11.0 CUMULATIVE IMPACTS

INTRODUCTION

11.1 This Chapter presents an assessment of the likely significant cumulative impacts of the proposed development. It has been prepared with input from the technical specialists who have contributed to the EIA.

11.2 There are two main types of cumulative impact which are considered within this ES:

- Type 1 - Combined effects of individual residual impacts, for example noise, dust and visual impacts, from one development on a particular receptor; and
- Type 2 - Residual impacts from several developments, which individually might be insignificant, but when considered together, there could be a significant cumulative impact.

11.3 The residual impacts identified in the Technical Chapters (Volume 3.0 and Chapters 4.0-10.0 of Volume 1) and have been reviewed to determine the potential for Type 1 effects. This assessment is presented within this Chapter. Type 2 effects have been considered within each Technical Chapter to assist the reader with a summary provided within this Chapter.

11.4 This Chapter describes the methods used to assess the cumulative impacts, the scope of the cumulative assessment in terms of the other activities under review, the potential for cumulative residual impacts to arise and any additional mitigation measures (if applicable) required to prevent, reduce or offset the cumulative residual impacts. Unless stated otherwise, the impacts described in this cumulative impact assessment are the residual impacts arising following mitigation.

ASSESSMENT METHODOLOGY

Type 1 Impacts

11.5 In-combination (Type 1) effects may arise where the interaction between different impacts of a proposed development (e.g. air quality, lighting and noise) combine to affect a receptor. Receptors may include local residents, commercial occupiers, protected species, habitats, or other forms of social or environmental assets.

11.6 Technical assessments focus on describing how a stressor (such as lighting or noise) acts upon a receptor (such as local residents or ecological resources), or they describe how various stressors act upon a single receptor group. Other assessments tend to focus on a single pressure acting upon a single receptor.

11.7 Likely significant Type 1 cumulative impacts have been identified and qualitatively assessed using the findings of all technical assessments reported within this ES, together with professional judgement.

11.8 Technical assessments that focus on the receptor group are, by their nature, in-combination assessments since they consider the effects of numerous stressors acting upon single or multiple receptors. This is the case for ecological receptors (Chapter 8.0: Ecology) and they have therefore been excluded from further assessment here.

Climate Change

11.9 In accordance with the IEMA Climate Change resilience guidance[1], the Type 1 cumulative effects between different impacts of a proposed development and climate change have also been assessed based on the UK Climate Change Projections 2018 (UKCP18). For full details on the methodology see Chapter 10.0: Climate Change.

Type 2 Impacts

11.10 Schedule 4 Paragraph 5(e) of the Town and Country Planning Regulations (EIA) 2017[2] states that an Environmental Statement (ES) must include:

'A description of the likely significant effects of the development on the environment resulting from, inter alia:

…(e) the cumulation of effects with other existing and/or approved projects, taking into account any existing environmental problems relating to areas of particular environmental importance likely to be affected or the use of natural resources…'

11.11 Various criteria have been adopted for establishing the scope of the cumulative assessment of impacts from more than one development (Type 2). Examples of criteria used for guidance includes The Planning Inspectorate Advice Note Seventeen: Cumulative Impacts Assessment (2015)[3] (PINS guidance).

11.12 The PINS guidance outlines a staged approach to cumulative impact assessments. The approach requires the establishment of a zone of influence (ZOI) of the scheme through a desk-based study to identify other developments within the ZOI. The identification of developments is then shortlisted by setting a threshold criteria, as seen in Table 11.1. Information regarding these shortlisted developments is gathered in order to assess whether cumulative impacts may arise. Mitigation measures are then identified if there is anticipated to be adverse cumulative effects.

11.13 The scope of the assessment has been guided by the screening criteria listed in the table below, which other developments must meet in order to be included within the cumulative impact assessment. Further, in screening those cumulative impacts that should be included within the assessment, other developments under consideration

must, when taken in isolation, generate an impact (positive or negative) of at least minor significance for a particular issue. However, following comments received in the scoping response (Appendix 1.2), all cumulative schemes have been considered, regardless of the significance of effects identified.

Table 11.1 Criteria for Inclusion of Developments within Cumulative Impact Assessment

Screening Criteria
To be considered within the cumulative impact assessment, other development schemes must meet the following criteria: • Be likely to be constructed or operate over similar time periods; • Be spatially linked to the proposed development (for example using the same local road network of the application site); and • Be either consented (but not operational) or be the subject of applications with the relevant statutory authority in the area or be the subject of another statutory procedure.

*The above screening criteria has been adapted from the PINS guidance (2015)

11.14 Each of the schemes under assessment has been reviewed to determine potential cumulative impacts. Where possible, a quantitative assessment of the individual environmental impacts from the proposed development in cumulation with other developments has been undertaken. However, for a number of the environmental components under consideration as part of this cumulative assessment, a quantitative assessment of cumulative impacts is not possible. Equally, for future planned developments that are not currently tied to any implementation timescale, uncertainty exists with respect to the occurrence of cumulative impacts. In such instances, where a quantitative cumulative assessment is not possible and/or where uncertainty exists, a qualitative assessment about the reasonable likely cumulative effects has been undertaken using professional judgement, based upon a realistic worst-case scenario.

Schemes Considered within the Assessment

11.15 The sources of information used to identify current, proposed and extant projects involved searches of the online planning register (completed March 2022) for LBRuT and the Royal Borough of Kingston upon Thames.

Table 11.2 Schemes Considered in Cumulative Assessment

Scheme	Description	Reference and Planning Status
1-1C King Street, 2-4 Water Lane, The Embankment And River Wall, Water Lane, Wharf Lane And The Diamond Jubilee Gardens, Twickenham	Demolition of existing buildings and structures and redevelopment of the site comprising 45 residential units (Use Class C3), ground floor commercial/retail/cafe (Use Class E), public house (Sui Generis), boathouse locker storage, floating pontoon and floating ecosystems with associated landscaping, reprovision of Diamond Jubilee Gardens, alterations to highway layout and parking provision and other relevant works. 1.1km northwest	Pending determination Ref: 21/2758/FUL
St Johns And Amyand House Strafford Road Twickenham	Construction of single-storey glazed infill extension, erection of canopy over existing garden area. Enclosure of existing opening to northern elevation and alterations to existing fenestration arrangement to facilitate use of building as SEN school for 28 students with associated landscaping and cycle storage 1.5km north	Granted 15/05/2019 Ref: 18/4266/FUL
Old Station Forecourt Railway Approach Twickenham TW1 4LJ	Proposed redevelopment of existing car park to provide a new building of 5 to 6 storeys, comprising 46 no. residential units (Use Class C3), disabled car parking, cycle parking, landscaping, enhancements to public realm and associated works. 1.6km northwest	Granted 03/03/2021 Ref: 19/3616/FUL
Land At Junction Of A316 And Langhorn Drive And Richmond College Site (Including Craneford Way East Playing Fields And Marsh Farm Lane) Egerton Road Twickenham	Outline application for the demolition of existing college buildings, removal of hardsurfacing, site clearance and groundworks together with the redevelopment of the site to provide: 1) A new campus for education and enterprise purposes, comprising; Replacement College (Use Class D1) of up to 16,000sqm to accommodate up to 3,000 FTE day time students, as well as evening and weekend use; A Science, Technology, Engineering and Maths (STEM) Centre (D1 Use Class) of up to 6,100sqm; 2) A new Secondary School (D1 Use Class) of up to 7,000 sqm for up to 750 students; 3) A new Special Educational Needs (SEN) School (D1 Use Class) of up to 4,000sqm for up to 115 students; 4) A new ancillary 'Technical Hub' for	Approved 16 August 2016 Ref: 15/3038/OUT See Reserved Matters applications: • 16/3293/RES; • 16/4747/RES; • 17/2332/RES • 18/4157/RES; • 19/2381/RES; • 19/2517/RES.

Scheme	Description	Reference and Planning Status
	Haymarket Media (B1 Use Class) of up to 1,700sqm; 5) Replacement on-site sports centre (D2 Use Class) of up to 3,900sqm to serve both the college, schools and wider community; 6) The upgrading of existing Craneford Way playing fields for use by the college, schools and local community; 7) Alterations to existing means of access for vehicles, pedestrians and cyclists from the A316 involving the creation of a signalised junction, alterations to the A316 footbridge and minor realignment of Langhorn Drive, alterations of existing vehicular access points on Egerton Road as well as the upgrading of Marsh Farm Lane footpath; 8) Provision of on-site parking (non-residential) for up to 230 vehicles, open space and landscaping, and 9) A new residential development of up to 180 units together with associated parking for up to 190 vehicles, open space and landscaping. 1.8km northwest	
Ryde House 391 Richmond Road Twickenham TW1 2EF	Demolition of existing building. Construction of a new mixed use development comprising a food store (1,123m2 sales area) and primary school with associated car parking (55 spaces allocated to foodstore and 1 space allocated to school); alterations to site entrance, landscaping, and associated works. 1.9km NE	Granted 21/09/2017 Ref: 16/2777/FUL
Lockcorp House 75 Norcutt Road Twickenham TW2 6SR	Demolition of Lockcorp House; erection of a part four, part five-storey building comprising 9 no. student cluster flats (49 study/bedrooms in total); three car parking spaces including one disabled space, ancillary cycle and refuse storage and landscaping. 2km NW	Refused 19/09/2017 Appeal Allowed 23/05/2018 Ref: 17/1033/FUL

11.16 In accordance with the EIA Scoping Opinion (Appendix 1.2) received from LBRuT in January 2022, the following allocated sites have also been considered for any cumulative impacts.

Table 11.3 Additional Cumulative Schemes (in Adopted Local Plan) Considered within Assessment

Scheme	Description	Reference and Planning Status
Site Allocation (SA) 17 **St Michaels Convent** **56 Ham Common, Ham, Richmond, TW10 7JH**	Conversion and extension of the existing convent buildings (following demolition of some mid-20th century extensions), together with new build apartments and houses, to provide a total of 23 residential retirement units, an estate managers office and meeting rooms, parking and associated works within a landscaped site, with access via Ham Common. 350m east	Granted 24/04/2018 Ref: 16/3553/LBC Policy O6 in Ham and Petersham Neighbourhood Plan
SA 16 Cassel Hospital **Ham Common, Ham**	If the site and the Grade II listed Cassel Hospital are declared surplus to requirements, social and community infrastructure uses are the most appropriate land uses for this site. Conversion or potential redevelopment for residential uses could be considered if it allows for the protection and restoration of the listed buildings. 650m SE	No planning application submitted Policy O5 in Ham and Petersham Neighbourhood Plan
SA 8 St Mary's University, Strawberry Hill	Retention and upgrading of St Mary's University and its associated teaching, sport and student residential accommodation. Upgrade works to include refurbishment, adaptation, intensification, extensions and new build elements on site where justified fully with regard to national policy and the policies of the development plan. A Masterplan and/or site development brief, which encompasses the main campus in Strawberry Hill as well as Teddington Lock, together with new estates and student accommodation strategies, will be prepared in conjunction with the Council. This will guide future development for St Mary's University, both on and off site. 1km west	No planning application submitted
SA 5 Telephone Exchange, Teddington	If the site is declared surplus to requirements, appropriate land uses include commercial / retail on the ground floor, especially in the designated key shopping frontage facing the High Street. Any proposal should provide for employment floorspace, such as B1 offices. A mixed-use scheme with housing (including affordable housing) in upper floors and to the rear of the site could be considered. 1.4km SW	No planning application submitted

Scheme	Description	Reference and Planning Status
SA6 Teddington Delivery Office, Teddington	If the site is declared surplus to requirements, appropriate land uses include commercial / retail on the ground floor, especially in the designated key shopping frontage facing the High Street. Any proposal should provide for employment floorspace, including B1 offices. A mixed use scheme with housing (including affordable housing) in upper floors and to the rear of the site could be considered. 1.5km SW	No planning application submitted
SA 7 Strathmore Centre, Strathmore Road, Teddington	Demolition of all existing buildings; erection of two 3-storey buildings comprising 30 residential dwellings in total (6 x1 bedroom, 17 x 2 bedroom & 7 x 3 bedroom); erection of single storey nursery building (294 sqm in total) alterations to existing access. 1.95km W	Pending determination Ref: 20/0539/FUL

11.17 The information obtained for these projects is not always available in the same detail as that for the proposed development. Where this is the case, professional judgement has been used to adopt and apply relevant available information.

11.18 Some other developments in the area have not been considered within the scope of this assessment due to their status, scale of development or distance from the proposed development; consequently, they have been screened out in accordance with the screening criteria in the table above. This includes small-scale developments (e.g. a domestic development) with limited zones of influence or developments with a limited construction phase.

11.19 A map showing the location of the cumulative developments in relation to the site is presented within Figure 11.1.

11.20 It has been assumed that other committed developments considered in the cumulative assessment would have their own site-specific Construction Environmental Management Plans (CEMPs) in order to manage and minimise the potential adverse environmental impacts of their construction works.

ASSESSMENT

Type 1

11.21 The following tables summarise the residuals effects of each environmental topic assessed within this ES.

11.22 As is stated above, ecology is excluded from this assessment as in-combination effects are intrinsic to the assessment in accordance with the CIEEM EcIA assessment methodology (see Chapter 8.0). Climate change in-combination effects are considered separately in Table 11.6 below in accordance with the IEMA guidance (see Chapter 10.0).

Construction

11.23 Table 11.4 below summarises the relevant construction phases residual impacts and associated receptors.

Table 11.4 Relevant construction phase residual effects

Environmental Topic / Impact Area	Relevant Receptors Affected	Residual Effects (Post - Mitigation)
Heritage, Townscape and Visual	Visual Townscape Heritage	Moderate - Minor Adverse (Negative) Moderate.– Negligible Adverse (Negative) Minor Adverse (Negative)
Archaeology	Archaeological deposits	Minor Adverse (Negative) / Negligible
Air Quality	Local population (Including existing and future residents) - Dust	Negligible
Noise and Vibration	Surrounding residential and commercial receptors	Negligible to Major Adverse (Negative)
Ground Conditions and Contamination	Construction workers Surrounding site users (existing and future residents)	Negligible
Socio-economic	Local population – Employment/housing	Negligible to Moderate Positive

11.24 Air quality and contamination construction phases effects on residents (existing/future) both on site and in the local area, in addition to construction site workers, will be mitigated to negligible through the measures proposed within this ES. Whilst, residents will be affected by construction phase visual effects and noise/vibration from the development no additional in-combination effects are anticipated. Suitable construction mitigation actions will be implemented to control both noise and visual effects as far as practical.

11.25 Archaeological deposits would have potential to be affected by direct damage/removal through construction works only and therefore no further in-combination effects are anticipated and no further mitigation is required.

11.26 Socio-economic effects range from Negligible to Moderate Positive and therefore there is not considered to be any potential for in-combination effects.

Operation

11.27 Table 11.5 below summarises the relevant operational phase residual impacts and associated receptors.

Table 11.5 Relevant operational phase residual effects

Environmental Topic	Relevant Receptors Affected	Residual Effects (Post - Mitigation)
Heritage, Townscape and Visual	Heritage Townscape Visual	Minor - Moderate to Negligible (Neutral) Moderate (Beneficial/Positive) to Negligible (Neutral) Moderate (Beneficial/Positive) to No change (Neutral)
Archaeology	None	None
Air Quality	Residents (on site and in the surrounding area) - Road traffic emissions	Negligible
Noise	Residents (on site and in the surrounding area)	Negligible Adverse (Negative)
Ground Conditions and Contamination	Impacts to future site users (existing and future residents)	Negligible
Socio-economic	Local population – • Housing • Operational employment; • Local expenditure; • Primary healthcare • Dentists; • Nurseries; • Schools • Crime and open space • Community facilities.	 • Moderate Positive • Minor Positive • Moderate Positive • Negligible • Negligible • Minor Negative • Negligible • Minor Positive • Minor Positive

11.28 As above, air quality and contamination operational effects on residents (existing/future), both on site and in the local area, will be mitigated to negligible through the measures proposed within this ES.

11.29 The only negative (Negligible Adverse) operational phase effects listed above relate to noise for residents (on site and in the surrounding area) and therefore there is not considered to be any potential for in-combination effects.

11.30 Heritage, Townscape and Visual effects range from Neutral to Beneficial and therefore there is not considered to be any potential for in-combination effects.

11.31 Socio-economic effects range from Negligible to Moderate Positive and therefore there is not considered to be any potential for in-combination effects.

Climate Change

11.32 The Type 1 assessments set out below have been undertaken by the technical specialists who have contributed to the EIA and the ES with guidance from Greengage.

Table 11.6 Type 1 Climate Change Cumulative Impact Summary

Assessment	In-Combination Climate Impact
Heritage, Townscape and Visual	During construction, the Built Heritage, Townscape and Visual impacts will be temporary and reversible, and it is considered that these are unlikely to change as a result of climate change. Changes expected from climate change, such as increased rainfall levels and temperatures, are unlikely to impact on the appearance of the operational proposed development in townscape views, the overall character of the townscape, or its relationship with heritage assets.
Archaeology	Climate change means that some archaeology which was relatively safely preserved under the ground is now at risk of damage due to extremes in temperature and cycles of wetting and drying. However, if any archaeological remains are present a suitable mitigation strategy will be developed and agreed with LBRuT and their archaeological advisors. Therefore, no in combination climate change effects are predicted.
Air Quality	Increased ambient temperatures and alterations in precipitation patterns have the potential to alter the concentration $PM_{2.5}$ and PM_{10} during construction and operation. Summer droughts may exacerbate pollutant concentrations. During construction, the magnitude of these climate effects will be not significant and best practice measures will be implemented to minimise dust through the implementation of the CEMP. During operation, NO_x concentrations are unlikely to be directly affected directly by increased ambient temperatures and future climate change. However, hot dry summers could exacerbate $PM_{2.5}$ and PM_{10} concentrations although this will not alter the Negligible operational impact of the proposed development. Therefore, no in-combination climate change effects are predicted.
Noise and Vibration	Noise and vibration effects are not considered to have potential for in-combination climate change effects.

Ground Conditions and Contamination	Ground conditions and contamination impacts are not considered to have potential for significant in-combination climate change effects considering that best practice measures to reduce contamination will be incorporated into the CEMP and any Remediation Strategy.
Ecology	With respect to Ecology, changes in climate and more extreme weather conditions have the potential to cause: changes in the distribution of habitats, which has the potential to be positive (i.e. expansion of valuable habitat types) or negative (i.e. loss or degradation of valuable habitat types); changes in the distribution of protected and notable species, which has the potential to be positive (i.e. expansion of species range) or negative (i.e. reduction in species range, loss or fragmentation of species populations); greater spread of invasive non-native species, likely to result in the loss of less competitive species and negative effects on ecosystems; and, increase in species susceptibility to diseases, leading to negative effects on species populations. However, the impact of climate change on ecology receptors is unlikely to be significant during the construction period given the low magnitude of any changes and the ecology mitigation embedded into the CEMP. The retention and enhancement of existing ecological habitats within the application site will provide ecological resilience to the effects of climate change by delivering a greater extent and quality of valuable habitats and strengthening ecological connectivity.
Socio-economic	The increased frequency of extreme weather events and heatwaves has potential to cause some minimal short-term disruption and delays to construction work. However, climate change is not predicted to result in any impacts during construction that will reduce the provision of secure employment opportunities or alter the proposed phasing and housing provision. It is not considered that climate change will alter the provision of secure employment opportunities during operation. The impact on climate change on the provision of public services including healthcare and education is uncertain given the lack of robust data on climate change adaptation of public services.

Type 2

11.33 The Type 2 assessments set out below have been undertaken by the technical specialists who have contributed to the EIA and the ES.

Table 11.7 Type 2 Cumulative Impact Summary

Assessment	During Construction	During Operation
Built Heritage, Townscape and Visual (Volume 3)	**Visual** Due to the height of the proposed development primarily rising to a similar height as that of some of the taller existing blocks on the site and the prevailing tree line in the immediate and wider area, it is unlikely that the proposed development will be experienced at the same time as any of the cumulative schemes, other than in the cases of Views 15 and 16, which provide wider panoramas. In these instances and as shown in the HTVIA (Volume 3), the proposed development does not appear prominent, so provided the cumulative schemes that do come forward are of equally high quality and fit in well within their context, then the cumulative effect is likely to remain as identified by the proposed development effects in these two views: minor to moderate and neutral. The residual effect for the remaining views in the cumulative condition will therefore likely be **Negligible and Neutral** in nature. **Townscape** The cumulative schemes are located at significant distances away from the site. Due to the height of the proposed development primarily rising to a similar height as that of some of the taller existing blocks on the site and the prevailing tree line in the immediate and wider area and due to the distance of the allocated sites from the site, it is unlikely that the proposed development will be experienced at the same time as any of these allocated sites and likely cumulative schemes. The residual effect for the Townscape Character Areas assessed with the likely cumulative schemes of the allocated sites will therefore likely be **Negligible and Neutral** in nature. **Heritage** The cumulative schemes are located at such distances away from the site that they will not be experienced from the setting of the assessed heritage assets in conjunction with the proposed development. There will therefore be **no cumulative effect** in regards to heritage assets.	
Archaeology	There are no strict guidelines for assessing cumulative effects. In terms of direct cumulative effects, due to the physical localised character of sub-surface archaeological remains, construction of 'other developments' will generally not result in cumulative direct impacts on designated or non-designated archaeological assets. The exception to this is archaeological deposits which extend beyond the site which would be impacted by removal of contemporary deposits by development in the immediate vicinity. The potential for archaeological deposits to extend substantially beyond the limit of the site and be impacted by 'other developments' is considered low, with the exception of the underlying Holocene deposits which extend across a large part of the Thames valley. Whilst it is recognised that 'other' development may also physically impact the geoarchaeological sequence, the extent of the area of interest, depth of the deposits and type of development impacts (generally piling), the significance of the resource will largely remain unchanged. Cumulative effects are assessed as being **Negligible Adverse** (Not Significant) in EIA terms.	
Air Quality	With the successful implementation of the detailed mitigation measures incorporated into the CEMP the significance of dust impacts beyond the site boundary will be **Negligibl**e. On this	Traffic associated with other committed and strategic developments in the area have been included in the future (2030) baseline flows and therefore the cumulative effects on local air quality are

Assessment	During Construction	During Operation
	basis the contribution from the proposed development to the cumulative impact of dust generated by other sites in the area will also be **Negligibl**e.	intrinsic to the assessment.
Noise and Vibration	CEMP is required for all schemes to control noise levels at the closest sensitive receptors by doing so noise levels will be controlled at receptors further away. Closest receptors for cumulative schemes do not overlap therefore the individual CEMPs will be sufficient to protect all surrounding receptors.	Planning condition controls noise emissions at the closest sensitive receptors and in doing so protects more distant receptors. The closest receptors do not overlap and therefore achieving the condition limits will be sufficient to protect residential amenity.
Ground Conditions and Contamination	There are unlikely to be any cumulative impacts from the proposed development.	
Ecology	The majority of residual impacts at the construction stage are anticipated to be Negligible and therefore there is no potential for cumulative impacts. There may be Short-term Negative effects for a number of receptors on site whilst landscaping matures. However, cumulative effects are not anticipated owing to the separation distances between the site and the cumulative schemes listed in this Chapter.	The landscaping associated with the proposed development is anticipated to have a **Permanent Positive** impact which should be replicated across the cumulative developments (set out in Chapter 11.0: Cumulative Impacts) in accordance with relevant planning policy and emerging legislation.
Socio-economic	As the cumulative schemes will generate employment opportunities during their construction phases, it is anticipated that the overall cumulative impact of the identified cumulative schemes and the proposed development will be a temporary **Major Positive** impact.	St Michael's Convent will bring forward 23 residential retirement units which will result in a small increase in the number of patients using existing local GP surgeries including Lock Road which is currently above the best practice ratio. The 23 new residents from St Michael's Convent development will increase the GP: patient ratio at Lock Road to 2,011 patients per FTE (fulltime equivalent) GP. This is a **Minor Negative** cumulative impact. The other cumulative developments are located too far from the site to result in a cumulative impact or, in the case of the allocated sites, the quantum of housing and incoming population is unknown. Therefore, no other cumulative impacts are anticipated.
Climate Change	This assessment of the impacts of the proposed development on, and as a result of climate change considers the cumulative developments, as listed within Table 11.2 above. It is not possible to provide a detailed	Consistent with the assessment for the construction phase.

Assessment	During Construction	During Operation
	assessment accounting for all proposed developments in the area that may have a cumulative effect with the proposed development due to the global nature of climate change and the fact that the effects will not occur within a defined boundary. The emissions that each scheme makes will have some effect on climate change, but it will be a proportionally very small amount. However, the impact on climate change from the proposed development in combination with other developments is considered to have been minimised as far as possible as each of the cumulative schemes will have produced Flood Risk Assessments, Transport Assessments and Energy Strategies that help them individually adapt to and mitigate against climate change.	

PHASING

11.34 Given the phased nature of the development potential for cumulative effects arising from the overlapping construction and operational phases of the development has been considered in the table below.

Table 11.8 Assessment of cumulative effects associated with phasing

ES Topic	Assessment
Heritage, Townscape and Visual	Up until completion of the development, whilst construction is ongoing, there will be temporary Adverse effects. Following completion of the development effects will range from Neutral to Beneficial owing to the high architectural design incorporated on site. There are therefore no cumulative effects anticipated to arise from the overlapping construction and operational phases.
Archaeology	Potential effects have been identified during construction phase(s) only. Mitigation will therefore take the form of a phased programme of archaeological works and public outreach. There are therefore no cumulative effects anticipated to arise from the overlapping construction and operational phases.
Air Quality	The assessment has considered the effects of the proposed development on both the existing receptors on site (and in the surrounding area) and proposed future on site receptors. The potential effects associated with the overlapping and operational phases are therefore intrinsic to the assessment and no cumulative effects are anticipated. The road traffic assessment includes a future year of 2030 (once development is fully operational) and is therefore considered 'worst-case'. The anticipated construction

	phase vehicle movement are below the threshold for assessment in accordance with best practice guidance and therefore considered negligible.
Noise and Vibration	The assessment has considered the effects of the proposed development on both the existing receptors on site (and in the surrounding area) and proposed future on site receptors. The potential effects associated with the overlapping and operational phases are therefore intrinsic to the assessment and no cumulative effects are anticipated. The road traffic assessment includes a future year of 2030 (once development is fully operational) and is therefore considered 'worst-case'.
Ground Conditions and Contamination	The assessment considers the potential effects on a range of receptors including construction workers and existing/proposed residents. All residual effects are anticipated to be Negligible following the implementation of mitigation. There are therefore no cumulative effects anticipated to arise from the overlapping construction and operational phases.
Ecology	The assessment within the Ecology Chapter has considered the phasing of the development. Potential effects through loss of existing habitat and disturbance have largely been anticipated to occur at the construction phase. There will therefore be temporary Adverse effects until construction has been completed on site and the landscaping has matured. Given the phased nature of the development a recommendation has been provided for updated bat surveys to be undertaken prior to the commencement of demolition on Phases 2 and 3. There are therefore no cumulative effects anticipated to arise from the overlapping construction and operational phases.
Socio-economic	The assessment has considered the effects of the proposed development during construction and operation (in 2030 following completion of the proposed development). The phasing impacts of the proposed housing are set out as part of the construction section. The impacts on local education, healthcare and community facilities represent a worst case scenario given they consider all additional new residents from the proposed development although in reality these new residents will gradually occupy the proposed development based on the phasing. Construction employees are not predicted to have any significant effects on local education, healthcare and community facilities. There are therefore no cumulative effects anticipated to arise from the overlapping construction and operational phases.
Climate Change	The assessment has considered the effects of the proposed development during construction and operation (in 2030 following completion of the proposed development). No likely significant climate change resilience effects have been identified during construction and therefore there is no potential for cumulative effects to arise from the overlapping construction and operational phases. For greenhouse gas emissions, the assessment has considered the A1-A5 construction CO2e emissions (which includes upstream processes), the operational energy emissions in the opening year

	and the operational transport emissions in the opening year. There is no requirement to assess construction phasing in detail as part of the IEMA GHG Assessment Guidance. Given the proposed development will have a Positive impact on operational energy emissions there are no likely significant cumulative effects predicted as a result of energy and construction emissions as a result of the phasing. Some of the emissions from construction and operational transport will occur in the same year due to the phasing, but this is not considered to lead to any new likely significant effects given the transport emissions have been assessed as a worst case scenario following completion.

REFERENCES

1 IEMA (2020); Environmental Impact Assessment Guide to: Climate Change Resilience & Adaptation.

2 HMSO The Town and Country Planning (Environmental Impact Assessment) Regulations 2017 (Amended 2020)

3 The Planning Inspectorate (2015) Advice note seventeen: Cumulative effects assessment relevant to nationally significant infrastructure projects, available at https://infrastructure.planninginspectorate.gov.uk/wp-content/uploads/2015/12/Advice-note-17V4.pdf

Ham Close ES Vol 1

id	Name	Reference
1	1-1C King Street	21/2758/FUL
2	St Johns & Amyand House	18/4266/FUL
3	Old Station Forecourt Railway	19/3616/FUL
4	Langhorn Drive	15/3038/OUT
5	Ryde House	16/2777/FUL
6	Lockcorp House	17/1033/FUL
7	Ham Common	16/3553/LBC
8	Cassel Hospital	N/A
9	St Mary's University	N/A
10	Telephone Exchange	N/A
11	Teddington Delivery Office	N/A
12	Strathmore Centre	N/A

Ham Close Site Boundary

Nearby Schemes

- Cumulative Development
- Allocated Site

N

0 500 1,000 1,500 2,000 2,500 m

Greengage Environmental Ltd
9 Holyrood Street, London SE1 2EL

www.greengage-env.com

Figure 11.1 Cumulatives Plan

Project Number 551842
February 2022
1 to 13750 at A3