

Appendix 13.1 – Summary of Effects

Receptor	Receptor Sensitivity	Description of potential impact	Proposed mitigation	Residual effect	Significant / not significant
Chapter 06 - Air Quality					
Construction Phase					
Existing Off-Site Human Health and Amenity	High	Dust Soiling and PM ₁₀ due to demolition and construction works	Embedded mitigation part of the Construction Environmental Management Plan (CEMP)	Negligible Adverse	Not significant
Existing Off-Site Ecological receptors	Low	Dust Soiling and PM ₁₀ due to demolition and construction works	Embedded mitigation part of the Construction Environmental Management Plan (CEMP)	Negligible Adverse	Not significant
Existing Off-Site Human Health	High	NO ₂ , PM ₁₀ and PM _{2.5} due to vehicle emissions	Embedded mitigation part of the Construction Environmental Management Plan (CEMP)	Negligible Adverse	Not significant
Existing Off-Site Ecological receptors	Low	NO ₂ , PM ₁₀ and PM _{2.5} due to vehicle emissions	Embedded mitigation part of the Construction Environmental Management Plan (CEMP)	Negligible Adverse	Not significant
Operation Phase					
Existing Off-Site Human Health	High	NO ₂ , PM ₁₀ and PM _{2.5} effects due to vehicle emissions	None required	Negligible Adverse	Not significant
Future On-Site Human Health	High	NO ₂ , PM ₁₀ and PM _{2.5} effects due to local air quality	None required	Negligible Adverse	Not significant

Receptor	Receptor Sensitivity	Description of potential impact	Proposed mitigation	Residual effect	Significant / not significant
Chapter 07 - Climate Change and Greenhouse Gases					
Construction Phase					
Atmospheric concentration of GHGs - Global climate	High	Embodied carbon 14,200-16,600 tCO ₂ e with embedded timber frame construction (Minor Adverse, not significant)	Timber frame (embedded); WLCA and low-carbon material procurement (additional, recommended)	Minor Adverse (14,200-16,600 tCO ₂ e; potentially reduced toward 10,000-12,000 tCO ₂ e with the recommended additional measures)	Not significant
Atmospheric concentration of GHGs - Global climate	High	Construction traffic and worker travel: approximately 580 tCO ₂ e over the construction period (Minor Adverse, not significant)	CEMP measures (embedded); assumptions to be confirmed with the construction programme	Minor Adverse	Not significant
Construction workers	Medium	Heat stress during extreme temperatures (Moderate level of effect prior to mitigation; significant)	CEMP protocols	Reduced to Minor	Not significant
Operation Phase					
Atmospheric concentration of GHGs - Global climate	High	Operational energy ~266 tCO ₂ e/yr gross (Minor Adverse with embedded measures; not significant)	ASHP, Significant PV provision, grid decarbonisation	Minor Adverse reducing to Negligible	Not significant
Atmospheric concentration of GHGs - Global climate	High	Transport ~1,600 tCO ₂ e/yr declining under the future baseline of fleet electrification (Minor Adverse with embedded measures; not significant)	Travel Plan, EV infrastructure (embedded); car club support (additional, not relied upon)	Minor Adverse (assessed against the future baseline, with embedded measures)	Not significant

Receptor	Receptor Sensitivity	Description of potential impact	Proposed mitigation	Residual effect	Significant / not significant
Building occupants	Medium	Overheating in future summers (Major level of effect prior to mitigation; significant)	Approved Document O, passive design	Reduced to Minor	Not significant
Occupants and property	Medium	Surface water flood risk (Moderate level of effect prior to mitigation; significant)	SuDS with climate allowances	Reduced to Minor	Not significant
Atmospheric concentration of GHGs - Global climate (whole life)	High	Whole-life GHG inventory: approximately 36,000-38,500 tCO ₂ e over the 60-year assessment period (Minor Adverse, not significant)	Embedded measures across all lifecycle stages, as set out above	Minor Adverse	Not significant
<i>Note: GHG effects are reported using the ISEP five-level significance framework (Major Adverse, Moderate Adverse, Minor Adverse, Negligible, Beneficial); climate risk effects are reported using the level of effect scale (Substantial, Major, Moderate, Minor, Negligible). The two scales are not interchangeable.</i>					
Chapter 08 - Ecology					
Construction Phase					
Thames Basin Heaths (SPA) and Longmoor Bog (SSSI)	Not applicable	Habitat damage	Provision of a SANGS reduce the potential increase in visitors and associated recreational pressure	Negligible	Not significant
Woodland and pond	Not applicable	Habitat damage	CEMP: Biodiversity Retained habitats Removal of invasive species Protection measures e.g. fencing and signage and pollution prevention	Negligible	Not significant
Badger	Not applicable	Habitat loss and/fragmentation	CEMP: Biodiversity	Negligible	Not significant

Receptor	Receptor Sensitivity	Description of potential impact	Proposed mitigation	Residual effect	Significant / not significant
			Retained navigating and foraging opportunities Sensitive lighting strategy		
Birds	Not applicable	Habitat loss/ fragmentation loss of roosting sites	CEMP: Biodiversity Retained roosting and navigating and foraging opportunities Sensitive lighting strategy	Negligible	Not significant
Bats	Not applicable	Habitat loss/ fragmentation loss of roosting sites	EPS licence CEMP: Biodiversity Retained roosting and navigating and foraging opportunities Sensitive lighting strategy	Negligible	Not significant
Reptiles	Not applicable	Habitat loss and/ fragmentation	CEMP: Biodiversity Retained habitat opportunities Precautionary clearance or translocation exercise	Negligible	Not significant
Great crested newt	Not applicable	Habitat loss/ fragmentation	CEMP: Biodiversity Retained roosting and navigating and foraging opportunities Sensitive lighting strategy	Negligible	Not significant

Receptor	Receptor Sensitivity	Description of potential impact	Proposed mitigation	Residual effect	Significant / not significant
Operation Phase					
Thames Basin Heaths (SPA) and Longmoor Bog (SSSI)	Not applicable	Habitat damage	Provision of a SANGS reduce the potential increase in visitors and associated recreational pressure	Negligible	Not significant
Woodland and pond	Not applicable	Habitat damage	Statutory Biodiversity Metric HMMP/LEMP Retained/enhanced/new habitats Removal of invasive species Management measures e.g. regular litter picks and pollution prevention	Moderate Beneficial	Significant
Badger	Not applicable	Habitat loss and/ fragmentation	Retained/enhanced/new habitats providing navigating and foraging opportunities	Negligible	Not significant
Birds	Not applicable	Habitat loss/ fragmentation loss of roosting sites	HMMP/LEMP Retained/enhanced/new habitats providing breeding, wintering and foraging opportunities Bird boxes	Moderate Beneficial	Not significant
Bats	Not applicable	Habitat loss/ fragmentation loss of roosting sites	EPS licence HMMP/LEMP Retained/enhanced/new habitats providing roosting and navigating and foraging opportunities Bat boxes	Moderate Beneficial	Not significant

Receptor	Receptor Sensitivity	Description of potential impact	Proposed mitigation	Residual effect	Significant / not significant
Reptiles	Not applicable	Habitat loss and/ fragmentation	HMMP/LEMP Retained/enhanced/new habitats providing foraging and shelter opportunities Log piles providing opportunities for hibernation	Negligible	Not significant
Great crested newt	Not applicable	Habitat loss/ fragmentation	HMMP/LEMP Retained/enhanced/new habitats providing foraging and shelter opportunities	Negligible	Not significant
Chapter 09 - Ground Conditions or Contamination					
Construction Phase					
Demolition / construction workers	Low	<u>Areas A, C and F</u> Health and Safety impact associated with the presence of potential fuel related contamination within soils	Appropriate PPE (Inherent)	None	Not significant with appropriate management of site works
Demolition / construction workers	Low	<u>Areas B and D</u> Health and Safety impact associated with the presence of metal shards and buried debris	Appropriate PPE (Inherent)	None	Not significant with appropriate management of site works
Demolition / construction workers	Low	<u>Area G</u> Health and Safety impact associated with the presence of low concentrations of asbestos	Appropriate PPE (Inherent)	None	Not significant with appropriate management of site works
Operation Phase					
N/A as all remediation works will be carried out prior to occupation					

Receptor	Receptor Sensitivity	Description of potential impact	Proposed mitigation	Residual effect	Significant / not significant
Chapter 10 - Noise and Vibration					
Construction Phase					
Langley Common Road	Medium	Construction noise	Construction management plan and best practicable means	Negligible	Not significant
Baston Road	Medium	Construction noise	Construction management plan and best practicable means	Negligible	Not significant
Biggs Lane	Medium	Construction noise	Construction management plan and best practicable means	Negligible	Not significant
Princess Marina Drive	Medium	Construction noise	Construction management plan and best practicable means	Negligible	Not significant
Langley Common Road	Medium	Construction Vibration	Construction management plan and best practicable means	Negligible	Not significant
Baston Road	Medium	Construction Vibration	Construction management plan and best practicable means	Negligible	Not significant
Biggs Lane	Medium	Construction Vibration	Construction management plan and best practicable means	Negligible	Not significant
Princess Marina Drive	Medium	Construction Vibration	Construction management plan and best practicable means	Negligible	Not significant
Operation Phase					
Langley Common Road	Medium	Increase in road traffic noise	Not predicted to be required	Negligible	Not significant
Baston Road	Medium	Increase in road traffic noise	Not predicted to be required	Minor	Not significant
Biggs Lane	Medium	Increase in road traffic noise	Not predicted to be required	Negligible	Not significant
Princess Marina Drive	Medium	Increase in road traffic noise	Not predicted to be required	Minor	Not significant
Langley Common Road	Medium	Increase in road traffic vibration	Not predicted to be required	Negligible	Not significant
Baston Road	Medium	Increase in road traffic vibration	Not predicted to be required	Negligible	Not significant
Biggs Lane	Medium	Increase in road traffic vibration	Not predicted to be required	Negligible	Not significant
Princess Marina Drive	Medium	Increase in road traffic vibration	Not predicted to be required	Negligible	Not significant

Receptor	Receptor Sensitivity	Description of potential impact	Proposed mitigation	Residual effect	Significant / not significant
Chapter 11 - Transport and Access					
Construction Phase					
Princess Marina Drive (north)	Low	None	None	Negligible	Not significant
Princess Marina Drive (south)	High	None	None	Negligible	Not significant
Biggs Lane (east of PMD)	Low	None	None	Negligible	Not significant
Biggs Lane (west of PMD)	Low	None	None	Negligible	Not significant
Baston Road	High	None	None	Negligible	Not significant
Biggs Lane (west of Baston Road)	Low	None	None	Negligible	Not significant
Observer Way	Low	None	None	Negligible	Not significant
Eversley Road (east of Observer Way)	Low	None	None	Negligible	Not significant
Eversley Road (north of Langley Common Road)	Low	None	None	Negligible	Not significant
Langley Common Road (west of Biggs Lane)	Low	None	None	Negligible	Not significant
Langley Common Road (east of Biggs Lane)	Low	Severance – Minor impact. Short term and temporary.	None	Negligible	Not significant
B3349 Barkham Road (West of Barkham Street)	Low	Negligible impact	None	Negligible	Not significant
B3349 Barkham Road (East of Barkham Street)	Low	Negligible impact	None	Negligible	Not significant
Operation Phase					
Princess Marina Drive (north)	Low	Negligible impact	None	Negligible	Not significant
Princess Marina Drive (south)	High		None	Negligible	Not significant
Biggs Lane (east of PMD)	Low	Negligible impact	None	Negligible	Not significant
Biggs Lane (west of PMD)	Low	Negligible impact	None	Negligible	Not significant

Receptor	Receptor Sensitivity	Description of potential impact	Proposed mitigation	Residual effect	Significant / not significant
Baston Road	High	Driver delay – Low / Negligible	None / School Street	Negligible	Not significant
Biggs Lane (west of Baston Road)	Low	Negligible impact	None	Negligible	Not significant
Observer Way	Low	Negligible impact	None	Negligible	Not significant
Eversley Road (east of Observer Way)	Low	Negligible impact	None	Negligible	Not significant
Eversley Road (north of Langley Common Road)	Low	Negligible impact	None	Negligible	Not significant
Langley Common Road (west of Biggs Lane)	Low	Negligible impact	None	Negligible	Not significant
Langley Common Road (east of Biggs Lane)	Low	Negligible impact	None	Negligible	Not significant
B3349 Barkham Road (West of Barkham Street)	Low	Negligible impact	None	Negligible	Not significant
B3349 Barkham Road (East of Barkham Street)	Low	Negligible impact	None	Negligible	Not significant
Chapter 12 - Hydrology (Flood Risk and Drainage)					
Construction Phase					
Water Framework Directive	Low	Mobilisation of sediments Accidental pollutant releases associated with earthworks and construction.	Full CEMP; Silt fencing, sediment traps, settlement areas; Bunded fuel/chemical storage; Controlled refuelling;	Negligible adverse	Not Significant
Surface Water	Low	Temporary sediment mobilisation; Risk of chemical polluted runoff; Disturbance of flow paths;	Full CEMP; Silt fencing, sediment traps, settlement areas; Bunded fuel/chemical storage; Controlled refuelling;	Negligible Adverse to Minor adverse	Not Significant

Receptor	Receptor Sensitivity	Description of potential impact	Proposed mitigation	Residual effect	Significant / not significant
		Potential increased turbidity and water quality deterioration during rainfall; Hazard to workers during heavy rainfall or channel works; and Increased risk due to low-capacity culverts and localised ponding.	Temporary drainage and flow-path management; Monitoring of culverts/pinch points; Flood Emergency Response Plan (FERP); Weather monitoring; Exclusion zones near water edges; and Temporary works sequencing to avoid in-channel work during rain events.		
Groundwater	Low	- Release of chemical pollutants; and Disturbance of flow sub-surface flow paths.	- Full CEMP; - Bunded fuel/chemical storage; - Controlled refuelling; and Temporary drainage and flow-path management;	Negligible Adverse to Minor adverse	Not Significant
Sewers	Low	Release of chemical pollutants; Temporary sediment mobilisation; and Potential increased turbidity and water quality deterioration during rainfall.	Full CEMP; Silt fencing, sediment traps, settlement areas; and Temporary drainage and flow-path management;	Negligible Adverse to Minor adverse	Not Significant

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Operation Phase					
Water Framework Directive	Low	Potential to generate urban surface water runoff containing low concentrations of pollutants.	Implement a multi-stage SuDS "treatment train".	Negligible adverse	Not Significant
Surface Water	Low	- Sediment mobilisation; - Risk of chemical polluted runoff; - Physical changes to overland drainage and surface water flows; and Potential increased turbidity and water quality deterioration during rainfall.	- Limit discharge rates to greenfield equivalent values; - Provide positive drainage to manage both routine rainfall and extreme events; - Design the system to accommodate the 1 in 100 year storm plus climate change uplift consistent with national allowances; - Incorporate exceedance routes; and Implement a multi-stage SuDS "treatment train".	Negligible Adverse to Minor adverse	Not Significant