Document 6.2

The West Midlands Rail Freight Interchange Order 201X ES - Vol 1 - Chapter 17: Cumulative Effects

Regulation 5(2)(a)

Ramboll - July 2018

West Midlands Interchange

Four Ashes Ltd

17 CUMULATIVE EFFECTS

Introduction

17.1 This Chapter assesses the potential significant cumulative environmental effects associated with the Proposed Development. Two types of cumulative effects are considered:

- Intra-Project Effects (Type 1) - Combined effects of different types of impact, for example impact interactions arising from noise, dust and visual impacts during construction of the Proposed Development on particular sensitive receptors. These are also known as 'impact interactions'; and
- Inter-Project Effects (Type 2) - Combined effects generated from the Proposed Development together with other planned / potential developments. These other developments may generate their own individually insignificant effects, but when considered together the effects could amount to a significant cumulative effect, for example, combined transport impacts from two or more (proposed) developments. These are referred to as 'in-combination' impacts.

17.2 Inter-project Cumulative Effects are assessed within each technical chapter and summarised within this chapter. Intra-project cumulative effects are assessed within this chapter.

17.3 Cumulative effects have, where possible, been assessed using quantitative assessment methods and professional judgement against the guidance criteria described in Chapter 2: ES Process and Methodology and are consistent with the methodologies adopted for each technical topic considered in the technical assessments of this ES (Chapters 6-16), unless stated otherwise.

17.4 The assessment of inter-project cumulative effects has been undertaken in accordance with PINS 'Advice Note 17: Cumulative effects assessment (CEA) relevant to nationally significant infrastructure projects', as detailed within Chapter 2: ES Process and Methodology. This chapter represents Stage four of the four stage approach to cumulative effects assessment outlined within Advice Note 17. Stages 1 to 3 are summarised as follows:

- Stage 1: Establish the NSIP's zone of influence (ZOI) and identify long list of 'other development' – Separate ZOI's were developed for each technical discipline and agreed at the EIA Scoping stage (see Table 2.2 of Chapter 2);
- Stage 2: Identify shortlist of 'other development' for CEA – additional criteria were developed and applied to produce a short list of 'other developments' to carry forward to Stages 3 and 4 of the cumulative effects assessment, as detailed within Chapter 2. A desk study was undertaken in order to apply this criteria to the long list of other developments per technical discipline, with clear justification for the inclusion/exclusion of each other development. The resultant shortlist was prepared by Quod and agreed with SSDC / SCC and is provided in Table 17.2 and shown in a map in Appendix 2.6;
- Stage 3: Information gathering – Further information on the short list of other developments was sought through consultation between Quod and SSDC/SCC, and from publicly available sources; and
- Stage 4: Each 'other development' has been assessed in turn in accordance with the criteria outlined within Advice Note 17, and presented within a Matrix table, in line with the Matrix template provided in Appendix 2 of Advice Note 17 (see Table 17.3 below).

Intra-Project Effects

17.5 The intra-project effects of different types of impact ('impact interactions') from the Proposed Development on receptors have been considered for both the demolition and construction works and once the Proposed Development is completed. However, it is noted that the greatest likelihood of impact interaction, and hence significant effects, would occur during the demolition and construction works. Indeed, demolition and construction effects are usually more significant (albeit on a temporary basis) than effects created from a completed development.

17.6 Representative groups and/or individual receptors potentially most sensitive to impact interactions (where appropriate) have been identified, rather than undertaking an assessment of each possible receptor. The criteria for identifying such receptors included types of existing and future land uses and occupiers; proximity to the demolition and construction works; likely duration of exposure to impacts; and nature of impacts. Such an approach is considered a reasonable and appropriate approach to identifying likely significant cumulative effects.

17.7 It is standard practice for some technical chapters, such as Ecology and Socio-economics, to consider cross-discipline effects as an inherent component of the technical chapter. For example, the Ecology Chapter considers impact interactions from air quality and traffic on ecological receptors. The Socio-economic Chapter accounts for in-combination effects of a range of other technical disciplines on all key socio-economic receptors including recreation and amenity receptors, human health and local businesses. These interactions are not repeated here.

17.8 Impact interactions by their nature tend to be indirect and difficult to quantify, and can be subjective. Impact interactions may be additive or synergistic. As a result of these complexities, impact interactions are dealt with qualitatively.

17.9 It is noted that intra-project cumulative effects are more likely to arise when the receptor or receptor group is more sensitive to change, such as human receptors.

17.10 For the purposes of this assessment, only net adverse intra-project effects are considered below, and negligible and neutral effects are disregarded.

Demolition and Construction Intra-Project Effects

17.11 As the Proposed Development demolition and construction stage is to be undertaken in phases, both existing and future receptors are considered below. The most sensitive receptors in the immediate surrounding area that could potentially be affected by impact interactions are as follows:

- Residential receptors at Croft Lane, and along the A5 Watling Street, A449 Wolverhampton Road, Gravelly Way/Gravelly Farm, Station Drive/Vicarage Road and Straight Mile; and
- Local residential receptors with agricultural land holdings or tenancies affected by the Proposed Development construction phases.

17.12 Table 17.1 summarises the potential impact interactions that may arise at the Site during the course of the development works and that could affect the identified receptors during the demolition and construction works. Identified impacts set out in Table 17.1 assume the likely sequencing as described in Chapter 5: Demolition and Construction.

Table 17.1: Potential Proposed Development Intra-Project Impact Interactions during Demolition and Construction Works

Demolition and Construction Works	Receptor Groups	
	Residential Receptors	Residential and agricultural receptors
Site Enabling (including initial Site clearance, site offices and temporary works)	MT	MT/LP
Demolition	ST	ST/LP
Earthworks	MT	MT
Substructure	MT	MT
Superstructure and Envelope Works	ST	ST
Fit Out	ST	ST
External Works and Landscaping	ST	ST
Off-site highway works	MT	ST
Impact Interactions	Noise, air quality, traffic, landscape and visual	Socio-economics, agriculture and soils, noise, air quality, traffic

Notes
S = small M = medium L = large
T = Temporary P = Permanent
X = no impacts

Residential Receptors

17.13 Local residents may be subject to combined effects from noise and dust, as well as traffic and visual impacts during the demolition and construction phase of the Proposed Development.

17.14 Temporary medium to large scale impacts would be more prevalent during the enabling, earthworks and substructure works. During these works, the majority of interactions would arise from emissions such as dust and noise from plant and vehicles, as well as the visual impact of the works and additional HGVs on the local highway network. As works proceed above ground and conclude with fit out and landscaping, the magnitude of impacts would start to reduce.

17.15 However, not all receptors would experience impact interactions during these works, given that construction activities would typically occur during daylight hours and would be restricted over weekends.

17.16 Residential receptors at Croft Lane and Vicarage Road would likely be most affected by intra-project cumulative effects.

17.17 As described in ES Chapter 5: Demolition and Construction, a development phase specific demolition and construction environmental management plan (DCEMP), based on the principles of the outline demolition and construction environmental management plan (ODCEMP) (Technical Appendix 2.3) would be implemented during demolition and construction works, and secured via a DCO Requirement. These measures would provide the mechanisms to minimise impacts of demolition and construction works 'at source' in order to reduce the effects on internal and external surrounding receptors. Any impacts identified would be temporary and transient, and local residents would have the opportunity to contact the contractor and register a complaint should they experience any effects arising from construction.

17.18 Overall, given the likely transient nature of any impact interactions and the general minimisation of effects through implementation of the principles outlined in the ODCEMP, it is considered unlikely for significant impact interactions to occur during demolition and construction for residential receptors.

Residential and Agricultural Receptors

17.19 There is the potential for combined intra-project effects on a specific demographic of local residents who own or tenant land on Site. In addition to the interactions from emissions such as dust and noise from plant and vehicles, the visual impact of the works and additional HGVs on the local highway network described above for residential receptors, these receptors may also be subject to loss of or degradation to land and potential loss of livelihood and socio-economic impacts during certain phases of the project.

17.20 Farmers living within the vicinity of the Site would potentially be subject to greater exposure to noise, air quality and visual impacts during construction, as their work place and residence would more likely be at the same place.

17.21 Chapter 6: Agriculture and Soils describes the effects of phasing on various land ownership parcels within the Site. Heath Farm, located at the south-east of the Site, has fields located to the north and south of Vicarage Road. It is understood that due to the phased construction approach, the fields to the north of Heath Farm could be developed some time before those to the south and before the tenant had vacated the Site. On this basis Heath Farm would stand to lose a proportion of the available land whilst still actively farming the remainder. No other tenant farmers at the Site have been identified that would be affected in this way. Further details of tenancy holdings are discussed in Chapter 6: Agriculture and Soils.

17.22 As described in ES Chapter 5: Demolition and Construction, a development phase specific DCEMP would be implemented during demolition and construction works, and secured via a DCO Requirement. These measures would provide the mechanisms to minimise impacts of demolition and construction works 'at source' in order to reduce the effects on internal and external surrounding receptors. Any impacts identified would be temporary and transient, and local residents would have the opportunity to contact the contractor and register a complaint should they experience any effects arising from construction. As a result, residual effects from air quality and traffic are limited for local residents. A residual effect of moderate after consideration of the DCEMP is identified for noise at residential properties surrounding the site. Chapter 6: Agriculture and Soils identifies residual effects of Minor significance regarding the extinguishment of land holdings as described above.

17.23 Further to the above consultation has been held and will continue with tenant farmers and on-site residential receptors as to when they will vacate the Site. Through this process it is expected that any issues regarding partial loss of land prior to tenant farmers leaving the property can be appropriately managed.

17.24 The effects of the progressive loss of land at Heath Farm would not be expected to interact synergistically with effects from noise, air quality, traffic of landscape/visual during construction. In addition, the effects would only be partially additive as the construction works would only take place in the immediate vicinity of the still-occupied Heath Farm for a relatively short period. On this basis it is considered that any impact interaction that occurs would not substantially alter the significance of effect from that assessed in each individual technical chapter. The cumulative intra-project effect at Heath Farm during construction is therefore assessed as **moderate significance**.

Operational Development Intra-Project Effects

17.25 The most sensitive receptors in the immediate surrounding area that could potentially be affected by impact interactions during the operational development phase are as follows:

- Residential receptors at Croft Lane, and along the A5 Watling Street, A449 Wolverhampton Road, Gravelly Way/Gravelly Farm, Station Drive/Vicarage Road and Straight Mile; and
- Local businesses.

Residential Receptors

17.26 Local residents may be subject to combined effects of air quality, noise, traffic and visual impacts during the operational development phase which would be long term in nature. These impact interactions are summarised in Table 17.2 below.

Table 17.2: Potential Operational Development Intra-Project Impact Interactions

Receptor	Residual Effects Significance			
	Noise and Vibration	**Air Quality**	**Landscape and Visual**	**Transport**
Residential receptors around the Site / adjacent to road network	Moderate	Negligible to Slight	Minor to Moderate / Major	Negligible to moderate**
Canal Moorings (residential)	Moderate	N/A	Moderate	N/A
Single receptor along Vicarage Road between Site and A5	Moderate	Negligible to Slight	N/A***	Negligible to moderate
Receptors along A5 between Site access and M6, along A449 between Gravelly Way and Brewood Road	Moderate	Negligible to Slight	Minor to Moderate	Minor to Moderate ****

*Unless stated as negligible all effects are adverse

**Including all parameters (Severance, driver stress/delay, pedestrian delay/amenity, cyclist delay and amenity, fear and intimidation, accidents and safety)

***single residential receptor on this road is located to the north-east of the M6 some distance from the Site and with limited views. General assessment for Vicarage Road properties therefore not applicable.

**** Transport Links 4 and 12

17.27 With the exception of landscape and visual effects, all of the effects outlined in Table 17.2 are as a result of changes in traffic (increase in HGVs) on the surrounding road network, which leads to secondary effects on noise and vibration and air quality at these receptors. The sensitive receptors for these impact interactions would be local residents – and for transport effects those local residents that inherently use the local transport facilities.

17.28 The receptor categories described above are relatively generic and provide a conservative assessment. In reality there may be different levels and combinations of impact interactions at individual properties. The impact interactions of transport, noise and air quality relating solely to the road network surrounding the Site, whilst assessed as producing a range of adverse effects in comparison to the baseline which could be additive to some degree, would not fundamentally alter the character of the roads or the experience of the residents living along them, with the exception of Vicarage Road. In the case of Vicarage Road, only one residential receptor is located along this road (excluding two properties that are closer to the A5 and therefore subject to the noise and transport baseline of this busier road). The negligible to slight and negligible to minor contributions from air quality and transport respectively would not be expected to significantly increase the overall effect above that of the moderate effect assessed for noise for the Vicarage Road Receptor.

17.29 Any additive nuisance effect on local residents between transport effects and noise would be dependent on those receptors using the roads as drivers, pedestrians and cyclists. Any one resident is only likely to be exposed to one or two of these modes of transport locally on a regular basis. No resident would be affected by noise (as assessed at their dwelling) and transport effects at the same time, so effects would not be truly additive.

17.30 In relation to landscape and visual effects, these have been mitigated to a large extent by the inclusion of the landscape bunding and by general arrangement of the development plots and building heights. The residual effects are therefore based on the remaining visual effect of the Proposed Development, typically comprising visible tops of the tallest buildings above the landscape bunding/trees. As this effect is assessed based on views from residential properties it could not interact cumulatively with transport effects. The primary impact interaction with landscape and visual would be from noise and vibration, as this would be experienced by the same receptors at the same location, although given the concentration of transport noise effects at night, not at the same time.

17.31 Nevertheless, it is appreciated that the combined effects of loss of visual amenity and increased noise levels could affect residents to a degree. This is highly subjective and therefore not possible to quantify. Any such effects would be highest for those living closest to the Site, and for these receptors effects could range from moderate to major significance. The majority of this effect would result from the significance of the individual effects assessed in the technical chapters and impact interactions would only contribute a small amount to this.

17.32 Overall, whilst it is recognised that any one residential receptor at the locations outlined in Table 17.2 may experience impact interactions that may be additive in terms of their overall experience, it is extremely difficult to quantify any such effect given its highly subjective nature and the complexity of the interactions. It is qualitatively assessed based on the above discussion that the maximum significance of any intra-project effect is **moderate**, which may be deemed 'significant' in EIA terms. At any rate, it is not possible to mitigate the cumulative intra-project effects identified, and those effects deemed significant before the consideration of cumulative effects have already been mitigated (e.g. inclusion of noise insulation for identified properties).

Local businesses

17.33 There is the potential for local businesses to be affected by impact interactions from traffic, impacts to local agricultural resources and businesses, and other socio-economic impacts during the Completed Development phase. These effects would be primarily economic in nature and are therefore considered part of the broader assessment of social and economic effects under Chapter 14: Socio-economics and Human Health, of this ES.

Inter-Project Effects

17.34 Inter-project effects are assessed based on the methodology outlined in PINS Advice Note 17: cumulative effects assessment, and set out in accordance with the matrix table provided in Appendix 2 of Advice Note 17, as presented below in Table 17.2. This methodology is described in detail in Chapter 2: ES Process and Methodology of this ES.

17.35 The list of 'other developments' was confirmed in the CEA produced by Quod, an extract of which is provided in Table 17.3 below, listing each of the total of 32 other developments.

17.36 A figure included within Appendix 2.6 shows the location of the 'other developments' in relation to the Site.

Table 17.3: Inter-Project 'Other Developments'

ID	Application Reference	Development Name and Description	Distance from WMI Site	Planning Status	Tier
1	16/00498/FUL	**Land off Gravelly Way, Four Ashes, South Staffordshire (The Bericote Development)** "Erection of 4no. industrial / distribution buildings (B1(c) / B2 / B8)." Approved new floorspace - **105,419 sq m**	0km (immediately adjacent to Site)	**Full Planning Permission Granted** 02 August 2016	Tier 1 (a)
2	16/00187/REM	**i54 Site, Wobaston Road, Pendeford, South Staffordshire** "*Approval of reserved matters comprising details of a manufacturing buildings (B2 Use Class) including ancillary offices, research and development and warehousing facilities, together with associated landscaping, parking and servicing*." Approved new floorspace - **12,600 sq m**	5.6km	**Reserved Matters Granted** 01 June 2016	Tier 1 (a)
3	13/00154/COU	**White Gate Farm Watling Street Ivetsey Bank Stafford South Staffordshire ST19 9QT** *"Temporary change of land use for six day period on an annual basis for 'V Festival' and 'Midland Game Fair' caravan and camping site (major application)."*[1]	8.9km	**Planning Permission Granted** 05 April 2013	Tier 1 (a)
4	13/00187/COU	**White Pump Farm Watling Street Ivetsey Bank Stafford South Staffordshire ST19 9QU** *"Use of site for camping for 'V festival' and 'Midland Game Fair' on a permanent basis."*	8.9km	**Planning Permission Granted** 19 April 2013	Tier 1 (a)
5	(a) 13/00394/OUT and (b) 12/00497/OUT	**Lyne Hill Industrial Estate, Boscomoor Lane, Penkridge South, Staffordshire** *(a) "Residential development of up to **170 dwellings** and demolition of industrial units."; and (b) "Residential development for **up to 165 units** including assisted living accommodation, 60 bed nursing home and a minimum of 10 assisted living units."*	2.9km	**Outline Permission Granted** (a) 07 August 2013 (b) 30 January 2013	Tier 1 (b)
6	16/00487/OUT	**Land On The South East Side Of Hobnock Road Essington South Staffordshire** *"The erection of approximately **210 dwellings** with ancillary parking and private amenity space; a convenience store to serve existing and future residents; additional parking to serve St John's Primary School; Allotments for use by the wider community; site infrastructure and landscaping."*	6km	**Submitted Outline Application** Target date for determination 31 October 2016	Tier 1(b)
7	15/00555/FUL	**Land At i54 Innovation Drive, Pendeford, South Staffordshire, WV9 5GA** *"Construction of manufacturing building (Use Class B2) comprising 93,505 sqm GEA with associated car parking (1,159 new car parking spaces), service yard, hard and soft landscaping, drainage and other infrastructure."* Approved new floorspace - **93,505 sq m**	5.6km	**Full Planning Permission Granted** 16 October 2015	Tier 1 (b)
8	(a) 15/00417/OUT and (b) 16/00495/REM	**Land West Of Watery Lane And North Of Sandy Lane Codsall South Staffordshire** *(a) "Outline planning permission for residential development (Class C3) with associated access, landscaping, open space and drainage infrastructure at land off Watery Lane, Codsall, South Staffordshire. All matters are reserved, save for access."* 'Approximately' **160 dwellings** approved *(b) "Reserved matters consent for appearance, landscaping, layout and scale."* Seeking consent for **180 dwellings**	7.6km	**Outline Permission Granted** (a) 25 September 2015 **Reserved Matters Approved** (b) 21 October 2016	Tier 1(b)
9	95/00829/OUT	**Mercury, Hilton Cross Business Park, Junction 1 M54, Cannock Road, Wolverhampton, WV10 7HP** *Development description not available.* Outline consent for up to **18, 000 sq m**	4.7km	**Outline Permission Granted** 1995	Tier 1 (b)
10	08/00187/FUL	**Vernon Park, Wolverhampton, West Midlands, WV10 7HP** *"Erection of four B2 & B8 class industrial units plus usage of 1.5 acres of land for open storage."* Consent implemented. Up to **11,000 sq m** consented yet to be built out.	4.7km	**Full Permission Granted** 03 May 2008	Tier 1 (b)
11	15/00748/OUT	**Land At Landywood Lane, Cheslyn Hay, South Staffordshire** *"Development of land to provide station car park, allotments, public open space (linear park); **103no 'enabling development' market dwellings** (linked to the restoration of listed buildings at Teddesley Park) and **33no dwellings** that include 40% affordable units."* [2]	5.7km	**Submitted Outline Application** Target date for determination 30 September 2017	Tier 1 (c)
12	-	**ROF Featherstone Strategic Employment Site** *"The 24ha site is designated in the* South Staffordshire Council Core Strategy (2012) *as a Strategic Employment Site. A 50% extension (12ha) to the built development is currently being promoted in the emerging Site Allocations*	3.5km	Identified in the South Staffordshire Council Core Strategy (2012) and the	Tier 3

[2] Whilst this application is below the 150 dwellings threshold, it has been included due to the scale of the associated works.

Table 17.3: Inter-Project 'Other Developments'

		Document 'Preferred Options' (December 2015). This would equate to a total of 36ha of built development being promoted."		emerging Site Allocations Document submitted to PINS for examination in September 2017 as a Strategic Employment Site	
13	-	**i54 South Staffordshire Strategic Employment Site** *"A 40ha extension to the existing i54 South Staffordshire Strategic Employment Site is currently being promoted in the emerging Site Allocations Document 'Preferred Options' (December 2015)."*	4.3km	Identified in the SSDC Core Strategy (2012) and the emerging Site Allocations Document 'Preferred Options' (December 2015) submitted to PINS for examination in September 2017 as a Strategic Employment Site	Tier 3
14	-	**ROF Featherstone Access Road** *"Access road to ROF Featherstone."*	3.5km	Identified in the emerging Preferred Options Site Allocations Document (December 2015) submitted to PINS for examination in September 2017	Tier 3
15	CH/15/0425	**Land at Blakeney Way, Kingswood Lakeside, Cannock** *"Erection of 2 No. distribution warehouses with associated ancillary offices, car parking and landscaping (B2 & B8 uses)." 26,308 sq m B1(a) / B1(c) / B2 / B8*	6km	**Full Permission Granted** 03 February 2017	Tier 1 (a)
16	(a) CH/11/0395 and (b) CH/15/0113	**Land north of Limepit Lane and west of Pye Green Road, Cannock** *(a) "Mixed use development involving - erection of **up to 700 dwellings**; local centre consisting of retail / commercial (A1, A2, A3, A4, A5), and use class D1; a primary school; formal and informal open space, equipped play areas and allotments; new highway infrastructure onto Pye Green Road and Limepit Lane; and associated engineering, ground modelling works and drainage infrastructure (Outline including access)."* *(b) "Residential development: Erection of **219 dwellings** (Reserved matters: Appearance, landscaping, layout and scale, in respect of planning permission CH/11/0395)."*	6km	**Outline Permission Granted** (a) 24 June 2014 **Reserved Matters Granted** (b) 16 September 2015	Tier 1 (a)
17	CH/14/0268	**Pye Green Valley Between, Greenheath Road And Cannock Road, Hednesford** *"Erection of 425 dwellings and associated infrastructure (Application for approval of Reserved Matters including - access, appearance, landscaping, layout and scale)."*	7km	**Reserved Matters Granted** 26 May 2015	Tier 1 (a)
18	CH/16/260	**Watling Street, Cannock, WS11 1SP** *"Proposed erection of single detached industrial building for B1c (light industrial), B2 (general industrial) and B8 (storage and distribution) uses with associated access, car parking, service yard and soft landscaping."* Approved new floorspace - 13,200 sq m	3.6km	**Planning Permission Granted** 22 March 2017	Tier 1 (a)
19	CH/14/0452	**Former mid Cannock Coal Disposal Point, Land West of Eastern Way, Rumer Hill, Cannock, WS11 0HA** *"Section 73 permission to allow the development of new rail head and associated works at an established container handling depot."*	7.1km	**Planning Permission Granted** 24 June 2015	Tier 1 (b)
20	CH/10/0294	**Land off Norton Hall Lane and Butts Lane, Norton Canes** *"Mixed use development of up to **450 houses** and up to 6,300 square metres of employment floorspace (class B1 and B2 uses); formal and informal open space and new highway access Outline application with access specified."*	7.7km	**Outline Permission Granted** 06 March 2013	Tier 1 (b)
21	CH/16/013	**Land at Cley Road, Cannock** *"Erection of a building for B8 storage and distribution with integral B1 office (34,560 sq. m.) along with ancillary developments and associated landscaping."* Approved new floorspace - **34,560 sqm**	6.5km	**Full Planning Permission Granted** 13 July 2016	Tier 1 (b)
22	CH/15/0048	**Mill Green, Eastern Way, Cannock** *"Hybrid planning application for a designer outlet village development comprising:* *Full application for Phase 1- Comprising remodelling of existing landform of the site; erection of up to 23,758 sqm (GEA) of commercial units comprising a mix of uses at ground floor, including retail, restaurants/cafes and drinking establishments (Classes A1, A3 and A4) and outdoor play areas and centre management suite and retail storage*	5.9km	**Hybrid Planning Permission Granted** 29 July 2016	Tier 1 (b)

Table 17.3: Inter-Project 'Other Developments'

		areas at first floor level; diversion of water courses and sewers and associated drainage works. Associated works include hard and soft landscaping, new vehicular and pedestrian access from A460/Eastern Way including under-pass and formation of two pedestrian accesses to the adjoining Mill Green Nature Reserve and associated works to include formation of part of the Heritage Trail, and upgraded pedestrian and cycle route along Eastern Way, provision of temporary and permanent car and coach parking. *Outline application for Phase 2 - Comprising erection of up to 10,389 sqm (GEA) of commercial units comprising retail uses at ground floor (Class A1), erection of multi storey car park with associated access and hard/soft landscaping (all matters reserved except access)."* Total approved new floorspace – up to **34,147 sq m**			
23	CH/17/323	**Gestamp Tallent, Wolverhampton Road, Cannock, WS11 1LY** *"Demolition of factory and offices and erection of up to 180 dwellings; and up to 30,000 square foot of employment floor space (B1(c) B8 Use Class and associated works (outline application with all matters reserved except for access)."*	3.9km	**Submitted Outline Planning Application** 22 August 2017 (Target date for determination Un-known)	Tier 1 (c)
24	15/02787/FUL	**North Of Harriots Hayes Lane, Albrighton, Shropshire** *"Formation of solar farm (circa 29.7ha) to include the installation of a solar PV panels, access track, temporary construction compound, ancillary buildings, underground cabling, 2m high perimeter fencing, four pole mounted (6.6m high) CCTV security monitoring system, landscaping and associated works and infrastructure."*	8.7km	**Full Planning Permis-sion Granted** 14 December 2015	Tier 1 (b)
25	11/00100/OUT	**Wolverhampton Business Park Off Stafford Road Wolverhampton West Midlands** *"Outline application for B1 (Business) Uses with all matters reserved except for access."* Approved new floorspace – **15,726 sq m**	4.2km	**Outline Permission Granted** 13 May 2011	Tier 1 (a)
26	(a) 05/1989/OP/M, (b) 11/01022/EXT and (c) 15/00915/REM	**Goodyear Site, Mercury Drive, Wolverhampton** (a) "Mixed use development comprising residential, local retail, community and ancillary uses." *(b) "Application for the extension of time for the submission of reserved matters related to outline application 05/1989/OP/M - mixed use residential led development."* *(c) "Minor amendment to highway design in respect of residential development for **124 houses** (approval of reserved matters under outline permission 11/01022/EXT - access, appearance, landscaping, layout and scale)."*	7.3km	**Outline Permission Granted** (a) 20 June 2007 (b) 18 April 2012 **Reserved Matters Granted** (c) 07 September 2015	Tier 1 (a)
27	(a) 10/00736/VV and (b) 05/0494/FP/M	**Low Level Station, Sun Street / Wednesfield Road** *(a) "Material amendment to previous approval (05/0494/FP/M) for mixed use scheme including residential, hotel, pub/diner, car showroom and offices. The application is to amend block B of the residential element. Alterations include changes to external materials, balcony design and removal of metal pole pinnacle."* *(b) "Mixed Use scheme including residential, hotel, car showroom, pub/diner, A1/A3 (retail/food and drink) and offices."* Approved development **– 208 dwellings** **This development is not located within SSDC district boundaries and is located 9.5km from the Site and so isn't considered further.**	9.5km	**Full Permission Granted** (a) 14 July 2011 **Full Permission Granted** (b) 22 March 2006	Tier 1 (a)
28	15/01026/LDO	**Land At Showell Road, Fifth Avenue And Broome Road** The Council authorised the adoption of a Local Development Order, granting planning permission for a maximum of **150 dwellings** at this site.	7.7km	**Local Development Or-der adopted** 11 November 2015	Tier 1 (b)
29	(a) 09/00429/OUT and (b) 15/01012/REM	**Land Between Planetary Road and Wednesfield Way Wolverhampton West Midlands** *(a) "Outline Application with all matters reserved. Demolition of existing industrial buildings; construction of new industrial and warehouse buildings (Classes B1, B2, B8) with associated car parking, yard space circulation and landscaping; and use of the existing access to Wednesfield Way."* *(b) "New Industrial/warehouse development (Classes B1, B2 and B8). Approval of the details of the following reserved matters are sought; layout, scale, appearance, landscaping and access."* Approved new floorspace – **38,164 sq m**	9km	**Outline Permission Granted** (a) 05 November 2010 **Reserved Matters Granted** (b) 18 December 2015	Tier 1 (b)
30	(a) 11/00627/OUT and (b) 14/00361/REM (c) 05/0494/FP/M	**Former Jennie Lee Professional Centre Lichfield Road Wednesfield Wolverhampton West Midlands WV11 3HT** *(a) "Outline application with all matters reserved. The re-development of the Jennie Lee Centre site and adjoining open space for up to **217 residential** dwellings."* *(b) "Residential development comprising **217 dwellings** with public open space (including appearance) and pur-suant to outline application 11/00627/OUT."* *(c) "Mixed Use scheme including residential, hotel, car showroom, pub/diner, A1/A3 (retail/food and drink) and offices."* Approved development **– 208 dwellings**	8.5km	**Outline Permission Granted** (a) 18 June 2013 **Reserved Matters Granted** (b,c) 25 June 2014	Tier 1 (b)

Table 17.3: Inter-Project 'Other Developments'					
31	17/01102/OUT	**Goodyear Factory Mercury Drive Wolverhampton** *"Outline application for residential development (up to 230 dwellings) with all matters reserved apart from access."*	7km	**Submitted Outline Planning Application** 13 June 2017. Target date for determination 13 September 2017	Tier 1 (c)
32	17/00571/OUT	**Land To The Rear Of HS Marston Aerospace Ltd Wobaston Road Wolverhampton WV10 6QJ** *"Outline planning application including site access to Wobaston Road but with all other matters reserved for the redevelopment of the site for flexible employment purposes within use classes B1b, B1c, B2 and B8 comprising of up to 35,512sq.m gross internal area (no more than 10% to be in class B1b and B1c and including ancillary office development) and all associated works."*	4.7km	**Submitted Outline Planning Application** 22 May 2017 Target date for determination 1 September 2017	Tier 1 (c)
33	17/00367/FUL	**Former IMI Sports Ground Wobaston Road Wolverhampton** *"Erection of two industrial buildings providing 18,021 sq m (GIA) for flexible employment purposes within use classes B1c/B2/B8 with ancillary offices, car parking, landscaping, service yard areas and associated external works."*	5km	**Submitted Outline Planning Application** 03 April 2017. Target date for determination March 2018	Tier 1 (c)
34	17/00610/OUT	**Heath Town Estate Wolverhampton West Midlands** *"Outline application for residential development (up to a maximum of 380 dwellings) with all matters reserved."*	9km	**Submitted Outline Planning Application** 31 May 2017. Target date for determination March 2018	Tier 1 (c)
35	17/01089/FUL	**Former Wednesfield High School Lichfield Road Wolverhampton West Midlands WV11 3ES** *"Proposed residential development comprising 210 houses and 56 apartments with associated landscaping, highway amendments, parking and ancillary buildings."*	8.5km	**Submitted Outline Planning Application** 15 September 2017. Target date for determination unknown	Tier 1 (c)
36	New Minerals Local Plan	**Saredon South Quarry** *"New allocation for Sand and Gravel, with anticipated duration of 13 years."* 8ha	1.7km	**Policy** Staffordshire and Stoke New Minerals Local Plan	Tier 3
37	New Minerals Local Plan	**Calf Heath Quarry** *"New allocation for Sand and Gravel, with anticipated duration of 6 – 8 years."* 35ha	0km (on site)	**Policy** Staffordshire and Stoke New Minerals Local Plan	Tier 3
38		**M54 M6 / M6 Toll Link Road Scheme**	4.5km	**Planned** Completion anticipated by end of March 2022	Tier 3

Table 17.4: Inter-Project Effects						
ID*	**Tier***	**Application Reference***	**Other Development Name and Brief Description***	**Assessment of Cumulative Effects with Proposed Development**	**Proposed mitigation applicable to NSIP including any apportionment**	**Residual cumulative effect**
Agriculture and Soils						
N/A	N/A	N/A	N/A	No other developments with potential impacts to agriculture and soils identified within 2km Zone of Influence. No potentially significant cumulative effects identified.	N/A	Negligible
Air Quality						
1	Tier 1(a)	16/00498/FUL	Land off Gravelly Way, Four Ashes, South Staffordshire (The Bericote development)	Construction Phase: Guidance provided by the IAQM suggests that effects of dust and particulate matter generated from a construction site may be experienced up to 350m from the site. The Bericote Development is anticipated to be complete by the time the Proposed Development construction phase commences. Therefore, no cumulative effects are anticipated between the construction phases of both schemes. The operational phase of the Bericote Development will comprise industrial and warehousing use, the former taking place largely indoors. There will be no residential development that could introduce additional sensitive receptors. Therefore, no cumulative effects are anticipated during the construction phase of the Proposed Development with the operational phase of the Bericote Development. Completed Development Phase: The traffic data provided in the Transport Assessment and Chapter 15: Transport and Access of this ES and utilised in this chapter fully accounts for cumulative effects with other developments as an integral part of the assessment. The predicted impacts therefore take account of the cumulative impacts associated with these other schemes for air quality effects related to traffic. No cumulative effects are anticipated with the non-traffic elements of the Proposed Development for air quality due to the distance between the Site and nearest cumulative schemes, and the low predicted effects from the Proposed Development.	N/A	Negligible
37	Tier 3	New Minerals Local Plan	Calf Heath Quarry - new allocation for Sand and Gravel with anticipated duration of 6-8 years, located on-site	Calf Heath Quarry is currently operational, however should DCO consent be granted, no further minerals will be worked within the Site including the new allocation. The existing minerals infrastructure will be removed. Removal of the existing minerals infrastructure at Calf Heath Quarry would be expected to employ stringent mitigation measures similar to those that would be implemented during construction of the Proposed Development. It is anticipated that the current quarry workings would be left open, thereby minimising the need to rework materials during the earthworks stage of the Proposed Development, and this has been taken into account in the cut/fill models for the Proposed Development and in the baseline established for this ES. As such, it is not anticipated that there will be any cumulative effects.		N/A

Table 17.4: Inter-Project Effects						
Archaeology						
1	Tier 1 (a)	16/00498/FUL	Land off Gravelly Way, Four Ashes, South Staffordshire - erection of industrial / distribution buildings (B1(c)/B2/B8) immediately adjacent to the Site (Bericote Development)	No potentially significant cumulative effects anticipated with archaeology during the construction or completed development phases.	N/A	Negligible
36	Tier 3	New Minerals Local Plan	Saredon South Quarry - new allocation for Sand and Gravel with anticipated duration of 13 years, located 1.7km from the Site	No potentially significant cumulative effects anticipated with archaeology during the construction or completed development phases.	N/A	Negligible
37	Tier 3	New Minerals Local Plan	Calf Heath Quarry - new allocation for Sand and Gravel with anticipated duration of 6-8 years, located on-site	Calf Heath Quarry is currently operational, however should DCO consent be granted, no further minerals will be worked within the Site including the new allocation. The existing minerals infrastructure will be removed. Removal of the existing minerals infrastructure at Calf Heath Quarry would be expected to employ stringent mitigation measures similar to those that would be implemented during construction of the Proposed Development. It is anticipated that the current quarry workings would be left open, thereby minimising the need to rework materials during the earthworks stage of the Proposed Development, and this has been taken into account in the cut/fill models for the Proposed Development and in the baseline established for this ES. As such, it is not anticipated that there will be any cumulative effects.	N/A	Negligible
Cultural Heritage						
1	Tier 1 (a)	16/00498/FUL	Land off Gravelly Way, Four Ashes, South Staffordshire - erection of industrial / distribution buildings (B1(c)/B2/B8) immediately adjacent to the Site (Bericote Development)	The Bericote Development will introduce a new area of industrial development in the setting of the Staffordshire and Worcestershire Canal Conservation Area (CA), and the listed and locally listed buildings within and in close proximity to the Site. The consented development will change the immediate setting of the stretch of the canal between Gravelly Way and Calf Heath Bridge. This setting is already subject to industrialising influences, which do not make a positive contribution to the heritage value of the canal CA. Notwithstanding this, it is acknowledged that the experience of the canal will change as a result of the Bericote Development. The canal will become more enclosed, and experienced as a corridor between industrial developments. The negative quality of this part of the canal as "the most scarred by modern industry" will not change. The Bericote Development will prevent views of the Proposed Development from this part of the canal CA, where the consented four storey warehouses will prevent views of the development proposed for WMI. The impact of the Proposed Development on the setting of the conservation area will, therefore, reduce slightly in this area of the Site, as visibility will be restricted. This change is not sufficient to alter the overall magnitude or likely significant effects, however, which are in any event negligible. With the exception of the canal as described above, the cumulative effect of the Proposed Development will not change the effect on Heath Farm, Woodside Farm, or any other heritage receptor. No potentially significant cumulative effects are anticipated with cultural heritage during the construction or completed development phases.	N/A	Negligible

Table 17.4: Inter-Project Effects						
37	Tier 3	New Minerals Local Plan	Calf Heath Quarry - new allocation for Sand and Gravel with anticipated duration of 6-8 years, located on-site	Calf Heath Quarry is currently operational, however should DCO consent be granted, no further minerals will be worked within the Site including the new allocation. The existing minerals infrastructure will be removed. Removal of the existing minerals infrastructure at Calf Heath Quarry would be expected to employ stringent mitigation measures similar to those that would be implemented during construction of the Proposed Development. It is anticipated that the current quarry workings would be left open, thereby minimising the need to rework materials during the earthworks stage of the Proposed Development, and this has been taken into account in the cut/fill models for the Proposed Development and in the baseline established for this ES. As such, it is not anticipated that there will be any cumulative effects.	N/A	N/A
Ecology						
1	Tier 1 (a)	16/00498/FUL	Land off Gravelly Way, Four Ashes, South Staffordshire - erection of industrial / distribution buildings (B1(c)/B2/B8) immediately adjacent to the Site (Bericote Development)	Construction Phase: The Bericote Development is adjacent to the Site and so construction effects could potentially act in combination. Based on recent information on the Bericote Development, construction is considered near to completion, and therefore would not coincide with construction works at the Site. Potentially significant cumulative effects are therefore not considered possible during construction. Completed Development Phase: The Bericote Development includes retention of a part of Calf Heath Wood which would complement the part retained in the Site and the mitigation design takes the Bericote Development ecology mitigation into account. Both complementary green infrastructure areas would be in positive ecological management for the duration of the respective operational phases to the benefit of wildlife. On this basis, no significant cumulative effects are anticipated during the completed development phase.	Potential for in-combination effects during construction to be accounted for in DCEMP and mitigation provided where necessary.	Negligible
5	Tier 1 (b)	(a) 13/00394/OUT and (b) 12/00497/OUT	Lyne Hill Industrial Estate, Boscomoor Lane, Penkridge South, Staffordshire – residential development for up to 335 dwellings across two separate planning applications, located 2.9km from the Site	Construction Phase: The Lyne Hill Industrial Estate scheme (north of the Site) is within close proximity to the Staffordshire and Worcestershire Canal that also passes through the Site. As a result, there may be combined construction phase effects on animals using the canal including bats, otter and potentially water vole. All of these schemes would be expected (in common with the Proposed Development) to include CEMP measures to protect surface waters and minimise effects on habitats and species. On this basis, no significant cumulative effects are anticipated during the construction phase. Completed Development Phase: In operation the wildlife using the canal adjacent to the Lyne Hill Industrial Estate scheme (north of the Site) would be expected to become accustomed to the new schemes and their associated landscaping and ecology enhancements, such that the canal would remain a usable corridor of aquatic and bankside habitat for bats, otters, water voles and other species. On this basis, no significant cumulative effects are anticipated during the completed development phase.	N/A	Negligible
2, 7, 14	Tier 1 (b)	16/00187/REM and 15/00555/FUL	(2) i54 Site, Wobaston Road, Pendeford, South Staffordshire and	Construction Phase:	N/A	Negligible

Table 17.4: Inter-Project Effects						
			(7) Land At i54 Innovation Drive, Pendeford, South Staffordshire, WV9 5GA and (14) i54 South Staffordshire Strategic Employment Site Three separate applications comprising two applications for development of manufacturing buildings and associated infrastructure totalling 106105 sq. m GEA, and a 40ha expansion of the i54 Strategic Employment Site. Located 5.6km from the Site	The three i54 schemes (south of the Site) are within close proximity to the Staffordshire and Worcestershire Canal that also passes through the Site. As a result, there may be combined construction phase effects on wildlife using the canal including bats, otter and potentially water vole. All of these schemes would be expected (in common with the Proposed Development) to include CEMP measures to protect surface waters and minimise effects on habitats and species. On this basis, no significant cumulative effects are anticipated during the construction phase. Completed Development Phase: In operation the wildlife using the canal adjacent to the three i54 schemes (south of the Site) would be expected to become accustomed to the new schemes and their associated landscaping and ecology enhancements, such that the canal would remain a usable corridor of aquatic and bankside habitat for bats, otters, water voles and other species. On this basis, no significant cumulative effects are anticipated during the completed development phase.		
15	Tier 3	-	ROF Featherstone Strategic Employment Site and Access Road, located 3.5km from the Site	Construction Phase: The ROF Featherstone site includes woodland, farmland and grassland and so habitat lost through development there would compound that from the Site, notably for farmland birds, but also for bats and other mammal species. The scheme mitigation would be expected to address these effects in a similar manner proposed for the Site, resulting in similar outcomes. On this basis, no significant cumulative effects are anticipated during the construction phase. Completed Development Phase: Any development at the Featherstone site would be expected to provide mitigation for loss of farmland habitat this would complement the measures proposed for the Site to address habitat loss and associated effects on species. As a result, in the operational phase it is predicted that there would be habitat creation or enhancement as in the Proposed Development which would combine to provide niches for wildlife in both sites. On this basis, no significant cumulative effects are anticipated during the completed development phase.	N/A	Negligible
36	Tier 3	New Minerals Local Plan	Saredon South Quarry - new allocation for Sand and Gravel with anticipated duration of 13 years, located 1.7km from the Site	The Saredon South Quarry operations would ensure that quarry habitat, which would be lost as a result of the Proposed Development is retained in the local area which could be present throughout construction and completed development phases. This would act effectively to further reduce the impact of any loss of quarry habitat from the Proposed Development, although this was not assessed as significant.	N/A	Negligible
37	Tier 3	New Minerals Local Plan	Calf Heath Quarry - new allocation for Sand and Gravel with anticipated duration of 6-8 years, located on-site	Calf Heath Quarry is currently operational, however should DCO consent be granted, no further minerals will be worked within the Site including the new allocation. The existing minerals infrastructure will be removed. Removal of the existing minerals infrastructure at Calf Heath Quarry would be expected to employ stringent mitigation measures similar to those that would be implemented during construction of the Proposed Development. It is anticipated that the current quarry workings would be left open, thereby minimising the need to rework materials during the earthworks stage of the Proposed Development, and this has been taken into account in the cut/fill models for the Proposed Development and in the baseline established for this ES. As such, it is not anticipated that there will be any cumulative effects.	N/A	N/A

Table 17.4: Inter-Project Effects						
32	Tier 3	-	M54 M6/M6 Toll Link Road – major road scheme to provide better connectivity between the M6/M6Toll and M54, located 4.5km from the Site.	Construction Phase: The M54 M6/M6 Toll Link Road scheme construction timescales are not known and so it cannot be determined whether there would be any cumulative effects of works during the construction phase. The scheme would sever countryside to the south-east of the Site, although because it is a linear scheme habitat loss would be limited. It is anticipated that the scheme would be designed and constructed in line with the Design Manual for Roads and Bridges (DMRB), and therefore subject to stringent environmental controls and standards and a comprehensive ecological mitigation design. On this basis no significant cumulative effects are anticipated between the Proposed Development and the M54 Link Road during construction. Completed Development Phase: Modern highway schemes are designed to be permeable to wildlife and are subject to a number of legislative and policy requirements in that respect, and so it is not anticipated that the M54 Link Road scheme would compound any severance effects from the Proposed Development. It is anticipated that the scheme would be designed and constructed in line with the Design Manual for Roads and Bridges (DMRB), and therefore subject to stringent environmental controls and standards. On this basis no significant cumulative effects are anticipated between the Proposed Development and the M54 Link Road during the completed development phase.	N/A	Negligible
Ground Conditions						
1	Tier 1 (a)	16/00498/FUL	Land off Gravelly Way, Four Ashes, South Staffordshire - erection of industrial / distribution buildings (B1(c)/B2/B8) immediately adjacent to the Site (Bericote Development**)**	All development activities associated with cumulative developments must be carried out in accordance with relevant legislative requirements and best practice guidance (including relevant assessment and remediation). On this basis, and subject to the implementation of good practice development measures, there would be no cumulative effects on contamination arising from the construction of the Proposed Development and other developments.	N/A	Negligible
37	Tier 3	New Minerals Local Plan	Calf Heath Quarry - new allocation for Sand and Gravel with anticipated duration of 6-8 years, located on-site	Calf Heath Quarry is currently operational, however should DCO consent be granted, no further minerals will be worked within the Site including the new allocation. The existing minerals infrastructure will be removed. Removal of the existing minerals infrastructure at Calf Heath Quarry would be expected to employ stringent mitigation measures similar to those that would be implemented during construction of the Proposed Development. It is anticipated that the current quarry workings would be left open, thereby minimising the need to rework materials during the earthworks stage of the Proposed Development, and this has been taken into account in the cut/fill models for the Proposed Development and in the baseline established for this ES. As such, it is not anticipated that there will be any cumulative effects.	N/A	N/A
Landscape and Visual						
1	Tier 1 (a)	16/00498/FUL	Land off Gravelly Way, Four Ashes, South Staffordshire - erection of industrial / distribution buildings (B1(c)/B2/B8) immediately adjacent to the Site (Bericote Development)	Construction Phase: The Bericote Development is currently under construction and will introduce a new area of industrial development immediately adjoining the Site. It is not anticipated that there will be any overlap in the timescales for construction of the Bericote Development and the Proposed Development. Therefore no cumulative landscape or visual effects are anticipated during the construction of the Bericote Development. Completed Development Phase:	N/A	Negligible

Table 17.4: Inter-Project Effects						
				Landscape The Bericote Development is of a similar large scale industrial character to the Proposed Development. In cumulative terms, the Bericote Development will extend the overall area of industrial development across the local landscape. However, given the presence of the existing Four Ashes Industrial Estate and that of the Proposed Development the additional effect of the Bericote Development is considered to be limited in landscape character terms. This development occupies a relatively enclosed location contained by the existing and proposed industrial areas and in landscape terms it would not result in any additional change or effects to alter the stated effect on the landscape character of Site and its immediate context following completion of the Proposed Development. There will also be a potential limited and localised cumulative landscape effect on the landscape character of the canal corridor, yet this would similarly not alter the stated effect on the landscape character of the canal corridor following completion of the Proposed Development. *Visual* There is the potential for some additional cumulative visual effects arising from the Bericote Development. These would potentially arise for a limited number of receptors in close proximity to this development and a number of more distant and elevated receptors. Potentially the most notable cumulative visual effects will arise for canal users who would be likely to experience sequential views of the Bericote Development and the Proposed Development. The Bericote Development will be visible along the stretch of canal to the south of the existing Gravelly Way road bridge and will be seen on the opposite side of the canal to the Four Ashes Industrial Estate and SI Works. The scheme will be seen in an existing enclosed and industrialised context and it will add to this existing character. The Proposed Development will be principally viewed by canal users to the north of the Gravelly Way road bridge and in these views it will be set further back from the canal than either the existing Four Ashes Industrial Estate and SI Works or the Bericote Development. The resultant cumulative effect will principally be as a result of the sequential viewing of the developments for users travelling along the canal or towpath. There will potentially be the opportunity for the Bericote Development to be seen by canal users alongside a limited part of the Proposed Development to the north of Vicarage Road. This will not result in any more than a limited and localised effect, largely given the enclosed and industrial dominated context of this part of the canal corridor. In terms of the sequential cumulative effects for canal users the addition of the Bericote Development will result in no discernible visual change for canal users passing along this stretch of the canal. Consequently, it will not alter the stated visual effect of the Proposed Development upon the canal users. The Bericote Development will potentially also be seen from a limited number of distant elevated locations alongside the Proposed Development. These are likely to include some properties or Pubic Rights of Way at Brewood to the west and Shareshill to the south. From these positions, the higher parts of the Bericote Development buildings are likely to be distantly visible alongside and occupying the same general position as the higher parts of the buildings (and gantry cranes) of the Proposed Development.		

Table 17.4: Inter-Project Effects						
				There will however be no discernible additional visual effect on these distant receptors. The addition of the Bericote development will not alter the stated visual effects of the Proposed Development upon any of the distant and elevated receptors with views towards both developments.		
Noise and Vibration						
1	Tier 1 (a)	16/00498/FUL	Land off Gravelly Way, Four Ashes, South Staffordshire - erection of industrial / distribution buildings (B1(c)/B2/B8) immediately adjacent to the Site (Bericote Development)	Construction Phase: The construction phase of the Bericote Development will be complete before the Proposed Development commences construction, so no cumulative effects are likely. Operational noise from the Bericote Development has the potential to occur simultaneously with the Proposed Development construction phase, thereby increasing noise levels in the area. However, the way in which sound from industrial or commercial activities is assessed would result in the Bericote Development increasing the background sound levels against which sound from the Proposed Development would be assessed, rather than being considered cumulatively. Notwithstanding this, the noise assessment submitted with the application for the Bericote Development suggests that noise from that scheme will generally be much lower than the existing background sound levels, so no cumulative effect is likely. Completed Development Phase: Operational noise from the Bericote Development has the potential to occur simultaneously with the Proposed Development completed development phase, thereby increasing noise levels in the area. However, the way in which sound from industrial or commercial activities is assessed would result in the Gravelly Way scheme increasing the background sound levels against which sound from the Proposed Development would be assessed, rather than being considered cumulatively. Notwithstanding this, the noise assessment submitted with the application for the Bericote Development suggests that noise from that scheme will generally be much lower than the existing background sound levels, so no cumulative effect is likely.	N/A	Negligible
37	Tier 3	New Minerals Local Plan	Calf Heath Quarry - new allocation for Sand and Gravel with anticipated duration of 6-8 years, located on-site	Calf Heath Quarry is currently operational, however should DCO consent be granted, no further minerals will be worked within the Site including the new allocation. The existing minerals infrastructure will be removed. Removal of the existing minerals infrastructure at Calf Heath Quarry would be expected to employ stringent mitigation measures similar to those that would be implemented during construction of the Proposed Development. It is anticipated that the current quarry workings would be left open, thereby minimising the need to rework materials during the earthworks stage of the Proposed Development, and this has been taken into account in the cut/fill models for the Proposed Development and in the baseline established for this ES. As such, it is not anticipated that there will be any cumulative effects.	N/A	Negligible
Socio-economics						
N/A	N/A	N/A	N/A	Construction Phase: The Proposed Development, together with the other developments, would be expected to generate employment opportunities during demolition and construction.	N/A	Minor Beneficial in relation to employment. Negligible effects anticipated for all other variables.

Table 17.4: Inter-Project Effects						
				When considered at a regional level (as is relevant to consider given the mobility of the construction workforce), this demand for construction labour would be part of the general trend of activity in the construction industry. The Construction Industry Training Board produces regional analyses of construction industry supply and demand. These take into account projected construction output by sector including commercial, infrastructure and housing. They also take into account known large scale "one-off" developments such as major infrastructure or regeneration sites. The West Midlands construction industry output is expected to grow by an annual average of 1.7%, equating to a change in total employment in the sector of 10,200 additional employees. To account for employees leaving the sector (retiring, migrating) this would require an additional 3,030 construction employees every year in the region 2016-2020. The CITB forecasts feed into local, regional and national policy on construction skills and labour force strategies. The Cumulative Schemes would be part of this forecast trend of construction activity. Therefore, there are not net additional construction employment effects to be considered for the specific cumulative scheme. On an individual site basis, planning conditions, on-site provision and off-site payments would ensure that any adverse effects of these other developments are mitigated. Where appropriate and necessary, developers could commit to employing local people, which could maximise the local benefit of demolition and construction which could help to capture a larger proportion of the benefit locally. Given the size and mobility of the West Midlands demolition/construction labour market and the trend growth as set out by the CITB, it is not expected that demolition and construction of the other developments would generate any adverse effects with respect to socio-economics. In this context, the overall effect would be minor and beneficial at a West Midlands and SSLEP levels and negligible at all other spatial levels. **No adverse cumulative effects are expected over and above those business, recreation, amenity and human health effects that have already been identified in this Chapter.** Completed Development Phase: The cumulative schemes would, if implemented, bring forward a large amount of employment floorspace. This growth is planned for in local and regional policies, as set out in the Legislation and Policy Context of this chapter. The SSLEP has an employment target of 50,000 new jobs to 2024. On an individual site basis, planning conditions, on-site provision and off-site payments would ensure that any adverse effects of increased economic activity are mitigated. The increase in employment of the other developments and the Proposed Development, in line with policy aspirations, would result in a permanent major beneficial effect at the Local and District levels; a moderate beneficial effect at the SSLEP level and a negligible effect at all other levels. Effects on Local Businesses, Recreation and Amenity effects and Human Health effects will be assessed when the final ES is available for consideration. No adverse effects have been identified so far.		
Transport						
N/A	N/A	N/A	N/A	The traffic data used in the Transport Assessment and Chapter 15: Transport and Access of this ES, has been obtained from traffic models which include all committed and consented development and infrastructure schemes as agreed	N/A	N/A

Table 17.4: Inter-Project Effects						
				with the relevant authorities. Additional developments were added to the models at the request of Highways England to ensure the overall impact could be assessed. Other schemes are represented as part of the 'TEMPRO' growth, which is a means of accounting for non-specific diffuse growth in traffic within a given area. As such it is considered that cumulative effects have been accounted for in the main assessment and no further assessment is required. The list below describes how each of the cumulative schemes identified and as numbered in Table 17.3 above have been dealt with in the Transport and Access Chapter and the Transport Assessment (See Chapter 15 for more details and technical terms): • 1 – included in traffic model • 2 – included in traffic model • 3 – temporary impact, not possible to include in traffic model • 4 – temporary impact, not possible to include in traffic model • 5 – included in traffic model • 6 – Not specifically included as it was consented after modelling was fixed. General inclusion of traffic by use of TEMPRO growth • 7 – included in traffic model • 8 – included in traffic model • 9 – included in traffic model • 10 – included in traffic model • 11 – Not specifically included as it was consented after modelling was fixed. General inclusion of traffic by use of TEMPRO growth • 12 – Not in 2021 model but would have been in 2036 model if progressed • 13 – Not in 2021 model but would have been in 2036 model if progressed • 14 – Not in 2021 model but would have been in 2036 model if progressed • 15 – Not specifically included as it was consented after modelling was fixed however, an allowance of some development at this location has been made in the model, remainder generally included using TEMPRO growth • 16 – Partially included in traffic modelling, remainder generally included using TEMPRO growth • 17 – Partially included in traffic modelling, remainder generally included using TEMPRO growth • 18 – Not specifically included as it was consented after modelling was fixed. General inclusion of traffic by use of TEMPRO growth. • 19 – Not specifically included in traffic model as no traffic impact identified. General inclusion of traffic by use of TEMPRO growth • 20 – Partially included in traffic modelling, remainder generally included using TEMPRO growth • 21 – included in traffic model • 22 – included in traffic model • 23 – Not specifically included as it was consented after modelling was fixed. General inclusion of traffic by use of TEMPRO growth. • 24 – Not specifically included in traffic model as no traffic impact identified. • 25 – included in traffic model • 26 – included in traffic model		

Table 17.4: Inter-Project Effects						
				• 27 – included in traffic model • 28 – not specifically included in traffic modelling, generally included using TEMPRO growth • 29 – not specifically included in traffic modelling, generally included using TEMPRO growth • 30 – included in traffic model • 31 – Not specifically included as it was consented after modelling was fixed. General inclusion of traffic by use of TEMPRO growth • 32 – Not specifically included as it was consented after modelling was fixed. General inclusion of traffic by use of TEMPRO growth • 33 – Not specifically included as it was consented after modelling was fixed. General inclusion of traffic by use of TEMPRO growth • 34 – Not specifically included as it was consented after modelling was fixed. General inclusion of traffic by use of TEMPRO growth • 35 – Not specifically included as it was consented after modelling was fixed. General inclusion of traffic by use of TEMPRO growth • 36 – Not included, no additional traffic impact • 37 – Not included, no additional traffic impact • 38 – Not in 2021 model but would have been in 2036 model if progressed.		
Water Environment						
1	Tier 1 (a)	16/00498/FUL	Land off Gravelly Way, Four Ashes, South Staffordshire - erection of industrial / distribution buildings (B1(c)/B2/B8) immediately adjacent to the Site	Construction Phase: It is anticipated that the construction phase for the Bericote Development will be complete prior to commencement of construction for the Proposed Development. On this basis no significant cumulative effects are anticipated. Completed Development Phase: In accordance with the Flood Risk Management Act 2010, management of surface water is required as part of all new developments to ensure that there is no increase in surface water flood risk both within a development site, and to downstream receptors, as a result the development. In addition to this, as of April 2015 and the introduction of Lead Local Flood Authority (LLFA) responsibilities, planning authorities are required to consider sustainable drainage as part of planning applications. This requires developers to assess the use of Sustainable Drainage Systems (SuDS) as part of a new development in addition to managing surface water runoff volumes through traditional drainage infrastructure and where possible, provide betterments with regards to water quality and biodiversity, in addition to managing flood risk. Therefore, it is understood that all cumulative schemes will have been or will be subject to scrutiny regarding management of surface water runoff at planning stage, to ensure that there is no detrimental impact with regards to flood risk as a result of these developments. On this basis the potential effects on the water environment including flood risk, water quality and water resources for both the construction and operational phases of the Bericote Development are assessed to be negligible.	N/A	Negligible
36	Tier 3	New Minerals Local Plan	Saredon South Quarry - new allocation for Sand and Gravel with anticipated duration of 13 years, located 1.7km from the Site	Construction Phase: On the basis that, in accordance with good practice, an Environmental Management Plan is implemented for the new quarry throughout the process, the potential cumulative effect on the water environment is considered to be negligible.	N/A	Negligible

Table 17.4: Inter-Project Effects						
				Completed Development Phase: The quarry would be subject to an environmental permit which includes measures to protect surface waters. On this basis, no significant cumulative effects are anticipated during the construction phase.		
37	Tier 3	New Minerals Local Plan	Calf Heath Quarry - new allocation for Sand and Gravel with anticipated duration of 6-8 years, located on-site	Calf Heath Quarry is currently operational, however should DCO consent be granted, no further minerals will be worked within the Site including the new allocation. The existing minerals infrastructure will be removed. Removal of the existing minerals infrastructure at Calf Heath Quarry would be expected to employ stringent mitigation measures similar to those that would be implemented during construction of the Proposed Development. It is anticipated that the current quarry workings would be left open, thereby minimising the need to rework materials during the earthworks stage of the Proposed Development, and this has been taken into account in the cut/fill models for the Proposed Development and in the baseline established for this ES. As such, it is not anticipated that there will be any cumulative effects.	N/A	Negligible
*Where Inter-Project effects are not specific to an individual 'other development', but are considered across a number of other developments then 'N/A' is stated in the 'ID', 'Tier', 'Application Reference' and 'Other Development Name and Brief Description' columns.						