

**A66 Northern Trans-Pennine Project
TR010062**

**3.4 Environmental Statement
Appendix 14.10 Assessment of Value**

APFP Regulations 5(2)(a)

Planning Act 2008

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

Volume 3

June 2022

Infrastructure Planning

Planning Act 2008

**The Infrastructure Planning
(Applications: Prescribed
Forms and Procedure)
Regulations 2009**

A66 Northern Trans-Pennine Project
Development Consent Order 202x

**3.4 ENVIRONMENTAL STATEMENT
APPENDIX 14.10 ASSESSMENT OF VALUE**

Regulation Number:	Regulation 5(2)(a)
Planning Inspectorate Scheme Reference	TR010062
Application Document Reference	3.4
Author:	A66 Northern Trans-Pennine Project Team, National Highways

Version	Date	Status of Version
Rev 1	13/06/22	DCO Application

CONTENTS

14.10 Assessment of value	1
14.10.1 Introduction	1
14.10.2 Identified receptors	1

14.10 Assessment of value

14.10.1 Introduction

- 14.10.1.1 The importance or value (hereafter referred to as value) assigned to receptors has been determined with reference to Table 3.70 of *Design Manual for Roads and Bridges (DMRB) LA 113 Road Drainage and the Water Environment (DMRB LA 113)* (Highways England, 2020)¹, whereby value is assigned based on the quality indicators of a receptor. It should be noted that 'value' in this context has the same definition and use as 'importance' does within *DMRB LA 113*.
- 14.10.1.2 Receptors within the study area were assessed against the criteria in *DMRB LA 113* Table 3.70 by using baseline information collected from desk studies and surveys. Not all surface watercourses are included, as the study area incorporates many watercourses that are either minor tributaries or modified field drains.
- 14.10.1.3 For GWDTEs, specific value criteria are given, as outlined in Appendix B of *DMRB LA 113*.
- 14.10.1.4 *DMRB LA 113* does not outline specific criteria for assigning value with regard to hydromorphology. The baseline hydromorphological condition of watercourses are outlined within ES Appendix 14.4: Hydromorphology Assessment (Application Document 3.4) and has been used to inform this assessment.

14.10.2 Identified receptors

- 14.10.2.1 Table 1: Value of water environment features, details the key receptors identified and their assigned values. It additionally states if the receptor has been scoped out of detailed assessment, and the reasons for this decision.
- 14.10.2.2 Receptors are presented on the following figures (Application Document 3.3):
- Surface water features – ES Figure 14.1: Surface Water Features (Application Document 3.3)
 - Groundwater features – ES Figure 14.6: Hydrogeological Study Areas and Features (Application Document 3.3)
 - Groundwater dependent terrestrial ecosystems (GWDTEs) – ES Figure 14.12: Potential Ground Water Dependant Terrestrial Ecosystems (GWDTE) (Application Document 3.3)
- 14.10.2.3 During site ecology surveys, a number of watercourses within the study area were confirmed to be 'functionally linked' to the River Eden Special Area of Conservation (SAC), as detailed within ES Appendix 6.18: Fish Habitat Assessment and MorPH, ES Appendix 6.19: Fish, ES Appendix 6.20: Aquatic Macrophyte and River Corridor Survey, ES Appendix 6.21: Aquatic Invertebrate, and ES Appendix 6.22: White Clawed Crayfish

¹ Highways England (2020) Design Manual for Roads and Bridges LA 113 Road drainage and the water environment

(Application Document 3.4). It is considered that the functionally linked habitats that support the River Eden SAC are of high value.

- 14.10.2.4 Approximate Q95 value ranges have been assumed based on the nearest available flow monitoring points on the National River Flow Archive. It is assumed that for small and unnamed tributaries, where flow monitoring data is not available, Q95 ranges are assumed to be $\leq 0.001 \text{ m}^3/\text{s}$

Table 1: Value of water environment features

Scheme	Key Receptor	Value	Value Rationale	Location relative to Order Limits	Rational for scoping out of detailed assessment
Routewide	The Project	Very High	Essential infrastructure	Within Order Limits	Scoped in
	Third party land (including surrounding properties and land use activities)	High	Residential properties	Land outside of Order Limits	Scoped in
M6 Junction 40 to Kemplay Bank	Carlsike Beck	Medium	Watercourse not classified under WFD. Q95 0.001 to 1 m3/s	505m south-west	Scoped out - lack of hydrological connection.
	Myers Beck	Medium	Watercourse not classified under WFD. Q95 0.001 to 1 m3/s	577m north of scheme	Scoped out - lack of hydrological connection.
	Dog Beck	Medium	Watercourse not classified under WFD. Q95 0.001 to 1 m3/s	404m north-east of scheme	Scoped in
	River Eamont	Very High	WFD classified watercourse River Eden and Tributaries SSSI River Eden SAC	Within Order Limits	Scoped in
	Thacka Beck	High	Watercourse is functionally linked to the River Eden SAC	Within Order Limits	Scoped in
	River Lowther	Very High	WFD classified watercourse.	249m south of scheme	Scoped out - lack of hydrological connection.

Scheme	Key Receptor	Value	Value Rationale	Location relative to Order Limits	Rational for scoping out of detailed assessment
			River Eden and Tributaries SSSI. River Eden SAC.		
	Unnamed Tributary of River Eamont 3.2	Low	Watercourse not classified under WFD. Q95 ≤0.001 m3/s	265m east of scheme	Scoped out - lack of hydrological connection.
	Secondary A Bedrock Aquifer (Alston Formation)	Medium	Capable of supporting water supplies	Underlying part of the scheme	Scoped in
	Principal Bedrock Aquifer (Penrith Sandstone)	High	Principal aquifer providing locally important resource.	Underlying part of the scheme	Scoped in
	Secondary A Superficial Deposits Aquifers (Alluvium, River Terrace Deposits and Glaciofluvial deposits)	Medium	Permeable layers capable of supporting water supplies at local scale	Underlying scheme	Scoped in
	Secondary (Undifferentiated) Superficial Deposits Aquifers (Glacial Till)	Medium	Permeable layers capable of supporting water supplies at local scale	Underlying scheme	Scoped in
	Groundwater Source Protection Zone (SPZ) (Zone III)	Medium	SPZ Zone III (Total catchment zone of abstraction used for drinking water)	Underlying part of the scheme	Scoped in

Scheme	Key Receptor	Value	Value Rationale	Location relative to Order Limits	Rational for scoping out of detailed assessment
	Abstraction well 2776004056/R01 at Penrith Industrial area (Permo-Triassic Sandstone)	High	Licensed abstraction	550m north	Scoped in
	Abstraction well 277600644 at Penrith and District Farmers Auction Mart (Permo-Triassic Sandstone)	High	Licensed abstraction	35m west	Scoped in
	Small private domestic and agricultural supplies <20m ³ /d	Medium	Potable water supply	Supplies located downgradient of scheme and 200m upgradient of the scheme	Scoped in
	Unmapped groundwater-surface water interactions	Medium	Supporting river baseflow and agricultural irrigation	Within zone of influence of cuttings	Scoped in
	Potential low dependency GWDTE ID 41, 38, 37, 64 as described in Appendix 14.7: Groundwater Dependant Terrestrial Ecosystem Assessment (Application Document 3.4)	High	Groundwater supports a potential GWDTE	Within Order Limits	Scoped in

Scheme	Key Receptor	Value	Value Rationale	Location relative to Order Limits	Rational for scoping out of detailed assessment
	Potential moderate dependency GWDTE ID 40 as described in Appendix 14.7: Groundwater Dependant Terrestrial Ecosystem Assessment (Application Document 3.4)	High	Groundwater supports a potential GWDTE	Within Order Limits	Scoped in
Penrith to Temple Sowerby	River Eamont	Very High	WFD classified watercourse. River Eden and Tributaries SSSI. River Eden SAC.	Within Order Limits	Scoped in
	River Lowther	Very High	WFD classified watercourse. River Eden and Tributaries SSSI. River Eden SAC.	377m west of the scheme	Scoped out - lack of hydrological connection.
	Unnamed Tributary of River Eamont 3.2	Low	Watercourse not classified under WFD. Q95 ≤ 0.001 m ³ /s	180m north	Scoped out - lack of hydrological connection.
	Unnamed Tributary of Light Water 3.1	Low	Watercourse not classified under WFD. Q95 ≤ 0.001 m ³ /s	Within Order Limits	Scoped in

Scheme	Key Receptor	Value	Value Rationale	Location relative to Order Limits	Rational for scoping out of detailed assessment
	Light Water	High	Watercourse is functionally linked to the River Eden SAC	Within Order Limits	Scoped in
	Unnamed Tributary of River Eamont 3.3	Low	Watercourse not classified under WFD. Q95 \leq 0.001 m3/s	Within Order Limits	Scoped in
	Unnamed Tributary of River Eamont 3.4	Low	Watercourse not classified under WFD. Q95 \leq 0.001 m3/s	Within Order Limits	Scoped in
	Unnamed Tributary of River Eamont 3.5	Low	Watercourse not classified under WFD. Q95 \leq 0.001 m3/s	Within Order Limits	Scoped in
	Swine Gill	Medium	Watercourse not classified under WFD. Q95 0.001 to 1 m3/	Within Order Limits	Scoped in
	Unnamed Tributary of River Eden 4.5	Low	Watercourse not classified under WFD. Q95 \leq 0.001 m3/s	26m east	Scoped in
	River Eden	Very High	WFD classified watercourse. River Eden and Tributaries SSSI. River Eden SAC.	886m east	Scoped in
	Unnamed Tributary of River Eamont 3.7	Low	Watercourse not classified under WFD. Q95 \leq 0.001 m3/s	32m north-east	Scoped in

Scheme	Key Receptor	Value	Value Rationale	Location relative to Order Limits	Rational for scoping out of detailed assessment
	Principal Bedrock Aquifer (Penrith Sandstone)	High	Principal aquifer providing locally important resource.	Underlying scheme	Scoped in
	Secondary A Superficial Deposits Aquifer (Alluvium, River Terrace Deposits and Glaciofluvial deposits)	Medium	Permeable layers capable of supporting water supplies at local scale.	Underlying scheme	Scoped in
	Secondary (Undifferentiated) Superficial Deposits Aquifer (Glacial Till)	Medium	Permeable layers capable of supporting water supplies at local scale	Underlying scheme	Scoped in
	Spring S29	Medium	Supporting river baseflow	Within Order Limits	Scoped out - not in hydraulic continuity with scheme
	Groundwater Source Protection Zone (SPZ) (Zone III)	Medium	SPZ Zone III (Total catchment zone of abstraction used for drinking water)	Within Order Limits	Scoped in
	Small private domestic and agricultural supplies <20m ³ /d	Medium	Potable water supply	Supplies located downgradient of scheme and 200m upgradient of the scheme	Scoped in

Scheme	Key Receptor	Value	Value Rationale	Location relative to Order Limits	Rational for scoping out of detailed assessment
	Unmapped groundwater-surface water interactions	Medium	Supporting river baseflow and agricultural irrigation	Within zone of influence of cuttings	Scoped in
	Potential low dependency GWDTE ID 62, 63, 61, 2, 1 as described in Appendix 14.7: Groundwater Dependant Terrestrial Ecosystem Assessment (Application Document 3.4)	High	Groundwater supports a potential GWDTE	Within Order Limits	Scoped in
Temple Sowerby to Appleby	Birk Sike	Medium	Watercourse not classified under WFD. Q95 0.001 to 1 m3/	Within Order Limits	Scoped in
	River Eden	Very High	WFD classified watercourse. River Eden and Tributaries SSSI. River Eden SAC.	54m south	Scoped in
	River Lyvennet	Very High	WFD classified watercourse. River Eden and Tributaries SSSI. River Eden SAC.	564m southwest	Scoped out - lack of hydrological connection.

Scheme	Key Receptor	Value	Value Rationale	Location relative to Order Limits	Rational for scoping out of detailed assessment
	Coat Sike	Medium	Watercourse not classified under WFD. Q95 0.001 to 1 m3/	890m south	Scoped out - lack of hydrological connection.
	Unnamed tributary of Birk Sike 4.2	Low	Watercourse not classified under WFD. Q95 \leq 0.001 m3/s	Within Order Limits	Scoped in
	Unnamed tributary of Birk Sike 4.3	Low	Watercourse not classified under WFD. Q95 \leq 0.001 m3/s	Within Order Limits	Scoped in
	Unnamed tributary of Trout Beck 4.1	Low	Watercourse not classified under WFD. Q95 \leq 0.001 m3/s	21m south-west	Scoped in
	Trout Beck	Very High	WFD classified watercourse. River Eden and Tributaries SSSI. River Eden SAC.	Within Order Limits	Scoped in
	Unnamed tributary of Keld Sike 4.1	Low	Watercourse not classified under WFD. Q95 \leq 0.001 m3/s	Within Order Limits	Scoped in
	Keld Sike (1)	Medium	Watercourse not classified under WFD. Q95 0.001 to 1 m3/	38m east	Scoped in
	Unnamed tributary of Trout Beck 4.2	Low	Watercourse not classified under WFD. Q95 \leq 0.001 m3/s	Within Order Limits	Scoped in

Scheme	Key Receptor	Value	Value Rationale	Location relative to Order Limits	Rational for scoping out of detailed assessment
	Unnamed Tributary of Trout Beck 4.3	Low	Watercourse not classified under WFD. Q95 \leq 0.001 m ³ /s	Within Order Limits	Scoped in
	Unnamed Tributary of Trout Beck 4.6	Low	Watercourse not classified under WFD. Q95 \leq 0.001 m ³ /s	Within Order Limits	Scoped in
	Keld Sike (2)	Medium	Watercourse not classified under WFD. Q95 0.001 to 1 m ³ /	176m north-east	Scoped out - lack of hydrological connection.
	Unnamed Tributary of River Eden 4.2	Low	Watercourse not classified under WFD. Q95 \leq 0.001 m ³ /s	Within Order Limits	Scoped in
	Unnamed Tributary of River Eden 4.3	Low	Watercourse not classified under WFD. Q95 \leq 0.001 m ³ /s	Within Order Limits	Scoped in
	Unnamed Tributary of Birk Sike 4.1	Low	Watercourse not classified under WFD. Q95 \leq 0.001 m ³ /s	Within Order Limits	Scoped in
	Unnamed Tributary of River Eden 4.0	Low	Watercourse not classified under WFD. Q95 \leq 0.001 m ³ /s	140m south	Scoped in
	Colby Beck	Medium	Watercourse not classified under WFD. Q95 0.001 to 1 m ³ /	610m south-east	Lack of hydrological connection.

Scheme	Key Receptor	Value	Value Rationale	Location relative to Order Limits	Rational for scoping out of detailed assessment
	Palmer Gill	Medium	Watercourse not classified under WFD. Q95 0.001 to 1 m3/	531m south	Scoped out - lack of hydrological connection.
	Sweetmilk Sike	Medium	Watercourse not classified under WFD. Q95 0.001 to 1 m3/	680m south	Scoped out - lack of hydrological connection.
	Teas Sike	Medium	Watercourse not classified under WFD. Q95 0.001 to 1 m3/	870m south	Scoped out - lack of hydrological connection.
	Unnamed Tributary of River Eden 4.1	Low	Watercourse not classified under WFD. Q95 ≤0.001 m3/s	138m east	Scoped out - lack of hydrological connection.
	Unnamed Tributary of Birk Sike 1.1	Low	Watercourse not classified under WFD. Q95 ≤0.001 m3/s	268m north	Scoped out - lack of hydrological connection.
	Surface water industrial abstraction at Kirby Thore Reservoir (Licence number: 2776003009)	Medium	Abstraction used for industrial use by British Gypsum	123m north-west	Scoped in
	Principal Bedrock Aquifer (Penrith Sandstone)	High	Principal aquifer providing locally important resource.	Underlying scheme	Scoped in
	Secondary B Bedrock Aquifer (Eden Shales)	Low	Predominantly lower permeability layers which may store and	Underlying scheme	Scoped in

Scheme	Key Receptor	Value	Value Rationale	Location relative to Order Limits	Rational for scoping out of detailed assessment
			yield limited amounts of groundwater.		
	Secondary A Superficial Deposits Aquifers (Alluvium, River Terrace Deposits and Glaciofluvial deposits)	Medium	Permeable layers capable of supporting water supplies at local scale	Underlying scheme	Scoped in
	Secondary (Undifferentiated) Superficial Deposits Aquifers (Glacial Till)	Medium	Permeable layers capable of supporting water supplies at local scale	Underlying scheme	Scoped in
	Spring S24	Medium	Supporting river baseflow	Within Order Limits	Scoped out - not in hydraulic continuity with scheme
	Spring S26	Medium	Supporting river baseflow	108m north	Scoped out - not in hydraulic continuity with scheme
	Spring S27	Medium	Supporting river baseflow	511m north	Scoped out - not in hydraulic continuity with scheme
	Spring S28	Medium	Supporting river baseflow	252m north-east	Scoped out - in hydraulic continuity with scheme
	Agricultural abstraction well (Licence number: 2776003013) at	High	Licensed abstraction	16m north	Scoped in

Scheme	Key Receptor	Value	Value Rationale	Location relative to Order Limits	Rational for scoping out of detailed assessment
	Spittals Farm (Permo-Triassic Sandstone)				
	Two industrial abstraction wells (Licence number: 2776003011) in Kirkby Thore (Permo-Triassic Sandstone)	High	Licensed abstraction	Within Order Limits	Scoped in
	Agricultural abstraction well (Licence number: 2776003012/R01) in Kirkby Thore (Permo-Triassic Sandstone)	High	Licensed abstraction	174m south-east	Scoped in
	Agricultural abstraction well (License number: 2776001134/R01) west of Appleby-in-Westmorland	High	Licensed abstraction	180m south	Pumping from 'Millstone Grit and Coal Measures' aquifer (now known as Stainmore Formation) which is not in hydraulic continuity with this scheme and hence scoped out
	Unlicensed private abstraction (<20m ³ /d) south-west of Sleastonhow Farm	Medium	Private abstraction utilised for residential and commercial water supply	Within Order Limits	Scoped in
	Small private domestic and agricultural supplies <20m ³ /d	Medium	Potable water supply	Supplies located downgradient of scheme and 200m	Scoped in

Scheme	Key Receptor	Value	Value Rationale	Location relative to Order Limits	Rational for scoping out of detailed assessment
				upgradient of the scheme	
	Unmapped groundwater-surface water interactions	Medium	Supporting river baseflow and agricultural irrigation	Within zone of influence of cuttings	Scoped in
	Potential low dependency GWDTE ID 3 as described in Appendix 14.7: Groundwater Dependant Terrestrial Ecosystem Assessment (Application Document 3.4)	High	Groundwater supports a potential GWDTE	Within Order Limits	Scoped in
Appleby to Brough	Hilton Beck	Very High	Protected under River Eden and Tributaries SSSI and River Eden SAC.	836m west of the scheme	Scoped out - lack of hydrological connection
	George Gill	Medium	Watercourse not classified under WFD. Q95 0.001 to 1 m ³ /s	430m north of the west of the scheme	Scoped out - lack of hydrological connection
	Coupland Beck	Very High	Protected under River Eden and Tributaries SSSI and River Eden SAC.	830m north-west of the scheme	Scoped out - lack of hydrological connection

Scheme	Key Receptor	Value	Value Rationale	Location relative to Order Limits	Rational for scoping out of detailed assessment
	Lycum Beck	Medium	Watercourse not classified under WFD. Q95 0.001 to 1 m3/s	430m north of the scheme	Scoped out - lack of hydrological connection
	River Eden	Very High	WFD classified watercourse. River Eden and Tributaries SSSI. River Eden SAC.	410m south-west, parallel to the scheme	Scoped in
	Greenber Sike	Medium	Watercourse not classified under WFD. Q95 0.001 to 1 m3/s	840m south	Scoped out - lack of hydrological connection
	Helm Beck	High	WFD classified watercourse. Q95 \leq 1.0 m3/s	766m south	Scoped out - lack of hydrological connection
	Unnamed Tributary of Mire Sike 6.1	Low	Watercourse not classified under WFD. Q95 \leq 0.001 m3/s	Within Order Limits	Scoped in
	Unnamed Tributary of Mire Sike 6.5	Low	Watercourse not classified under WFD. Q95 \leq 0.001 m3/s	37m west	Scoped in
	Unnamed Tributary of Mire Sike 6.4	Low	Watercourse not classified under WFD. Q95 \leq 0.001 m3/s	Within Order Limits	Scoped in
	Unnamed Tributary of Mire Sike 6.8	Low	Watercourse not classified under WFD. Q95 \leq 0.001 m3/s	Within Order Limits	Scoped in

Scheme	Key Receptor	Value	Value Rationale	Location relative to Order Limits	Rational for scoping out of detailed assessment
	Unnamed Tributary of Mire Sike 6.6	Low	Watercourse not classified under WFD. Q95 ≤0.001 m3/s	110m south	Scoped in
	Unnamed Tributary of Mire Sike 6.12	High	Watercourse is functionally linked to the River Eden SAC	Within Order Limits	Scoped in
	Unnamed Tributary of Mire Sike 6.13	Low	Watercourse not classified under WFD. Q95 ≤0.001 m3/s	105m north	Scoped out - lack of hydrological connection
	Mire Sike	High	Watercourse is functionally linked to the River Eden SAC	Within Order Limits	Scoped in
	Unnamed Tributary of Cringle Beck 6.1	Low	Watercourse not classified under WFD. Q95 ≤0.001 m3/s	Within Order Limits	Scoped in
	Cringle Beck	High	Watercourse is functionally linked to the River Eden SAC	Within Order Limits	Scoped in
	Unnamed Tributary of Cringle Beck 6.3	Low	Watercourse not classified under WFD. Q95 ≤0.001 m3/s	Within Order Limits	Scoped in
	Hayber Beck	High	Watercourse is functionally linked to the River Eden SAC	Within Order Limits	Scoped in
	Moor Beck	High	Watercourse is functionally linked to the River Eden SAC	Within Order Limits	Scoped in

Scheme	Key Receptor	Value	Value Rationale	Location relative to Order Limits	Rational for scoping out of detailed assessment
	Moor Beck (Offtake)	Low	Watercourse not classified under WFD. Q95 ≤0.001 m ³ /s Artificial Channel	Within Order Limits	Scoped in
	Eastfield Sike	High	Watercourse is functionally linked to the River Eden SAC	Within Order Limits	Scoped in
	Crooks Beck	High	Watercourse is functionally linked to the River Eden SAC. WFD classified watercourse.	Within Order Limits	Scoped in
	Lowgill Beck	High	Watercourse is functionally linked to the River Eden SAC WFD classified watercourse.	Within Order Limits	Scoped in
	Unnamed Tributary of Lowgill Beck 6.1	Low	Watercourse not classified under WFD. Q95 ≤0.001 m ³ /s	Within Order Limits	Scoped in
	Woodend Sike	High	Watercourse is functionally linked to the River Eden SAC	Within Order Limits	Scoped in
	Yosgill Sike	High	Watercourse is functionally linked to the River Eden SAC.	Within Order Limits	Scoped in

Scheme	Key Receptor	Value	Value Rationale	Location relative to Order Limits	Rational for scoping out of detailed assessment
	Unnamed Tributary of Lowgill Beck 6.7	Low	Watercourse not classified under WFD. Q95 $\leq 0.001 \text{ m}^3/\text{s}$	Within Order Limits	Scoped in
	Unnamed Tributary of Lowgill Beck 6.3	Low	Watercourse not classified under WFD. Q95 $\leq 0.001 \text{ m}^3/\text{s}$	Within Order Limits	Scoped in
	Swindale Beck	Medium	Watercourse not classified under WFD. Q95 0.001 to $1 \text{ m}^3/\text{s}$	304m east of scheme	Scoped out - lack of hydrological connection
	Augill Beck	Medium	Watercourse not classified under WFD. Q95 0.001 to $1 \text{ m}^3/\text{s}$	426m east of scheme	Scoped out - lack of hydrological connection
	Unnamed Tributary of Mire Sike 6.9	Low	Watercourse not classified under WFD. Q95 $\leq 0.001 \text{ m}^3/\text{s}$	46m north	Scoped in
	Unnamed Tributary of Mire Sike 6.10	Low	Watercourse not classified under WFD. Q95 $\leq 0.001 \text{ m}^3/\text{s}$	180m south	Scoped in
	Unnamed Tributary of Lowgill Beck 6.6	Low	Watercourse not classified under WFD. Q95 $\leq 0.001 \text{ m}^3/\text{s}$	91m south	Scoped out - lack of hydrological connection
	Unnamed Tributary of Lowgill Beck 6.5	Low	Watercourse not classified under WFD. Q95 $\leq 0.001 \text{ m}^3/\text{s}$	200m north	Scoped out - lack of hydrological connection

Scheme	Key Receptor	Value	Value Rationale	Location relative to Order Limits	Rational for scoping out of detailed assessment
	Unnamed Tributary of Augill Beck 1.1	Low	Watercourse not classified under WFD. Q95 \leq 0.001 m ³ /s	557m east	Scoped out - lack of hydrological connection
	Unnamed Tributary of Yosgill Sike 1.1	Low	Watercourse not classified under WFD. Q95 \leq 0.001 m ³ /s	400m north-east	Scoped out - lack of hydrological connection
	Unnamed Tributary of Mire Sike 6.15	Low	Watercourse not classified under WFD. Q95 \leq 0.001 m ³ /s	400m south	Scoped out - lack of hydrological connection
	Unnamed Tributary of Lowgill Beck 6.8	Low	Watercourse not classified under WFD. Q95 \leq 0.001 m ³ /s	220m south	Scoped out - lack of hydrological connection
	Principal Bedrock Aquifer (Penrith Sandstone)	High	Principal aquifer providing locally important resource.	Underlying scheme	Scoped in
	Secondary A Bedrock Aquifer (Stainmore Formation)	Medium	Capable of supporting water supplies	Underlying part of the scheme	Scoped in
	Secondary A Superficial Deposits Aquifers (Alluvium, River Terrace Deposits and Glaciofluvial deposits)	Medium	Permeable layers capable of supporting water supplies at local scale.	Underlying scheme	Scoped in
	Secondary (Undifferentiated) Superficial Deposits	Medium	Permeable layers capable of supporting	Underlying scheme	Scoped in

Scheme	Key Receptor	Value	Value Rationale	Location relative to Order Limits	Rational for scoping out of detailed assessment
	Aquifers (Glacial Till)		water supplies at local scale.		
	Spring S23	Medium	Surveying indicates boggy ground, likely seepage	808m north	Scoped out - not in hydraulic continuity with scheme
	Spring S50	Low	Surveying indicated drainage feature, and not groundwater-surface water interaction	196m south	Scoped out - not in hydraulic continuity with scheme
	Abstraction well NW/076/0001/009 at Eastfield Farm (Permo-Triassic Sandstone)	High	Licensed abstraction	55m south	Scoped in
	Abstraction well 2776001135/R01 at West View Brough, Kirkby Stephen (Permo-Triassic Sandstone)	High	Licensed abstraction	72m south	Scoped in
	Small private domestic and agricultural supplies <20m ³ /d	Medium	Potable water supply	Supplies located downgradient of scheme and 200m upgradient of the scheme	Scoped in
	Flitholme Spring	Medium	Used for agricultural water supply	Within Order Limits	Scoped in

Scheme	Key Receptor	Value	Value Rationale	Location relative to Order Limits	Rational for scoping out of detailed assessment
	Wildboar Hill Springs	Medium	Springs located around Wildboar Hill and surrounding area that feed local ditches utilised by livestock for drinking	Within Order Limits (precautionary as spring locations have not been identified or surveyed at this time)	Scoped in
	Potential high dependency GWDTE (Dyke Nook Fen) ID 45, 44, 48, 47, 46 as described in ES Appendix 14.7: Groundwater Dependant Terrestrial Ecosystem Assessment (Application Document 3.4)	Very High	Fen habitat has been classified as a highly valuable habitat through consultation with Natural England, as outlined in Chapter 6: Biodiversity (Application Document 3.2))	Partially Within Order Limits	Scoped in
	Potential high dependency GWDTE Flitholme Fen ID 60 as described in ES Appendix 14.7: Groundwater Dependant Terrestrial Ecosystem Assessment (Application Document 3.4)	Very High	Fen habitat has been classified as a highly valuable habitat through consultation with Natural England	Within Order Limits	Scoped in

Scheme	Key Receptor	Value	Value Rationale	Location relative to Order Limits	Rational for scoping out of detailed assessment
	Potential moderate dependency GWDTE Flitholme Woodland ID 32 as described in ES Appendix 14.7: Groundwater Dependant Terrestrial Ecosystem Assessment (Application Document 3.4)	High	Fen habitat has been classified as a highly valuable habitat through consultation with Natural England	Within Order Limits	Scoped in
	Potential low dependency GWDTE ID 36, 43, 42, 52, 54, 53, 51, 50, 33, 65, 27, 26, 25, 23, 24, 18, 19, 20, 21, 22, 17, 31, 30, 29, 28, 57 as described in ES Appendix 14.7: Groundwater Dependant Terrestrial Ecosystem Assessment (Application Document 3.4)	High	Groundwater supports a potential GWDTE	Within Order Limits	Scoped in
	Potential moderate dependency GWDTE	High	Groundwater supports a potential GWDTE	Within Order Limits	Scoped in

Scheme	Key Receptor	Value	Value Rationale	Location relative to Order Limits	Rational for scoping out of detailed assessment
	ID 35, 34, 5, 6, 7, 4, 10 as described in ES Appendix 14.7: Groundwater Dependant Terrestrial Ecosystem Assessment (Application Document 3.4)				
	Unmapped groundwater-surface water interactions	Medium	Supporting river baseflow and agricultural irrigation	Within zone of influence of cuttings	Scoped in
Bowes Bypass	Bessy Sike	Medium	Watercourse not classified under WFD. Q95 0.001 to 1 m ³ /	600m north of the scheme	Scoped out - lack of hydrological connection.
	Unnamed Tributary of River Greta 7.7	Low	Watercourse not classified under WFD. Q95 ≤0.001 m ³ /s	560m west of the scheme	Scoped out - lack of hydrological connection.
	Unnamed Tributary of River Greta 7.1	Low	Watercourse not classified under WFD. Q95 ≤0.001 m ³ /s	Within Order Limits	Scoped in
	Unnamed Tributary of River Greta 7.3	Low	Watercourse not classified under WFD. Q95 ≤0.001 m ³ /s	Within Order Limits	Scoped in
	Chert Gill	Medium	Watercourse not classified under WFD. Q95 0.001 to 1 m ³ /	120m south of the scheme	Scoped out - lack of hydrological connection.

Scheme	Key Receptor	Value	Value Rationale	Location relative to Order Limits	Rational for scoping out of detailed assessment
	How Low Gill	Medium	Watercourse not classified under WFD. Q95 0.001 to 1 m ³ /	560m south of the scheme	Scoped out - lack of hydrological connection.
	Unnamed Tributary of River Greta 7.5	Low	Watercourse not classified under WFD. Q95 ≤0.001 m ³ /s	Within Order Limits	Scoped in
	Unnamed Tributary of River Greta 7.6	Low	Watercourse not classified under WFD. Q95 ≤0.001 m ³ /s	Within Order Limits	Scoped in
	River Greta	High	WFD classified watercourse. Q95 <1.0m ³ /s	Within Order Limits	Scoped in
	Unnamed Tributary of River Greta 7.2	Low	Watercourse not classified under WFD. Q95 ≤0.001 m ³ /s	72m west	Scoped in
	Thorsgill Beck	Medium	Watercourse not classified under WFD. Q95 0.001 to 1 m ³ /	370m north of scheme	Scoped out - lack of hydrological connection.
	Huggill Sike	Medium	Watercourse not classified under WFD. Q95 0.001 to 1 m ³ /s	780m south-west	Scoped out - lack of hydrological connection.
	Tom Gill	Medium	Watercourse not classified under WFD. Q95 0.001 to 1 m ³ /s	543m south	Scoped out - lack of hydrological connection.
	Unnamed Tributary of River Greta 7.4	Medium	Watercourse not classified under WFD.	Within Order Limits	Scoped in

Scheme	Key Receptor	Value	Value Rationale	Location relative to Order Limits	Rational for scoping out of detailed assessment
			Q95 0.001 to 1 m ³ /s		
	Secondary A Bedrock Aquifers (Stainmore Formation and Alston Formation)	Medium	Capable of supporting water supplies.	Underlying scheme	Scoped in
	Secondary A Superficial Deposits Aquifers (Alluvium, River Terrace Deposits and Glaciofluvial deposits)	Medium	Permeable layers capable of supporting water supplies at local scale.	Underlying scheme	Scoped in
	Secondary (Undifferentiated) Superficial Deposits Aquifers (Glacial Till)	Medium	Permeable layers capable of supporting water supplies at local scale.	Underlying scheme	Scoped in
	Unlicensed abstraction - Greta Spring	Medium	Assumed surface water abstraction south of the River Greta based on location and name	657m south-east	Scoped out - not in hydraulic continuity with scheme
	Unlicensed abstraction - Plantation Spring	Medium	Assumed surface water abstraction south of the River Greta based on location and name	758m south	Scoped out - not in hydraulic continuity with scheme

Scheme	Key Receptor	Value	Value Rationale	Location relative to Order Limits	Rational for scoping out of detailed assessment
	Spring S2	Medium	Supporting baseflow	716m south	Scoped out - not in hydraulic continuity with scheme
	Spring S3	Medium	Supporting baseflow	774m south	Scoped out - not in hydraulic continuity with scheme
	Spring S4	Medium	Supporting baseflow	672m south	Scoped out - not in hydraulic continuity with scheme
	Spring S6	Medium	Supporting baseflow	664m south	Scoped out - not in hydraulic continuity with scheme
	Spring S7	Medium	Supporting baseflow	740m south	Scoped out - not in hydraulic continuity with scheme
	Spring S8	Medium	Supporting baseflow	656m south	Scoped out - not in hydraulic continuity with scheme
	Spring S9	Medium	Supporting baseflow	676m south	Scoped out - not in hydraulic continuity with scheme
	Spring S10	Medium	Supporting baseflow	613m south	Scoped out - not in hydraulic continuity with scheme
	Spring S11	Medium	Supporting baseflow	720m south	Scoped out - not in hydraulic continuity with scheme

Scheme	Key Receptor	Value	Value Rationale	Location relative to Order Limits	Rational for scoping out of detailed assessment
	Spring S12	Medium	Supporting baseflow	755m south	Scoped out - not in hydraulic continuity with scheme
	Spring S13	Medium	Supporting baseflow	510m south	Scoped out - not in hydraulic continuity with scheme
	Spring S14	Medium	Supporting baseflow	491m south	Scoped out - not in hydraulic continuity with scheme
	Spring S15	Medium	Supporting baseflow	683m south	Scoped out - not in hydraulic continuity with scheme
	Spring S16	Medium	Supporting baseflow	665m south	Scoped out - not in hydraulic continuity with scheme
	Spring S17	Medium	Supporting baseflow	650m south	Scoped out - not in hydraulic continuity with scheme
	Spring S19	Medium	Supporting baseflow	378m south	Scoped in
	Spring S20	Low	No spring identified during survey. Stream that runs across field into culvert that cuts under A66	80m north	Scoped out - not in hydraulic continuity with scheme
	Spring S22	Medium	Supporting baseflow	841m north	Scoped out - not in hydraulic continuity with scheme

Scheme	Key Receptor	Value	Value Rationale	Location relative to Order Limits	Rational for scoping out of detailed assessment
	Sink 126	Low	Water ponds most likely mine water which discharges into a culvert below the Hulands Quarry access road and subsequently into Thorsgill Beck	604m north	Scoped out - not in hydraulic continuity with scheme
	Western Bowes Springs	Medium	Springs that feed fields on the western end of Bowes highlighted during consultation with local landowners (see DCO Document 4.4: Consultation Report).	Within Order Limits (precautionary as locations have not been surveyed with indicative locations provided during consultation)	Scoped in
	Small private domestic and agricultural supplies <20m ³ /d	Medium	Potable water supply	Supplies located downgradient of scheme and 200m upgradient of the scheme	Scoped in
	Potential low dependency GWDTE ID 49 as described in ES Appendix 14.7: Groundwater Dependant Terrestrial Ecosystem Assessment	High	Groundwater supports a potential GWDTE	Within Order Limits	Scoped in

Scheme	Key Receptor	Value	Value Rationale	Location relative to Order Limits	Rational for scoping out of detailed assessment
	(Application Document 3.4)				
	Potential moderate dependency GWDTE ID 59 as described in ES Appendix 14.7: Groundwater Dependant Terrestrial Ecosystem Assessment (Application Document 3.4)	High	Groundwater supports a potential GWDTE	Within Order Limits	Scoped in
	Unmapped groundwater-surface water interactions	Medium	Supporting river baseflow and agricultural irrigation	Within zone of influence of cuttings	Scoped in
Cross Lanes to Rokeby	Thorsgill Beck	Medium	Watercourse not classified under WFD. Q95 0.001 to 1 m ³ /s	530m north of scheme	Scoped out - lack of hydrological connection
	Punder Gill	Medium	Watercourse not classified under WFD. Q95 0.001 to 1 m ³ /s	Within Order Limits	Scoped in
	Unnamed Tributary of Punder Gill 8.1	Low	Watercourse not classified under WFD. Q95 ≤0.001 m ³ /s	Within Order Limits	Scoped in
	Unnamed Tributary of Tutta Beck 8.1	Low	Watercourse not classified under WFD. Q95 ≤0.001 m ³ /s	Within Order Limits	Scoped in

Scheme	Key Receptor	Value	Value Rationale	Location relative to Order Limits	Rational for scoping out of detailed assessment
	Tutta Beck	Medium	Watercourse not classified under WFD. Q95 0.001 to 1 m ³ /	Within Order Limits	Scoped in
	New Cut	Medium	Watercourse not classified under WFD. Q95 0.001 to 1 m ³ /	500m south of the scheme	Scoped out - lack of hydrological connection
	Unnamed Tributary of Tutta Beck 8.2	Low	Watercourse not classified under WFD. Q95 ≤0.001 m ³ /s	Within Order Limits	Scoped in
	Unnamed Tributary of Tutta Beck 8.3	Low	Watercourse not classified under WFD. Q95 ≤0.001 m ³ /s	7m south	Scoped in
	Partridge Gill	Medium	Watercourse not classified under WFD. Q95 0.001 to 1 m ³ /	246m south of the scheme	Scoped out - lack of hydrological connection
	Wellfield Strand	Medium	Watercourse not classified under WFD. Q95 0.001 to 1 m ³ /	236m south of the scheme	Scoped out - lack of hydrological connection
	Manyfold Beck	Medium	Watercourse not classified under WFD. Q95 0.001 to 1 m ³ /	Within Order Limits	Scoped in
	Unnamed Tributary of Manyfold Beck 8.3	Low	Watercourse not classified under WFD. Q95 ≤0.001 m ³ /s	Within Order Limits	Scoped in
	Unnamed Tributary of Manyfold Beck 8.1	Low	Watercourse not classified under WFD.	Within Order Limits	Scoped in

Scheme	Key Receptor	Value	Value Rationale	Location relative to Order Limits	Rational for scoping out of detailed assessment
			Q95 \leq 0.001 m ³ /s		
	River Greta	High	WFD classified watercourse. Q95 <1.0m ³ /s	126m east	Scoped in
	River Tees	Very High	WFD classified watercourse. Q95 \geq 1.0m ³ /s	388m north	Scoped in
	Unnamed Tributary of Mannyfold Beck 8.4	Low	Watercourse not classified under WFD. Q95 \leq 0.001 m ³ /s	221m north	Scoped out - lack of hydrological connection
	Unnamed Tributary of River Tees 1.1	Low	Watercourse not classified under WFD. Q95 \leq 0.001 m ³ /s	320m north	Scoped out - lack of hydrological connection
	Secondary A Bedrock Aquifers (Stainmore Formation and Alston Formation)	Medium	Capable of supporting water supplies.	Underlying scheme	Scoped in
	Secondary A Superficial Deposits Aquifers (Alluvium, River Terrace Deposits and Glaciofluvial deposits)	Medium	Permeable layers capable of supporting water supplies at local scale.	Underlying scheme	Scoped in
	Secondary (Undifferentiated) Superficial Deposits	Medium	Permeable layers capable of supporting water supplies at local scale.	Underlying scheme	Scoped in

Scheme	Key Receptor	Value	Value Rationale	Location relative to Order Limits	Rational for scoping out of detailed assessment
	Aquifers (Glacial Till)				
	Spring S18	Medium	Supporting baseflow	350m south	Scoped out - not in hydraulic continuity with scheme
	Spring S21	Medium	Supporting baseflow	240m northeast	Scoped in
	Small private domestic and agricultural supplies <20m ³ /d	Medium	Potable water supply	Supplies located downgradient of scheme and 200m upgradient of the scheme	Scoped in
	Unmapped groundwater-surface water interactions	Medium	Supporting river baseflow and agricultural irrigation	Within zone of influence of cuttings	Scoped in
Stephen Bank to Carkin Moor	Browson Beck	Medium	Watercourse not classified under WFD. Q95 0.001 to 1 m ³ /s	Within Order Limits	Scoped in
	Sprent Beck	Medium	Watercourse not classified under WFD. Q95 0.001 to 1 m ³ /s	890m south-west	Scoped out - lack of hydrological connection
	Sker Burn	Medium	Watercourse not classified under WFD. Q95 0.001 to 1 m ³ /s	855m south-west	Scoped out - lack of hydrological connection
	Cottonmill Beck	Medium	Watercourse not classified under WFD. Q95 0.001 to 1 m ³ /s	Within Order Limits	Scoped in

Scheme	Key Receptor	Value	Value Rationale	Location relative to Order Limits	Rational for scoping out of detailed assessment
	Dyson Beck	Medium	Watercourse not classified under WFD. Q95 0.001 to 1 m ³ /s	624m west	Scoped out - lack of hydrological connection
	Hartforth Beck	Medium	Watercourse not classified under WFD. Q95 0.001 to 1 m ³ /s	878m south of scheme	Scoped in
	Holme Beck	Medium	Watercourse not classified under WFD. Q95 0.001 to 1 m ³ /s	720m south of scheme	Scoped in
	Mains Gill	Medium	Watercourse not classified under WFD. Q95 0.001 to 1 m ³ /s	Within Order Limits	Scoped in
	Smallways Beck	Medium	Watercourse not classified under WFD. Q95 0.001 to 1 m ³ /s	768m west	Scoped in
	Stalwath Beck	Medium	Watercourse not classified under WFD. Q95 0.001 to 1 m ³ /s	929m south of scheme	Scoped out - lack of hydrological connection
	Dalton Beck	Medium	Watercourse not classified under WFD. Q95 0.001 to 1 m ³ /s	985m south of scheme	Scoped out - lack of hydrological connection
	Unnamed Tributary of Cottonmill Beck 9.3	Low	Watercourse not classified under WFD. Q95 ≤0.001 m ³ /s	Within Order Limits	Scoped in
	Unnamed Tributary of Dalton Beck 9.1	Low	Watercourse not classified under WFD.	Within Order Limits	Scoped in

Scheme	Key Receptor	Value	Value Rationale	Location relative to Order Limits	Rational for scoping out of detailed assessment
			Q95 \leq 0.001 m ³ /s		
	Unnamed Tributary of Hartforth Beck 1.1	Low	Watercourse not classified under WFD. Q95 \leq 0.001 m ³ /s	Within Order Limits	Scoped in
	Unnamed Tributary of Holme Beck 9.8	Low	Watercourse not classified under WFD. Q95 \leq 0.001 m ³ /s	Within Order Limits	Scoped in
	Unnamed Tributary of Holme Beck 9.2	Low	Watercourse not classified under WFD. Q95 \leq 0.001 m ³ /s	Within Order Limits	Scoped in
	Unnamed Tributary of Holme Beck 9.3	Low	Watercourse not classified under WFD. Q95 \leq 0.001 m ³ /s	Within Order Limits	Scoped in
	Unnamed Tributary of Holme Beck 9.4	Low	Watercourse not classified under WFD. Q95 \leq 0.001 m ³ /s	Within Order Limits	Scoped in
	Unnamed Tributary of Holme Beck 9.6	Low	Watercourse not classified under WFD. Q95 \leq 0.001 m ³ /s	Within Order Limits	Scoped in
	Unnamed Tributary of Holme Beck 9.1	Low	Watercourse not classified under WFD. Q95 \leq 0.001 m ³ /s	Within Order Limits	Scoped in
	Unnamed Tributary of Hutton Beck 1.1	Low	Watercourse not classified under WFD. Q95 \leq 0.001 m ³ /s	606m north	Scoped out - lack of hydrological connection

Scheme	Key Receptor	Value	Value Rationale	Location relative to Order Limits	Rational for scoping out of detailed assessment
	Unnamed Tributary of Mains Gill 9.1	Low	Watercourse not classified under WFD. Q95 \leq 0.001 m ³ /s	Within Order Limits	Scoped in
	Unnamed Tributary of Mains Gill 9.3	Low	Watercourse not classified under WFD. Q95 \leq 0.001 m ³ /s	Within Order Limits	Scoped in
	Unnamed Tributary of Smallways Beck 9.1	Low	Watercourse not classified under WFD. Q95 \leq 0.001 m ³ /s	142m west of scheme	Scoped in
	Unnamed Tributary of Smallways Beck 9.4	Low	Watercourse not classified under WFD. Q95 \leq 0.001 m ³ /s	100m south of scheme	Scoped in
	Secondary A Bedrock Aquifers (Stainmore Formation and Alston Formation)	Medium	Capable of supporting water supplies.	Underlying scheme	Scoped in
	Secondary A Superficial Deposits Aquifers (Alluvium, River Terrace Deposits and Glaciofluvial deposits)	Medium	Permeable layers capable of supporting water supplies at local scale.	Underlying scheme	Scoped in
	Secondary (Undifferentiated) Superficial Deposits Aquifers (Glacial Till)	Medium	Permeable layers capable of supporting water supplies at local scale.	Underlying scheme	Scoped in

Scheme	Key Receptor	Value	Value Rationale	Location relative to Order Limits	Rational for scoping out of detailed assessment
	Groundwater Source Protection Zone (SPZ) (Zone I)	High	SPZ Zone I (inner zone of abstraction used for drinking water) associated with licensed abstraction at Pond Dale. Outside red line boundary, but within study area.	165m south-west	Scoped in
	Groundwater Source Protection Zone (SPZ) (Zone I)	High	SPZ Zone I (inner zone of abstraction used for drinking water) associated with licensed abstraction at Blackhill Farm. Outside red line boundary but within study area.	511m southeast	Scoped in
	Spring S1	Medium	Supporting baseflow	288m south	Scoped in
	Abstraction well (2/27/23/661/R01) at Pond Dale	High	Licensed abstraction	165m south-west	Scoped in
	Abstraction well (no license number) at Blackhill Farm	High	Licensed abstraction	511m southeast	Scoped in
	Small private domestic and agricultural supplies <20m ³ /d	Medium	Potable water supply	Supplies located downgradient of scheme and 200m upgradient of the scheme	Scoped in

Scheme	Key Receptor	Value	Value Rationale	Location relative to Order Limits	Rational for scoping out of detailed assessment
	Potential low dependency GWDTE ID 55 as described in Appendix 14.7: Groundwater Dependant Terrestrial Ecosystem Assessment (Application Document 3.4)	High	Groundwater supports a potential GWDTE	Within Order Limits	Scoped in
	Unmapped groundwater-surface water interactions	Medium	Supporting river baseflow and agricultural irrigation	Within zone of influence of cuttings	Scoped in
A1(M) Junction 53 Scotch Corner	Ludburn Beck	Medium	Watercourse not classified under WFD. Q95 0.001 to 1 m ³ /s	418m east of the scheme	Scoped out - lack of hydrological connection.
	Secondary A Bedrock Aquifers (Alston Formation)	Medium	Capable of supporting water supplies.	Underlying scheme	Scoped in
	Secondary (Undifferentiated) Superficial Deposits Aquifers (Glacial Till)	Medium	Permeable layers capable of supporting water supplies at local scale.	Underlying scheme	Scoped in

Scheme	Key Receptor	Value	Value Rationale	Location relative to Order Limits	Rational for scoping out of detailed assessment
	Abstraction well 2/27/23/702/R1 in Middleton Tyas	High	Licensed abstraction	870m north	Scoped in
	Small private domestic and agricultural supplies <20m ³ /d	Medium	Potable water supply	Downgradient of scheme and 200m upgradient of the scheme	Scoped in
	Unmapped groundwater-surface water interactions	Medium	Supporting river baseflow and agricultural irrigation	Within zone of influence of cuttings	Scoped in