Environmental Statement

Chapter 12: Road Drainage and the Water Environment

Appendix 12.3: Water Framework Directive Assessment

Sub Appendix E: WFD Classification Data

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1 WFD Classification Data

1.1 Norwich US Norwich WFD Water Body

Table E-1 WFD Status of the River Wensum US Norwich surface water body potentially impacted by the Proposed Scheme (source Ref 2.9)

Parameter	Current WFD Baseline Status
Water Body ID	GB105034055881
Water Body Name	Wensum US Norwich
Water Body Type	River
Water Body Area	189.25km^2
Hydromorphological Designation	Heavily modified
Reason for Designation	Hydrological regime (surface water and groundwater abstraction); physical modification; poor nutrient management; point source pollution; and diffuse pollution
Overall Ecological Status/Potential	Moderate
Current Overall Status/Potential	Moderate
Status Objective (overall)	Moderate (by 2015)
Justification for not Achieving Good Status by 2015	Disproportionate burdens No known technical solution is available

Parameter	**Current WFD Baseline Status**
Protected Area Designation	Wensum US Norwich (UKGB105034055881) Drinking Water Protected Area 398 Nitrates Directive (NVZ12SW013980) 397 Nitrates Directive (NVZ12SW013970) 401 Nitrates Directive (NVZ12SW014010) River Wensum (UK0012647) Habitats and Species Directive - SAC Safeguard Zone (SWSGZ1016) Safeguard Zone (SWSGZ1017) River Wensum (UKENRI73) Urban Wastewater Treatment Directive
Overall Biological Quality Element Status Objective	Moderate
Fish	High
Invertebrates	High
Macrophytes and Phytobenthos combined	Moderate
Overall Physico-Chemical Quality Element Status Objective	Good
Ammonia (Physico-Chemical)	High
Biochemical Oxygen Demand (BOD)	High
Dissolved oxygen	High
pH	High
Phosphate	High
Temperature	Good
Specific pollutants	High
Priority substances	Good
Priority hazardous substances	Fail

Parameter	Current WFD Baseline Status
Overall Chemical Status	Fail
Overall Chemical Quality Element Status Objective	Good
Hydromorphology Supporting Elements Status	Supports Good
Hydrological regime	Does Not Support Good
Mitigation Measures Assessment	Moderate or less

1.2 Norwich DS Norwich WFD Water Body

Table E-2 WFD Status of the River Wensum DS Norwich surface water body potentially impacted by the Proposed Scheme (source Ref 2.9)

Parameter	Current WFD Baseline Status
Water Body ID	GB105034055882
Water Body Name	Wensum DS Norwich
Water Body Type	River
Water Body Area	32.5 km^2
Hydromorphological Designation	Heavily modified
Reason for Designation	-
Overall Ecological Status	Moderate
Current Overall Status	Moderate
Status Objective (overall)	Good
Justification for not Achieving Good Status by 2015	Poor nutrient management , Urbanisation - urban development, Sewage discharge (intermittent and continuous), Physical modification, Surface water abstraction
Protected Area Designation	Norwich Crag and Gravels (G79) Safeguard Zone (SWSGZ1016) River Wensum (UKENRI73) Wensum DS Norwich Drinking Water Protected Area (UKGB105034055882)

Parameter	Current WFD Baseline Status
Overall Biological Quality Element Status	Good
Fish	High
Invertebrates	High
Macrophytes and Phytobenthos combined	Good
Overall Physico-Chemical Quality Element Status	Good
Ammonia (Physico-Chemical)	High
Biochemical Oxygen Demand (BOD)	-
Dissolved oxygen	High
pH	High
Phosphate	Good
Temperature	High
Specific pollutants	High
Priority substances	Good
Priority hazardous substances	Fail
Overall Chemical Status	Fail
Overall Chemical Quality Element Status Objective	Good (by 2015)
Hydromorphology Supporting Elements Status	Supports Good
Hydrological regime	Does not support good
Mitigation Measures Assessment	No data

1.3 River Tud WFD Water Body

Table E-3 WFD Status of the River Tud water body potentially impacted by the Proposed Scheme (source Environment Agency, 2022b)

Parameter	Current WFD Baseline Status
Water Body ID	GB105034051000
Water Body Name	Tud
Water Body Type	River
Water Body Area	70.2km^2
Hydromorphological Designation	Heavily Modified
Reason for Designation	Diffuse pollution and point source pollution
Overall Ecological Status/Potential	Moderate
Current Overall Status/Potential	Moderate
Status Objective (overall)	Moderate by 2015
Justification for not Achieving Good Status by 2015	Unfavourable balance of costs and benefits
Protected Area Designation	Norfolk Valley Fens (UK0012892) Habitats and Species Directive SAC 400 Nitrates Directive (NVZ12SW014000) 398 Nitrates Directive (NVZ12SW013980) 397 Nitrates Directive (NVZ12SW013970) River Wensum (UK0012647) Habitats and Species Directive SAC
Overall Biological Quality Element Status Objective	Good
Fish	Good
Invertebrates	High
Macrophytes and Phytobenthos combined	Not Assessed
Overall Physico-Chemical Quality Element Status Objective	Moderate
Ammonia (Phys-Chem)	High

Parameter	Current WFD Baseline Status
Dissolved oxygen	Good
pH	High
Phosphate	Moderate
Temperature	High
Specific pollutants	Not Assessed
Priority substances	Does not require assessment
Priority hazardous substances	Does not require assessment
Overall Chemical Status	Good
Overall Chemical Quality Element Status Objective	Good
Hydromorphology Supporting Elements Status	Supports Good
Hydrological regime	Supports Good
Mitigation Measures Assessment	Good

1.4 Broadland Rivers Chalk and Crag WFD Water Body

Table E-4 WFD Status of the Broadland Rivers Chalk & Crag groundwater WFD water body potentially impacted by the Proposed Scheme (source Ref 2.9) at NGR TG5140908672

Groundwater Area	3075.935km^2
Description	The groundwater water body underlies the entire Proposed Scheme alignment. The northern area of the proposed alignment crosses the River Wensum. This includes the superficial Alluvium, RTD, Head and SCF, and WCS bedrock deposit. The EA has classified the superficial deposits as Secondary A and Secondary B Aquifers. The WCS bedrock is classified as Principal Aquifer.
Overall Status	Poor
Status Objective	Good 2027

Groundwater Area	**3075.935km^2**
Overall Quantitative Status	Poor
Status Objective	Good 2027
Overall Chemical Status	Poor
Status Objective	Good 2027
Protected Area Designation	Nitrates Directive (NVZ12GW010780, NVZ12GW010710, NVZ12GW010790 & NVZ12GW011710), Drinking water protected Area (UKGB40501G400300).
Reason for not achieving Good status	Groundwater Abstraction; Agricultural and Rural Land Management
Water body Measures	N/A