKED

Activity			
C1 Site preparation, earthworks and construction at Yoxford roundabout			
Parameter	Scoping question	Response	Further assessment required?
	to the direct loss or modification of habitats for aquatic plants?	mechanisms for impact upon the aquatic flora that they support have therefore been identified.	
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?	Following implementation of the control measures outlined above, any impacts on the hydromorphology and water quality of the water body during construction are predicted to be insufficient to result in a change in the status of those quality elements (see above for details). No mechanisms for impact upon the benthic invertebrates that they support have therefore been 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?	Following implementation of the control measures outlined above, any impacts on the hydromorphology and water quality of the water body during construction are predicted to be insufficient to result in a change in the status of those quality elements (see above for details). No mechanisms for impact upon the fish that they support have therefore been identified.	No

Activity			
C2 Site preparation, earthworks and construction at A12/A144 junction south of Bramfield			
Parameter	Scoping question	Response	Further assessment required?
Hydromorphology			

NOT PROTECTIVELY MARKED

SIZEWELL C PROJECT – WFD COMPLIANCE ASSESSMENT



NOT PROTECTIVELY MARKED

C2 Site preparation, earthworks and construction at A12/A144 junction south of Bramfield			
Activity	Scoping question	Response	Further assessment required?
Hydrological regime	Could the activity change the volume, energy or distribution of flows in the water body?	<p>These activities could affect the volume and rate of surface water discharge as a result of land use changes and discharges from the site drainage system.</p> <p>Construction drainage would be implemented early in the construction phase, where required, and would be contained within the site, with drainage to ground. Only if full infiltration is not possible would these systems discharge into the surface drainage network at greenfield runoff rates to minimise the potential for impact. The temporary drainage would intercept surface run-off, sediment and contaminants</p> <p>No stand alone construction compound would be required as it is anticipated that the contractor would work out of the Northern Park & Ride site therefore there are no requirements for foul water management.</p> <p>Following implementation of the measures outlined in the CoCP (Doc Ref. 8.11), any impacts on the hydrological regime during construction are predicted to be insufficient to result in a change in the status of this quality element.</p>	No
Morphological conditions	Could the activity change the width, depth, bank conditions, bed substrates and structure of the riparian zone?	<p>These activities could increase sediment load as a result of increased sediment generation and entrainment through runoff and exacerbate existing sedimentation in the channels. A CoCP (Doc Ref. 8.11) has been produced and an Outline Drainage Strategy (Doc Ref. 6.3) to minimise surface water runoff and sediment generation in line with best practice. Any impacts on morphological conditions during construction are therefore predicted to be insufficient to result in a change in the status of this quality element.</p>	No
River continuity	Could the activity create a permanent barrier to	<p>The activities will not create a barrier to the downstream movement of water and/or sediment and therefore will not impact upon river continuity.</p>	No

NOT PROTECTIVELY MARKED

SIZEWELL C PROJECT – WFD COMPLIANCE ASSESSMENT



NOT PROTECTIVELY MARKED

Activity			
C2 Site preparation, earthworks and construction at A12/A144 junction south of Bramfield			
Parameter	Scoping question	Response	Further assessment required?
	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 potential for the activity to impact upon water quality parameters in the water body through the runoff of sediment and construction materials. However, all activities would be undertaken in line with best practice guidance to prevent contamination from construction sites. A CoCP (Doc Ref. 8.11) has been produced and an Outline Drainage Strategy (Doc Ref. 6.3).	No
Specific pollutants	Could the activity release dangerous chemicals into the water body?	Following implementation of the measures outlined in the COCP, any impacts on general physico-chemistry during construction are therefore predicted to be insufficient to result in a change in the status of this quality element.	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?	Following implementation of the control measures outlined above, any impacts on the hydromorphology and water quality of the water body during construction are predicted to be insufficient to result in a change in the status of those quality elements (see above for details). No mechanisms for impact upon the aquatic flora that they support have therefore been identified.	No
Benthic invertebrates	Could the activity change the hydromorphology and/or physico-chemistry	Following implementation of the control measures outlined above, any impacts on the hydromorphology and water quality of the water body during construction are predicted to be insufficient to result in a change in the status of those quality	No

NOT PROTECTIVELY MARKED

SIZEWELL C PROJECT – WFD COMPLIANCE ASSESSMENT



NOT PROTECTIVELY MARKED

Activity			
C2 Site preparation, earthworks and construction at A12/A144 junction south of Bramfield			
Parameter	Scoping question	Response	Further assessment required?
	of the water body, or lead to the direct loss or modification of habitats for aquatic invertebrates?	elements (see above for details). No mechanisms for impact upon the benthic invertebrates that they support have therefore been 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?	Following implementation of the control measures outlined above, any impacts on the hydromorphology and water quality of the water body during construction are predicted to be insufficient to result in a change in the status of those quality elements (see above for details). No mechanisms for impact upon the fish that they support have therefore been identified.	No

Activity			
O1 Surface water management at Yoxford roundabout			
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?	<p>Direct changes to flow patterns and volumes could result in impacts on surface waters. The operational activity could therefore potentially affect the overall hydrological regime of the water body.</p> <p>The operation phase drainage features would include channels and combined kerb drains or gullies to remove surface water run-off. Underground drains would convey the run-off into an infiltration basin located between the proposed</p>	No

NOT PROTECTIVELY MARKED

SIZEWELL C PROJECT – WFD COMPLIANCE ASSESSMENT



NOT PROTECTIVELY MARKED

Activity			
O1 Surface water management at Yoxford roundabout			
Parameter	Scoping question	Response	Further assessment required?
		development and the existing B1122 carriageway, from where the water would infiltrate to ground. There would be no discharge to local watercourses. Following implementation of the measures outlined above, any impacts on the hydrological regime during operation are predicted to be insufficient to result in a change in the status of this quality element.	
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. Following implementation of the measures outlined above in hydrological regime, any impacts on the hydrological regime during operation are predicted to be insufficient to result in a change in the status of this quality element.	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?	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 pH, oxygenation, salinity and specific pollutant concentrations in the water body through the runoff of sediment and contaminants from the operational site.	No

NOT PROTECTIVELY MARKED

SIZEWELL C PROJECT – WFD COMPLIANCE ASSESSMENT



NOT PROTECTIVELY MARKED

Activity			
O1 Surface water management at Yoxford roundabout			
Parameter	Scoping question	Response	Further assessment required?
Specific pollutants	Could the activity release dangerous chemicals into the water body?	<p>Petrol/oil interceptors and silt traps would be incorporated into the drainage design, where considered necessary, to protect both the underlying groundwater and surface water receptors, and to maintain the efficacy of the drainage measures.</p> <p>Impacts on water quality during operation are therefore predicted to be insufficient to result in a change in the status of this quality element.</p>	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?	Following implementation of the control measures outlined above, any impacts on the hydromorphology and water quality of the water body during operation are predicted to be insufficient to result in a change in the status of those quality elements (see above for details). No mechanisms for impact upon the aquatic flora that they support have therefore been 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?	Following implementation of the control water quality of the water body during operation are predicted to be insufficient to result in a change in the status of those quality elements (see above for details). No mechanisms for impact upon the benthic invertebrates that they support have therefore been identified.	No
Fish	Could the activity change the hydromorphology and/or physico-chemistry of the water body, or lead	Following implementation of the control measures outlined above, any impacts on the hydromorphology and water quality of the water body during operation are predicted to be insufficient to result in a change in the status of those quality	No

NOT PROTECTIVELY MARKED

SIZEWELL C PROJECT – WFD COMPLIANCE ASSESSMENT



NOT PROTECTIVELY MARKED

Activity			
O1 Surface water management at Yoxford roundabout			
Parameter	Scoping question	Response	Further assessment required?
	to the direct loss or modification of shelter, feeding and spawning habitats for fish?	elements (see above for details). No mechanisms for impact upon the fish that they support have therefore been identified.	

Activity			
O2 Surface water management at A12/A144 junction south of Bramfield			
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?	<p>Direct changes to flow patterns and volumes could result in impacts on surface waters. The operational activity could therefore potentially affect the overall hydrological regime of the water body. However, an Outline Drainage Strategy (Doc Ref. 6.3) has been developed to ensure that any changes to surface water runoff from the site are minimised.</p> <p>Following implementation of the control measures outlined above, any impacts on the hydrological regime during operation are predicted to be insufficient to result in a change in the status of this quality element.</p>	No
Morphological conditions	Could the activity change the width, depth, bank conditions, bed substrates and structure of the riparian zone?	<p>There is potential for geomorphological adjustment as a result of changes to surface water flows.</p> <p>Following implementation of the measures outlined above in hydrological regime, any impacts on the hydrological regime during operation are predicted to be insufficient to result in a change in the status of this quality element.</p>	No

NOT PROTECTIVELY MARKED

SIZEWELL C PROJECT – WFD COMPLIANCE ASSESSMENT



NOT PROTECTIVELY MARKED

Activity			
O2 Surface water management at A12/A144 junction south of Bramfield			
Parameter	Scoping question	Response	Further assessment required?
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 water quality parameters in the water body through the runoff of sediment and contaminants from the operational site. Control measures listed in the CoCP (Doc. Ref. 8.11) would remove this risk.	No
Specific pollutants	Could the activity release dangerous chemicals into the water body?	Following implementation of the CoCP, any impacts on water quality parameters during operation are therefore predicted to be insufficient to result in a change in the status of this quality element.	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?	Following implementation of the control measures outlined above, any impacts on the hydromorphology and water quality of the water body during operation are predicted to be insufficient to result in a change in the status of those quality elements (see above for details). No mechanisms for impact upon the aquatic flora that they support have therefore been identified.	No
Benthic invertebrates	Could the activity change the hydromorphology	Following implementation of the control measures outlined above, any impacts on the hydromorphology and water quality of the water body during operation are	No

edfenergy.com

Building better energy together

NOT PROTECTIVELY MARKED

SIZEWELL C PROJECT – WFD COMPLIANCE ASSESSMENT



NOT PROTECTIVELY MARKED

Activity			
O2 Surface water management at A12/A144 junction south of Bramfield			
Parameter	Scoping question	Response	Further assessment required?
	and/or physico-chemistry of the water body, or lead to the direct loss or modification of habitats for aquatic invertebrates?	predicted to be insufficient to result in a change in the status of those quality elements (see above for details). No mechanisms for impact upon the benthic invertebrates that they support have therefore been 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?	Following implementation of the control measures outlined above, any impacts on the hydromorphology and water quality of the water body during operation are predicted to be insufficient to result in a change in the status of those quality elements (see above for details). No mechanisms for impact upon the fish that they support have therefore been identified.	No

Waveney and East Suffolk Chalk and Crag groundwater body (GB40501G400600)

Activity			
C1 Site preparation, earthworks and construction at Yoxford roundabout			
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?	The lower portion of the Minsmere Old River system has been designated for its nature conservation value. The southern parts of the surface drainage network comprise the nationally and internationally designated Minsmere to Walberswick Heaths and	No

edfenergy.com

Building better energy together

NOT PROTECTIVELY MARKED

SIZEWELL C PROJECT – WFD COMPLIANCE ASSESSMENT



NOT PROTECTIVELY MARKED

Activity	C1 Site preparation, earthworks and construction at Yoxford roundabout		
Parameter	Scoping question	Response	Further assessment required?
		<p>Marshes Site of Special Scientific Interest (SSSI), Special Area of Conservation (SAC), Special Protected Area (SPA) and Ramsar site.</p> <p>The cutting for the realignment of the B1122 is unlikely to intercept the water table and therefore no groundwater dewatering control measures are anticipated to be required during the operation of the proposed development.</p> <p>The proposed drainage design incorporates the use of SuDS. Water falling onto impermeable surfaces would be channelled into the SuDS infrastructure. This would allow infiltration to ground and would mean that although the spatial distribution of infiltration would be changed locally within the development area, the total volume of infiltration entering the ground would not be significantly changed relative to the groundwater system.</p> <p>Any changes to groundwater levels are predicted to be insufficient to result in a change in the status of this quality element.</p>	
	Could the activity lead to saline intrusion?	No mechanisms for impact on the degree of saline intrusion have been 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 have been identified.	No
	Could the activity lead to an additional surface water body becoming non-compliant and lead	No mechanisms for impact on dependent surface waters have been identified.	No

NOT PROTECTIVELY MARKED

SIZEWELL C PROJECT – WFD COMPLIANCE ASSESSMENT



NOT PROTECTIVELY MARKED

Activity			
C1 Site preparation, earthworks and construction at Yoxford roundabout			
Parameter	Scoping question	Response	Further assessment required?
	to failure of the Dependent Surface Water test?		
	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 have been 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 have been identified.	No
Quality			
Groundwater quality	Could the activity result in or exacerbate diffuse pollution at a water body scale?	The construction phase would potentially introduce new sources of contamination to the site through spills or leaks of contaminants used during construction. Construction works, such as excavation and stockpiling, can pose a risk to groundwater receptors through leaching and run-off of contaminants. Intrusive activities and removal of low permeability material can pose a risk to groundwater by creating new contaminant pathways or mobilising existing contamination through exposure of contaminated soil or remobilisation of contaminants through soil disturbance.	No

NOT PROTECTIVELY MARKED

SIZEWELL C PROJECT – WFD COMPLIANCE ASSESSMENT



NOT PROTECTIVELY MARKED

Activity	C1 Site preparation, earthworks and construction at Yoxford roundabout		
Parameter	Scoping question	Response	Further assessment required?
		Following implementation of the measures outlined in the CoCP (Doc Ref. 8.11) any impacts on groundwater quality during construction are therefore predicted to be insufficient to result in a change in the status.	
	Could the activity result in pollution of groundwater dependent terrestrial ecosystems (GWDTEs) or other dependent surface water features?	Following implementation of the measures outlined in the CoCP (Doc Ref. 8.11), any impacts on groundwater quality during construction are predicted to be insufficient to result in a change in the status of this quality element.	No
	Could the activity lead to saline intrusion?	No mechanisms for impact on the degree of saline intrusion have been identified.	No
	Could the activity cause deterioration in the quality of a drinking water abstraction?	Two groundwater abstractions are indicated within 1km of the site, located 100m west and 298m south of the site, both for general farming and domestic purposes. The distance between the proposed site and the pollution prevention and control measures described in detail in the CoCP (Doc Ref. 8.11) mean that no mechanisms for the deterioration in the quality of groundwater abstractions have been identified.	No
	Could the activity result in increasing trends in pollutant concentrations or reduce the ability to reverse significant trends in groundwater pollutants?	Following implementation of the measures outlined in the CoCP, any impacts on groundwater quality during construction are predicted to be insufficient to result in a change in the status of this quality element.	No
	Could the activity result in the failure of the 'prevent or limit' objective of the Groundwater Daughter Directive?	Following implementation of the measures outlined in the CoCP, any impacts on groundwater quality during construction are predicted to be insufficient to result in a change in the status of this quality element	No

NOT PROTECTIVELY MARKED

SIZEWELL C PROJECT – WFD COMPLIANCE ASSESSMENT



NOT PROTECTIVELY MARKED

Activity			
C2 Site preparation, earthworks and construction at A12/A144 junction south of Bramfield			
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?	Although the removal of on-site vegetation and the compaction of soils due to movement of construction vehicles and storage of materials may locally reduce the rate at which rainfall makes its way into the groundwater for a short duration, the overall volume of water discharging to ground is unlikely to change. Any changes to groundwater levels are predicted to be insufficient to result in a change in the status of this quality element.	No
	Could the activity lead to saline intrusion?	No mechanisms for impact on the degree of saline intrusion have been 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 have been 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 have been 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 have been identified.	No
	Could the activity result in additional groundwater depletion of surface water flows that will exceed any groundwater body scale	No mechanisms for impact on the water balance have been identified.	No

NOT PROTECTIVELY MARKED

SIZEWELL C PROJECT – WFD COMPLIANCE ASSESSMENT



NOT PROTECTIVELY MARKED

Activity			
C2 Site preparation, earthworks and construction at A12/A144 junction south of Bramfield			
Parameter	Scoping question	Response	Further assessment required?
	headroom between Fully Licensed depletion and the limit imposed by the total low flows resource?		
Quality			
Groundwater quality	Could the activity result in or exacerbate diffuse pollution at a water body scale?	Following implementation of the measures outlined in the CoCP (Doc Ref. 8.11), any impacts on groundwater quality during construction are therefore predicted to be insufficient to result in a change in the status of this quality element.	No
	Could the activity result in pollution of groundwater dependent terrestrial ecosystems (GWDTEs) or other dependent surface water features?	Following implementation of the measures outlined in the CoCP (Doc Ref. 8.11), any impacts on groundwater quality during construction are predicted to be insufficient to result in a change in the status of this quality element.	No
	Could the activity lead to saline intrusion?	No mechanisms for impact on the degree of saline intrusion have been identified.	No
	Could the activity cause deterioration in the quality of a drinking water abstraction?	Two groundwater abstractions are indicated within 1km of the site, located 100m west and 298m south of the site, both for general farming and domestic purposes. The distance between the proposed site and the pollution prevention and control measures described in detail in the CoCP (Doc Ref. 8.11) mean that no mechanisms for the deterioration in the quality of groundwater abstractions have been identified.	No
	Could the activity result in increasing trends in pollutant concentrations or reduce the ability to reverse significant trends in groundwater pollutants?	Following implementation of the measures outlined in the CoCP (Doc Ref. 8.11), any impacts on groundwater quality during construction are predicted to be insufficient to result in a change in the status of this quality element	No

NOT PROTECTIVELY MARKED

SIZEWELL C PROJECT – WFD COMPLIANCE ASSESSMENT



NOT PROTECTIVELY MARKED

Activity	C2 Site preparation, earthworks and construction at A12/A144 junction south of Bramfield		
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?	Following implementation of the measures outlined in the CoCP (Doc Ref. 8.11), any impacts on groundwater quality during construction are predicted to be insufficient to result in a change in the status of this quality element.	No

Activity	O1 Surface water management at Yoxford Roundabout		
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?	The operational Outline Drainage Strategy (Doc Ref. 6.3) would be designed to reduce effects on groundwater as far as possible. Any changes to groundwater levels are therefore predicted to be insufficient to result in a change in the status of this quality element.	No
	Could the activity lead to saline intrusion?	No mechanisms for impact on the degree of saline intrusion have been 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 have been 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 have been identified.	No

NOT PROTECTIVELY MARKED

SIZEWELL C PROJECT – WFD COMPLIANCE ASSESSMENT



NOT PROTECTIVELY MARKED

Activity			
O1 Surface water management at Yoxford Roundabout			
Parameter	Scoping question	Response	Further assessment required?
	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 have been 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 have been identified.	No
Quality			
Groundwater quality	Could the activity result in or exacerbate diffuse pollution at a water body scale?	During operation the main risks from contamination come from vehicles using the roundabout and adjoining roads. The proposed configuration of the Yoxford roundabout represents a marked improvement on the existing junction and its drainage arrangements. It is not anticipated that significant spills or leaks will occur from vehicles used for commuting purposes and would be mitigated through control methods such as the presence of silt traps and hydrocarbon interceptors within the drainage design. This would prevent the supply of sediment and other contamination to the drainage network. The provision of the infiltration basin would protect the underlying groundwater from hydrocarbon contamination.	No

NOT PROTECTIVELY MARKED

SIZEWELL C PROJECT – WFD COMPLIANCE ASSESSMENT



NOT PROTECTIVELY MARKED

Activity	O1 Surface water management at Yoxford Roundabout		
Parameter	Scoping question	Response	Further assessment required?
		Following implementation of the control measures, any impacts on groundwater quality during operation are therefore predicted to be insufficient to result in a change in the status of this quality element.	
	Could the activity result in pollution of groundwater dependent terrestrial ecosystems (GWDTEs) or other dependent surface water features?	Following implementation of the measures any impacts on groundwater quality during operation are predicted to be insufficient to result in a change in the status of this quality element .	No
	Could the activity lead to saline intrusion?	No mechanisms for impact on the degree of saline intrusion have been identified.	No
	Could the activity cause deterioration in the quality of a drinking water abstraction?	Two groundwater abstractions are indicated within 1km of the site, located 100m west and 298m south of the site, both for general farming and domestic purposes. The distance between the proposed site and the control measures described in the Outline Drainage Strategy (Doc Ref. 6.3) mean that no mechanisms for the deterioration in the quality of groundwater abstractions have been identified.	No
	Could the activity result in increasing trends in pollutant concentrations or reduce the ability to reverse significant trends in groundwater pollutants?	Following implementation of the measures outlined in the Outline Drainage Strategy (Doc Ref. 6.3), any impacts on groundwater quality during operation are predicted to be insufficient to result in a change in status.	No
	Could the activity result in the failure of the 'prevent or limit' objective of the Groundwater Daughter Directive?	Following implementation of the measures outlined in the Outline Drainage Strategy (Doc Ref. 6.3), any impacts on groundwater quality during operation are predicted to be insufficient to result in a change in status.	No

NOT PROTECTIVELY MARKED

Activity	O2 Surface water management at A12/A144 junction south of Bramfield		
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?	The operational drainage system described in detail in the Outline Drainage Strategy (Doc Ref. 6.3) would include measures to minimise changes in surface runoff or infiltration. Although the operational drainage system could locally change the spatial distribution of infiltration to groundwater, the overall volume of infiltration would not be significantly changed. Any changes to groundwater levels are therefore predicted to be insufficient to result in a change in status.	No
	Could the activity lead to saline intrusion?	No mechanisms for impact on the degree of saline intrusion have been 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 have been 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 have been 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 have been identified.	No

SIZEWELL C PROJECT – WFD COMPLIANCE ASSESSMENT



NOT PROTECTIVELY MARKED

Activity			
O2 Surface water management at A12/A144 junction south of Bramfield			
Parameter	Scoping question	Response	Further assessment required?
	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 have been identified.	No
Quality			
Groundwater quality	Could the activity result in or exacerbate diffuse pollution at a water body scale?	The activity may potentially release dangerous chemicals into the water body through leaks and spills of fuel, oils and lubricants from the operational site. Measures to reduce the risks to surface and therefore groundwaters are described in the Outline Drainage Strategy (Doc Ref. 6.3). Following implementation of the measures, any impacts on groundwater quality during operation are therefore predicted to be insufficient to result in a change in the status of this quality element.	No
	Could the activity result in pollution of groundwater dependent terrestrial ecosystems (GWDTEs) or other dependent surface water features?	Following implementation of the measures outlined in the Outline Drainage Strategy (Doc Ref. 6.3), any impacts on groundwater quality during operation are predicted to be insufficient to result in a change in status.	No
	Could the activity lead to saline intrusion?	No mechanisms for impact on the degree of saline intrusion have been identified.	No
	Could the activity cause deterioration in the quality of a drinking water abstraction?	Two groundwater abstractions are indicated within 1km of the site, located 100m west and 298m south of the site, both for general farming and domestic purposes. The distance between	No

NOT PROTECTIVELY MARKED

SIZEWELL C PROJECT – WFD COMPLIANCE ASSESSMENT



NOT PROTECTIVELY MARKED

Activity	O2 Surface water management at A12/A144 junction south of Bramfield		
Parameter	Scoping question	Response	Further assessment required?
		the proposed site and the pollution prevention and control measures described in the Outline Drainage Strategy (Doc Ref. 6.3) mean that no mechanisms for the deterioration in the quality of groundwater abstractions have been identified.	
	Could the activity result in increasing trends in pollutant concentrations or reduce the ability to reverse significant trends in groundwater pollutants?	Following implementation of the measures outlined in the Outline Drainage Strategy (Doc Ref. 6.3), any impacts on groundwater quality during operation are predicted to be insufficient to result in a change in status.	No
	Could the activity result in the failure of the 'prevent or limit' objective of the Groundwater Daughter Directive?	Following implementation of the measures outlined in the Outline Drainage Strategy (Doc Ref. 6.3), any impacts on groundwater quality during operation are predicted to be insufficient to result in a change in status.	No

NOT PROTECTIVELY MARKED



NOT PROTECTIVELY MARKED

APPENDIX 3G – FREIGHT MANAGEMENT FACILITY

Orwell (tidal) river water body GB105035040420

Activity	C1 Site preparation, earthworks and construction R1 Removal and reinstatement		
Parameter	Scoping question	Response	Further assessment required?
Supporting Conditions: Hydromorphology	Quantity and dynamics of flow	<p>The construction and removal and reinstatement activities could lead to alterations to surface water flows and sediment being released into the wider environment. During periods of heavy rain this could potentially link to this small water course via surface water pathways.</p> <p>The CoCP (Doc Ref. 8.11) has been prepared for submission with the DCO application for the Sizewell C Project, which sets out the measures and controls that EDF Energy will require its contractors to adopt during the construction, and removal and reinstatement phases of the proposed development, where appropriate, and provides an outline of the environmental management plans that will be implemented on-site.</p> <p>It is envisaged that construction drainage would be contained within the site through the implementation of temporary SuDS early in the construction phase. Foul sewage from the on-site temporary construction compound would be tankered off site during construction until the operational package plant is in place.</p>	No
	Morphology		No

NOT PROTECTIVELY MARKED

SIZEWELL C PROJECT – WFD COMPLIANCE ASSESSMENT



NOT PROTECTIVELY MARKED

Activity			
C1 Site preparation, earthworks and construction			
R1 Removal and reinstatement			
Parameter	Scoping question	Response	Further assessment required?
		<p>The SuDS for both construction and operation of the proposed development would allow surface water runoff to infiltrate into the ground.</p> <p>Earthworks would be designed to maximise cut and fill balance in order to prevent material being sent off-site. Where appropriate, topsoil and subsoil would be stored on-site in landscaped bunds for reuse during the removal and reinstatement phase to return the site to agricultural use, in accordance with the Soil Management Plan appended to the CoCP (Doc Ref. 8.11).</p> <p>Once the need for the freight management facility has ceased, the site access, buildings and associated infrastructure (including SuDS) would be removed in accordance with a removal and reinstatement plan, which would maximise the potential for re-use of buildings, modules and materials. The site would be isolated from the wider environment until the removal and reinstatement works have ceased.. Implementation of appropriate pollution incident control will further minimise the impacts of site construction activities on the surface drainage network.</p> <p>The implementation of the measures outlined above would ensure surface water is contained and treated where required to remove this potential risk. As a result, impacts on these parameters and wider hydromorphological parameters are unlikely to be sufficient to cause a deterioration in status.</p>	
Chemistry	Specific pollutants	As outlined above control measures would be designed to remove pollution. As a result, no effects on water quality are predicted.	No

NOT PROTECTIVELY MARKED

SIZEWELL C PROJECT – WFD COMPLIANCE ASSESSMENT



NOT PROTECTIVELY MARKED

Activity			
C1 Site preparation, earthworks and construction R1 Removal and reinstatement			
Parameter	Scoping question	Response	Further assessment required?
Ecology	Ecology	As outlined above, control measures would be designed to remove effects to the wider environment. As a result, effects on ecology are not predicted.	No

Activity			
O1 Management of drainage			
Parameter	Scoping question	Response	Further assessment required?
Supporting Conditions: Hydromorphology	Quantity and dynamics of flow	The operational phase activities could lead to additional surface water being discharged to the wider environment. During periods of heavy rain this could potentially link to this small water course via surface water pathways. The SuDS for both construction and operation of the proposed development would allow surface water runoff to infiltrate into the ground. A swale would be constructed along the northern boundary and part of the eastern boundary of the site to ensure that on-site surface water run-off is contained within the site. The western section of this swale would be lined to stop infiltration and remainder would be unlined to allow infiltration into the underlying strata. These measures would also ensure that off-site run-off that would otherwise enter the site is captured. Geo-cellular storage structures would be installed beneath two of the landscape bunds to attenuate water and regulating water flows within the site.	No
	Morphology		No

NOT PROTECTIVELY MARKED

SIZEWELL C PROJECT – WFD COMPLIANCE ASSESSMENT



NOT PROTECTIVELY MARKED

Activity		O1 Management of drainage	
Parameter	Scoping question	Response	Further assessment required?
		<p>Foul sewage from the amenity and welfare buildings would be treated on-site. Effluent would either pass through a septic tank or a package treatment works prior to being discharged into the SuDS infrastructure.</p> <p>As a result, impacts on these parameters and wider hydromorphological parameters are unlikely to be sufficient to cause a deterioration in status.</p>	
Chemistry	Specific pollutants	<p>Foul sewage from the operation of the proposed development would be treated by a package plant. The treated effluent would drain to ground through infiltration devices. It is assumed that the treated foul sewage would be discharged to ground so as to not cause a measurable change in the integrity of the underlying aquifers and that the discharge would be localised and of medium-term duration. SuDS measures would also reduce the risk of contamination to water courses.</p> <p>As a result, impacts on water quality are unlikely to be sufficient to cause a deterioration in status.</p>	No
Ecology	Ecology	<p>As outlined above, control measures would be designed to remove effects to the wider environment. As a result, effects on ecology are not predicted.</p>	No

NOT PROTECTIVELY MARKED



NOT PROTECTIVELY MARKED

Orwell transitional water body GB520503613601

Activity			
C1 Site preparation, earthworks and construction R1 Removal and reinstatement			
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?	Given the distance from the site to this water body and the implementation of the control measures outlined above for the Orwell (tidal) river water body, no mechanism for impact was identified.	No
	Is the activity in a water body that is heavily modified for the same use as the activity?		No
	Will the activity significantly impact the hydromorphology of any water body?		No
Chemistry	If the activity used or releases chemicals, are the chemicals on the Environmental Quality Standards Directive (EQSD) list?	Given the distance from the site to this water body and the implementation of the control measures outlined above for the Orwell (tidal) river water body, no mechanism for impact was identified.	No
	If the activity has a mixing zone, are the	N/A	No

NOT PROTECTIVELY MARKED

SIZEWELL C PROJECT – WFD COMPLIANCE ASSESSMENT



NOT PROTECTIVELY MARKED

Activity			
C1 Site preparation, earthworks and construction			
R1 Removal and reinstatement			
Parameter	Scoping question	Response	Further assessment required?
	chemicals released on the EQSD List?		
	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)?	Given the distance from the site to this water body and the implementation of the control measures outlined above for the Orwell (tidal) river water body, no mechanism for impact was identified.	No
	Is the activity in a water body with a phytoplankton status of moderate, poor or bad or with a history of harmful algae?	Given the distance from the site to this water body and the implementation of the control measures outlined above for the Orwell (tidal) river water body, no mechanism for impact was identified.	No
Biology – Habitats (Flora / fauna / angiosperms /	- Which type of habitat is likely to be impacted and what percentage of	Given the distance from the site to this water body and the implementation of the control measures outlined above for the Orwell (tidal) river water body, no mechanism for impact was identified.	No

NOT PROTECTIVELY MARKED



NOT PROTECTIVELY MARKED

Activity			
C1 Site preparation, earthworks and construction			
R1 Removal and reinstatement			
Parameter	Scoping question	Response	Further assessment required?
benthic invertebrates / higher and lower sensitivity habitats)	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.		
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	As above, no mechanism for impact.	No

NOT PROTECTIVELY MARKED

SIZEWELL C PROJECT – WFD COMPLIANCE ASSESSMENT



NOT PROTECTIVELY MARKED

Activity			
C1 Site preparation, earthworks and construction			
R1 Removal and reinstatement			
Parameter	Scoping question	Response	Further assessment required?
	like movement, migration or spawning?		
	Could the activity cause entrainment or impingement of fish?	As above, no mechanism for impact.	No

Activity			
O1 Management of drainage			
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?	Given the distance from the site to this water body and the implementation of the control measures outlined above for the Orwell (tidal) river water body, no mechanism for impact was identified.	No
	Is the activity in a water body that is heavily modified for the same use as the activity?		No
	Will the activity significantly impact the hydromorphology of any water body?		No

NOT PROTECTIVELY MARKED

SIZEWELL C PROJECT – WFD COMPLIANCE ASSESSMENT



NOT PROTECTIVELY MARKED

Activity			
O1 Management of drainage			
Parameter	Scoping question	Response	Further assessment required?
Chemistry	If the activity used or releases chemicals, are the chemicals on the Environmental Quality Standards Directive (EQSD) list?	Given the distance from the site to this water body and the implementation of the control measures outlined above for the Orwell (tidal) river water body, no mechanism for impact was identified.	No
	If the activity has a mixing zone, are the chemicals released on the EQSD List?		No
	If the activity uses or releases chemicals, will it disturb sediment with contaminants above Cefas Action Level 1?		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)?	As above, no mechanism for impact.	No

NOT PROTECTIVELY MARKED

SIZEWELL C PROJECT – WFD COMPLIANCE ASSESSMENT



NOT PROTECTIVELY MARKED

Activity	O1 Management of drainage		
Parameter	Scoping question	Response	Further assessment required?
	Is the activity in a water body with a phytoplankton status of moderate, poor or bad or with a history of harmful algae?	As above, no mechanism for impact.	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.	As above, no mechanism for impact.	No
Biology - Fish	Will the activity be in an estuary and could affect	As above, no mechanism for impact.	No

NOT PROTECTIVELY MARKED

SIZEWELL C PROJECT – WFD COMPLIANCE ASSESSMENT



NOT PROTECTIVELY MARKED

Activity	O1 Management of drainage		
Parameter	Scoping question	Response	Further assessment required?
	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?		
	Could the activity cause entrainment or impingement of fish?	As above, no mechanism for impact.	No

Felixstowe Peninsula Crag & Chalk groundwater body GB40501G401800

Activity	C1 Site preparation, earthworks and construction R1 Removal and reinstatement		
Parameter	Scoping question	Response	Further assessment required?
Quantity			
Groundwater quantity	Could the activity change groundwater levels, affecting Groundwater	The Nacton Meadows Site of Special Scientific Interest (SSSI) is located approximately 900m south-west of the site. The SSSI is a fen-meadow habitat and is likely to have a degree of dependence on groundwater and surface water.	No

edfenergy.com

Building better energy together

NOT PROTECTIVELY MARKED

SIZEWELL C PROJECT – WFD COMPLIANCE ASSESSMENT



NOT PROTECTIVELY MARKED

Activity	C1 Site preparation, earthworks and construction R1 Removal and reinstatement		
Parameter	Scoping question	Response	Further assessment required?
	Dependent Terrestrial Ecosystems (GWDTEs) or dependent surface water features?	<p>The removal of on-site vegetation and compaction of soils due to construction vehicles, materials storage and the excavation of the attenuation tanks may locally reduce the rate at which rainfall makes its way into the groundwater for a short duration, however, the overall volume of water discharging to ground is unlikely to change. Additionally, pad foundations are expected to be used for the structures built on site, therefore no requirement for piling has been identified. It is anticipated that the underground attenuation tanks will be designed to be constructed within the superficial deposits and will not intercept the underlying Crag aquifer to avoid potential uplift from hydraulic pressures from groundwater. It is therefore anticipated that groundwater would not be encountered during construction.</p> <p>The proposed development would be removed and reinstated to existing conditions as far as reasonably practical. The removal of hardstanding and compaction of soils may locally reduce the rate at which rainfall makes its way into the groundwater for a short duration, however, the overall volume of water discharging to ground is unlikely to change. Additionally, groundwater in the underlying aquifers would not be encountered during the removal and reinstatement phase and therefore groundwater dewatering control measures would not be required during the removal and reinstatement of the proposed development.</p> <p>It is therefore concluded that there would be no effect on the high value Nacton Meadows SSSI with respect to groundwater level and flow. This is due to there</p>	

NOT PROTECTIVELY MARKED

SIZEWELL C PROJECT – WFD COMPLIANCE ASSESSMENT



NOT PROTECTIVELY MARKED

Activity	C1 Site preparation, earthworks and construction R1 Removal and reinstatement		
Parameter	Scoping question	Response	Further assessment required?
		being no anticipated requirement for groundwater control measures at the site during construction and removal and reinstatement and its distance from the site of more than 800m	
	Could the activity lead to saline intrusion?	No mechanisms for impact on the degree of saline intrusion have been 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 have been 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 have been 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 have been identified.	No

NOT PROTECTIVELY MARKED

SIZEWELL C PROJECT – WFD COMPLIANCE ASSESSMENT



NOT PROTECTIVELY MARKED

Activity	C1 Site preparation, earthworks and construction R1 Removal and reinstatement		
Parameter	Scoping question	Response	Further assessment required?
	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 have been identified.	
Quality			
Groundwater quality	Could the activity result in or exacerbate diffuse pollution at a water body scale?	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. However, all construction and removal and reinstatement activities would be undertaken in line with the requirements of the CoCP (Doc Ref: 8.11) for construction and a similar plan for the removal and reinstatement phase Following implementation of the measures outlined in the CoCP, any impacts on groundwater quality during construction and removal and reinstatement are therefore predicted to be insufficient to result in a change in status.	
	Could the activity result in pollution of groundwater dependent terrestrial ecosystems	Contamination arising from construction activities through the disturbance/mobilisation of existing sources of contamination or the introduction of new sources/contaminants have the potential to adversely affect the biology and water quality of the Nacton Meadows SSSI.	

NOT PROTECTIVELY MARKED

SIZEWELL C PROJECT – WFD COMPLIANCE ASSESSMENT



NOT PROTECTIVELY MARKED

Activity	C1 Site preparation, earthworks and construction R1 Removal and reinstatement		
Parameter	Scoping question	Response	Further assessment required?
	(GWDTEs) or other dependent surface water features?	Where excavations and the introduction of contaminants to a site take place, there is the potential for an increase in the risk of contaminating the nearest receptor. However, construction drainage would be contained within the site until the SuDS is operational. Impacts on groundwater quality during construction and removal and reinstatement are therefore predicted to be insufficient to result in a change in status.	
	Could the activity lead to saline intrusion?	No mechanisms for impact on the degree of saline intrusion have been identified.	
	Could the activity cause deterioration in the quality of a drinking water abstraction?	Two licensed groundwater abstractions are recorded within 1km of the site, both approximately 570m south of the proposed site (one for agriculture and one for unknown purpose). The groundwater abstractions are understood to abstract from the Chalk aquifer, which is expected to experience very little impact from the proposed development. The abstractions are also located more than 560m from the site and are unlikely to be affected by any local changes to the hydrogeological environment.. No mechanisms for the deterioration in the quality of groundwater abstractions have been identified.	
	Could the activity result in increasing trends in pollutant concentrations or reduce the ability to reverse significant trends in groundwater pollutants?	Following implementation of the measures outlined above, any impacts on groundwater quality during construction and removal and reinstatement are predicted to be insufficient to result in a change in status.	

NOT PROTECTIVELY MARKED

SIZEWELL C PROJECT – WFD COMPLIANCE ASSESSMENT



NOT PROTECTIVELY MARKED

Activity	C1 Site preparation, earthworks and construction		
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?	Following implementation of the measures outlined above, any impacts on groundwater quality during construction and removal and reinstatement are predicted to be insufficient to result in a change in status.	

Activity	O1 Management of drainage		
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?	<p>Groundwater in the underlying aquifers would not be encountered during the operation phase, and therefore no groundwater dewatering control measures would be required during the operation of the proposed development.</p> <p>The proposed works would increase the impermeable area of ground cover at the site due to the hardstanding used and the presence of the underground attenuation tanks. Appropriate drainage would be used including the incorporation of SuDS measures. This would allow infiltration to the superficial aquifer and would mean that although the spatial distribution of infiltration would be changed within the development area, the total volume</p>	No

NOT PROTECTIVELY MARKED

SIZEWELL C PROJECT – WFD COMPLIANCE ASSESSMENT



NOT PROTECTIVELY MARKED

Activity	O1 Management of drainage		
Parameter	Scoping question	Response	Further assessment required?
		<p>of infiltration entering the ground would not be significantly changed relative to the groundwater system.</p> <p>Following implementation of the measures outlined above, any impacts on groundwater quality during operation are predicted to be insufficient to result in a change in status.</p>	
	Could the activity lead to saline intrusion?	No mechanisms for impact on the degree of saline intrusion have been 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 have been 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 have been 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 have been 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 have been identified.	No

NOT PROTECTIVELY MARKED

SIZEWELL C PROJECT – WFD COMPLIANCE ASSESSMENT



NOT PROTECTIVELY MARKED

Activity			
O1 Management of drainage			
Parameter	Scoping question	Response	Further assessment required?
Quality			
Groundwater quality	Could the activity result in or exacerbate diffuse pollution at a water body scale?	<p>During operation, the main risks from contamination are fuel spills or leaks from the delivery vehicles using the proposed development. It is not anticipated that substantial spills or leaks will occur from vehicles used for commuting purposes by staff working at the proposed development. The presence of bypass separators within the drainage design would prevent the supply of sediment and other contamination to the drainage network. The provision of SuDS for areas of impermeable surface cover would protect the underlying groundwater from hydrocarbon contamination.</p> <p>Foul sewage from the operation of the proposed development would be treated by a package plant. The treated effluent would drain to ground through infiltration devices. It is assumed that the treated foul sewage would be discharged to ground so as to not cause a measurable change in the integrity of the underlying aquifers and that the discharge would be localised and of medium-term duration.</p> <p>Impacts on groundwater quality during operation are therefore predicted to be insufficient to result in a change in status.</p>	No
	Could the activity result in pollution of groundwater dependent terrestrial ecosystems (GWDTEs) or other dependent surface water features?	As above.	No

NOT PROTECTIVELY MARKED

SIZEWELL C PROJECT – WFD COMPLIANCE ASSESSMENT



NOT PROTECTIVELY MARKED

Activity	O1 Management of drainage		
Parameter	Scoping question	Response	Further assessment required?
	Could the activity lead to saline intrusion?	No mechanisms for impact on the degree of saline intrusion have been identified.	No
	Could the activity cause deterioration in the quality of a drinking water abstraction?	The groundwater abstractions are understood to abstract from the Chalk aquifer, which is expected to experience very little impact from the proposed development. The abstractions are also at more than 560m from the site and are unlikely to be affected by any local changes to the hydrogeological environment.	No
	Could the activity result in increasing trends in pollutant concentrations or reduce the ability to reverse significant trends in groundwater pollutants?	Following implementation of the measures outlined above, any impacts on groundwater quality during operation are predicted to be insufficient to result in a change in status.	No
	Could the activity result in the failure of the 'prevent or limit' objective of the Groundwater Daughter Directive?	Following implementation of the measures outlined above, any impacts on groundwater quality during operation are predicted to be insufficient to result in a change in status.	No

NOT PROTECTIVELY MARKED



APPENDIX 3H – RAIL

Leiston Beck GB105035046271

Activity	C1 Site preparation, earthworks and construction R1 Removal and reinstatement		
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?	<p>These activities could affect the volume and rate of surface water discharge as a result of land use changes and discharges from the site drainage system. However, a temporary construction-stage drainage system would be implemented to minimise changes to surface water runoff from the construction site.</p> <p>Construction would be managed from a primary compound located within the Sizewell C main development site. A secondary compound at the western end of the proposed rail extension route would also be set up to manage work at the western end of the proposed rail extension route.</p> <p>It is proposed that construction drainage would be contained within the site, with infiltration to ground. Foul sewage arising on site during construction from the temporary welfare facilities will be collected and tankered off site for appropriate treatment and disposal.</p>	No

SIZEWELL C PROJECT – WFD COMPLIANCE ASSESSMENT



NOT PROTECTIVELY MARKED

Activity	C1 Site preparation, earthworks and construction R1 Removal and reinstatement		
Parameter	Scoping question	Response	Further assessment required?
		<p>Temporary SuDS would be implemented early in the construction phase. Construction phase water management zones would intercept surface run off, sediment and contaminants from the construction compounds and laydown areas, and incorporate sustainable drainage measures such as swales, filter drains and infiltration basins to promote infiltration.</p> <p>A CoCP (Doc Ref 8.11) is included in the Development Consent Order application for the Sizewell C Project, which sets out the measures and controls that EDF Energy would require its contractors to adopt during the construction and removal and reinstatement phases of the proposed development where appropriate.</p> <p>Once the proposed rail extension route is no longer required, it would be removed, including the track bed and level crossings, and the site reinstated to agricultural use. Permanent surface water/agricultural drains would be reinstated. Additionally, due to the nature of the removal and reinstatement works, it has been assumed that groundwater in the underlying aquifers would not be encountered during the removal and reinstatement phase and therefore groundwater dewatering control measures would not be required during the removal and reinstatement of the proposed development.</p> <p>During the removal and reinstatement phase, the construction mitigation measures concerning surface water would be applied as necessary in accordance with the CoCP (Doc Ref 8.11).</p>	

NOT PROTECTIVELY MARKED

SIZEWELL C PROJECT – WFD COMPLIANCE ASSESSMENT



NOT PROTECTIVELY MARKED

Activity	C1 Site preparation, earthworks and construction R1 Removal and reinstatement		
Parameter	Scoping question	Response	Further assessment required?
		Following implementation of the measures outlined in the CoCP (Doc Ref 8.11), any impacts on the hydrological regime during construction and removal and reinstatement are predicted to be insufficient to result in a change in the status of this quality element.	
Morphological conditions	Could the activity change the width, depth, bank conditions, bed substrates and structure of the riparian zone?	<p>These activities could increase sediment load as a result of increased sediment generation and entrainment through runoff and exacerbate existing sedimentation in the channels</p> <p>Earthworks would be designed to maximise cut and fill balance in order to prevent material being sent off-site. Where appropriate, topsoil and subsoil would be stored on-site in landscaped bunds for reuse during the removal and reinstatement phase to return the site to agricultural use in accordance with the Soil Management Plan appended to the CoCP (Doc Ref 8.11).</p> <p>Any impacts on morphological conditions during construction and removal and reinstatement are therefore predicted to be insufficient to result in a change in the status of this quality element.</p>	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?	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			

NOT PROTECTIVELY MARKED

SIZEWELL C PROJECT – WFD COMPLIANCE ASSESSMENT



NOT PROTECTIVELY MARKED

Activity	C1 Site preparation, earthworks and construction R1 Removal and reinstatement		
Parameter	Scoping question	Response	Further assessment required?
General	Could the activity change the temperature, pH, oxygenation, salinity or nutrient concentrations in the water body?	Contamination of surface waters arising from construction activities through the disturbance/mobilisation of existing sources of contamination or the introduction of new sources/contaminants have the potential to adversely affect the water quality of the Leiston Beck and Hundred River, existing drainage network, the ponds within the inner study area and the surface water abstraction.	No
Specific pollutants	Could the activity release dangerous chemicals into the water body?	<p>Temporary SuDS would be implemented early in the construction phase. The site would be isolated from the wider environment until the SuDS are operational. The creation of a surface water management system will intercept surface runoff, sediment and contaminants from the construction compounds and laydown areas. Implementation of appropriate pollution incident control in accordance with the CoCP (Doc Ref 8.11) would further minimise the impacts of site construction activities on the surface drainage network</p> <p>Foul sewage arising on site during construction from the temporary welfare facilities will be collected and tankered off site for appropriate treatment and disposal.</p> <p>Temporary hardstanding will be constructed within the construction compounds to avoid spills and leaks.</p> <p>Once the proposed rail extension route is no longer required, it would be removed, including the track bed and level crossings, and the site reinstated to agricultural use. Permanent surface water/agricultural drains would be reinstated. During the removal and reinstatement phase, the construction</p>	No

NOT PROTECTIVELY MARKED

SIZEWELL C PROJECT – WFD COMPLIANCE ASSESSMENT



NOT PROTECTIVELY MARKED

Activity			
C1 Site preparation, earthworks and construction R1 Removal and reinstatement			
Parameter	Scoping question	Response	Further assessment required?
		<p>mitigation measures concerning surface water would be applied as necessary in accordance with the CoCP (Doc Ref 8.11).</p> <p>Following implementation of the control measures outlined above, any impacts on water quality during construction and removal and reinstatement are therefore predicted to be insufficient to result in a change in the status of this quality element.</p>	
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?	Following implementation of the control measures outlined above, any impacts on the hydromorphology and water quality of the water body during construction and removal and reinstatement are predicted to be insufficient to result in a change in the status of those quality elements (see above for details). No mechanisms for impact upon the aquatic flora that they support have therefore been 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?	Following implementation of the control measures outlined above, any impacts on the hydromorphology and water quality of the water body during construction and removal and reinstatement are predicted to be insufficient to result in a change in the status of those quality elements (see above for details). No mechanisms for impact upon the benthic invertebrates that they support have therefore been identified.	No
Fish	Could the activity change the hydromorphology and/or physico-chemistry	Following implementation of the control measures outlined above, any impacts on the hydromorphology and water quality of the water body during construction and removal and reinstatement are predicted to be insufficient to result in a	No

NOT PROTECTIVELY MARKED

SIZEWELL C PROJECT – WFD COMPLIANCE ASSESSMENT



NOT PROTECTIVELY MARKED

Activity			
C1 Site preparation, earthworks and construction			
R1 Removal and reinstatement			
Parameter	Scoping question	Response	Further assessment required?
	of the water body, or lead to the direct loss or modification of shelter, feeding and spawning habitats for fish?	change in the status of those quality elements (see above for details). No mechanisms for impact upon the fish that they support have therefore been identified.	

Activity			
O1 Management of drainage			
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?	<p>Direct changes to flow patterns and volumes could result in impacts on surface waters. The operational activity could therefore potentially affect the overall hydrological regime of the water body. Sustainable drainage systems would be implemented for the operation of the proposed green rail route.</p> <p>Drainage would be required along the proposed rail extension route that will collect and hold runoff on a temporary basis allowing infiltration to ground over time. Periodic inspection and maintenance of the drainage infrastructure would be required to ensure the continued efficacy of the surface water drainage system. Where collector drains and carrier drains are used to convey surface water away from the rail, the surface water shall be treated in swales and infiltration trenches adjacent to the track.</p>	No

NOT PROTECTIVELY MARKED

SIZEWELL C PROJECT – WFD COMPLIANCE ASSESSMENT



NOT PROTECTIVELY MARKED

Activity	O1 Management of drainage		
Parameter	Scoping question	Response	Further assessment required?
		<p>Where the rail route is in cutting, the drainage infrastructure would be designed to collect runoff from both sides of the track and the cutting. One swale is proposed to the north of the proposed rail extension route (between the landscape bund and the track). Runoff which does not infiltrate will pass through the sub-ballast to the swale.</p> <p>Where the route is at grade or on embankment, the drainage infrastructure would be designed to collect runoff from the track and any overland flow which is interrupted by the embankment or track. One swale would be provided on the north side of the track (between the landscape bund and the track), with side slopes at a gradient of one in three and a width of 1m at base. There is also the potential for a larger infiltration basin proposed at the eastern end of the site, between the landscape bund and the southern boundary to provide for additional temporary storage if required.</p> <p>Following implementation of the measures outlined above, any impacts on the hydrological regime during operation are predicted to be insufficient to result in a change in the status of this quality element.</p>	
Morphological conditions	Could the activity change the width, depth, bank conditions, bed substrates and structure of the riparian zone?	<p>There is potential for geomorphological adjustment as a result of changes to surface water flows.</p> <p>However, following implementation of the measures outlined in hydrological regime above, any impacts on the morphological conditions during operation are predicted to be insufficient to result in a change in status.</p>	No
River continuity	Could the activity create a permanent barrier to	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

NOT PROTECTIVELY MARKED

SIZEWELL C PROJECT – WFD COMPLIANCE ASSESSMENT



NOT PROTECTIVELY MARKED

Activity	O1 Management of drainage		
Parameter	Scoping question	Response	Further assessment required?
	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?	Contamination of surface waters may arise from the operation of the proposed development due to the introduction of new sources of contaminants or the disturbance and mobilisation of existing sources of contamination. If this occurs, these have the potential to adversely affect the water quality of the Leiston Beck, existing drainage network and ponds.	No
Specific pollutants	Could the activity release dangerous chemicals into the water body?	As outlined above, control measures would be put in place via SuDS thus removing the risk of impacts on water quality.	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?	Following implementation of the control measures outlined above, any impacts on the hydromorphology and water quality of the water body during operation are predicted to be insufficient to result in a change in the status of those quality elements (see above for details). No mechanisms for impact upon the aquatic flora that they support have therefore been identified.	No
Benthic invertebrates	Could the activity change the hydromorphology and/or physico-chemistry of the water body, or lead	Following implementation of the control measures outlined above, any impacts on the hydromorphology and water quality of the water body during operation are predicted to be insufficient to result in a change in the status of those quality	No

NOT PROTECTIVELY MARKED

SIZEWELL C PROJECT – WFD COMPLIANCE ASSESSMENT



NOT PROTECTIVELY MARKED

Activity			
O1 Management of drainage			
Parameter	Scoping question	Response	Further assessment required?
	to the direct loss or modification of habitats for aquatic invertebrates?	elements (see above for details). No mechanisms for impact upon the benthic invertebrates that they support have therefore been 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?	Following implementation of the control measures outlined above, any impacts on the hydromorphology and water quality of the water body during operation are predicted to be insufficient to result in a change in the status of those quality elements (see above for details). No mechanisms for impact upon the fish that they support have therefore been identified.	No

Waveney and East Suffolk Chalk and Crag groundwater body (GB40501G400600)

Activity			
C1 Site preparation, earthworks and construction			
R1 Removal and reinstatement			
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?	The Sizewell Marshes Site of Special Scientific Interest (SSSI) is located approximately 930m east of the site. The SSSI is a Groundwater Dependent Terrestrial Ecosystem (GWDTE) and hydrologically linked to the site via the Leiston Beck. In addition, the Aldhurst Farm habitat creation scheme is located	No

NOT PROTECTIVELY MARKED



NOT PROTECTIVELY MARKED

Activity	C1 Site preparation, earthworks and construction R1 Removal and reinstatement		
Parameter	Scoping question	Response	Further assessment required?
		<p>approximately 400m south-east of the new B1122 (Abbey Road) level crossing.</p> <p>The removal of on-site vegetation and the compaction of soils due to construction vehicles and materials storage may locally reduce the rate at which rainfall makes its way into the groundwater for a short duration, however, the volume of water discharging to ground is unlikely to change.</p> <p>The construction would also include a section of cutting however, based on the information provided by site investigations, it is unlikely that the cutting will extend beyond the base of the low permeability Lowestoft Formation (diamicton) aquifer and into the underlying Crag aquifer. Due to the limited lateral extent of groundwater within the Lowestoft Formation (diamicton), it is likely that any groundwater control measures required to dewater the superficial aquifer during the construction of the cutting would be localised and of short duration. It is unlikely that the base of the cutting will extend beyond the base of the Lowestoft Formation (diamicton) aquifer. Therefore, no groundwater control measures are anticipated to be required within the Lowestoft Formation sand and gravels aquifer or the Crag aquifer and there would be no effect on these aquifers with respect to dewatering activities.</p>	

NOT PROTECTIVELY MARKED

SIZEWELL C PROJECT – WFD COMPLIANCE ASSESSMENT



NOT PROTECTIVELY MARKED

Activity			
C1 Site preparation, earthworks and construction R1 Removal and reinstatement			
Parameter	Scoping question	Response	Further assessment required?
		Any changes to groundwater levels are predicted to be insufficient to result in a change in the status of this quality element.	
	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?	The construction phase would potentially introduce new sources of contamination to the site through spills or leaks of contaminants	No

NOT PROTECTIVELY MARKED

SIZEWELL C PROJECT – WFD COMPLIANCE ASSESSMENT



NOT PROTECTIVELY MARKED

Activity	C1 Site preparation, earthworks and construction R1 Removal and reinstatement		
Parameter	Scoping question	Response	Further assessment required?
		<p>used during construction. Construction works, such as excavation and stockpiling, can pose a risk to groundwater receptors through leaching and run-off of contaminants. Intrusive activities and removal of low permeability material can pose a risk to groundwater by creating new contaminant pathways or mobilising existing contamination through exposure of contaminated soil or remobilisation of contaminants through soil disturbance. Additionally, earthwork activities, such as cutting creation, during the construction process could create a potential pathway for existing on-site contamination to reach groundwater.</p> <p>Implementation of a temporary SuDS and the CoCP (Doc Ref 8.11) and the lack of pathway where applicable indicates that any effects would be insufficient to result in a change in status.</p>	
	<p>Could the activity result in pollution of groundwater dependent terrestrial ecosystems (GWDTEs) or other dependent surface water features?</p>	<p>Following implementation of the measures outlined in the CoCP (Doc Ref 8.11), any impacts on groundwater quality during construction and removal and reinstatement are predicted to be insufficient to result in a change in status.</p>	No
	<p>Could the activity lead to saline intrusion?</p>	<p>No mechanisms for impact on the degree of saline intrusion were identified</p>	No
	<p>Could the activity cause deterioration in the quality of a drinking water abstraction?</p>	<p>Based on the information available, all of the groundwater abstractions within the outer study area abstract water from the underlying Crag or Lowestoft Formation sand and gravel aquifers. No groundwater level control measures are anticipated for these aquifers and due to the distance of the abstractions from the site</p>	No

NOT PROTECTIVELY MARKED

SIZEWELL C PROJECT – WFD COMPLIANCE ASSESSMENT



NOT PROTECTIVELY MARKED

Activity			
C1 Site preparation, earthworks and construction R1 Removal and reinstatement			
Parameter	Scoping question	Response	Further assessment required?
		at greater than 250m, with the implementation of control measures, it is unlikely that they will be affected by any local changes to the hydrogeological environment from the construction activities. Measures in the CoCP (Doc Ref. 8.11) would remove the risk of potential contamination to the groundwater. As a result, a deterioration in status is not predicted.	
	Could the activity result in increasing trends in pollutant concentrations or reduce the ability to reverse significant trends in groundwater pollutants?	Following implementation of the measures outlined in the CoCP (Doc Ref 8.11), any impacts on groundwater quality during construction and removal and reinstatement are predicted to be insufficient to result in a change in status.	No
	Could the activity result in the failure of the 'prevent or limit' objective of the Groundwater Daughter Directive?	Following implementation of the measures outlined in the CoCP (Doc Ref 8.11), any impacts on groundwater quality during construction and removal and reinstatement are predicted to be insufficient to result in a change in status.	No

Activity			
O1 Management of drainage			
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?	Instances where cuttings intercept the water table could have an impact on the groundwater level and flow direction, although long-term groundwater control would unlikely be required given the limited lateral extent of groundwater within the Lowestoft	No

NOT PROTECTIVELY MARKED

SIZEWELL C PROJECT – WFD COMPLIANCE ASSESSMENT



NOT PROTECTIVELY MARKED

Activity	O1 Management of drainage		
Parameter	Scoping question	Response	Further assessment required?
		<p>Formation (diamiction), and the depth to the Crag aquifer which is unlikely to be intercepted by the cutting. The drainage design would intercept run-off from adjacent areas, avoiding flooding of lengths of the railway that are in cutting and preventing increased run-off to adjacent areas where the railway is in a cutting, at grade or on an embankment. This design would avoid, or minimise, impacts to groundwater receptors.</p> <p>The material used for the rail extension route would be highly permeable, allowing infiltration to groundwater. This would mean that although the spatial distribution of infiltration would be altered, the total volume of infiltration entering the ground would not be substantially changed.</p> <p>Any changes to groundwater levels are therefore predicted to be insufficient to result in a change in status.</p>	
	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

NOT PROTECTIVELY MARKED

SIZEWELL C PROJECT – WFD COMPLIANCE ASSESSMENT



NOT PROTECTIVELY MARKED

Activity			
O1 Management of drainage			
Parameter	Scoping question	Response	Further assessment required?
	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?	The operation of the proposed rail extension route could introduce new sources of contamination to the site and create additional potential pathways for the migration of potential contamination.	No
	Could the activity result in pollution of groundwater dependent terrestrial ecosystems (GWDTEs) or other dependent surface water features?	During operation the main risks from contamination are fuel spills or leaks from the trains using the proposed development. It is understood that contamination from these sources would be of limited magnitude and longevity and would be mitigated through control measures within the Outline Drainage Strategy (Doc Ref. 6.3). The presence of bypass separators within the drainage design would prevent the supply of sediment and other contamination to the drainage network. The provision of swales and infiltration ponds for areas of impermeable surface cover	No

NOT PROTECTIVELY MARKED

SIZEWELL C PROJECT – WFD COMPLIANCE ASSESSMENT



NOT PROTECTIVELY MARKED

Activity	O1 Management of drainage		
Parameter	Scoping question	Response	Further assessment required?
		would protect the underlying groundwater from hydrocarbon contamination. As a result of the proposed measures outlined above, any changes to water quality are predicted to be insufficient to result in a change in status.	
	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?	The groundwater abstractions identified are located over 250m from the site. Given the extent and depth of the low permeability superficial deposits across the site and its confining nature, with the implementation of the control measures, it is anticipated that the risk to the abstraction is as for the aquifer from which it abstracts groundwater. Changes in status are therefore not predicted.	No
	Could the activity result in increasing trends in pollutant concentrations or reduce the ability to reverse significant trends in groundwater pollutants?	As above	No
	Could the activity result in the failure of the 'prevent or limit' objective of the Groundwater Daughter Directive?	As above	No

NOT PROTECTIVELY MARKED



SIZEWELL C PROJECT – WFD COMPLIANCE ASSESSMENT

NOT PROTECTIVELY MARKED

Building better energy together

edfenergy.com

NOT PROTECTIVELY MARKED