

A585 Windy Harbour to Skippool Improvement Scheme

TR010035

6.16 Environmental Statement Chapter 16: Cumulative Effects

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Planning Act 2008

Infrastructure Planning (Applications: Prescribed
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Infrastructure Planning

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(Applications: Prescribed Forms and
Procedure) Regulations 2009

**A585 Windy Harbour to Skippool
Improvement Scheme**
Development Consent Order 201[]

ENVIRONMENTAL STATEMENT CHAPTER 16: CUMULATIVE EFFECTS

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16 CUMULATIVE EFFECTS

16.1 Introduction

16.1.1 This Chapter presents the Cumulative Effects Assessment (CEA) undertaken as part of the Environmental Statement (ES) for the Windy Harbour to Skippool Improvement Scheme (the Scheme). It describes the requirement to assess cumulative effects, the guidance available and methodology for completing the assessment and presents the results of the assessment for Nationally Significant Infrastructure Projects (NSIPs).

16.1.2 Cumulative effects are the result of multiple actions on environmental receptors or resources. There are principally two types of cumulative effect:

- Intra-Scheme Effects – The combined action of a number of different environmental topic specific effects upon a single resource / receptor
- Inter-Scheme Effects – The combined action of a number of different projects, in combination with the project being assessed, on a single resource / receptor

16.1.3 This chapter should be read in conjunction with Figure 16.1: Cumulative Effects Assessment – Other Developments and Appendix 16.1: Other Developments Long List (document reference TR010035/APP/6.16.1).

16.2 Regulatory Framework / National Networks National Policy Statement (NN NPS)

16.2.1 Schedule 4 of the Infrastructure Planning (Environmental Impact Assessment (EIA)) Regulations 2017 states that an ES should 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;..

*... The description of the likely significant effects on the factors specified in regulation 5(2) should cover the direct effects and any indirect, secondary, **cumulative**, transboundary, short-term, medium-term and long-term, permanent and temporary, positive and negative effects of the development.’*

16.2.2 The need to consider cumulative effects is also set out in the national Networks National Policy Statement (NN NPS); Paragraph 4.16 states that “*When considering significant cumulative effects, any Environmental Statement should provide information on how the effects of the applicant’s proposal would combine and interact with the effects of other development (including projects for which consent has been granted, as well as those already in existence)*”.

16.3 Methodology

Relevant Guidance

16.3.1 There are a number of sources that provide guidance on how to complete a CEA which have been used to inform this assessment:

- Planning Inspectorates (the Inspectorates) Advice Note 17: Cumulative Effects Assessment (December 2015)
- Design Manual for Roads and Bridges (DMRB), Volume 11, Section 2, Part 5 (HA 205/08) '*Assessment and Management of Environmental Effects*'
- European Commissions 'Guidelines for the Assessment of Indirect and Cumulative Impacts as well as Impact Interactions. Prepared for the European Commission, EC DG X1 Environment, Nuclear Safety and Civil Protection', Hyder Consulting UK Limited, 1999

Intra-Scheme Cumulative Effects

16.3.1 Intra-Scheme effects are presented for receptors which could be affected by more than one environmental topic. Where a receptor has been identified as only experiencing one effect or where only one topic has identified effects on that receptor there is no potential for intra-scheme effects to occur. Intra-Scheme cumulative effects are therefore only identified where more than one environmental topic chapter has identified a residual effect on an individual or group of receptors.

16.3.2 An example of this type of cumulative effects would be where a local resident is affected by dust, noise and visual effects during construction, with the result being a greater nuisance than each individual effect alone.

16.3.3 For cumulative effects assessments, the key is to focus on the receptor and consider its capacity to accommodate the changes that are likely to occur because of the Scheme during the construction and operation phases. Residual effects on specific receptors are presented in Chapters 6 to 15 of this ES (document reference TR010035/APP/6.6 – 6.15). Using this information, the receptors have been identified that could experience multiple effects and an assessment is made of their likely cumulative significance.

Inter-Scheme Cumulative Effects

16.3.4 Inter-scheme effects arising from the Scheme in combination with 'other development' schemes during the construction and operation phases have been assessed.

16.3.5 The EIA Regulations (2017), require an assessment of potentially significant cumulative effects of a scheme along with 'other developments'. There are no legislative or policy requirements which set out how a CEA should be undertaken.

16.3.6 However, the Inspectorate have issued an Advice Note which sets out the staged approach that applicants are encouraged to adopt in CEA for NSIPs. The Advice Note suggests a process, involving 4 'Stages'. These 4 'Stages' are outlined in Insert 16-1 and explained in detail further below.

Insert 16-1: Cumulative Effects - Stages of CEA for NSIPs as set out in the Inspectorates Advice Note 17

Stage 1 - Establish the Project's Zone of Influence' (ZOI), identify the 'Long List' of other major development and Tiering of the List
Stage 2 - Identify a 'Short List' of other major development for CEA
Stage 3 - Information Gathering
Stage 4 - Cumulative Effects Assessment

16.3.7 Stage 1 involves establishing an appropriate ZOI to help identify 'other development' relevant to the CEA. Through liaison with technical specialists for each individual environmental topic chapters, ZOIs have been established using professional judgement for both the construction and operation phases. The ZOI determined for each environmental topic is presented in Table 16-1.

Table 16-1: Cumulative Effects - The Established ZOIs for Environmental Topics

Environmental Topic	Construction ZOI	Operation ZOI
Air Quality	200m	7km
Cultural Heritage	1km	
Landscape	1km	
Biodiversity	2km	
Geology and Contaminated Land	1km	
Noise and Vibration	300m	600m
People and Communities	500m	
Road Drainage and the Water Environment	500m	
Health	500m	7km

16.3.8 Some environmental topics have based their assessments on data from an operational regional traffic model. Topics that base their assessment on the traffic model include:

- Chapter 6: Air Quality (document reference TR010035/APP/6.6)
- Chapter 11: Noise and Vibration (document reference TR010035/APP/6.11)

16.3.9 The traffic model includes assumptions based on traffic growth over time and includes other infrastructure projects and proposed developments in the surrounding area. Therefore, operational inter-project cumulative effects are considered to have been assessed in Chapter 6: Air Quality (document reference TR010035/APP/6.6) and Chapter 11: Noise and Vibration (document reference TR010035/APP/6.11). For this reason, a conservative operational ZOI has been identified for the CEA based on professional judgement for these topics.

- 16.3.10 Chapter 14: Materials (document reference TR010035/APP/6.14) and Chapter 15: Climate (document reference TR010035/APP/6.15) have been scoped out of the inter-cumulative effect's assessment.
- 16.3.11 Chapter 14: Materials (document reference TR010035/APP/6.14) has already considered the cumulative impact on the waste arisings and management of the Scheme within the study area; therefore, a cumulative approach has already been taken. There are numerous developments planned for the surrounding area that could potentially have a cumulative impact throughout the construction and operation of the Scheme. Sufficient data is not currently available on the levels of material resources required and the construction and operational waste likely to arise from these developments. However, due to the widely availability of material resources and the design and mitigation measures that would be implemented for cumulative developments, due to policy requirements, it is considered that not further cumulative assessment would be required.
- 16.3.12 Chapter 15: Climate (document reference TR010035/APP/6.15) has also considered cumulative developments within the assessment; therefore, a cumulative approach has already been taken. Please see Section 16.5: Assessment of Cumulative Effects for the inter-cumulative effects relating to the vulnerability of the Scheme to climate change for the following Chapters:
- Chapter 6: Air Quality (document reference TR010035/APP/6.6)
 - Chapter 7: Cultural Heritage (document reference TR010035/APP/6.7)
 - Chapter 8: Biodiversity (document reference TR010035/APP/6.8)
 - Chapter 9: Landscape (document reference TR010035/APP/6.9)
 - Chapter 10: People and Communities (document reference TR010035/APP/6.10)
 - Chapter 12: Road Drainage and the Water Environment (document reference TR010035/APP/6.12)
 - Chapter 13: Geology and Contaminated Land (document reference TR010035/APP/6.13)
- 16.3.13 The assessment of cumulative effects relating to effects on climate (GHG emissions) has not been carried out. The NPS NN states that: "*It is very unlikely that the impact of a road project will, in isolation, affect the ability of Government to meet its carbon reduction plan targets*". In the context of this statement, it is considered unlikely that developments will conclude significant effects on climate and therefore the assessment of the inter-cumulative effects has been scoped out.
- 16.3.14 Following the establishment of the ZOIs for each environmental topic, a desk study was undertaken to search for 'other development'. The largest ZOI was used to compile the long list.
- 16.3.15 The long list of other development projects was collected using a range of sources including:
- Planning applications held by local authorities
 - National Infrastructure Planning Programme of Projects

- Development Plans and Other Plans and Programmes
- Committed development within the traffic model

16.3.16 All developments that are included in the traffic model are identified in grey in Appendix 16.1: Other Development Longlist (document reference TR010035/APP/6.16.1).

16.3.17 A process of shortlisting was then undertaken to identify which developments within the ZOIs should be taken forward and assessed.

16.3.18 A major development criterion was applied to the long list of developments to generate the short-list, as it was considered only larger scale development could result in inter-cumulative effects with the Scheme. The criterion used is set out by the Ministry of Housing, Communities and Local Government (Data.gov.uk) and is used in Planning Application decisions by district level planning authorities to classify the size and type of a development. The major development criterion removed any smaller 'other developments' that do not fall within the criterion for a large-scale development. The criterion is presented in Insert 16-2.

Insert 16-2: Cumulative Effects - Major Development Criterion (Ministry of Housing, Communities and Local Government)

Major Development Criteria

For dwellings, a major development is one where the number of residential units to be constructed is 10 or more.

Where the number of residential units to be constructed is not given in the application a site area of 0.5 hectares or more should be used as the definition of a major development.

For all other uses a major development is one where the floor space to be built is 1,000 square metres or more, or where the site area is 1 hectare or more.

16.3.19 A tiered approach taken from the Inspectorates Advice Note 17 was then applied to consider the level of certainty of 'other development' being carried out that falls within the ZOI. This approach is set out in Table 16-2.

Table 16-2: Cumulative Effects - Tiered Approach for the Inclusion of 'Other Development' in the CEA (the Inspectorates Advice Note 17: Cumulative Effects Assessment)

Tier	Likely Degree of Certainty	
Tier 1	(a): Under construction	Decreasing level of detail likely to be available. 
	(b): Permitted application(s), whether under the PA 2008 or other regimes, but not yet implemented	
	(c): Submitted application(s) whether under the PA 2008 or other regimes but not yet determined	
Tier 2	Schemes on the Planning Inspectorate's Programme of Projects where a scoping report has been submitted	
Tier 3	(a): Scheme on the Planning Inspectorate's Programme of Projects where a scoping report has not been submitted	
	(b): Identified in the relevant Development Plan (and emerging Development Plans - with appropriate weight being given as they move closer to adoption) recognising that much information on any relevant proposals would be limited	
	(c): Identified in other plans and programmes (as appropriate) which set the framework for future development consents/approvals, where such development is reasonably likely to come forward.	

16.3.20 The short-list of 'other developments' has also been shared with Fylde Borough Council, Wyre Council and Blackpool Council for comment.

16.3.21 More detailed information was gathered for the short-list as part of Stage 3 before proceeding to Stage 4. It should be noted that the assessment was undertaken on the assumption that other development would be constructed at the same time as the Scheme where construction programmes were unknown. If the construction of any one development was predicted to be completed before the Scheme construction phase begins, then this development was excluded from the CEA as no cumulative effects would be possible during construction of the development and the Scheme.

16.3.22 'Other development' identified is considered to be up to date as of October 2018.

Significance Criteria

16.3.23 The significance of cumulative effects has been determined using the criteria in Table 16-2, taken from the DMRB (HA 205/08 Volume 11, Section 2 Part 5).

Table 16-3: Cumulative Effects - Significance Criteria for Determining Cumulative Effects

Magnitude of Impact	Typical Criteria Descriptors
Major	<ul style="list-style-type: none"> Loss of resource and/or quality and integrity of resource; severe damage to key characteristics, features or elements (Adverse). Large scale or major improvement of resource quality; extensive restoration or enhancement; major improvement of attribute quality (Beneficial).
Moderate	<ul style="list-style-type: none"> Loss of resource, but not adversely affecting the integrity; partial loss of/damage to key characteristics, features or elements (Adverse). Benefit to, or addition of, key characteristics, features or elements; improvement of attribute quality (Beneficial).
Minor	<ul style="list-style-type: none"> Some measurable change in attributes, quality or vulnerability; minor loss of, or alteration to, one (maybe more) key characteristics, features or elements (Adverse). Minor benefit to, or addition of, one (maybe more) key characteristics, features or elements; some beneficial impact on attribute or a reduced risk of negative impact occurring (Beneficial).
Negligible	<ul style="list-style-type: none"> Very minor loss or detrimental alteration to one or more characteristics, features or elements.
No change	<ul style="list-style-type: none"> No loss or alteration of characteristics, features or elements; no observable impact in either direction.

16.3.1 The significance of cumulative effects has been assessed qualitatively where quantified assessment was not possible. Where multiple effects of varying significance occurred on the same receptor professional judgement has been used to determine the overall significance of the effect ensuring that a worst case was also assumed.

16.4 Existing and Future Baseline

16.4.1 The long list of 'other development' is presented at Appendix 16.1: Cumulative Long List (document reference TR010035/APP/6.16.1).

16.4.2 Following the sifting of the long list using the major development criteria, 23 'other developments' were identified that could potentially result in an inter-cumulative effect with the Scheme. As previously stated the short list was consulted upon with Blackpool Council, Fylde Borough Council and Wyre Council. The short list 'other developments' are presented in Table 16-3.

16.4.3 Moorfield Park, a residential development consisting of 519 homes (Planning application number: 15/00298/LMAJ), approximately 150m to the south east of the Scheme, has not been included within the CEA. This development has been considered as baseline in each of the ES chapters (document reference TR010035/APP/6.6-6.15).

Table 16-4: Cumulative Effects – ‘Other Developments’ Considered within the Assessment of Inter-project Effects

Type of Development	Development Details	Status	Programme	Approx. Distance from the Scheme	Relevant ZOI
Tier 1(a)					
Mixed Use (Drawing reference 1)	11/0221, 11/0314 Outline application for development of a maximum of 1400 residential dwellings, 20 hectares of Class B2 general industrial/ Class B8 storage and distribution, Class D1 primary school, two local neighbourhood centres (Classes A1, A2/ A3), Class A4 drinking establishment, Class D1 health centre, Class D1 community building, vehicle access onto Preston New Road and Mythop Road with associated road infrastructure, car parking, public open space, sports pitches, allotments, the retention and improvement of natural habitats, watercourse, ponds, reed beds and hedgerows and landscape features. Land off Mythop Road. Westby with Plumpton, Blackpool	Under Construction	Completion after 2028	5.4km south	Air Quality Health
Tier 1(b)					
Residential (Drawing reference 2)	16/01043/OULMAJ Outline application for the erection of up to 130 dwellings with means of access off Holts Lane	Consented	Unknown	1.2km south west	Air Quality Biodiversity Health

Type of Development	Development Details	Status	Programme	Approx. Distance from the Scheme	Relevant ZOI
	(layout, landscaping, scale and appearance reserved), following demolition of existing buildings (re-submission of 16/00233/OULMAJ). Land Off Holts Lane Poulton-le-Fylde Lancashire				
Commercial (Drawing reference 3)	Underground Gas Storage facility at Preesall, Lancashire, which includes an Interconnector Pipeline to the National Grid Transmission System at Nateby, 12km to the east, and a brine discharge pipeline extending 2.3km offshore from Rossall, Fleetwood	Consented	Unknown	2.6km north	Air Quality Health
Residential (Drawing reference 4)	17/00050/REMMAJ Reserved matters application for the erection of 160 dwellings with associated works Land on The East Side of Lambs Road Thornton Cleveleys Lancashire	Application Permitted	Unknown	878m north west	Air Quality, Cultural Heritage, Landscape, Biodiversity, Geology and Contaminated Land, Health
Mixed Use (Drawing reference 5)	13/00200/OULMAJ Outline application for mixed use development consisting of Class B1 (office) floorspace, Class C3 (residential) and a local centre consisting of a supermarket, Class A1/A2/A3/A4 and A5 uses together with vehicular and pedestrian access, open space and landscaping	Application Permitted	Unknown	1.7 km west	Air Quality Biodiversity Health

Type of Development	Development Details	Status	Programme	Approx. Distance from the Scheme	Relevant ZOI
	Land at Norcross Lane Thornton Cleveleys Lancashire FY5 3TZ				
Mixed Use (Drawing reference 6)	15/00576/OUTMAJ Outline application for a residential development of up to 90 dwellings, provision of public car park and associated open space and landscaping. Application includes 1 hectare of B class employment space. Land Off Copp Lane Great Eccleston Lancashire PR3 0YN	Application Permitted	Unknown	2.7 km east	Air Quality Health
Mixed Use (Drawing reference 7)	16/00481/OUTMAJ Outline application for a residential development comprising up to 55 dwellings and a village shop, with associated infrastructure (all matters reserved) Land North and South of Preston Road Inskip Lancashire	Application Permitted	Unknown	6.4 km east	Air Quality Health
Commercial (Drawing reference 8)	18/00334/FULMAJ Construction of a new staff and visitor car park, new gate house building, construction of two-storey extension to export warehouse, construction of two-storey extension and single-storey link corridor to staff entrance and	Application Permitted	Unknown	6.4 km north	Air Quality Health

Type of Development	Development Details	Status	Programme	Approx. Distance from the Scheme	Relevant ZOI
	construction of a new two-storey detached engineering building Lofthouse of Fleetwood Ltd Maritime Street Fleetwood Lancashire FY7 7LP				
Residential (Drawing reference 9)	14/00226/OUTMAJ Outline application for erection of up to 77 dwellings, associated parking and footpath link for Stalmine Primary School Land South & West Birch Grove Off Stricklands Lane Stalmine Lancashire	Application Permitted	Unknown	4.3 km north	Air Quality Health
Commercial (Drawing reference 10)	17/0359 Construction of a retail park (class a1 non-food) with associated access, car parking and servicing areas Site 3 Land at Dugdales Close / Brooklands Way/ Hallam Way, Whitehills Business Park, Westby with Plumptions	Approved with 106 Agreement	Unknown	6.8 km south	Air Quality Health
Residential (Drawing reference 11)	16/0180 Outline application for residential development of up to 50 dwellings and associated infrastructure Land north of Mill Lane, Elswick	Refused – appeal allowed (approved)	Unknown	2.7 km south east	Air Quality Health

Type of Development	Development Details	Status	Programme	Approx. Distance from the Scheme	Relevant ZOI
Residential (Drawing reference 12)	16/0645 Erection of 50 dwellings to be accessed from Beech Road with associated landscaping, parking, pumping station and electricity sub-station following demolition of existing agricultural building Land north of Beech Road, Elswick	Refused – appeal allowed (approved)	Unknown	2.2 km south east	Air Quality Health
Residential (Drawing reference 13)	16/0846 Outline application for the erection of up to 24 no. dwellings Land north of High Gate and east of Copp Lane, Elswick	Approved with 106 Agreement	Unknown	2.5 km south east	Air Quality Health
Residential (Drawing reference 14)	16/0817 Erection of 41 no. dwellings following demolition of existing buildings Sunnydale nurseries, Garstang Road, Little Ecclestone with Larbeck, Preston, PR3 0XA	Approved with 106 Agreement	Unknown	2.2 km south east	Air Quality Health
Residential (Drawing reference 15)	15/0177 Proposed erection of 231 no. residential units and associated works Land west of Kirkham bypass (opposite St Georges Park), Kirkham	Approved with 106 Agreement	Unknown	6.8 km south	Air Quality Health

Type of Development	Development Details	Status	Programme	Approx. Distance from the Scheme	Relevant ZOI
Residential (Drawing reference 16)	12/0635 Outline application for up to 180 residential units (class c3) associated infrastructure and defined access with all other matters reserved Land at Little Tarnbrick Farm, Blackpool Road, Kirkham	Withdrawn - Appeal against non-determine (approved)	Unknown	6.8 km south	Air Quality Health
Residential (Drawing reference 17)	16/0847 Application for approval of reserved matters of appearance, layout, scale and landscaping pursuant to outline planning permission 15/0472 for the erection of 80 dwellings Land to the rear of Moss Farm, Cropper Road, Westby with Plumpton, Blackpool, FY4 5LB	Granted	Unknown	6.9 km south	Air Quality Health
Tier 1(c)					
Residential (Drawing reference 18)	17/00951/OUTMAJ Outline application for the erection of up to 66 dwellings with access applied for off Lambs Road (all other matters reserved) Land on the East Side of Lambs Road Thornton Cleveleys Lancashire	Pending Consideration	Unknown	995m north west	Air Quality, Cultural Heritage, Landscape, Biodiversity, Geology and Contaminated Land, Health
Residential (Drawing reference 19)	18/00395/RELMAJ Reserved matters application (for matters relating to appearance, landscaping, layout and scale) for the erection of 165 dwellings,	Pending Consideration	Unknown	2.9 km North East	Air Quality Health

Type of Development	Development Details	Status	Programme	Approx. Distance from the Scheme	Relevant ZOI
	landscaping and associated works following outline planning permission				
Residential (Drawing reference 20)	16/00742/OUTMAJ Outline application for the erection of up to 108 no. dwellings (Use Class C3) with all matters reserved except for access, which will be off Brockholes Crescent following demolition of numbers 61 and 63 Brockholes Crescent Land Off Brockholes Crescent Poulton-le-Fylde Lancashire	Pending Decision	Unknown	1.3km south west	Air Quality Biodiversity Health
Tier 2 – No ‘other developments’ identified fall within this Tier					
Tier 3 (a) – No ‘other developments’ identified fall within this Tier					
Tier 3(b)					
Local Plan Housing Allocation (Drawing Reference 21)	Policy SA 1/3 Land between Fleetwood Rd North and Pheasant Wood Allocated for development of 10 dwellings	Allocated for housing in the emerging Wyre Local plan to 2031	Unknown	3.8 km north	Air Quality Health
Local Plan Housing Allocation (Drawing Reference 21)	Policy SA 1/8 Blackpool Road, Poulton-le-Fylde Allocated for development of 20 dwellings	Allocated for housing in the emerging Wyre Local plan to 2031	Unknown	1.1 km west	Air Quality Biodiversity Health

Type of Development	Development Details	Status	Programme	Approx. Distance from the Scheme	Relevant ZOI
Area Action Plan (Drawing Reference 23)	The Fleetwood – Thornton Area Action Plan establishes a clear vision and planning framework for development of Fleetwood and Thornton over the next 15-20 years and is a very important consideration in any decision on planning applications in the area. It includes areas identified for residential, industry and community facilities	Adopted by Wyre Council in September 2009	Unknown	2 km north	Air Quality Biodiversity Health
Tier 3 (c) - No 'other developments' identified fall within this Tier					

16.5 Assessment of Cumulative Effects

Intra-Cumulative Effects Assessment

16.5.1 This section identifies the receptors that experience multiple effects from different environmental topics within the ES and therefore potentially bring about intra-project cumulative effects as a result of the Scheme. The identified receptors presented within the intra-cumulative effects assessment are outlined below:

- Main Dyke
- Morecambe Bay and Duddon Estuary Special Protection Area (SPA) and Morecambe Bay Ramsar site
- Ice House at Singleton Hall
- Properties on Mains Lane
- Singleton Park
- Barnfield Manor (Lodge Lane)
- Groundwater Resources
- Footpath 2 (Poulton)
- Footpath 2 (Singleton)

Main Dyke

Construction

16.5.2 Chapter 12: Road Drainage and the Water Environment (document reference TR010035/APP/6.12) identified a localised and temporary change for the water quality attributes of the Main Dyke during construction and predicts the effects of this to be Minor adverse. This is a result of the close proximity of the construction works of the Scheme to the Main Dyke and causing a temporary physical disturbance to the receptor. The Main Dyke is assigned water quality attributes of High value; therefore, after the identified mitigation measures are implemented, it is predicted that the temporary effects would result in an overall significance locally of Slight Adverse.

16.5.3 Chapter 8: Biodiversity (document reference TR010035/APP/6.8) states that the construction works to be carried out in the vicinity of the Main Dyke would not result in any fragmentation effects or habitat loss. However, the water quality assessment (refer to Chapter 12: Road Drainage and the Water Environment) (document reference TR010035/APP/6.12) identified the potential for negative effects on water quality of the River Wyre and its associated tributaries, due to receipt of construction site runoff and potential for reduced flow conveyance capacity (particularly on the Main Dyke) due to sedimentation. However, mitigation measures have been incorporated into the Scheme to ensure the protection of water quality during both the construction and operational phases of the Scheme. In particular, attention would be paid to ensuring protection of water quality at the location of the new bridge crossing of the Main Dyke (at the western end of the Scheme) which flows directly into the Morecambe Bay and Duddon Estuary SPA and Morecambe Bay Ramsar site. The construction phase works in the vicinity of Main Dyke would be temporary

(approximately 9 months in duration). Given the mitigation measures that are to be implemented, effects are considered to be Neutral.

- 16.5.4 As the effects on Main Dyke are predicted to be Slight Adverse in Chapter 12: Road Drainage and the Water Environment (document reference TR010035/APP/6.12) and Neutral in Chapter 8: Biodiversity (document reference TR010035/APP/6.8) the intra-cumulative effect experienced by this receptor during construction of the Scheme are considered to be **Minor Adverse**.

Operation

- 16.5.5 Chapter 12: Road Drainage and the Water Environment (document reference TR010035/APP/6.12) states that during operation, road drainage, which could be contaminated by spills and leaks of oil and fuel, and by other materials deposited onto the drained surfaces such as road salts, would be discharged to surface watercourses. The Main Dyke would receive routine highway runoff. Furthermore, there is a risk that polluting materials may be spilt onto the road surface because of a road accident. These pollutants also have the potential to enter these watercourses and shallow aquifers. However, the pollution potential of the Scheme has been tested, during both routine runoff and accidental spillage scenarios. The findings, detailed in the drainage strategy, which is appended to the Flood Risk Assessment (document reference TR010035/APP/5.2), have informed the drainage design. The design would include treatment measures. These measures would be set out in a Construction Water Management Plan as detailed in the Outline Construction Environmental Management Plan (CEMP) (document reference TR010035/APP/7.2).
- 16.5.6 With these measures in place residual effects on the water quality attributes of these watercourses (having High to Medium value) are quantified as having a Negligible magnitude. The overall significance of effects would be Neutral.
- 16.5.7 Chapter 8: Biodiversity (document reference TR010035/APP/6.8) states that the existing culvert discharging to the Main Dyke would require upgrading to allow the structure to carry a higher capacity of water. Therefore, the upgrade works to the existing culvert would reduce inundation during periods of high-water flow (refer to the Environmental Masterplan) (document reference TR010035/APP/6.19, Sheet 2); this in turn would reduce sedimentation of Main Dyke during high water-flow periods and therefore represents an enhancement of this feature in the long-term.
- 16.5.8 The new culvert would potentially result in an increase in the quality of the riparian habitats present. Therefore, in the long-term a Neutral impact (at the very least) is anticipated at the Local level.
- 16.5.9 Both of the effects reported to occur on this receptor are deemed Neutral. It is therefore deemed that the intra-cumulative effect experienced by this receptor during operation of the Scheme would be **Negligible**

Morecambe Bay and Duddon Estuary SPA and Morecambe Bay Ramsar site

Construction

- 16.5.10 Chapter 12: Road Drainage and the Water Environment (document reference TR010035/APP/6.12) states that the Scheme requires construction of new culverts, replacement of the existing Horsebridge Dyke culvert, a clear span river crossing of

the Main Dyke, extensions to existing culverts crossings and the creation of cuttings, which could open pollution pathways to water receptors, including the downstream SPA / Ramsar site. Sources of pollutants include fuels and oils, cement-based products and sediments from earthworks. Additional hazards arising from construction activities include the accidental release of floatable material, loss of material during storm events and mobilisation of contamination and migration into controlled waters, as well as the potential for the entrainment of fine sediment in runoff, which could increase siltation in receiving watercourses.

- 16.5.11 However, with the appropriate mitigation measures in place, including carrying out works to facilitate new watercourse crossings in dry conditions (e.g. creating an in-channel dry working area by using coffer dams and overpumping, flume arrangements or similar). This would significantly reduce the potential for downstream pollution, therefore safeguarding the SPA / Ramsar site. Where dry working conditions are not practicable measures such as silt curtains would be deployed to prevent downstream pollution. Therefore, it is considered there would be a Negligible magnitude of change (impact) on the baseline water quality characteristics of the SPA / Ramsar site.
- 16.5.12 Furthermore, on the basis of the information provided within the Habitats Regulations Assessment (HRA) Report (document reference TR010035/APP/5.4), the Scheme would not prevent Morecambe Bay and Duddon Estuary SPA / Morecambe Bay Ramsar site from achieving their Conservation Objectives, and therefore there would be no adverse effect on the integrity of this site.
- 16.5.13 Chapter 8: Biodiversity (document reference TR010035/APP/6.8) states that although no construction works would take place within the SPA or Ramsar site boundary, there is the potential for indirect effects upon the qualifying bird species of the sites which may be utilising habitats outside of the designated site which could be affected by the Scheme or through reduction in water quality downstream thereby impacting upon habitats that support the SPA bird species.
- 16.5.14 In order to mitigate for disturbance / displacement during the construction phase of the Scheme, a mitigation area at the northern end of the Scheme to the west of Shard Bridge has been proposed. Mitigation Area 1 would be temporarily managed to provide suitable habitat for foraging pink-footed geese, lapwing and curlew as mitigation for disturbance to birds utilising fields adjacent to the Scheme. Through the provision of mitigation measures, impacts upon the autumn passage and wintering bird assemblage would be Neutral.
- 16.5.15 As the effects reported to occur on this receptor in Chapter 12: Road Drainage and the Water Environment (document reference TR010035/APP/6.12) are deemed Negligible and the effects recorded in Chapter 8: Biodiversity (document reference TR010035/APP/6.8) are assessed as Neutral. It is, therefore, deemed that the intra-cumulative effect experienced by this receptor during construction of the Scheme would be **Negligible**.

Operation

- 16.5.16 Chapter 8: Biodiversity (document reference TR010035/APP/6.8) assesses the effect during operation as Neutral. However, Chapter 12: Road Drainage and the Water Environment (document reference TR010035/APP/6.12) does not record any effects on the Morecambe Bay and Duddon Estuary Special Protection Area (SPA)

and Morecambe Bay Ramsar site. Therefore, there would be no intra-cumulative effects during operation.

Ice House at Singleton Hall

- 16.5.17 It is predicted that the Ice House at Singleton Hall would experience intra-project cumulative effects during construction and operation, as residual effects were recorded on this receptor in Chapter 7: Cultural Heritage (document reference TR010035/APP/6.7) and Chapter 9: Landscape (document reference TR010035/APP/6.9).
- 16.5.18 However, note that a photo view could not be obtained due to the property not being publicly accessible, therefore, the assessment outcomes recorded in Chapter 9: Landscape (document reference TR010035/APP/6.9) were based on analysis of satellite photography. Further detail on this matter can be found in Chapter 9: Landscape (document reference TR010035/APP/6.9) and paragraph 9.3.9

Construction

- 16.5.19 Chapter 9: Landscape (document reference TR010035/APP/6.9) states that activities associated with the construction of the Scheme would be visible through the intervening perimeter tree cover. It is predicted that this would result in a Major adverse effect on the local landscape from Viewpoint (VP) 18 located at the Ice House at Singleton Hall.
- 16.5.20 Chapter 7: Cultural Heritage (document reference TR010035/APP/6.7) states that the setting of the Grade II listed Ice House at Singleton Hall would be impacted during construction. Temporary impacts during construction would include an increase in noise and visual intrusion affecting the setting of the receptor. This would result in a moderate magnitude of impact to this medium value receptor which results in a Moderate adverse significance of effect.
- 16.5.21 The intra-cumulative effects of the Scheme on the Ice House are predicted to be **Major adverse** during construction.

Operation

- 16.5.22 During operation Chapter 9: Landscape (document reference TR010035/APP/6.9) states there would be some limited filtered visibility through the retained vegetation which is in cutting, which over time with new woodland planting would establish further screening for VP18 located at the Ice House at Singleton Hall. The effect from this VP is predicted to be Moderate adverse at Year 1 of the Scheme reducing down to Slight adverse at Year 15 once mitigation planting has matured.
- 16.5.23 Chapter 7: Cultural Heritage (document reference TR010035/APP/6.7) states that the setting of the Grade II listed Ice House at Singleton Hall would be impacted during operation. There would be increase in noise affecting the setting of the receptor. This would result in a moderate magnitude of impact to this medium value receptor which results in a Moderate adverse significance of effect.
- 16.5.24 The intra-cumulative effects during operation are predicted to be **Minor adverse**.

Properties on Mains Lane

- 16.5.25 Properties on Mains Lane would experience intra-project cumulative effects during construction and operation. Residual effects were recorded on these receptors in

Chapter 9: Landscape (document reference TR010035/APP/6.9), Chapter 11: Noise and Vibration (document reference TR010035/APP/6.11) and within some of the human health topic summaries.

- 16.5.26 Note, no significant effects were identified on this receptor in Chapter 6: Air Quality (document reference TR010035/APP/6.6).

Construction

- 16.5.27 Chapter 9: Landscape (document reference TR010035/APP/6.9) states that clear views of construction activities would be possible from a number of properties along Mains Lane around Skippool Bridge, to the north west of Little Singleton and the south side of Mains Lane due to the removal of intervening built form and vegetation. Construction activities visible may include work associated with the installation of the new bridges and the re-alignment of the junction between Old Mains Lane and Mains Lane. These would be short term in nature. The magnitude of these effects varies between Moderate and Major adverse. Chapter 11: Noise and Vibration (document reference TR010035/APP/6.11) states that construction noise at this receptor is not considered to be significant.

- 16.5.28 Taking account of the individual effects, the intra-cumulative effect is predicted to be **Moderate Adverse**.

Operation

- 16.5.29 During operation, Chapter 9: Landscape (document reference TR010035/APP/6.9) states that clear and partially filtered views would be possible towards the new junction from properties on Mains Lane around Skippool Bridge, to the north west of Little Singleton and the south side of Mains Lane. Views would be partially softened by tree and woodland planting around the junction which would establish overtime, however the changes in vertical alignment along the A585, and horizontal alignment of Old Mains Lane would cause a noticeable change from the baseline condition. These changes would result in a Moderate adverse after Year 15 of the Scheme due to the maturation of mitigation planting in conjunction with the Scheme.

- 16.5.30 Chapter 11: Noise and Vibration (document reference TR010035/APP/6.11) predicts a reduction in operation traffic flow of 90% along Mains Lane would result in both short-term and long-term minor / moderate beneficial effects on noise levels affecting properties facing on to Mains Lane. However, a number of properties on Mains Lane that back on to the Scheme mainly along the south side of Mains Lane would experience minor/moderate adverse effect during operation. Also taking into account, the overall operational effect from Noise and Vibration on human health is predicted to be Minor Beneficial due to the reduction in noise experienced by residents along Mains Lane.

- 16.5.31 Given that a Moderate adverse effect after 15 years is recorded to occur on properties on Mains Lane around Skippool Bridge, to the north west of Little Singleton and the south side of Mains Lane in Chapter 9: Landscape (document reference TR010035/APP/6.9) and Chapter 11: Noise and Vibration (document reference TR010035/APP/6.11) reports a Minor/Moderate adverse effect to the rear of the properties mainly along the south side of Mains Lane as a worst case, the intra-cumulative effect is predicted to be **Moderate Adverse** during operation for these properties.

Singleton Park

Construction

- 16.5.32 Chapter 7: Cultural Heritage (document reference TR010035/APP/6.7) states that construction activities would impact the setting of Singleton Park, a non-designated heritage asset. Impacts include visual and noise intrusion alongside an increase in dust within the area. These impacts would be temporary and reversible as these effects will be permanently replaced by the operational effects below once the Scheme is constructed. The magnitude of impact to this low value receptor would be Minor / Slight.
- 16.5.33 Chapter 9: Landscape (document reference TR010035/APP/6.9) states that glimpsed views of the application site possible from Footpath 2 (Singleton), particularly construction activities of the proposed new junction with Garstang New Road and the section of the footpath running through Singleton Park. This would result in a Large Adverse effect.
- 16.5.34 Chapter 10: People and Communities (document reference TR010035/APP/6.10) states that the same footpath would also be impacted during Scheme construction as a result of temporary closure periods would be short and temporary diversions put in place due to construction activities. However, the use of this footpath is limited at present and would not present a loss of access to community facilities or services. This is predicted to result in a Moderate adverse effect on users of Footpath 2 (Singleton) including through Singleton Park. A number of permissive pathways form part of Singleton Park; however, no effects are predicted.
- 16.5.35 Taking into account the 3 individual effects recorded on Singleton Park, the overall intra-cumulative effect on this receptor during construction is predicted to be **Moderate adverse**.

Operation

- 16.5.36 Chapter 7: Cultural Heritage (document reference TR010035/APP/6.7) states that operation of the Scheme would also impact the setting of Singleton Park. Following mitigation, the magnitude of impact to this low value receptor would be minor resulting in a slight / neutral significance of effect.
- 16.5.37 Chapter 9: Landscape (document reference TR010035/APP/6.9) states that filtered views of the overpass would be possible in the foreground views from the side and rear of properties visible through intervening vegetation. Visibility of the new road would be reduced by its position within a cutting. Over time woodland replacement features would establish to provide further screening of the Scheme. This would result in a Moderate Adverse effect at year 1 of the Scheme reducing to a Slight Adverse effect at year 15 of the Scheme.
- 16.5.38 Chapter 10: People and Communities (document reference TR010035/APP/6.10) states that in terms of severance, new and improved crossing facilities would improve connectivity, enhancing the permeability of the area. Footpath 2 (Singleton) would be severed as a result of the Scheme, requiring diversion from its existing route. The route would be increased in length by approximately 10 - 15m and would replace an existing uncontrolled crossing with a new footbridge (Grange footbridge) over Garstang New Road. These improvements would greatly improve connectivity of the footpath with other routes; and would improve the standard of the path. A number of

permissive pathways also runs through Singleton Park however, no effects are recorded to occur on these receptors as a result of Scheme operation. Overall, the effect is deemed to be moderate beneficial.

- 16.5.39 Taking into account the 3 individual effects recorded on Singleton Park, the overall intra-cumulative effect on this receptor during construction is predicted to be **Negligible**.

Barnfield Manor (Lodge Lane)

- 16.5.40 Properties around Barnfield Manor (Lodge Lane) would experience intra-project cumulative effects during construction and operation, as residual effects were recorded on these receptors in Chapter 9: Landscape (document reference TR010035/APP/6.9), Chapter 11: Noise and Vibration (document reference TR010035/APP/6.11) and within some of the human health topic summaries.
- 16.5.41 Note, no significant effects were identified on this receptor in Chapter 6: Air Quality (document reference TR010035/APP/6.6).

Construction

- 16.5.42 Chapter 9: Landscape (document reference TR010035/APP/6.9) states that clear views on construction activities would be possible from Lodge Lane towards the application site, particularly the location of the proposed cutting and overpass which would carry Lodge Lane over the new road. Filtered views would be possible from nearby residential properties. Activities associated with the construction of the cutting and overpass would be clearly visible from the road, with partially filtered views possible from nearby residential properties. This would result in a Large adverse effect on this receptor. Chapter 11: Noise and Vibration (document reference TR010035/APP/6.11) states that construction noise at this receptor is not considered to be significant.
- 16.5.43 Overall cumulative effects over the construction phase on this receptor are considered to be **Moderate adverse**.

Operation

- 16.5.44 Chapter 11: Noise and Vibration (document reference TR010035 /APP/6.11) predicts a Moderate adverse effect on receptors along Lodge Lane including Barnfield Manor as a result of the increased traffic flow along the Scheme.
- 16.5.45 Chapter 9: Landscape (document reference TR010035/APP/6.9) states that filtered views of the overbridge would be possible from the residential properties along Lodge Lane. Visibility of the new road would be reduced by its position within a cutting. Over time woodland replacement features would establish to provide further screening of the Scheme. This would result in a Slight Adverse effect after 15 years.
- 16.5.46 Taking into account the individual effects recorded on Barnfield Manor, the overall intra-cumulative effect during operation on this receptor is predicted to be **Moderate adverse**.

Groundwater Resources

Construction

- 16.5.47 Chapter 13: Geology and Contaminated Land (document reference TR010035/APP/6.13) states that groundwater resources, particularly in the area of

the Source Protection Zone (SPZ) 2, is likely to experience an effect during construction. This effect is likely to be short term when significant earthwork movements are taking place resulting in a Slight adverse effect on this receptor.

16.5.48 Chapter 12: Road Drainage and the Water Environment (document reference TR010035/APP/6.12) states that groundwater resources are considered to be of high value especially given the Good Water Framework Directive (WFD) chemical status of the underlying groundwater body. During construction it is expected that groundwater levels would be reduced in an area around the Lodge Lane bridge where the Scheme would be in cutting. The extent of this effect is dependent on the duration of drainage activity, the hydraulic conductivity of the aquifer and the amount of lowering of the water table (drawdown). It is expected that the shallow Glaciofluvial aquifer would be locally dewatered at the cutting, as a result it is predicted this would have a Slight adverse effect on local groundwater resources.

16.5.49 Assuming the appropriate environmental design measures and mitigation are adopted and considering the effects would be of a temporary nature during, the overall intra-cumulative effect on the receptor during construction is considered **Minor adverse**.

Operation

16.5.50 Although Chapter 12: Road Drainage and the Water Environment (document reference TR010035/APP/6.12) records a Moderate Adverse effect on groundwater resources during operation of the Scheme. The operational effects in Chapter 13: Geology and Contaminated Land (document reference TR010035/APP/6.13) have been scoped out. Therefore, there would be **no intra-cumulative effects** during operation.

Footpath 2 (Poulton)

Construction

16.5.51 Chapter 9: Landscape (document reference TR010035/APP/6.9) states that visibility of the construction activities set within the Main Dyke valley floor would be visible from Footpath 2 (Poulton) (VP01-2). As a result of the residential development, the view along the existing Public Right of Way (PRoW) would be restricted and contained by residential development once completed therefore resulting in a Moderate adverse effect on views from the footpath.

16.5.52 Furthermore, Chapter 10: People and Communities (document reference TR010035/APP/6.10) states that users of the footpath may experience reductions in visual amenity due to the Scheme construction activity resulting in a Moderate adverse effect.

16.5.53 Taking into account the Moderate adverse individual effects recorded on users' visual amenity and views from Footpath 2 (Poulton), the overall intra-cumulative effect on this receptor is predicted to be **Moderate adverse**.

Operation

16.5.54 Appendix 9.3: Visual Effects Schedule (document reference TR010035/APP/6.9.3) appended to Chapter 9: Landscape (document reference TR010035/APP/6.9) records effects on Footpath 2 (Poulton) as Slight Adverse after 15 years of Scheme operation Limited deuteriation to a view however, Chapter 10: People and

Communities (document reference TR010035/APP/6.10) does not record any effects on this receptor. Therefore, there would be **no intra-cumulative effects** during operation.

Footpath 2 (Singleton)

Construction

- 16.5.55 Chapter 9: Landscape (document reference TR010035/APP/6.9) states that users of Footpath 2 (Singleton) would have clear views of the application site from parts of this footpath, particularly the site of the proposed new junction with Garstang New Road and associated new footbridge. Construction activities would be clearly visible creating a dominant visual focus of the views. This would result in a Major adverse effect on views from Footpath 2 (Singleton) from VP04 during construction of the Scheme.
- 16.5.56 Chapter 10: People and Communities (document reference TR010035/APP/6.10) states that the same footpath would also be impacted during Scheme construction as a result of temporary closure periods would be short and temporary diversions put in place due to construction activities. However, the use of this footpath is limited at present and would not present a loss of access to community facilities or services. This is predicted to result in a Moderate adverse effect on users of Footpath 2 (Singleton).
- 16.5.57 As a result of the limited usage of this footpath and the temporary nature of the effects, the predicted overall intra-cumulative effects experienced by Footpath 2 (Singleton) is considered to be **Moderate adverse**.

Operation

- 16.5.58 Chapter 9: Landscape (document reference TR010035/APP/6.9) states that clear views of the application site would be possible from the footpath during operation, particularly the site of the proposed new junction with Garstang New Road and associated new footbridge. The Scheme including the new pedestrian over bridge would be clearly visible creating a dominant visual focus of the view. Overtime the introduction of new woodland planting would screen and filter view of the road, however the new over bridge would continue to be visible. Overall, the effect is deemed to be Moderate Adverse after 15 years of Scheme operation.
- 16.5.59 Chapter 10: People and Communities (document reference TR010035/APP/6.10) states that in terms of severance, new and improved crossing facilities would be provided as a result of the Scheme therefore improving connectivity of the area. Footpath 2 (Singleton) would be severed as a result of the Scheme, requiring diversion from its existing route. The route would be increased in length by approximately 10 - 15m and would replace an existing uncontrolled crossing with a new footbridge (Grange footbridge) over Garstang New Road. These improvements would greatly improve connectivity of the footpath with other routes; and would improve the standard of the path. Overall, the effect is deemed to be Moderate Beneficial.
- 16.5.60 As a result of the Moderate Adverse and Moderate Beneficial effects recorded on this footpath, it is concluded that the total effects are mixed and there is no cumulative effect on Footpath 2 (Singleton) in one direction or another.

Inter-Cumulative Effects Assessment

16.5.61 This section considers the potential inter-project cumulative effects of the proposed Scheme in conjunction with the 9 other developments identified in Table 16-5.

Table 16-5: Cumulative Effects – Inter-project cumulative effects assessment of ‘other developments’

Ref	Tier	Planning Application Ref	Applicant for ‘other development’ and brief description	Assessment of cumulative effect with NSIP	Proposed Additional Mitigation	Residual cumulative effect
1	1(a)	11/0221, 11/0314	Outline application for development of a maximum of 1400 residential dwellings, 20 hectares of Class B2 general industrial/ Class B8 storage and distribution, Class D1 primary school, two local neighbourhood centres (Classes A1, A2/ A3), Class A4 drinking establishment, Class D1 health centre, Class D1 community building, vehicle access onto Preston New Road and Mythop Road with associated road infrastructure, car parking, public open	<p><u>Construction</u> This development does not fall within any of the stated ZOIs for construction. Therefore, no cumulative effects are predicted to occur as a result of the construction activities of the other development and the Scheme.</p> <p><u>Operation</u> This development falls within the ZOIs for air quality and health during operation. NO₂ levels as a result of the other development are unlikely to increase by 1µg/m³ or 2.5% of the objective level at any receptor and that a breach of either the annual or hourly objective levels is unlikely. Therefore, NO₂ impacts</p>	No mitigation measures are proposed.	<p>The cumulative impact of the other development and the Scheme during construction would be No Change.</p> <p>Effects on air quality, health are anticipated to be Negligible as a result of the Scheme and other development during operation.</p>

Ref	Tier	Planning Application Ref	Applicant for 'other development' and brief description	Assessment of cumulative effect with NSIP	Proposed Additional Mitigation	Residual cumulative effect
			space, sports pitches, allotments, the retention and improvement of natural habitats, watercourse, ponds, reed beds and hedgerows and landscape features. Land off Mythrop Road. Westby with Plumpton, Blackpool	associated with the operation of the other development are considered to be Negligible . Given the location of the development in relation to the Scheme, that air quality concentrations are well below the relevant air quality thresholds and that significant air quality effects are not predicted as a result of the Scheme, cumulative air quality impacts are not considered likely during the operation phase. Furthermore, as the ZOI for health is based on the air quality ZOI, it is predicted that a Negligible effect would occur on health as a result of the other development and the Scheme.		
2	1(b)	16/01043/O ULMAJ	Outline application for the erection of up to 130 dwellings with means of access off Holts Lane (layout, landscaping, scale and appearance	<u>Construction</u> The development falls within the construction ZOI for biodiversity only. No adverse effects on any biodiversity receptors were reported by the	No additional mitigation measures are proposed.	It is predicted there would be No Change as a result of the Scheme and other development during construction and

Ref	Tier	Planning Application Ref	Applicant for 'other development' and brief description	Assessment of cumulative effect with NSIP	Proposed Additional Mitigation	Residual cumulative effect
			reserved), following demolition of existing buildings (re-submission of 16/00233/OULMAJ). Land Off Holts Lane Poulton-le-Fylde Lancashire	<p>other development. Therefore, it is deemed that the cumulative effect during construction as a result of the other development and the Scheme would be No Change. Furthermore, no in-combination effects were recorded within the HRA (document reference TR010035/APP/5.4) for this development.</p> <p><u>Operation</u> This development falls within the ZOIs for air quality, biodiversity and health during operation. This application has been taken into account within the traffic and air quality, noise and carbon emissions modelling for the Scheme so its impacts have been assessed inherently. As such the results of the air quality, noise and carbon emissions assessments are representative of the</p>		operation.

Ref	Tier	Planning Application Ref	Applicant for 'other development' and brief description	Assessment of cumulative effect with NSIP	Proposed Additional Mitigation	Residual cumulative effect
				<p>cumulative effects. As air quality concentrations are well below the relevant air quality thresholds and that significant air quality effects are not predicted as a result of the Scheme, cumulative air quality impacts are not considered likely during the operation phase. Furthermore, as the ZOI for health is based on the air quality ZOI, it is predicted that the effect on health as a result of the other development and the Scheme would be No Change.</p> <p>No adverse effects on any biodiversity receptors were reported by the other development. Therefore, it is deemed that the cumulative effect during construction as a result of the other development and the Scheme would be No Change.</p> <p>The development is immediately adjacent to</p>		

Ref	Tier	Planning Application Ref	Applicant for 'other development' and brief description	Assessment of cumulative effect with NSIP	Proposed Additional Mitigation	Residual cumulative effect
				17/00742/OUTMAJ (development reference 7) and therefore reports similar cumulative effects as a result.		
3	1(b)	n/a	Underground Gas Storage facility at Preesall, Lancashire, which includes an Interconnector Pipeline to the National Grid Transmission System at Nateby, 12km to the east, and a brine	<u>Construction</u> This development does not fall within any of the stated the ZOIs for construction. Therefore, no cumulative effects are predicted to occur as a result of the construction activities of the other development and the Scheme.	No additional mitigation measures are proposed.	The cumulative impact of the other development and the Scheme during construction would be No Change . Effects on air quality, health are anticipated to

Ref	Tier	Planning Application Ref	Applicant for 'other development' and brief description	Assessment of cumulative effect with NSIP	Proposed Additional Mitigation	Residual cumulative effect
			discharge pipeline extending 2.3km offshore from Rossall, Fleetwood	<p><u>Operation</u> This development falls within the ZOIs for air quality and health during operation. The other development reported a Negligible effect on air quality as result of operation of the project due to the increase in traffic emissions.</p> <p>Given the location of the development in relation to the Scheme, air quality concentrations are well below the relevant air quality thresholds and that significant air quality effects are not predicted as a result of the Scheme, cumulative air quality impacts are not considered likely during the operation phase. Furthermore, as the ZOI for health is based on the air quality ZOI, it is predicted that a Negligible effect would occur on health as a result of the other development and the Scheme.</p>		be Negligible as a result of the Scheme and other development during operation.

Ref	Tier	Planning Application Ref	Applicant for 'other development' and brief description	Assessment of cumulative effect with NSIP	Proposed Additional Mitigation	Residual cumulative effect
4	1(b)	17/00050/R EMMAJ	Reserved matters application for the erection of 160 dwellings with associated works Land on The East Side of Lambs Road Thornton Cleveleys Lancashire	<p><u>Construction</u> This development falls within the ZOIs for cultural heritage, landscape, geology and contaminated land during construction. Due to nature and size of the other development it is predicted that there would be no cumulative impact on landscape as a result of the other development and the Scheme being within two different landscape character areas. However, there is limited potential for visual cumulative effects as successive views from the Wyre way may be affected during construction. This effect is predicted to be Negligible. Based on the lack of archaeological reports available for the other development there is a limited potential for cumulative effects to occur through the loss of</p>	No additional mitigation measures are proposed.	<p>It is predicted there would be a Negligible effect as a result of the Scheme and other development during construction</p> <p>It is predicted there would be No Change as a result of the Scheme and other development during operation.</p>

Ref	Tier	Planning Application Ref	Applicant for 'other development' and brief description	Assessment of cumulative effect with NSIP	Proposed Additional Mitigation	Residual cumulative effect
				<p>unknown archaeological remains as a result of the other development and the Scheme. The effect of which is predicted to be Negligible.</p> <p>As the other development is 878m from the Scheme and just within the identified ZOI for geology and contaminated land, due to the small size, nature and distance from the Scheme the predicted cumulative effect on geology and contaminated land as a result of the Scheme and the other development would be No Change.</p> <p>Given the proximity of the other development, construction traffic may have to travel via the A585. This has the potential to cause a cumulative increase in the amount of construction traffic in the area if the construction phases overlap. This impact could be further exacerbated</p>		

Ref	Tier	Planning Application Ref	Applicant for 'other development' and brief description	Assessment of cumulative effect with NSIP	Proposed Additional Mitigation	Residual cumulative effect
				<p>when considered with 17/00951/OUTMAJ (development reference 5) as well as the Scheme. However, there is a high degree of uncertainty regarding this, as the extent that the construction phases may actually overlap is currently unknown.</p> <p><u>Operation</u> This development falls within the ZOIs for air quality, cultural heritage, landscape, geology and contaminated land and health during operation. Given the location of the development in relation to the Scheme, that air quality concentrations are well below the relevant air quality thresholds and that significant air quality effects are not predicted as a result of the Scheme, cumulative air quality impacts are not considered likely during the operation phase.</p>		

Ref	Tier	Planning Application Ref	Applicant for 'other development' and brief description	Assessment of cumulative effect with NSIP	Proposed Additional Mitigation	Residual cumulative effect
				<p>Furthermore, as the ZOI for health is based on the air quality ZOI, it is predicted that a No Change effect would occur on health as a result of the other development and the Scheme.</p> <p>Due to nature and size of the other development, it is predicted that there would be no cumulative impact on landscape as a result of the other development and the Scheme due to the projects being within two different landscape character areas. No visual cumulative effect is predicted as there is no opportunity for combined, sequential or successive views during operation. Therefore, an effect of No change on landscape and visual receptors are predicted for the operation phase.</p> <p>No adverse effects on any biodiversity receptors were</p>		

Ref	Tier	Planning Application Ref	Applicant for 'other development' and brief description	Assessment of cumulative effect with NSIP	Proposed Additional Mitigation	Residual cumulative effect
				<p>reported by the other development. Therefore, it is deemed that the cumulative effect during construction as a result of the other development and the Scheme would be No Change.</p> <p>Due to size and type of the other development it is predicted that No Change would occur on cultural heritage receptors due to distance from the Scheme and lack of inter-visibility.</p> <p>It is predicted that No Change would occur on geology and contaminated land as a result of the Scheme and the other development, as geology and contaminated land has been scoped out of the Scheme operation assessment.</p>		
5	1(b)	13/00200/O ULMAJ	Outline application for mixed use development consisting of Class B1 (office) floorspace,	<p><u>Construction</u> The development falls within the construction ZOI for biodiversity only. The other development reports</p>	No Additional mitigation is proposed	The cumulative impact of the other development and the Scheme during construction on nesting

Ref	Tier	Planning Application Ref	Applicant for 'other development' and brief description	Assessment of cumulative effect with NSIP	Proposed Additional Mitigation	Residual cumulative effect
			<p>Class C3 (residential) and a local centre consisting of a supermarket, Class A1/A2/A3/A4 and A5 uses together with vehicular and pedestrian access, open space and landscaping</p> <p>Land at Norcross Lane Thornton Cleveleys Lancashire FY5 3TZ</p>	<p>that the site has the potential to affect a range of nesting bird species through loss of nesting and foraging habitat. This could result in potential impacts through any potential vegetation clearance works with regard to nesting birds. This could be predicted to be a Negligible effect as a worst case.</p> <p>The Scheme is predicted to result in Neutral effects on breeding/nesting birds as a result of the construction activities.</p> <p>Therefore, it is deemed that the cumulative effect during construction as a result of the other development and the Scheme would be Negligible.</p>		<p>birds would be Negligible.</p> <p>Effects on air quality, health are anticipated to be Negligible as a result of the Scheme and other development during operation.</p>

Ref	Tier	Planning Application Ref	Applicant for 'other development' and brief description	Assessment of cumulative effect with NSIP	Proposed Additional Mitigation	Residual cumulative effect
				<p><u>Operation</u> This development falls within the ZOIs for biodiversity, air quality and health during operation. No adverse effects on any biodiversity receptors were reported by the other development during operation. Therefore, it is deemed that the cumulative effect during construction as a result of the other development and the Scheme would be No Change. The other development reports that all predicted NO₂ and PM₁₀ concentrations are well below the objective values and no exceedances of the NO₂ and PM₁₀ annual mean air quality objective of 40µg/m³ are predicted to occur. Therefore, impacts on air quality associated with the operation of the other development are considered Negligible. Furthermore, as the ZOI for</p>		

Ref	Tier	Planning Application Ref	Applicant for 'other development' and brief description	Assessment of cumulative effect with NSIP	Proposed Additional Mitigation	Residual cumulative effect
				health is based on the air quality ZOI, it is predicted that a Negligible effect would occur on health as a result of the other development and the Scheme.		
6	1(b)	15/00576/O UTMAJ	Outline application for a residential development of up to 90 dwellings, provision of public car park and associated open space and landscaping. Application includes 1 hectare of B class employment space. Land Off Copp Lane Great Ecclestone Lancashire PR3 0YN	<p><u>Construction</u> This development does not fall within any of the stated ZOIs for construction. Therefore, no cumulative effects are predicted to occur as a result of the construction activities of the other development and the Scheme.</p> <p><u>Operation</u> This development falls within the ZOIs for air quality and health during operation. The other development reports an impact on annual mean NO₂ concentrations as a result of the other development. These impacts were predicted to be negligible. It is noted the modelled change in</p>	No Additional mitigation is proposed	<p>The cumulative impact of the other development and the Scheme during construction would be No Change.</p> <p>Effects on air quality, health are anticipated to be Negligible as a result of the Scheme and other development during operation.</p>

Ref	Tier	Planning Application Ref	Applicant for 'other development' and brief description	Assessment of cumulative effect with NSIP	Proposed Additional Mitigation	Residual cumulative effect
				<p>concentration as a proportion of the AQ Objective was 1% or less at all locations. Therefore, impacts on air quality associated with the operation of the other development are considered Negligible. Furthermore, as the ZOI for health is based on the air quality ZOI, it is predicted that a Negligible effect would occur on health as a result of the other development and the Scheme.</p>		
7	1(b)	16/00481/O UTMAJ	Outline application for a residential development comprising up to 55 dwellings and a village shop, with associated infrastructure (all matters reserved) Land North and South of	<p><u>Construction</u> This development does not fall within any of the stated ZOIs for construction. Therefore, no cumulative effects are predicted to occur as a result of the construction activities of the other development and the Scheme.</p>	No mitigation measures are proposed.	It is predicted there would be No Change as a result of the Scheme and other development during construction and operation.

Ref	Tier	Planning Application Ref	Applicant for 'other development' and brief description	Assessment of cumulative effect with NSIP	Proposed Additional Mitigation	Residual cumulative effect
			Preston Road Inskip Lancashire	<p><u>Operation</u> This development falls within the ZOIs for air quality and health during operation. Given the location of the development in relation to the Scheme, that air quality concentrations are well below the relevant air quality thresholds and that significant air quality effects are not predicted as a result of the Scheme, cumulative air quality impacts are not considered likely during the operation phase. Furthermore, as the ZOI for health is based on the air quality ZOI, it is predicted that a No change effect would occur on health as a result of the other development and the Scheme.</p>		

Ref	Tier	Planning Application Ref	Applicant for 'other development' and brief description	Assessment of cumulative effect with NSIP	Proposed Additional Mitigation	Residual cumulative effect
8	1(b)	18/00334/F ULMAJ	Construction of a new staff and visitor car park, new gate house building, construction of two-storey extension to export warehouse, construction of two-storey extension and single-storey link corridor to staff entrance and construction of a new two-storey detached engineering building Lofthouse of Fleetwood Ltd Maritime Street Fleetwood Lancashire FY7 7LP	<p><u>Construction</u> This development does not fall within any of the stated ZOIs for construction. Therefore, no cumulative effects are predicted to occur as a result of the construction activities of the other development and the Scheme.</p> <p><u>Operation</u> This development falls within the ZOIs for air quality and health during operation. Given the location of the development in relation to the Scheme, that air quality concentrations are well below the relevant air quality thresholds and that significant air quality effects are not predicted as a result of the Scheme, cumulative air quality impacts are not considered likely during the operation phase. Furthermore, as the ZOI for health is based on the air</p>	No mitigation measures are proposed.	It is predicted there would be No Change as a result of the Scheme and other development during construction and operation.

Ref	Tier	Planning Application Ref	Applicant for 'other development' and brief description	Assessment of cumulative effect with NSIP	Proposed Additional Mitigation	Residual cumulative effect
				quality ZOI, it is predicted that a No Change effect would occur on health as a result of the other development and the Scheme.		
9	1(b)	14/00226/O UTMAJ	Outline application for erection of up to 77 dwellings, associated parking and footpath link for Stalmine Primary School Land South & West Birch Grove Off Stricklands Lane Stalmine Lancashire	<p><u>Construction</u> This development does not fall within any of the stated ZOIs for construction. Therefore, no cumulative effects are predicted to occur as a result of the construction activities of the other development and the Scheme.</p> <p><u>Operation</u> This development falls within the ZOIs for air quality and health during operation. Given the location of the development in relation to the Scheme, that air quality concentrations are well below the relevant air quality thresholds and that significant air quality effects are not</p>	No mitigation measures are proposed.	It is predicted there would be No Change as a result of the Scheme and other development during construction and operation.

Ref	Tier	Planning Application Ref	Applicant for 'other development' and brief description	Assessment of cumulative effect with NSIP	Proposed Additional Mitigation	Residual cumulative effect
				<p>predicted as a result of the Scheme, cumulative air quality impacts are not considered likely during the operation phase.</p> <p>Furthermore, as the ZOI for health is based on the air quality ZOI, it is predicted that a No Change effect would occur on health as a result of the other development and the Scheme.</p>		
10	1(b)	17/0359	<p>Construction of a retail park (class a1 non-food) with associated access, car parking and servicing areas Site 3 land at Dugdales Close/ Brooklands Way/ Hallam Way, Whitehills Business Park, Westby with Plumptions</p>	<p><u>Construction</u> This development does not fall within any of the stated ZOIs for construction. Therefore, no cumulative effects are predicted to occur as a result of the construction activities of the other development and the Scheme.</p> <p><u>Operation</u> This development falls within the ZOIs for air quality and health during operation. Given the location of the development in relation to the</p>	No mitigation measures are proposed.	It is predicted there would be No Change as a result of the Scheme and other development during construction and operation.

Ref	Tier	Planning Application Ref	Applicant for 'other development' and brief description	Assessment of cumulative effect with NSIP	Proposed Additional Mitigation	Residual cumulative effect
				<p>Scheme, that air quality concentrations are well below the relevant air quality thresholds and that significant air quality effects are not predicted as a result of the Scheme, cumulative air quality impacts are not considered likely during the operation phase.</p> <p>Furthermore, as the ZOI for health is based on the air quality ZOI, it is predicted that a No Change effect would occur on health as a result of the other development and the Scheme.</p>		
11	1(b)	16/0180	<p>Outline application for residential development of up to 50 dwellings and associated infrastructure</p> <p>Land north of Mill Lane, Elswick</p>	<p><u>Construction</u></p> <p>This development does not fall within any of the stated ZOIs for construction. Therefore, no cumulative effects are predicted to occur as a result of the construction activities of the other development and the Scheme.</p>	No mitigation measures are proposed.	It is predicted there would be No Change as a result of the Scheme and other development during construction and operation.

Ref	Tier	Planning Application Ref	Applicant for 'other development' and brief description	Assessment of cumulative effect with NSIP	Proposed Additional Mitigation	Residual cumulative effect
				<p><u>Operation</u> This development falls within the ZOIs for air quality and health during operation. Given the location of the development in relation to the Scheme, that air quality concentrations are well below the relevant air quality thresholds and that significant air quality effects are not predicted as a result of the Scheme, cumulative air quality impacts are not considered likely during the operation phase. Furthermore, as the ZOI for health is based on the air quality ZOI, it is predicted that a No Change effect would occur on health as a result of the other development and the Scheme.</p>		

Ref	Tier	Planning Application Ref	Applicant for 'other development' and brief description	Assessment of cumulative effect with NSIP	Proposed Additional Mitigation	Residual cumulative effect
12	1(b)	16/0645	Erection of 50 dwellings to be accessed from Beech Road with associated landscaping, parking, pumping station and electricity sub-station following demolition of existing agricultural building Land north of, Beech Road, Elswick	<p><u>Construction</u> This development does not fall within any of the stated ZOIs for construction. Therefore, no cumulative effects are predicted to occur as a result of the construction activities of the other development and the Scheme.</p> <p><u>Operation</u> This development falls within the ZOIs for air quality and health during operation. Given the location of the development in relation to the Scheme, that air quality concentrations are well below the relevant air quality thresholds and that significant air quality effects are not predicted as a result of the Scheme, cumulative air quality impacts are not considered likely during the operation phase. Furthermore, as the ZOI for health is based on the air</p>	No mitigation measures are proposed.	It is predicted there would be No Change as a result of the Scheme and other development during construction and operation.

Ref	Tier	Planning Application Ref	Applicant for 'other development' and brief description	Assessment of cumulative effect with NSIP	Proposed Additional Mitigation	Residual cumulative effect
				quality ZOI, it is predicted that a No Change effect would occur on health as a result of the other development and the Scheme.		
13	1(b)	16/0846	Outline application for the erection of up to 24 no. dwellings Land north of High Gate and east of, Copp Lane, Elswick	<p><u>Construction</u> This development does not fall within any of the stated ZOIs for construction. Therefore, no cumulative effects are predicted to occur as a result of the construction activities of the other development and the Scheme.</p> <p><u>Operation</u> This development falls within the ZOIs for air quality and health during operation. Given the location of the development in relation to the Scheme, that air quality concentrations are well below the relevant air quality</p>	No mitigation measures are proposed.	It is predicted there would be No Change as a result of the Scheme and other development during construction and operation.

Ref	Tier	Planning Application Ref	Applicant for 'other development' and brief description	Assessment of cumulative effect with NSIP	Proposed Additional Mitigation	Residual cumulative effect
				<p>thresholds and that significant air quality effects are not predicted as a result of the Scheme, cumulative air quality impacts are not considered likely during the operation phase.</p> <p>Furthermore, as the ZOI for health is based on the air quality ZOI, it is predicted that a No Change effect would occur on health as a result of the other development and the Scheme.</p>		
14	1(b)	16/0817	Erection of 41 no. dwellings following demolition of existing buildings Sunnydale nurseries, Garstang Road, Little Eccleston with Larbeck, Preston, PR3 0XA	<p><u>Construction</u> This development does not fall within any of the stated ZOIs for construction. Therefore, no cumulative effects are predicted to occur as a result of the construction activities of the other development and the Scheme.</p> <p><u>Operation</u> This development falls within the ZOIs for air quality and health during operation.</p>	No mitigation measures are proposed.	It is predicted there would be No Change as a result of the Scheme and other development during construction and operation.

Ref	Tier	Planning Application Ref	Applicant for 'other development' and brief description	Assessment of cumulative effect with NSIP	Proposed Additional Mitigation	Residual cumulative effect
				<p>Given the location of the development in relation to the Scheme, that air quality concentrations are well below the relevant air quality thresholds and that significant air quality effects are not predicted as a result of the Scheme, cumulative air quality impacts are not considered likely during the operation phase.</p> <p>Furthermore, as the ZOI for health is based on the air quality ZOI, it is predicted that a No Change effect would occur on health as a result of the other development and the Scheme.</p>		
15	1(b)	15/0177	Proposed erection of 231 no. residential units and associated works Land west of Kirkham bypass (opposite St Georges Park), Kirkham	<p><u>Construction</u> This development does not fall within any of the stated ZOIs for construction. Therefore, no cumulative effects are predicted to occur as a result of the construction activities of the other development and the</p>	No mitigation measures are proposed.	<p>It is predicted there would be No Change as a result of the Scheme and other development during construction.</p> <p>A Negligible</p>

Ref	Tier	Planning Application Ref	Applicant for 'other development' and brief description	Assessment of cumulative effect with NSIP	Proposed Additional Mitigation	Residual cumulative effect
				<p>Scheme.</p> <hr/> <p><u>Operation</u> This development falls within the ZOIs for air quality and health during operation. The other development predicts that an increase in NO₂ and PM₁₀ concentrations is likely to occur as a result of the development. Given the location of the development in relation to the Scheme, that air quality concentrations are well below the relevant air quality thresholds and that significant air quality effects are not predicted as a result of the Scheme, cumulative air quality impacts during the operation phase are predicted to be Negligible.</p>		<p>cumulative effect is predicted to occur during operation of the other development and the Scheme.</p>

Ref	Tier	Planning Application Ref	Applicant for 'other development' and brief description	Assessment of cumulative effect with NSIP	Proposed Additional Mitigation	Residual cumulative effect
				Furthermore, as the ZOI for health is based on the air quality ZOI, it is predicted that a Negligible effect would occur on health as a result of the other development and the Scheme.		
16	1(b)	12/0635	Outline application for up to 180 residential units (class c3) associated infrastructure and defined access with all other matters reserved Land at Little Tarnbrick Farm, Blackpool Road, Kirkham	<p><u>Construction</u> This development does not fall within any of the stated ZOIs for construction. Therefore, no cumulative effects are predicted to occur as a result of the construction activities of the other development and the Scheme.</p> <p><u>Operation</u> This development falls within the ZOIs for air quality and health during operation. The other development reports that imperceptible changes in façade NO₂ and PM₁₀ concentrations are predicted to occur as a result of the development. Given the location of the</p>	No mitigation measures are proposed.	<p>It is predicted there would be No Change as a result of the Scheme and other development during construction.</p> <p>A Negligible cumulative effect is predicted to occur during operation of the other development and the Scheme.</p>

Ref	Tier	Planning Application Ref	Applicant for 'other development' and brief description	Assessment of cumulative effect with NSIP	Proposed Additional Mitigation	Residual cumulative effect
				<p>development in relation to the Scheme, that air quality concentrations are well below the relevant air quality thresholds and that significant air quality effects are not predicted as a result of the Scheme, cumulative air quality impacts during the operation phase are predicted to be Negligible.</p> <p>Furthermore, as the ZOI for health is based on the air quality ZOI, it is predicted that a Negligible effect would occur on health as a result of the other development and the Scheme.</p>		
17	1(b)	16/0847	<p>Application for approval of reserved matters of appearance, layout, scale and landscaping pursuant to outline planning permission 15/0472 for the erection of 80 dwellings</p>	<p><u>Construction</u> This development does not fall within any of the stated ZOIs for construction. Therefore, no cumulative effects are predicted to occur as a result of the construction activities of the other development and the Scheme.</p>	<p>No mitigation measures are proposed.</p>	<p>It is predicted there would be No Change as a result of the Scheme and other development during construction and operation.</p>

Ref	Tier	Planning Application Ref	Applicant for 'other development' and brief description	Assessment of cumulative effect with NSIP	Proposed Additional Mitigation	Residual cumulative effect
			Land to the rear of Moss Farm, Cropper Road, Westby with Plumpton, Blackpool, FY4 5LB	<p><u>Operation</u> This development falls within the ZOIs for air quality and health during operation. Given the location of the development in relation to the Scheme, that air quality concentrations are well below the relevant air quality thresholds and that significant air quality effects are not predicted as a result of the Scheme, cumulative air quality impacts are not considered likely during the operation phase. Furthermore, as the ZOI for health is based on the air quality ZOI, it is predicted that a No Change effect would occur on health as a result of the other development and the Scheme.</p>		

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18	1(c)	17/00951/O UTMAJ	Outline application for the erection of up to 66 dwellings with access applied for off Lambs Road (all other matters reserved) Land on the East Side of Lambs Road Thornton Cleveleys Lancashire	<p><u>Construction</u> This development falls within the ZOIs for cultural heritage, landscape, biodiversity, geology and contaminated land during construction. No adverse effects on any biodiversity receptors were reported by the other development. Therefore, it is deemed that the cumulative effect during construction as a result of the other development and the Scheme would be No Change.</p> <p>Due to nature and size of the other development it is predicted that there would be no cumulative impact on landscape as a result of the other development and the Scheme being within two different landscape character areas. However, there is limited potential for visual cumulative effects as successive views from the</p>	No mitigation measures are proposed.	<p>A Negligible cumulative effect is predicted to occur during construction as a result of the other development and the Scheme.</p> <p>It is predicted there would be No Change as a result of the Scheme and other development during operation.</p>

Ref	Tier	Planning Application Ref	Applicant for 'other development' and brief description	Assessment of cumulative effect with NSIP	Proposed Additional Mitigation	Residual cumulative effect
				<p>Wyre Way may be affected during construction. This effect is predicted to be Negligible. Based on the lack of archaeological reports available for the other development there is a limited potential for cumulative effects to occur through the loss of unknown archaeological remains as a result of the other development and the Scheme. The effect of which is predicted to be Negligible.</p> <p>As the other development is 950m from the Scheme and just within the identified ZOI for geology and contaminated land, due to the size, nature and distance from the Scheme the predicted cumulative effect on geology and contaminated land as a result of the Scheme and the other development would be No Change. The development is immediately adjacent to</p>		

Ref	Tier	Planning Application Ref	Applicant for 'other development' and brief description	Assessment of cumulative effect with NSIP	Proposed Additional Mitigation	Residual cumulative effect
				<p>17/00050/REMMAJ (development reference 5, above) and therefore reports similar cumulative effects as a result. Given the proximity of the other development, construction traffic may have to travel via the A585. This has the potential to cause a cumulative increase in the amount of construction traffic in the area if the construction phases overlap. This impact could be further exacerbated when considered with 17/00050/REMMAJ (development reference 4) as well as the Scheme. However, there is a high degree of uncertainty regarding this, as the extent that the construction phases may actually overlap is currently unknown.</p> <p><u>Operation</u> This development falls within the ZOIs for air quality, cultural heritage, landscape,</p>		

Ref	Tier	Planning Application Ref	Applicant for 'other development' and brief description	Assessment of cumulative effect with NSIP	Proposed Additional Mitigation	Residual cumulative effect
				<p>biodiversity geology and contaminated land and health during operation.</p> <p>Given the location of the development in relation to the Scheme, that air quality concentrations are well below the relevant air quality thresholds and that significant air quality effects are not predicted as a result of the Scheme, cumulative air quality impacts are not considered likely during the operation phase.</p> <p>Furthermore, as the ZOI for is based on the air quality ZOI, it is predicted that a No Change effect would occur on health as a result of the other development and the Scheme. Due to nature and size of the other development, it is predicted that there would be no cumulative impact on landscape as a result of the other development and the</p>		

Ref	Tier	Planning Application Ref	Applicant for 'other development' and brief description	Assessment of cumulative effect with NSIP	Proposed Additional Mitigation	Residual cumulative effect
				<p>Scheme due to the projects being within two different landscape character areas. No visual cumulative effect is predicted as there is no opportunity for combined, sequential or successive views during operation. Therefore, an effect of No Change on landscape and visual receptors are predicted for the operation phase.</p> <p>No adverse effects on any biodiversity receptors were reported by the other development. Therefore, it is deemed that the cumulative effect during operation as a result of the other development and the Scheme would be No Change.</p> <p>Due to size and type of the other development it is predicted that No Change would occur on cultural heritage receptors due to distance from the Scheme and</p>		

Ref	Tier	Planning Application Ref	Applicant for 'other development' and brief description	Assessment of cumulative effect with NSIP	Proposed Additional Mitigation	Residual cumulative effect
				<p>lack of inter-visibility. Given the size and nature of the development it is predicted that no adverse effects on any geology or contaminated land receptors would occur as a result of the other development and the Scheme. Therefore, it is deemed that the cumulative effect during operation would be No Change.</p> <p>It is predicted that No Change would occur on geology and contaminated land as a result of the Scheme and the other development, as geology and contaminated land has been scoped out of the Scheme operation assessment.</p>		
		18/00395/R ELMAJ	Outline application with all matters other than access reserved for a residential development of up to 165 dwellings with access taken from Arthurs Lane. Land at Arthurs Lane	<p><u>Construction</u> This development does not fall within any of the stated ZOIs for construction. Therefore, no cumulative effects are predicted to occur as a result of the construction activities of the other development and the</p>	No additional mitigation measures are proposed.	It is predicted there would be No Change as a result of the Scheme and other development during construction and operation.

Ref	Tier	Planning Application Ref	Applicant for 'other development' and brief description	Assessment of cumulative effect with NSIP	Proposed Additional Mitigation	Residual cumulative effect
			Hambleton Lancashire FY6 9AT	Scheme.		

Ref	Tier	Planning Application Ref	Applicant for 'other development' and brief description	Assessment of cumulative effect with NSIP	Proposed Additional Mitigation	Residual cumulative effect
				<p><u>Operation</u> This development falls within the ZOIs for air quality and health during operation. Given the location of the development in relation to the Scheme, air quality concentrations are well below the relevant air quality thresholds and that significant air quality effects are not predicted as a result of the Scheme, cumulative air quality impacts are not considered likely during the operation phase. Furthermore, as the ZOI for health is based on the air quality ZOI, it is predicted that the effect on health as a result of the other development and the Scheme would be No Change.</p>		
120	1 (c)	16/00742/O UTMAJ	Outline application for the erection of up to 108 no. dwellings (Use Class C3) with all matters reserved except	<p><u>Construction</u> The development falls within the construction ZOI for biodiversity only. No adverse effects on any</p>	No additional mitigation measures are proposed.	It is predicted that there would be No Change as a result of the Scheme and other development during

Ref	Tier	Planning Application Ref	Applicant for 'other development' and brief description	Assessment of cumulative effect with NSIP	Proposed Additional Mitigation	Residual cumulative effect
			for access, which will be off Brockholes Crescent following demolition of numbers 61 and 63 Brockholes Crescent Land Off Brockholes Crescent Poulton-le-Fylde Lancashire	<p>biodiversity receptors were reported by the other development. Therefore, it is deemed that the cumulative effect during construction as a result of the other development and the Scheme would be No Change.</p> <p>The development is immediately adjacent to 16/01043/OULMAJ (development reference 2) and therefore the other developments report similar cumulative effects to each other as a result.</p> <p><u>Operation</u> This development falls within the ZOIs for air quality, biodiversity and health during operation. Given the location of the development in relation to the Scheme, air quality concentrations are well below the relevant air quality thresholds and that significant air quality effects are not</p>		construction and operation.

Ref	Tier	Planning Application Ref	Applicant for 'other development' and brief description	Assessment of cumulative effect with NSIP	Proposed Additional Mitigation	Residual cumulative effect
				<p>predicted as a result of the Scheme, cumulative air quality impacts are not considered likely during the operation phase. Furthermore, as the ZOI for health is based on the air quality ZOI, it is predicted that the effect on health as a result of the other development and the Scheme would be No Change. No adverse effects on any biodiversity receptors were reported by the other development. Therefore, it is deemed that the cumulative effect during construction as a result of the other development and the Scheme would be No Change. The development is immediately adjacent to 16/01043/OULMAJ (development reference 2) and therefore the other developments report similar cumulative effects to each other as a result.</p>		

Ref	Tier	Planning Application Ref	Applicant for 'other development' and brief description	Assessment of cumulative effect with NSIP	Proposed Additional Mitigation	Residual cumulative effect
21	3(b)	Policy SA 1/3	Land between Fleetwood Road North and Pheasant Wood Allocated for development of 10 dwellings	<p><u>Construction</u> This development does not fall within any ZOIs for construction. Therefore, no cumulative effects are predicted to occur as a result of the construction activities of the other development and the Scheme.</p> <p><u>Operation</u> This development falls within the ZOIs for air quality and health during operation. Given the size and location of the allocation in relation to the Scheme, that air quality concentrations are well below the relevant air quality thresholds and that significant air quality effects are not predicted as a result of the Scheme, cumulative air quality impacts are not considered likely during the operation phase. Furthermore, as the ZOI for health is based on the air</p>	No additional mitigation measures are proposed.	It is predicted that the receptor would experience No Change as a result of the Scheme and other development during construction and operation.

Ref	Tier	Planning Application Ref	Applicant for 'other development' and brief description	Assessment of cumulative effect with NSIP	Proposed Additional Mitigation	Residual cumulative effect
				quality ZOI, it is predicted that a No Change effect would occur on health as a result of the other development and the Scheme.		
22	3(b)	Policy SA 1/8	Blackpool Road, Poulton-le-Fylde Allocated for development of 20 dwellings	<u>Construction</u> The development falls within the construction ZOI for biodiversity. The site in its current state is predominantly agricultural in nature which may result in disturbance of over-wintering birds and the loss of nesting and foraging habitat for nesting/breeding birds. As a worst case, the effect is	No additional mitigation measures are proposed.	A Negligible cumulative effect is predicted to occur during construction as a result of the other development and the Scheme. It is predicted that there would be No Change as a result of the Scheme and other

Ref	Tier	Planning Application Ref	Applicant for 'other development' and brief description	Assessment of cumulative effect with NSIP	Proposed Additional Mitigation	Residual cumulative effect
				<p>predicted to be a Negligible. However, there is high amount of uncertainty surrounding this effect due to the lack of information available for the other development. The Scheme is predicted to result in Neutral effects on breeding/nesting birds as a result of the construction activities. Therefore, it is deemed that the cumulative effect during construction as a result of the other development and the Scheme would be Negligible during construction.</p>		<p>development during operation.</p>

Ref	Tier	Planning Application Ref	Applicant for 'other development' and brief description	Assessment of cumulative effect with NSIP	Proposed Additional Mitigation	Residual cumulative effect
				<p><u>Operation</u> This development falls within the ZOIs for air quality, biodiversity and health during operation. Given the size and location of the allocation in relation to the Scheme, it is predicted the other development and the Scheme would result in a cumulative effect of No Change on biodiversity receptors during operation. Given the size and location of the allocation in relation to the Scheme, that air quality concentrations are well below the relevant air quality thresholds and that significant air quality effects are not predicted as a result of the Scheme, cumulative air quality impacts are not considered likely during the operation phase. Furthermore, as the ZOI for health is based on the air</p>		

Ref	Tier	Planning Application Ref	Applicant for 'other development' and brief description	Assessment of cumulative effect with NSIP	Proposed Additional Mitigation	Residual cumulative effect
				quality ZOI, it is predicted that there would be No Change on health as a result of the other development and the Scheme.		
23	3(b)	The Fleetwood – Thornton Area Action (AAP)	The Fleetwood – Thornton Area Action Plan establishes a clear vision and planning framework for development of Fleetwood and Thornton over the next 15-20 years and is a very important consideration in any decision on	<u>Construction</u> The development falls within the construction ZOI for biodiversity. The Fleetwood – Thornton AAP would potentially result in a Minor/Moderate Adverse effect through the direct loss of habitat outside of the designated site(s) resulting in disturbance to wintering and/or breeding birds (including both	Mitigation measures are outlined in the Outline Construction Environmental Management Plan (Document Reference TR010035/APP/7.2) and Register of Environmental Actions and Commitments	It is considered that the construction phase of the Fleetwood-Thornton AAP would overlap with the operation phase of the scheme and as one effect is negative and the other positive, it is therefore predicted that the residual cumulative effect would be Negligible after

Ref	Tier	Planning Application Ref	Applicant for 'other development' and brief description	Assessment of cumulative effect with NSIP	Proposed Additional Mitigation	Residual cumulative effect
			<p>planning applications in the area. It includes areas identified for residential, industry and community facilities</p>	<p>Schedule 1 and other notable species) during construction works.</p> <hr/> <p><u>Operation</u> This development falls within the ZOIs for air quality, biodiversity and health during operation. After the implementation of the mitigation measures proposed, the effect of the Scheme on breeding birds changes to a long-term beneficial Slight/Moderate Positive impact on breeding birds during the operational phase.</p>	<p>(document reference TR010035/APP/7.3). The Mitigation Strategy was developed in consultation with Natural England and includes an area of bird mitigation land comprising a single area (encompassing five fields totaling 14.5ha) to the north of the Scheme. The location of the fields will allow easy access for birds from the adjacent River Wyre, which forms part of the SPA/Ramsar site. The mitigation area will provide an alternative foraging area away from the potential temporary disturbance/displace</p>	<p>mitigation is implemented.</p>

Ref	Tier	Planning Application Ref	Applicant for 'other development' and brief description	Assessment of cumulative effect with NSIP	Proposed Additional Mitigation	Residual cumulative effect
					<p>ment associated with the construction works. The mitigation area will provide a combination of habitats suitable for wintering pink-footed geese, lapwing and curlew and would allow for the differing habitat management requirements for these three species (as well as other SPA/Ramsar site wintering waterfowl, including little egret). The Scheme would result in new landscape planting contributing to a net increase in hedgerow and woodland habitats available thereby providing nesting</p>	

Ref	Tier	Planning Application Ref	Applicant for 'other development' and brief description	Assessment of cumulative effect with NSIP	Proposed Additional Mitigation	Residual cumulative effect
					and foraging opportunities for breeding birds.	

16.6 **Monitoring**

16.6.1 No monitoring is proposed to be undertaken specifically for cumulative effects. The monitoring proposed in each of the other assessment chapters would be appropriate.

16.7 **Summary**

16.7.1 The intra-project cumulative effects considered the combined action of a number of different environmental topic specific effects upon a single resource / receptor.

16.7.2 As a result of the Scheme, 9 receptors were predicted to experience intra-project cumulative effects. Many of these effects would be during the construction phase only and would be temporary in nature:

- Main Dyke (during construction)
- Morecambe Bay and Duddon Estuary SPA and Morecambe Bay Ramsar site (during construction)
- The Ice House at Singleton Hall (during construction)
- Properties on Mains Lane (during construction and operation)
- Singleton Park (during construction)
- Barnfield Manor (during operation)
- Groundwater (during construction)
- Footpath 2 (Poulton) (during construction)
- Footpath 2 (Singleton) (during construction)

16.7.3 The inter-project cumulative effects assessment considered the effects of the proposed Scheme in conjunction with 23 other developments identified. None of these cumulative effects were considered to be significant over and above what has already been reported in the assessment chapters in this document.

16.8 **References**

Department for Transport (2014) *National Policy Statement for National Networks*

Infrastructure Planning (2017) (Environmental Impact Assessment) Regulations

Highway Agency (2008) *Design Manual for Roads and Bridges (DMRB), Volume 11, Section 2, Part 5 (HA 205/08) 'Assessment and Management of Environmental Effects'*

Hyder Consulting UK Limited, (1999) *European Commissions 'Guidelines for the Assessment of Indirect and Cumulative Impacts as well as Impact Interactions. Prepared for the European Commission, EC DG X1 Environment, Nuclear Safety and Civil Protection'*

Ministry of Housing, Communities and Local Government (2018) Planning Applications Decisions - Other Developments, England, District by

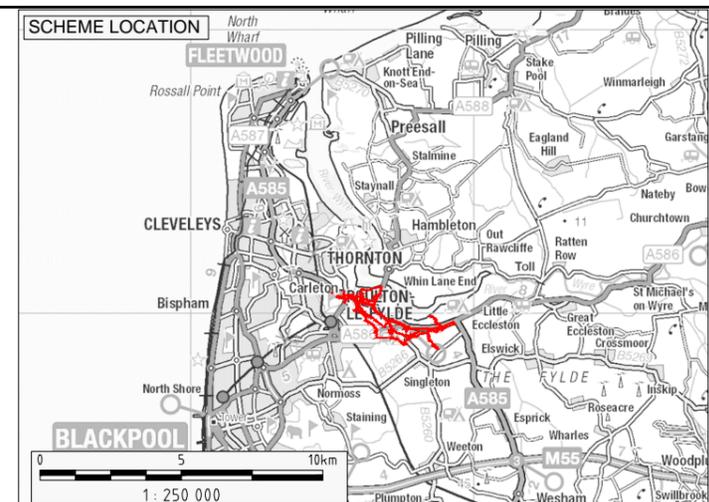
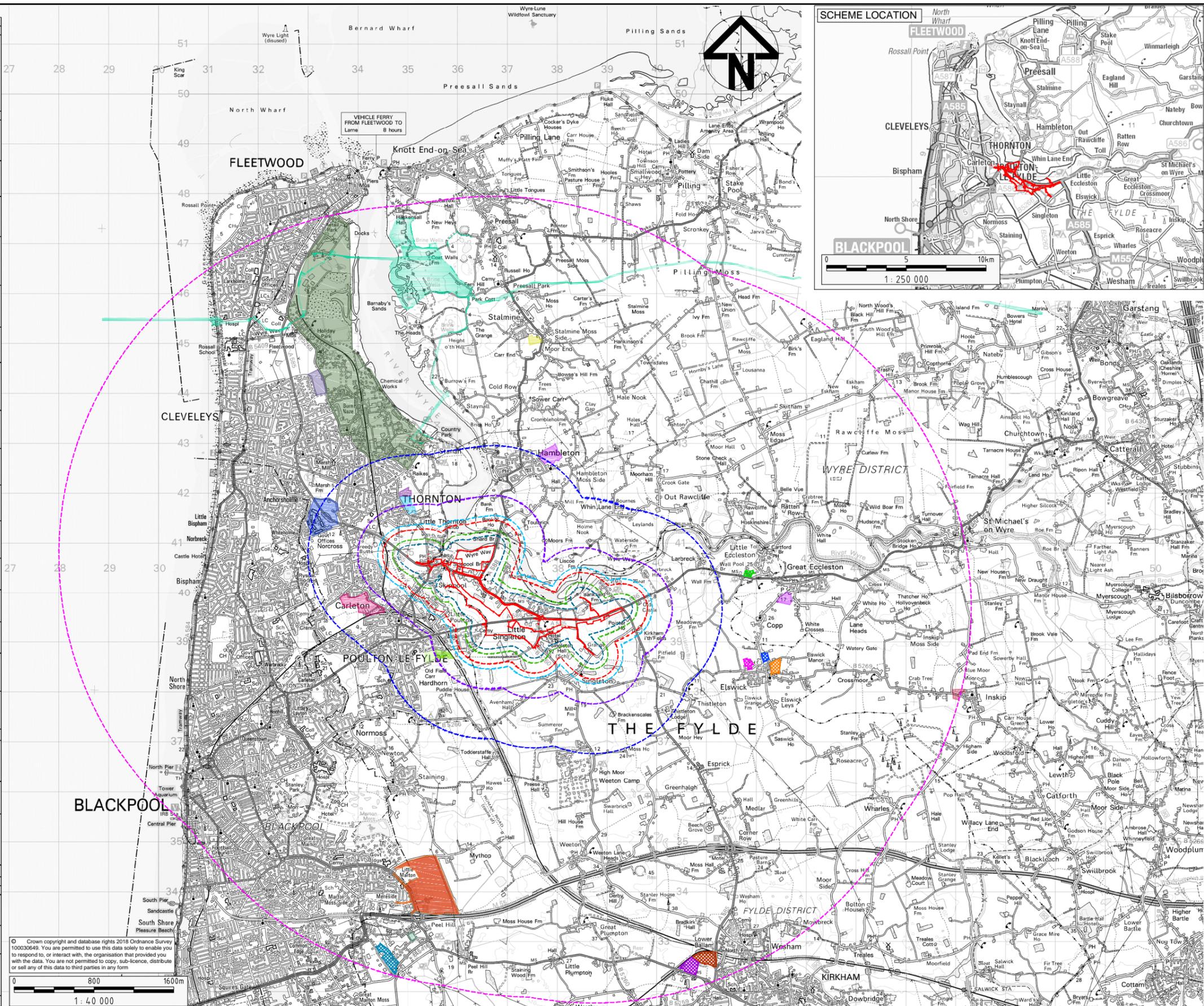
Development Type. URL: <https://data.gov.uk/dataset/a9dc6c51-796d-4a57-a3f2-1f235784156f/resource/a4af6c36-ec8c-47f5-a56f-38b504508312> [last accessed: 27/07/2018]

Planning Inspectorates (the Inspectorates) (2015) *Advice Note 17: Cumulative Effects Assessment*

16.9 **Figures**

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Tier 1(a)	11/0221, 11/0314	Outline application for development of a maximum of 1400 residential dwellings, 20 hectares of Class B2 general industrial Class B8 storage and distribution, Class D1 primary school, two local neighbourhood centres (Classes A1, A2/A3), Class A4 drinking establishment, Class D1 health centre, Class D1 community building, vehicle access onto Preston New Road and Mythop Road with associated road infrastructure, car parking, public open space, sports pitches, allotments, the retention and improvement of natural habitats, watercourse, ponds, reed beds and hedgerows and landscape features.
Mixed Use (Drawing reference 1)		Land off Mythop Road Westby with Plumpton, Blackpool
Tier 1(b)	16/01043/OUTMAJ	Outline application for the erection of up to 130 dwellings with means of access off Holts Lane (layout, landscaping, scale and appearance reserved), following demolition of existing buildings (re-submission of 16/00233/OUTMAJ). Land Off Holts Lane Poulton-le-Fylde Lancashire
Residential (Drawing reference 2)		
Commercial (Drawing reference 3)		Underground Gas Storage facility at Preesall, Lancashire, which includes an Interconnector Pipeline to the National Grid Transmission System at Nateby, 12km to the east, and a brine discharge pipeline extending 2.3km offshore from Rossall, Fleetwood
Residential (Drawing reference 4)	17/00050/REMAJ	Reserved matters application for the erection of 160 dwellings with associated works Land on The East Side of Lambs Road Thornton Cleveleys Lancashire
Residential (Drawing reference 5)	13/00200/OUTMAJ	Outline application for mixed use development consisting of Class B1 (office) floorspace, Class C3 (residential) and a local centre consisting of a supermarket, Class A1/A2/A3/A4 and A5 uses together with vehicular and pedestrian access, open space and landscaping Land At Norcross Lane Thornton Cleveleys Lancashire FY5 3TZ
Mixed Use (Drawing reference 6)	15/00578/OUTMAJ	Outline application for a residential development of up to 90 dwellings, provision of public car park and associated open space and landscaping. Application includes 1 hectare of B class employment space. Land Off Copp Lane Great Eccleston Lancashire PR3 0YN
Mixed Use (Drawing reference 7)	16/00481/OUTMAJ	Outline application for a residential development comprising up to 55 dwellings and a village shop, with associated infrastructure (all matters reserved) Land North and South of Preston Road Inskip Lancashire
Commercial (Drawing reference 8)	18/00334/FULMAJ	Construction of a new staff and visitor car park, new gate house building, construction of two-storey extension to export warehouse, construction of two-storey extension and single-storey link corridor to staff entrance and construction of a new two-storey detached engineering building Lothouse of Fleetwood Ltd Maritime Street Fleetwood Lancashire FY7 7LP
Residential (Drawing reference 9)	14/00228/OUTMAJ	Outline application for erection of up to 77 dwellings, associated parking and footpath link for Stalmine Primary School Land South & West Birch Grove Off Stricklands Lane Stalmine Lancashire
Residential (Drawing reference 10)	17/0359	Construction of a retail park (class a1 non-food) with associated access, car parking and servicing areas Site 3 land at Dugdale's Close Brooklands Way Halam Way, Whitehills Business Park, Westby with Plumpton
Residential (Drawing reference 11)	16/0180	Outline application for residential development of up to 50 dwellings and associated infrastructure Land north of Mill Lane, Elswick
Residential (Drawing reference 12)	16/0645	Erection of 50 dwellings to be accessed from Beech Road with associated landscaping, parking, pumping station and electricity sub-station following demolition of existing agricultural building Land north of Beech Road, Elswick
Residential (Drawing reference 13)	16/0846	Outline application for the erection of up to 24 no. dwellings Land north of High Gate and east of, Copp Lane, Elswick
Residential (Drawing reference 14)	16/0817	Erection of 41 no. dwellings following demolition of existing buildings Sunnydale nurseries, Garstang Road, Little Eccleston with Larbeck, Preston, PR3 0XA
Residential (Drawing reference 15)	15/0177	Proposed erection of 231 no. residential units and associated works Land west of Kirkham bypass (opposite St Georges Park), Kirkham
Residential (Drawing reference 16)	12/0635	Outline application for up to 180 residential units (class c3) associated infrastructure and defined access with all other matters reserved Land at Little Tambrick Farm, Blackpool Road, Kirkham
Residential (Drawing reference 17)	16/0847	Application for approval of reserved matters of appearance, layout, scale and landscaping pursuant to outline planning permission 15/0472 for the erection of 80 dwellings Land to the rear of Moss Farm, Cropper Road, Westby with Plumpton, Blackpool, FY4 5LB
Tier 1(c)	17/00951/OUTMAJ	Outline application for the erection of up to 66 dwellings with access applied for off Lambs Road (all other matters reserved) Land on the East Side of Lambs Road Thornton Cleveleys Lancashire
Residential (Drawing reference 18)		
Residential (Drawing reference 19)	18/00395/REMAJ	Reserved matters application (for matters relating to appearance, landscaping, layout and scale) for the erection of 165 dwellings, landscaping and associated works following outline planning permission
Residential (Drawing reference 20)	16/00742/OUTMAJ	Outline application for the erection of up to 108 no. dwellings (Use Class C3) with all matters reserved except for access, which will be off Brockholes Crescent following demolition of numbers 61 and 63 Brockholes Crescent Land Off Brockholes Crescent Poulton-le-Fylde Lancashire
Tier 2 - No 'other developments' identified fall within this Tier		
Tier 3(a) - No 'other developments' identified fall within this Tier		
Tier 3(b)	Policy SA 1/3	Land between Fleetwood Rd North and Pheasant Wood Allocated for development of 10 dwellings
Local Plan Housing Allocation (Drawing Reference 21)	Policy SA 1/8	Blackpool Road, Poulton-le-Fylde Allocated for development of 20 dwellings
Local Plan Housing Allocation (Drawing Reference 22)		The Fleetwood - Thornton Area Action Plan establishes a clear vision and planning framework for development of Fleetwood and Thornton over the next 15-20 years and is a very important consideration in any decision on planning applications in the area. It includes areas identified for residential, industry and community facilities
Area Action Plan (Drawing Reference 23)		
Tier 3(c) - No 'other developments' identified fall within this Tier		



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	Draft Order Limits		Cultural Heritage, Landscape, Geology and Contaminated Land, Materials and Health 1km Construction Zone of Influence & Noise and Vibration Operation Phase Zone of Influence
	Air Quality and Climate 200m Construction Zone of Influence		Nature Conservation 2km Construction Zone of Influence
	Noise and Vibration 300m Construction Zone of Influence		Climate 7km Operation Zone of Influence & Air Quality Operation Phase Zone of Influence
	People and Communities, Road Drainage and the Water Environment & Health 500m Construction Zone of Influence		Noise and Vibration Operation 600m Zone of Influence

	Client	A585 WINDY HARBOUR TO SKIPPOOL IMPROVEMENT SCHEME	Status	S8 - DCO SUBMISSION	Revision	0
	Project		Scale	1:40 000 @ A3	Date	OCT 2018
	Drawing Title	ENVIRONMENTAL STATEMENT REGULATION 5(2)(a) CUMULATIVE EFFECTS: CUMULATIVE SCHEMES	Drawn By	J.NORMAN	Checked By	K.BURROWS
			Approved By	N.HENDERSON	PINS No.	TR010035
			Drawing number	HE-FN	Originator	Version
			Location	File	Name	Number
			HE548643-ARC-EGN-SZ_ZZ_000-DR-LE-3082			

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Rev	Status	Rev. Date	Purpose of revision	Drawn	Checked	Approved