



South East Strategic Reservoir Option
Preliminary Environmental Information Report

Appendix 1 1.1 - Preliminary assessment of effects for Materials and waste

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1 Preliminary assessment of effects

1.1 Introduction

- 1.1.1 This appendix sets out the preliminary assessment of effects for materials and waste, receptor by receptor, for the construction stage. Potential effects during operation have been scoped out of the assessment. The appendix is split into tables that list effects that are initially anticipated to be significant and tables that list effects that are not initially anticipated to be significant. The judgement of significance has been made assuming that embedded design mitigation and standard good practice mitigation relevant to materials and waste is applied (these are summarised in this appendix with further detail provided in the Draft commitments register in Appendix 2.2). Nevertheless, the assessment assumes that additional mitigation is not applied, as the viability, nature and extent of any additional mitigation measures is not confirmed at this stage in the EIA process. As a result, consideration of residual effects (those that remain after the implementation of all mitigation, including additional mitigation) has not been completed for the PEI Report.
- 1.1.2 Each receptor assessed for this aspect in the preliminary assessment is listed in the 'Baseline conditions' section of the associated PEI Report chapter, and also within the tables in this appendix. Each receptor has been assigned an Area ID which relates to the spatial extent of the receptor assessed. Where these have been spatially defined for the PEI Report, these are shown in figures cross-referenced from the 'Baseline conditions' section.
- 1.1.3 Each effect assessed has been assigned a unique identifier, the Effect ID.
- 1.1.4 The tables identify the following for each effect:
- Receptor name, Effect ID and sensitivity category
 - Project components and activities giving rise to the effect
 - Relevant embedded design mitigation and standard good practice mitigation (with unique Commitment ID, which relates to Appendix 2.2: Draft commitments register)
 - Magnitude of impact category and narrative (if reported)
 - Initial category of effect significance, including whether it is adverse, beneficial or neutral (taking account of embedded design mitigation and standard good practice measures)
 - Description and duration of the effect
 - Any additional mitigation and monitoring identified at this stage (with unique Commitment ID, to enable cross reference to the measures noted in Section 11.10: Next steps of applicable aspect chapters)

1.2 Likely significant construction effects

Table 1.1 Initial likely significant effects during construction (with embedded and standard good practice mitigation applied, but prior to additional mitigation)

Receptor name [Effect ID] (Sensitivity of receptor)	Project component(s)	Project activity(ies)	Embedded design / standard good practice mitigation applied	Magnitude of impact category and commentary	Initial significance category (Initial significance) / Direction of effect	Description of effect (including duration)	Additional mitigation identified (including monitoring)
Recycled/secondary aggregates (SE) [MW-11] (Low)	Most / all project components	General construction activities Preparatory and enabling works Material stockpiling	(ED-04) Design the Project to reduce the need to import material as far as practicable. (ED-24) Seek to increase re-use of excavated materials on site where practicable. (SGP-14) Manage material resources during construction in accordance with good practice.	Major Consumption of recycled/secondary aggregates is 13.76% of the baseline.	Moderate (Significant) Adverse	Consumption of recycled/secondary aggregates: The total quantity of recycled/secondary aggregates to be consumed by the Project is 541,664 tonnes per annum, which is 13.76% of the baseline regional availability. (Long-term)	National supply and stocks of recycled/secondary aggregates are not constrained. It is expected some of the recycled/secondary aggregates will be sourced from national supply and stocks, if local and regional supplies are insufficient.
Hazardous landfill void capacity [MW-5] (Very High)	Most / all project components	Demolition General construction activities Material excavation and handling	(ED-55) Application of circular economy principles and the waste hierarchy during design. (SGP-14) Manage material resources during construction in accordance with good practice. (SGP-33) Implement a Site Waste Management Plan.	Major This would comprise a 1.5% reduction in the 3.9Mt of hazardous landfill void capacity projected to be available in England at the end of construction. On the basis of the magnitude thresholds set out in the IEMA Guidance 2020, the magnitude of impact from hazardous waste during construction is considered to be Major.	Major (Significant) Adverse	Loss of hazardous landfill void capacity: The total quantity of hazardous waste requiring off site disposal is 58,600 tonnes (2% of the total waste generated during construction requiring off site disposal to landfill. This comprises 1.5% reduction in the 3.9Mt of hazardous landfill capacity projected to be available in England at the end of the construction period. (Permanent)	(AM-72) Establish a framework for the reuse of excavated material offsite.
Non-hazardous landfill void capacity [MW-4] (Very High)	Most / all project components	Demolition General construction activities Material excavation and handling	(ED-24) Seek to increase re-use of excavated materials on site where practicable. (ED-55) Application of circular economy	Major This would comprise an 81.4% reduction in the 4.3Mt of non-hazardous landfill void capacity projected to be available in the South East and Gloucestershire sub-region at the end of construction. On the basis of the magnitude thresholds set out in the IEMA Guidance 2020, the magnitude of the effect on non-hazardous landfill void	Major (Significant) Adverse	Loss of non-hazardous landfill void capacity: The total quantity of non-hazardous waste requiring off site disposal is 3,497,600 tonnes (94% of the total waste generated during construction requiring off site disposal to landfill). This comprises an 81% reduction in the 4.3Mt of non-hazardous landfill capacity projected to be available in the South East and	(AM-72) Establish a framework for the reuse of excavated material offsite.

Receptor name [Effect ID] (Sensitivity of receptor)	Project component(s)	Project activity(ies)	Embedded design / standard good practice mitigation applied	Magnitude of impact category and commentary	Initial significance category (Initial significance) / Direction of effect	Description of effect (including duration)	Additional mitigation identified (including monitoring)
			principles and the waste hierarchy during design. (SGP-14) Manage material resources during construction in accordance with good practice. (SGP-33) Implement a Site Waste Management Plan.	capacity during the construction phase is Major.		Gloucestershire sub region at the end of the construction period. (Permanent)	

1.3 Likely not significant construction effects

Table 1.2 Initial likely non-significant effects during construction (with embedded and standard good practice mitigation applied, but prior to additional mitigation)

Receptor name [Effect ID] (Sensitivity of receptor)	Project component(s)	Project activity(ies)	Embedded design / standard good practice mitigation applied	Magnitude of impact category and commentary	Initial significance category (Initial significance) / Direction of effect	Description of effect (including duration)	Additional mitigation identified (including monitoring)
Asphalt (SE) [MW-13] (Low)	Highways improvements Car parks Active travel routes, additional footpaths and non-motorised vehicles (NMU) provision Site compounds, haul routes, temporary bridges or culverts	Most / all project activities (construction)	(ED-04) Design the Project to reduce the need to import material as far as practicable. (ED-24) Seek to increase re-use of excavated materials on site where practicable. (SGP-14) Manage material resources during construction in accordance with good practice.	Minor Consumption of asphalt is 2.04% of the baseline.	Minor (Not Significant) Adverse	Consumption of asphalt: Consumption of asphalt. The total quantity of asphalt to be consumed by the Project is 35,495 tonnes per annum, which is 2.04% of the baseline regional availability. (Long-term)	No additional mitigation required as the effect is not significant.
Concrete (national) [MW-14] (Low)	Most / all project components	Most / all project activities (construction)	(ED-04) Design the Project to reduce the need to import material as far as practicable. (ED-24) Seek to increase re-use of excavated materials on site where practicable. (SGP-14) Manage material resources during construction in accordance with good practice.	Negligible Consumption of concrete ready-mixed/ products is 0.23% of the baseline.	Neutral (Not Significant) Adverse	Consumption of concrete ready-mixed/ products (national): The total quantity of concrete ready-mixed/ products to be consumed by the Project is 119,184 tonnes per annum, which is 0.23% of the baseline national availability. (Long-term)	No additional mitigation required as the effect is not significant.
Crushed rock (including rock armour) (national) [MW-8] (Low)	Reservoir (including embankment and directly associated infrastructure, such as pipes in the base)	Most / all project activities (construction)	(ED-04) Design the Project to reduce the need to import material as far as practicable. (ED-24) Seek to increase re-use of excavated materials on site where practicable.	Negligible Consumption of sand and gravel is 0.27% of the baseline.	Neutral (Not Significant) Adverse	Consumption of crushed rock (including rip rap): The total quantity of crushed rock (including rip rap) to be consumed by the Project is 345,312 tonnes per annum, which is 0.27% of the baseline national availability. (Long-term)	No additional mitigation required as the effect is not significant.

Receptor name [Effect ID] (Sensitivity of receptor)	Project component(s)	Project activity(ies)	Embedded design / standard good practice mitigation applied	Magnitude of impact category and commentary	Initial significance category (Initial significance) / Direction of effect	Description of effect (including duration)	Additional mitigation identified (including monitoring)
			(SGP-14) Manage material resources during construction in accordance with good practice.				
Steel (national) [MW-15] (Low)	Most / all project components	Most / all project activities (construction)	(ED-04) Design the Project to reduce the need to import material as far as practicable. (ED-55) Application of circular economy principles and the waste hierarchy during design. (SGP-14) Manage material resources during construction in accordance with good practice.	Negligible Consumption of steel is 0.06% of the baseline.	Neutral (Not Significant) Adverse	Consumption of steel.: The total quantity of steel to be consumed by the Project is 3,476 tonnes per annum, which is 0.06% of the baseline national availability. (Long-term)	No additional mitigation required as the effect is not significant.
Sand and gravel (national) [MW-6] (Low)	Most / all project components	General construction activities Preparatory and enabling works Material stockpiling	(ED-04) Design the Project to reduce the need to import material as far as practicable. (ED-24) Seek to increase re-use of excavated materials on site where practicable. (SGP-14) Manage material resources during construction in accordance with good practice. (SGP-15) Manage all soil resources during construction in accordance with standard good practice.	Minor Consumption of sand and gravel is 1.69% of the baseline	Minor (Not Significant) Adverse	Consumption of sand and gravel: The total quantity of sand and gravel to be consumed by the project is 804,506 tonnes per annum, which is 1.69% of the baseline national availability. (Long-term)	No additional mitigation required as the effect is not significant.
Inert landfill void capacity [MW-3] (Negligible)	Most / all project components	Demolition General construction activities	(ED-24) Seek to increase re-use of excavated materials	Negligible This would comprise a 0.55% reduction in the 29Mt of inert landfill void capacity projected to be available in the South East	Neutral (Not Significant) Adverse	Loss of inert landfill void capacity: The total Inert waste requiring off site disposal - 160,100 tonnes (4% of total waste generated during construction requiring off	No additional mitigation required as the

Receptor name [Effect ID] (Sensitivity of receptor)	Project component(s)	Project activity(ies)	Embedded design / standard good practice mitigation applied	Magnitude of impact category and commentary	Initial significance category (Initial significance) / Direction of effect	Description of effect (including duration)	Additional mitigation identified (including monitoring)
		Material excavation and handling	on site where practicable. (ED-55) Application of circular economy principles and the waste hierarchy during design. (SGP-33) Implement a Site Waste Management Plan.	region at the end of construction. On the basis of the magnitude thresholds set out in the IEMA Guidance 2020, the magnitude of impact from inert waste during construction is considered to be Negligible.		site disposal to landfill). This comprises 0.55% reduction in the 29Mt of inert landfill capacity projected to be available in the South East region at the end of the construction period. (Permanent)	effect is not significant.
Mineral Safeguarding Areas, allocated mineral sites and mineral ownership rights sites [MW-20] (Low)	Project Priority Areas for Biodiversity	Presence (of project components)	No embedded design or standard good practice mitigation identified at this stage.	Negligible Minimal intersection with the Mineral Safeguarding Area (MSA) Corallian Ridge – Oxford to Faringdon Area 7, does not substantially impact access or result in sterilisation of the mineral resource. On this basis the magnitude of the effect on the MSA is Negligible.	Neutral (Not Significant) Adverse	Sterilises one or more mineral safeguarding area(s) or allocated mineral site(s): The Mineral Strategic Resource Area (MSRA) covers an area of approximately 6,491 hectares and the draft Order limits intersects with the MSRA by approximately 103.5 hectares (or 1.6%). (Permanent)	No additional mitigation required as the effect is not significant.



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