

M5 Junction 10 Improvement Scheme

Appendix 6/14

Limiting Values for Pollution of Controlled Waters

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Version	Status	Date	Author	Checker	Reviewer	Approver	Changes
P05		14/01/26	SH	CR	AG	AG	Additional criteria added to address EA comments
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P03	S5	20/11/25	JD	ALO	AG	DS	Issued for Acceptance
P02	S4	30/09/25	ALO	AM	AG	DS	Second Issue

Appendix 6/14

Limiting Values for Pollution of Controlled Waters

1. This appendix pertains to site won made ground or imported materials (under permit) to be re-used on site only. This appendix does not apply to virgin materials such as quarry aggregates, which will be considered chemically suitable for re-use in accordance with geotechnical requirements without the need for further chemical testing.
2. Limiting values for pollution of controlled water are presented in Table 6/14-1. These should be applied to 10:1 leachate effluent data in mg/l or µg/l, obtained using the BS EN 12457-1 methodology.
3. Testing shall be scheduled in contract-specific Appendix 1/5, including frequencies, certifications and any other scheme-specific requirements. If material is observed to have visual/olfactory evidence of contamination, then additional testing will be required. Samples will be collected under chain of custody and tested in a suitable laboratory which is UKAS accredited and MCERTS compliant.
4. Imported materials must be suitable for use and therefore require assessment. Where adequate prior testing and assessment are not available additional testing is required for comparison with the limiting values in table 6/14-1 prior to importation to the site.
5. The limiting values presented in Table 6/14-1 are based on Environmental Quality Standards (EQS) for freshwater as the main receptor.
6. The following acceptance criteria have been selected to be protective of controlled waters.

Table 6/14-1: Acceptance Criteria for Limiting Values for Controlled Waters

Determinand	Soil Leachate Concentration	
	Screening Value (µg/l)	Source
Arsenic (inorganic)	10	DWS
Cadmium	0.08	EQS
Chromium (as VI)	3.4	EQS
Chromium (as III)	4.7	
Copper	1 ¹	EQS
Lead	1.2 ¹	EQS
Mercury (elemental)	0.07	EQS
Nickel	4 ¹	EQS
Zinc	10.9 ¹	EQS
Ammoniacal Nitrogen as N	300 ²	EQS
Chloride	250,000	EQS
Cyanide	1	EQS
pH	6-9 (pH units)	EQS
Sulphate	400,000	EQS
TPH (EC5-EC35)	10 ³	EQS
Visual and olfactory – see Table 6/15		

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Notes:

These values are derived GACs based on the Environmental Quality Standards (EQS – surface water).

- # The UK Drinking Water Standards (DWS) has been used as an initial screening value for arsenic based upon the results of the site-based dataset.
- ¹ Bioavailable fraction. The fraction of the dissolved concentration likely to result in toxic effects as determined using the UKTAG Metal Bioavailability Assessment Tool (also referred to as a PNEC Estimator)
- ² Based on 'High' status value for rivers >80mAOD Type 3, 5 or 7. Most recent 12 months data from Leigh Brook Stains Bridge MD-04496180 reviewed October 2024 to October 2025: CaCO₃ data ranged from 98-330mg/l, Ammoniacal Nitrogen as N ranged from <0.03 to 170µg/l ('High' status).
- ³ There is no quantitative criterion for total petroleum hydrocarbons (TPH). Historically, standards provided for petroleum hydrocarbons ranges from 10µg/l (Private Water Supply Regulations 1991, removed from the 2009 regulations) to 50µg/l-1000µg/l (Surface Waters (Abstraction for Drinking Water) Regulations 1989). A value of 10 µg/l has been adopted representing the lowest identified historical value.