

A1 in Northumberland: Morpeth to Ellingham

Scheme Number: TR010059

7.26.3 Combined Effects Technical Note

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**The Infrastructure Planning
(Examination Procedure) Rules
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**The A1 in Northumberland: Morpeth to
Ellingham**

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Combined Effects Technical Note

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SCREENING MATRIX (THE SCHEME)

1. INTRODUCTION

1.1. OVERVIEW

- 1.1.1. Item 10 of the Examining Authority's (ExA) Hearings Action Points asked the Applicant to provide further detail on how they have arrived at the conclusions included in **Table 15-4 of Chapter 15: Assessment of Combined Effects Part A** of the ES [APP-060] and **Table 16-9 of Chapter 16: Assessment of Cumulative Effects** of the ES [APP-062], as discussed during Issue Specific Hearing 3 (ISH3) held on 22 April 2021. As detailed at item 8.4 of **Table 1-2 in the Applicant's Written Summaries of Oral Submissions to Hearings [REP6-044]**, at Deadline 6 of the Examination the Applicant produced an initial overview of the methodology used to group individual receptors and determine the residual effects experienced by each receptor group, in **Appendix E – Combined Effects Technical Note [REP6-047]**. In that note, it was explained that the full details of the screening of receptor groups for cross topic combined effects would be provided for all receptor groups and associated individual receptors for Deadline 7 of the Examination.
- 1.1.2. This Technical Note provides the screening of receptors to group individual receptors and determine the residual effects experienced by each receptor group identified in **Table 15-4 of Chapter 15: Assessment of Combined Effects Part A** of the ES [APP-060] and **Chapter 15: Assessment of Combined Effects Part B** of the ES [APP-061], and **Table 16-9 in Chapter 16: Assessment of Cumulative Effects** of the ES [APP-062].
- 1.1.3. The combined effects reported within **Chapter 15: Assessment of Combined Effects Part A** of the ES [APP-060] and **Chapter 15: Assessment of Combined Effects Part B** of the ES [APP-061], and **Table 16-9 in Chapter 16: Assessment of Cumulative Effects** of the ES [APP-062] has been reviewed and updated to account for the Change Request and the additional effects identified following the application of the updated DMRB guidance outlined in Appendix 4.5: DMRB Sensitivity Test [APP-197] and provided at Deadline 1 and Deadline 3 (refer to Section 1.5 of this Technical Note). This technical note therefore supersedes the assessment of combined effects presented in the ES as follows:
- **Table 15-4 of Chapter 15: Assessment of Combined Effects Part A [APP-060]** is replaced with Table 2-1 and Table 2-2 of this technical note
 - **Table 15-4 of Chapter 15: Assessment of Combined Effects Part B [APP-061]** is replaced with Table 3-1 and 3-2 of this Technical Note
 - **Table 16-9 of Chapter 16: Assessment of Cumulative Effects** of the ES [APP-062] is replaced with Table 4-1 of this Technical Note.
- 1.1.4. The remainder of **Chapter 15: Assessment of Combined Effects Part A [APP-060]**, **Chapter 15: Assessment of Combined Effects Part B [APP-061]** and **Chapter 16: Assessment of Cumulative Effects** of the ES [APP-062] remains valid and unchanged unless otherwise noted in Chapter 2, Chapter 3 and Chapter 4 of this Technical Note.

1.2 SCREENING MATRIX

- 1.2.1. Common sensitive receptors from **Technical Chapters 5 to 13** for Part A and Part B of the Environmental Statement (ES) [APP-040 to APP-059] that are exposed to residual effects of 'minor' or above by one or more technical topics as a result of the Scheme were collated into a cross topic combined effects screening matrix. This matrix provides the residual effects identified for each individual receptor that make up the receptor groups identified in **Table 15-4 of Chapter 15: Assessment of Combined Effects Part A [APP-060]** and **Chapter 15: Assessment of Combined Effects Part B [APP-061]**, and **Table 16-9 in Chapter 16: Assessment of Cumulative Effects [APP-062]**. For example, all individual residential receptors that are exposed to residual effects of 'minor' or above for more than one technical topic have been listed within the cross topic combined effects screening matrix under the common receptor group heading 'Residents'. The impacts and residual significance of effects have been listed out for each individual receptor. The combined effect of all the different residual effects on a single receptor have then been reported in the 'Potential Combined Effects' column. To ensure a robust assessment, the combined effects assessment is based on the worst-case effects reported for each relevant receptor within the technical chapters of the ES. The 'overall combined effect on common receptor group' column sets out the overall range of significance of combined effects for the receptors in the common receptor group as a reasonable worst case.

1.3 RECEPTOR GROUPS

- 1.3.1. The screening matrix has been used to provide more detail on how individual receptors have been grouped and the residual effects that the grouped receptors would experience. For example, residential receptors would be exposed to effects as a result of the Scheme, which results in the overall cross topic combined effect reported in **Table 15-4 in Chapter 15: Assessment of Combined Effects Part A [APP-060]** and **Chapter 15: Assessment of Combined Effects Part B [APP-061]**, and **Table 16-9 in Chapter 16: Assessment of Cumulative Effects [APP-062]**. This has been collated into a screening of receptor groups for cross topic combined effects table for construction and operation for Part A and Part B, as well as a separate table for the screening of receptor groups for cross topic combined effect interactions considered for the Scheme (refer to **Table 16-9, Chapter 16: Assessment of Cumulative Effects [APP-062]**).

1.4. STRUCTURE OF THE TECHNICAL NOTE

- 1.3.2. This technical note is structured as follows:
- **Chapter 1: Introduction** to this technical note providing an overview of the methodology for screening of cross topic combined effects, the scope of this technical note and the amendments to the application;
 - **Chapter 2: Screening for Cross Topic Combined Effects Part A** provides the full details of the screening of receptor groups for cross topic combined effects for Part A construction (**Table 2-1**) and operation (**Table 2-2**), the updated DMRB guidance and mitigation and monitoring;

- **Chapter 3: Screening for Cross Topic Combined Effects Part B** provides the full details of the screening of receptor groups for cross topic combined effects for Part B construction (**Table 3-1**) and operation (**Table 3-2**), the updated DMRB guidance and mitigation and monitoring;
- **Chapter 4: Screening for Cross Topic Combined Effects The Scheme** provides the full details of the cross topic combined effect interactions for the Scheme (**Table 4-1** (as originally presented in **Table 16-9, Chapter 16: Assessment of Cumulative Effects [APP-062]**), the updated DMRB guidance and mitigation and monitoring.

1.5. UPDATES TO THE APPLICATION

- 1.3.3. Due to the postponement of the proposed Scheme opening from 2023 to 2024, with a consequential design year of 2039, a reassessment of the operational noise assessment and operational air quality assessment for an opening year of 2024 and a design year of 2039 was undertaken to validate the assessment presented in **Chapter 16: Assessment of Cumulative Effects** of the ES [APP-062]. These reassessments also followed the updated DMRB guidance and are presented in **Noise Addendum [REP1-019 to 022]**, the **Air Quality Assessment (Scheme Opening Year 2024) [REP3-012]** and the **Updated Biodiversity Air Quality DMRB Sensitivity Assessment [REP3-010]**.
- 1.3.4. In addition, three amendments to the application were proposed (Change Request) at Deadline 4 of the Examination. On 9 April 2021, the Examining Authority (ExA) confirmed it accepted the Change Request as part of the application. The DMRB sensitivity appraisal for the Change Requests are presented in **Environmental Statement Addendum: Earthworks Amendments for Change Request [REP4-061]**, **Environmental Statement Addendum: Stabilisation Works for Change Request [REP4-063]** and **Environmental Statement Addendum: Southern Access Works for Change Request [REP4-064]**.
- 1.3.5. The screening matrices presented in this Technical Note have been reviewed and updated to include all reported effects from the Scheme, including the additional effects from the application of the updated DMRB guidance (provided in Chapter 2 , Chapter 3 and Chapter 4 of this Technical Note), the reassessments for operational noise and air quality assessments and the Change Request.

2. SCREENING FOR CROSS TOPIC COMBINED EFFECTS PART A

2.1. INTRODUCTION

- 1.3.6. **Table 2-1** and **Table 2-2** identify the common sensitive receptors from **Part A Technical Chapters 5 to 13 [APP-040 to APP-056]** that are exposed to residual effects with a significance of 'minor' or above and sensitive receptors that have the potential for cross topic combined effects. The significance of residual effect for each individual receptor has been reviewed to present the cross topic combined effects for each individual receptor. The overall combined effect for that receptor group is then provided.
- 1.3.7. The screening matrix for common sensitive receptors and residual effects during construction and operation of Part A is provided in Appendix A of this Technical Note.

2.2. ASSESSMENT METHODOLOGY

- 1.3.8. The assessment methodology and legislative and policy framework is in accordance with the methodology set out in **Chapter 15: Assessment of Combined Effects Part A** of the ES [APP-060].

2.3. UPDATED DMRB GUIDANCE

- 1.3.9. Some DMRB guidance documents were updated in 2019 and 2020 (and associated IANs replaced), by which time the EIA for the Scheme was largely complete. However, a sensitivity test was undertaken in April / May 2020 by the Applicant either to demonstrate that the assessments reported in the ES were already compliant with the updated guidance, or to identify any changes to the conclusions of the assessments as a result of the updated guidance (determined through further assessment). A sensitivity appraisal was undertaken for the Part A cross topic combined effects assessment.
- 1.3.10. As outlined in **Section 15.8, paragraph 15.8.2** and **15.8.3** of **Chapter 15: Assessment of Combined Effects Part A [APP-060]**, a number of environmental effects that arose from Part A increased in significance as a result of the application of the updated DMRB guidance (refer to **Appendix 4.5: DMRB Sensitivity Test [APP-197]**). **Section 15.8, paragraph 15.8.2** and **15.8.3** of **Chapter 15: Assessment of Combined Effects Part A [APP-060]** considers whether the changes to these significant effects would change the outcome of the combined effects assessment.
- 1.3.11. As set out in **Section 15.8, paragraph 15.8.2** of **Chapter 15: Assessment of Combined Effects Part A [APP-060]**, with the application of the updated DMRB guidance, the permanent loss of North Gate House would increase from a moderate adverse effect to large adverse effect. This would increase the cross topic combined effect from Moderate Adverse to Large Adverse for North Gate House.
- 1.3.12. Following the reassessment of operational noise [REP1-019 to 022], the additional beneficial noise effects outlined in **Section 15.8, paragraph 15.8.3** of **Chapter 15: Assessment of Combined Effects Part A [APP-060]**, have been reviewed and the

screening matrix for Part A has been updated to include the changes in operational noise effects as a result of the application of the updated DMRB guidance. These additional effects have been included within the screening matrix in **Table 2-2**.

2.4. MITIGATION AND MONITORING

- 1.3.13. As outlined in **Section 15.9 of Chapter 15: Assessment of Combined Effects Part A [APP-060]**, following the best practice and mitigation measures outlined in the **Outline Construction Environmental Management Plan (CEMP) [REP6-025 and 026]**, no further combined significant residual effects have been identified above the level of significance of those residual effects reported in **Part A Technical Chapters 5 to 13 [APP-040 to APP-056]**. Therefore, no further mitigation or monitoring is required above that already presented in **Part A Technical Chapter 5 to 13 [APP-040 to APP-056]** and the **Outline CEMP [REP6-025 and 026]**.
- 1.3.14. **Appendix GEN.4 Justification for Significant Residual Effects WQ GEN.1.35 [REP1-036]** provides a justification for the residual significant effects reported in **Technical Chapter 5 to Chapter 17 [APP-040 to 062]** of the ES and why no further mitigation is proposed to be implemented. As set out in **Table 1 of Appendix GEN.4 Justification for Significant Residual Effects WQ GEN.1.35 [REP1-036]**, no further mitigation measures are feasible to reduce the residual significant, cross topic combined effects anticipated as a result of Part A. Therefore, significant effects would remain for combined effects.

Table 2-1 – Screening of Receptors Groups for Cross Topic Combined Effects during Construction (Part A)

Common receptor group	Relevant technical topic	Potential impact	Significance of residual effects	Potential combined effects	Overall combined effect on common receptor group
Residents Refer to Figure 7.6: Visual Effects Drawing Residential Properties Part A [APP-093] for receptor locations	Air Quality	Changes to air quality within 200 m of construction activities	Residents within 200m of Part A would experience no residual effects after mitigation (not significant)	There are no residual effects on residents from air quality and noise and vibration after the implementation of mitigation measures as outlined within Chapter 5: Air Quality Part A [APP-040] and Chapter 6: Noise and Vibration Part A [APP-042] . Some residents have the potential for combined effects from Population and Human Health effects and Landscape and Visual. The following residents have the potential to experience a combined effect no worse than slight adverse (not significant) from effects on human health, private assets and changes to views: <ul style="list-style-type: none"> ■ Ardyne (R17) ■ Bothy Lodge (R18) ■ The Old Sawmill (R19) ■ Felton Park (R20) ■ St Mary’s House (R21) ■ B6345 The Nook (R24) ■ B6345 Riverside House (R25) ■ B6345 The Boarding House (R26) ■ Hemelspeth (R27) ■ Shothaugh Farm (R30) ■ Tithemans Cottage (R32) ■ Bockenfield (R42) ■ Bockenfield Manor (R43) ■ Helm (R47) ■ Causey Park Lodge (South) (R49) ■ Causey Park (R51) ■ Thornbank (R64) ■ Earsdon Mill (R66) ■ Earsdon Moor House (R69) ■ South View (R74) ■ Shield Green (R76) ■ Middle Fenrother (R80) ■ Fenrother (R81) ■ Gamekeepers Cottage (R84) ■ Hebron Hill (The Cottage) (R87) ■ West View (R107) ■ West View (R108) 	Overall, the combined effect of Part A would be no worse than moderate to large adverse (significant) significance on residents during construction.
	Noise and Vibration	Increased noise and vibration levels within 300 m of construction activities	Residents within 300m of Part A would experience no residual effects after mitigation (not significant)		
	Landscape and Visual	Change to views	Residents at the following properties would experience temporary, direct short-term slight adverse (not significant) residual effects: <ul style="list-style-type: none"> ■ Ardyne (R17) ■ Bothy Lodge (R18) ■ The Old Sawmill (R19) ■ Felton Park (R20) ■ St Mary’s House (R21) ■ B6345 The Nook (R24) ■ B6345 Riverside House (R25) ■ B6345 The Boarding House (R26) ■ Hemelspeth (R27) ■ Shothaugh Farm (R30) ■ Tithemans Cottage (R32) ■ Bockenfield (R42) ■ Bockenfield Manor (R43) ■ Helm (R47) ■ Causey Park Lodge (South) (R49) ■ Causey Park (R51) ■ Thornbank (R64) ■ Earsdon Mill (R66) ■ Earsdon Moor House (R69) ■ South View (R74) ■ Shield Green (R76) ■ Middle Fenrother (R80) ■ Fenrother (R81) ■ Gamekeepers Cottage (R84) ■ Hebron Hill (The Cottage) (R87) ■ West View (R107) 		

Common receptor group	Relevant technical topic	Potential impact	Significance of residual effects	Potential combined effects	Overall combined effect on common receptor group
			<ul style="list-style-type: none"> ■ West View (R108) ■ West View (R109) ■ Middle Rigg (R110) <p>Residents at the following properties would experience temporary, direct short-term moderate adverse (significant) residual effects:</p> <ul style="list-style-type: none"> ■ Longfield Cottage (R9) ■ Thirston New House (R34) ■ Causey Park Lodge (North) (R48) ■ Causey Hag (R50) ■ New Build Off Causey park (R56) ■ Four Gables (R57) ■ The Oak Inn (R61) ■ New Houses Farm (R65) ■ Portland House (R71) ■ Welbeck House (R72) ■ The Old School (R73) ■ Stonebrook Cottage (R78) ■ East Fenrother (R79) ■ High Highlaws Cottage (R94) ■ High Highlaws (R95) <p>Residents at the following properties would experience temporary, direct short-term large adverse (significant) residual effects:</p> <ul style="list-style-type: none"> ■ The Cottage (R35) ■ West Moor House (R36) ■ West Moorhouse (R37) ■ Joiners Cottage (R58) ■ The Bungalow (R59) ■ Bridge House (R60) ■ Tindale Hill (R68) ■ Earsdon Moor farm (R70) ■ Stafford House (R93) ■ Capri Lodge (R96) ■ Warreners Barns (R97) ■ Northgate Farm (R98) ■ Warreners Cottages (R100) ■ Warreners House (R101) ■ Warreners House (R102) 	<ul style="list-style-type: none"> ■ West View (R109) ■ Middle Rigg (R110) <p>The following residents have the potential to experience a combined effect no worse than moderate adverse (significant) from change to views, human health and disruption to access:</p> <ul style="list-style-type: none"> ■ Longfield Cottage (R9) ■ Thirston New House (R34) ■ Causey Park Lodge (North) (R48) ■ Causey Hag (R50) ■ New Build Off Causey park (R56) ■ Four Gables (R57) ■ The Oak Inn (R61) ■ New Houses Farm (R65) ■ Portland House (R71) ■ Welbeck House (R72) ■ The Old School (R73) ■ Stonebrook Cottage (R78) ■ East Fenrother (R79) ■ High Highlaws Cottage (R94) ■ High Highlaws (R95) <p>The following residents have the potential to experience a combined effect no worse than large adverse (significant) from change to views, human health and disruption to access:</p> <ul style="list-style-type: none"> ■ The Cottage (R35) ■ West Moor House (R36) ■ West Moorhouse (R37) ■ Joiners Cottage (R58) ■ The Bungalow (R59) ■ Bridge House (R60) ■ Tindale Hill (R68) ■ Earsdon Moor farm (R70) ■ Stafford House (R93) ■ Capri Lodge (R96) ■ Warreners Barns (R97) ■ Northgate Farm (R98) ■ North Gate House (R99) (from loss of private property only) ■ Warreners Cottages (R100) 	

Common receptor group	Relevant technical topic	Potential impact	Significance of residual effects	Potential combined effects	Overall combined effect on common receptor group
	Population and Human Health	Effects on disruption to access, socio-economic benefits, human health and private property	<p>During construction there would be works within the vicinity of residential properties which would experience temporary, short-term slight adverse (not significant) residual effects for human health. Of these residents, the properties with the potential for combined effects are as follows:</p> <ul style="list-style-type: none"> ■ Longfield Cottage (R9) ■ Ardyne (R17) ■ Bothy Lodge (R18) ■ The Old Sawmill (R19) ■ Felton Park (R20) ■ St Mary's House (R21) ■ B6345 The Nook (R24) ■ B6345 Riverside House (R25) ■ B6345 The Boarding House (R26) ■ Hemelspeth (R27) ■ Shothaugh Farm (R30) ■ Tithemans Cottage (R32) ■ Thirston New House (R34) ■ The Cottage (R35) ■ West Moor House (R36) ■ West Moorhouse (R37) ■ Bockenfield (R42) ■ Bockenfield Manor (R43) ■ Helm (R47) ■ Causey Park Lodge (North) (R48) ■ Causey Park Lodge (South) (R49) ■ Causey Hag (R50) ■ Causey Park (R51) ■ New Build Off Causey park (R56) ■ Four Gables (R57) ■ Joiners Cottage (R58) ■ The Bungalow (R59) ■ Bridge House (R60) ■ The Oak Inn (R61) ■ Thornbank (R64) ■ New Houses Farm (R65) ■ Earsdon Mill (R66) ■ Tindale Hill (R68) ■ Earsdon Moor House (R69) ■ Earsdon Moor farm (R70) ■ Portland House (R71) ■ Welbeck House (R72) 	<ul style="list-style-type: none"> ■ Warreners House (R101) ■ Warreners House (R102) 	

Common receptor group	Relevant technical topic	Potential impact	Significance of residual effects	Potential combined effects	Overall combined effect on common receptor group
			<ul style="list-style-type: none"> ■ The Old School (R73) ■ South View (R74) ■ Shield Green (R76) ■ Stonebrook Cottage (R78) ■ East Fenrother (R79) ■ Middle Fenrother (R80) ■ Fenrother (R81) ■ Gamekeepers Cottage (R84) ■ Hebron Hill (The Cottage) (R87) ■ High Highlaws Cottage (R94) ■ High Highlaws (R95) ■ Stafford House (R93) ■ Capri Lodge (R96) ■ Warreners Barns (R97) ■ Northgate Farm (R98) ■ Warreners Cottages (R100) ■ Warreners House (R101) ■ Warreners House (R102) ■ West View (R107) ■ West View (R108) ■ West View (R109) ■ Middle Rigg (R110) <p>Residents at the following properties would experience temporary, direct short-term slight adverse (not significant) residual effects from temporary disruption to access:</p> <ul style="list-style-type: none"> ■ Tithemans Cottage (R32) ■ Thirston New House (R34) ■ The Cottage (R35) ■ West Moor House (R36) ■ West Moorhouse (R37) ■ Blackwood Hall(R40) ■ Causey Park Lodge (North) (R48) ■ Causey Hag (R50) ■ Causey Park (R51) ■ New Build Off Causey park (R56) ■ Four Gables (R57) ■ Joiners Cottage (R58) ■ The Bungalow (R59) ■ Bridge House (R60) ■ High Trees (R62) 		

Common receptor group	Relevant technical topic	Potential impact	Significance of residual effects	Potential combined effects	Overall combined effect on common receptor group
			<ul style="list-style-type: none"> ■ Field View (R63) ■ Thornbank (R64) ■ New Houses Farm (R65) ■ Earsdon Mill (R66) ■ Tindale Hill (R68) ■ Earsdon Moor Farm (R70) ■ Stafford House (R93) ■ High Highlaws Cottage (R94) ■ High Highlaws (R95) ■ Capri Lodge (R96) ■ Warreners Barns (R97) ■ Northgate Farm (R98) ■ Warreners Cottages (R100) ■ Warreners House (R101) ■ Warreners House (R102) ■ West View (R107) ■ West View (R108) ■ West View (R109) ■ Middle Rigg (R110) <p>Residents at the following properties would experience temporary, direct short-term large adverse (significant) residual effects from the loss of private property:</p> <ul style="list-style-type: none"> ■ North Gate House (R99) 		
<p>Areas of Amenity surrounding Part A</p> <p>Refer to Figure 7.2: Landscape Character Area Part A [APP-089] And Appendix 7.1: Landscape Effects Schedule Part A [APP-216] for receptor locations</p>	<p>Air Quality</p> <p>Noise and Vibration</p> <p>Landscape and Visual</p>	<p>Changes to air quality within 200 m of construction activities</p> <p>Increased noise and vibration levels within 300 m of construction activities</p> <p>Changes to the perception of landscape character</p>	<p>There would be no residual effects after mitigation</p> <p>There would be no residual effects after mitigation</p> <p>The following landscape character areas would experience temporary, direct short-term slight adverse (not significant) residual effects from changes to the perception of landscape character:</p> <ul style="list-style-type: none"> ■ Broad Lowland Valley – Northgate (35b) 	<p>There are no residual effects on areas of amenity from air quality and noise and vibration after the implementation of mitigation measures as outlined within Chapter 5: Air Quality Part A [APP-040] and Chapter 6: Noise and Vibration Part A [APP-042].</p> <p>Some areas of amenity have the potential to experience combined effects from changes to perceived journey amenity, human health, changes to landscape character and temporary removal of a heritage asset. This is dependent on the location and nature of the construction works and areas of amenity.</p> <p>As such, there is the potential for areas of amenity to experience a direct, temporary, short-term combined</p>	<p>Overall, the combined effect for Part A would be no worse than moderate adverse (significant) significance.</p>

Common receptor group	Relevant technical topic	Potential impact	Significance of residual effects	Potential combined effects	Overall combined effect on common receptor group
			<ul style="list-style-type: none"> ■ Lowland Farm Ridges – Wingates Ridge (37a) ■ Lowland Rolling Farmland – Longframlington (38a) ■ Lowland Rolling Farmland – Hub of Recreational Activity (38b) ■ Coalfield Farmland – Coastal Coalfields (39a) <p>Users at the following areas of amenity would experience temporary, direct short-term moderate adverse (significant) residual effects from changes to the perception of landscape character:</p> <ul style="list-style-type: none"> ■ Broad Lowland Valley – Coquet Valley (35a) (localised Large Adverse (significant) effects around the construction of the River Coquet Bridge). ■ Lowland Rolling farmland – Longhorsley (38b) ■ Coquet Valley (Alnwick Landscape Character SPD) (17) (localised Large Adverse (significant) effects around the construction of the River Coquet Bridge). 	effect no worse than moderate adverse (significant) from changes to journey amenity, human health, changes to landscape character and temporary removal of a heritage asset.	
	Cultural Heritage	Temporary removal of a heritage asset (Grade II listed milestone) from existing location to new surroundings	The removal of the Grade II Listed Building Milepost (NHL 1153544) would result in a direct, short-term slight adverse (not significant) residual effect. This feature is located within the Lowland Rolling Farmland – Longhorsley (38b) landscape character area.		
	Geology and Soils	Impacts on water quality	There would be a temporary, short-term slight adverse (not significant) residual effects from pollution to controlled water bodies (River Coquet and Secondary A Aquifer) during construction.		
	Population and Human Health	Effects on journey amenity and human health	<p>There would be a temporary, short-term slight adverse (not significant) residual effect on human health receptors including recreational facilities and users of PRow during construction.</p> <p>There would be a temporary, short-term slight adverse (not significant) residual effect on journey amenity from visual intrusion during construction.</p>		
Road Users Refer to Appendix 7.2:	Landscape and Visual	Effects on views	Road users at the following viewpoints would experience temporary, direct short-term slight adverse (not significant) residual effects: <ul style="list-style-type: none"> ■ Users of the A1: Section 1 (VP-21, VP-19, VP-9) 	There are no residual effects on road users from driver stress after the implementation of mitigation measures as outlined within Chapter 12: Population and Human Health Part A [APP-054] .	Overall, the combined effect for Part A would be no worse than

Common receptor group	Relevant technical topic	Potential impact	Significance of residual effects	Potential combined effects	Overall combined effect on common receptor group
Viewpoints Visual Effects Schedule Part A [APP-216] and Figure 12.1: Road Sections Assessed for Driver Stress [APP-120] for representative receptor locations.			<ul style="list-style-type: none"> ■ View looking west from the Widdrington Road at the Bungalow (VP-13) ■ View looking east from Fenrother Lane (west) at Fenrother (VP-35) <p>Road users at the following representative viewpoints would experience temporary, direct short-term moderate adverse (significant) residual effects:</p> <ul style="list-style-type: none"> ■ View looking west from Hebron Road within the vicinity of the Church of St Cuthbert (VP-4) ■ View looking east from PRoW 422/011 adjacent to Burgham Park Golf and Leisure Club (VP-28) ■ View looking east from Causey Park hag / Causey Park Road (VP-31) <p>Road users at the following viewpoints would experience temporary, direct short-term large adverse (significant) residual effects:</p> <ul style="list-style-type: none"> ■ View looking north-east from Howdens Glebe cottages, off West Moor Road (VP-27) 	Users of the A1 and adjoining roads at VP-27 have the potential to experience a combined effect from landscape and visual and population and human health effects no worse than moderate to large adverse (significant) significance.	moderate to large adverse (significant) significance for road users during construction.
	Population and Human Health	Effects on road users from increased driver stress and changes to views for vehicle travellers	Road users would experience no residual effects after mitigation for driver stress.		
			There would be no residual effects on road users from changes to views for vehicle travellers with the exception of users of the A1 who would experience temporary, short-term moderate adverse (not significant) residual effects during construction.		
Users of PRoW (WCH) Refer to Figure 2.1: Environmental Constraints Plan Part A [APP-066] for receptor locations.	Air Quality	Changes to air quality within 200 m of construction activities	WCH using PRoW within 200m of Part A would experience no residual effects after mitigation	There are no residual effects on users of PRoW from air quality and noise and vibration after the implementation of mitigation measures as outlined within Chapter 5: Air Quality Part A [APP-040] and Chapter 6: Noise and Vibration Part A [APP-042] . Some users of PRoW have the potential for combined effects from Population and Human Health effects, including changes to community severance, human health and journey amenity, and Landscape and	Overall, the combined effect for Part A would be no worse than moderate to large adverse (significant) significance
	Noise and Vibration	Increased noise and vibration levels within 300 m of construction activities	WCH using PRoW within 300m of Part A would experience no residual effects after mitigation		

Common receptor group	Relevant technical topic	Potential impact	Significance of residual effects	Potential combined effects	Overall combined effect on common receptor group
	Landscape and Visual	Effects on views	<p>WCH at the following PRow would experience temporary, direct short-term slight adverse (significant) residual effects:</p> <ul style="list-style-type: none"> ■ 407/013: Footpath ■ 407/012: Footpath ■ 407/004: Footpath ■ 407/001: Footpath ■ 407/002: Footpath ■ 423/008: Footpath ■ 422/018: Byway ■ 422/011: Footpath ■ 422/003: Footpath ■ 115/008: Footpath ■ 115/013: Footpath ■ 422/002: Footpath ■ 422/001: Footpath ■ 422/009: Footpath <p>WCH at the following PRow would experience temporary, direct short-term moderate adverse (significant) residual effects:</p> <ul style="list-style-type: none"> ■ 407/010: Bridleway <p>WCH at the following PRow would experience temporary, direct short-term large adverse (significant) residual effects:</p> <ul style="list-style-type: none"> ■ 407/018: Footpath ■ 423/001: Footpath ■ 423/002: Footpath ■ 423/006: Footpath ■ 423/013: Footpath ■ 423/011: Footpath ■ 422/020: Footpath ■ 115/009: St Oswald's Way: Long Distance Trail ■ 115/016: Footpath 	<p>Visual from changes to views. WCH at the following PRow have the potential to experience a combined effect no worse than slight adverse (not significant) from effects to community severance, journey amenity, human health and changes to views:</p> <ul style="list-style-type: none"> ■ 407/012: Bridleway ■ 407/004: Footpath ■ 407/001: Footpath ■ 407/002: Footpath ■ 423/008: Footpath ■ 422/018: Byway ■ 422/003: Footpath ■ 422/001: Footpath ■ 422/009: Footpath <p>Users at the following PRow have the potential to experience a combined effect no worse than moderate adverse (significant) from effects to community severance, journey amenity, human health and changes to views:</p> <ul style="list-style-type: none"> ■ 407/013: Footpath ■ 407/010: Bridleway ■ 422/011: Footpath ■ 115/008: Footpath ■ 115/013: Footpath ■ 422/002: Footpath <p>Users at the following PRow have the potential to experience a combined effect no worse than large adverse (significant) from effects to community severance, journey amenity, human health and changes to views:</p> <ul style="list-style-type: none"> ■ 407/018: Footpath ■ 423/001: Footpath ■ 423/002: Footpath ■ 423/006: Footpath ■ 423/013: Footpath ■ 423/011: Footpath ■ 422/020: Footpath ■ 115/009: St Oswald's Way: Long Distance Trail ■ 115/016: Footpath 	during construction.
	Population and Human Health	Effects on community severance from temporary and permanent closures	<p>WCH at the following PRow would experience temporary, direct short-term slight adverse (significant) residual effects for community severance:</p> <ul style="list-style-type: none"> ■ 407/001: Footpath ■ 407/002: Footpath 		

Common receptor group	Relevant technical topic	Potential impact	Significance of residual effects	Potential combined effects	Overall combined effect on common receptor group
		and/or diversions, access, journey amenity and human health	<ul style="list-style-type: none"> ■ 407/019: Bridleway <p>WCH at the following PRow would experience temporary, direct short-term moderate adverse (significant) residual effects for community severance:</p> <ul style="list-style-type: none"> ■ 407/013: Footpath ■ 407/010: Footpath ■ 407/018: Footpath ■ 423/006: Footpath ■ 423/013: Footpath ■ 422/011: Footpath ■ 422/020: Footpath ■ 115/008: Footpath ■ 115/016: Footpath ■ 115/013: Footpath ■ 422/002: Footpath ■ 423/007: Footpath ■ 115/009: St Oswald's Way: Long Distance Trail <p>Users of the following PRow would experience temporary, direct short-term slight adverse (significant) residual effects for journey amenity and human health:</p> <ul style="list-style-type: none"> ■ 407/013: Footpath ■ 407/012: Footpath ■ 407/004: Footpath ■ 407/001: Footpath ■ 407/002: Footpath ■ 423/008: Footpath ■ 422/018: Byway ■ 422/011: Footpath ■ 422/003: Footpath ■ 115/008: Footpath ■ 115/013: Footpath ■ 422/002: Footpath ■ 422/001: Footpath ■ 422/009: Footpath ■ 407/010: Bridleway 		

Common receptor group	Relevant technical topic	Potential impact	Significance of residual effects	Potential combined effects	Overall combined effect on common receptor group
			<ul style="list-style-type: none"> ■ 407/018: Footpath ■ 423/001: Footpath ■ 423/002: Footpath ■ 423/006: Footpath ■ 423/013: Footpath ■ 423/011: Footpath ■ 422/020: Footpath ■ 115/009: St Oswald's Way: Long Distance Trail ■ 115/016: Footpath ■ 423/007: Footpath ■ 407/019: Bridleway 		
Statutory and Non-Statutory designated ecological sites/ local biodiversity Refer to Figure 9.1: Final Phase 1 Plan Part A [APP-105], Figure 3: Statutory Designated Sites Part A [APP-108] and Figure 9.4: Non-Statutory Designated Sites Part A [APP-109] for receptor locations	Air Quality	Changes to air quality within 200 m of construction activities	Ecological receptors within 200m of Part A would experience no residual effects after mitigation (see Table 2-2 below in relation to effects of air quality on biodiversity).	There are no residual effects on users of statutory and non-statutory designated ecological sites from air quality and noise and vibration after the implementation of mitigation measures as outlined within Chapter 5: Air Quality Part A [APP-040] and Chapter 6: Noise and Vibration Part A [APP-042] . The following ecological receptors have the potential to experience a combined effect no worse than slight adverse (not significant) from direct loss of habitats and/or pollution and degradation and impacts to ecological quality of habitat: <ul style="list-style-type: none"> ■ Watercourses ■ Aquatic Invertebrates ■ Fish The creation of habitats including woodland and semi-improved grassland would have a moderate beneficial (significant) effect as part of Part A with the potential to contribute to a combined effect. The combined effect on the Coquet River Felton Park LWS and the River Coquet and Coquet Valley Woodlands SSSI (which encompasses Duke's Bank Ancient Woodland) could potentially be of moderate adverse and very large adverse significance respectively due to the loss of irreplaceable ancient woodland and loss of riverbank habitat and changes to geomorphology of the River Coquet. However, with the implementation of compensation measures (refer	Overall, the combined for Part A effect would be no worse than minor adverse to moderate beneficial significance during construction.
	Noise and Vibration	Increased noise and vibration levels within 300 m of construction activities	Ecological receptors within 300m of Part B would experience no residual effects after mitigation		
	Road and Drainage and Water	Impacts to the ecological quality of watercourses (e.g. through sedimentation)	There would be no residual effects on ecological receptors from change to the ecological quality of waterways with the exception of nearby watercourses which would experience temporary, short-term neutral to slight adverse (not significant) residual effects during construction.		
	Biodiversity	Direct loss of habitats and/or pollution, habitat degradation and changes to geomorphology (refer to REP4-064).	The following ecological receptors experience slight adverse (not significant) residual effects after mitigation: <ul style="list-style-type: none"> ■ Arable Field Margins ■ Hedgerow ■ Watercourses ■ Fish ■ Aquatic Invertebrates The following ecological receptors experience moderate adverse (significant) residual effects after mitigation from loss of broadleaved woodland:		

Common receptor group	Relevant technical topic	Potential impact	Significance of residual effects	Potential combined effects	Overall combined effect on common receptor group
			<ul style="list-style-type: none"> ■ Coquet River Felton Park LWS <p>The following ecological receptors experience very large adverse (significant) residual effects after mitigation from the loss of ancient woodland:</p> <ul style="list-style-type: none"> ■ River Coquet and Coquet Valley Woodlands SSSI ■ Duke Bank Wood ancient woodland <p>The River Coquet and Coquet Valley SSSI would also experience a direct, permanent moderate adverse (significant) effect from the permanent loss of riverbank habitat and a direct, temporary slight adverse (not significant) residual effect from habitat damage and degradation as a result of the proposed southern access works [REP4-064] and stabilisation works [REP4-063].</p> <p>There would be a moderate beneficial (significant) effect on the creation of broadleaved woodland – seminatural and neutral grassland – semi-improved as part of Part A.</p>	<p>to Chapter 9: Biodiversity Part A [048] and the Ancient Woodland Strategy Part A [APP-249] and revised Ancient Woodland Strategy Part A For Change Request [REP4-054] the combined effect is not anticipated to be greater than the individual effect.</p>	
<p>Commercial Properties</p> <p>Refer to Figure 12.2: Commercial Properties and Community Receptors Part A [APP-122] for receptor locations</p>	<p>Air Quality</p> <p>Noise and Vibration</p> <p>Landscape and Visual</p>	<p>Changes to air quality within 200 m of construction activities</p> <p>Increased noise and vibration levels within 300 m of construction activities</p> <p>Effects on views</p>	<p>Commercial properties within 200m of Part A would experience no residual effects after mitigation (not significant)</p> <p>Commercial properties within 300m of Part A would experience no residual effects after mitigation (not significant)</p> <p>The following commercial properties experience slight adverse (not significant) residual effects:</p> <ul style="list-style-type: none"> ■ Eshott Airfield (C17) ■ Burgham Park Golf Course (C05) ■ Bockenfield Holiday park / Felmoor Park (C14 and C15) ■ The shooting ground at Bywell (C07) ■ Heighley Gate garden Centre (C01) <p>The following commercial properties experience moderate adverse residual effects:</p>	<p>There are no residual effects on commercial properties from air quality and noise and vibration after the implementation of mitigation measures as outlined within Chapter 5: Air Quality Part A [APP-040] and Chapter 6: Noise and Vibration Part A [APP-042].</p> <p>The following commercial properties have the potential to experience a combined effect no worse than moderate adverse (significant) from change to views, human health and access:</p> <ul style="list-style-type: none"> ■ Oak Inn (Public House) (C02) ■ Jackson G K and Sons Garage (C13) <p>The following commercial properties have the potential to experience a combined effect no worse than slight adverse (not significant) from change to views, human health and private assets (access):</p> <ul style="list-style-type: none"> ■ Eshott Airfield (C17) ■ Burgham Park Golf Course (C05) 	<p>Overall, the combined effect for Part A would be no worse than minor to moderate adverse significance (not significant) during construction.</p>

Common receptor group	Relevant technical topic	Potential impact	Significance of residual effects	Potential combined effects	Overall combined effect on common receptor group
	Population and Human Health	Effects on access, private property and human health	<ul style="list-style-type: none"> ■ Oak Inn (Public House) (C02) ■ Jackson G K and Sons Garage (C13) <p>The following commercial properties experience slight adverse (not significant) residual effects after mitigation for both human health and access:</p> <ul style="list-style-type: none"> ■ Eshott Airfield (C17) ■ Burgham Park Golf Course (C05) ■ Bockenfield Holiday park / Felmoor Park (C14 and C15) ■ The shooting ground at Bywell (C07) ■ Oak Inn (Public House) (C02) ■ Jackson G K and Sons Garage (C13) ■ Heighley Gate garden Centre (C01) ■ G Youll & Son Fencing (C04) ■ Causey Park Bridge Café (C03) ■ Coquet Cottages (C06) ■ Northumberland Canine Centre (C08) ■ Jet petrol Station (C10) ■ Londis Supermarket (C11) ■ The Quit Shop (C12) ■ Northumberland Woodland Burials (C18) ■ Thurston garage (C19) ■ Command Zone Paintball (C20) ■ Alnorthumbria Veterinary Practice (C09) 	<ul style="list-style-type: none"> ■ Bockenfield Holiday Park / Felmoor Park (C14 and C15) ■ The Shooting Ground at Bywell (C07) ■ Heighley Gate Garden Centre (C01) 	
<p>Agricultural Land and associated rural enterprises</p> <p>Refer to Appendix 12.1: Agricultural Assessment Part A (CONFIDENTIAL) [APP-266] for receptor locations</p>	Geology and Soils	Temporary and permanent loss of quality agricultural land	<p>The following agricultural land holdings experience minor adverse (not significant) residual effects after mitigation:</p> <ul style="list-style-type: none"> ■ Bywell Farm ■ Hebron West Farm ■ Highlaws ■ Hebron Hill ■ East Fenrother Farm ■ West Moor ■ Other 8 (A) ■ Other (B) ■ Other (D) ■ Other (E) ■ Other (G) ■ Other (H) 	<p>The following agricultural land holdings have the potential to experience a combined effect no worse than minor adverse (not significant) from temporary and permanent loss of agricultural land and private assets and land use(access):</p> <ul style="list-style-type: none"> ■ Bywell Farm ■ Hebron West Farm ■ Highlaws ■ Hebron Hill ■ East Fenrother Farm ■ West Moor ■ Other 8 (A) ■ Other (B) ■ Other (D) 	<p>Overall, the combined effect for Part A would be no worse slight to moderate adverse (significant) significance during construction</p>

Common receptor group	Relevant technical topic	Potential impact	Significance of residual effects	Potential combined effects	Overall combined effect on common receptor group
			The following agricultural land holdings experience moderate adverse (significant) residual effects after mitigation: <ul style="list-style-type: none"> ■ Clarehugh ■ Hemelspeth Farm ■ Causey Park ■ Other (C) 	<ul style="list-style-type: none"> ■ Other (E) ■ Other (G) ■ Other (H) The following agricultural land holdings have the potential to experience a combined effect no worse than moderate adverse (significant) from temporary and permanent loss of agricultural land and private assets and land use(access):	
	Population and Human Health	Temporary and permanent effects on agricultural land holdings from land take and disruption to access	The following agricultural land holdings experience minor adverse (not significant) residual effects after mitigation for private assets and land use: <ul style="list-style-type: none"> ■ Bywell Farm ■ Hebron West Farm ■ Highlaws ■ Hebron Hill ■ East Fenrother Farm ■ West Moor ■ Other 8 (A) ■ Other (B) ■ Other (D) ■ Other (E) ■ Other (F) ■ Other (G) ■ Other (H) 	<ul style="list-style-type: none"> ■ Clarehugh ■ Hemelspeth Farm ■ Causey Park ■ Other (C) 	
			The following agricultural land holdings experience moderate adverse (significant) residual effects after mitigation for private assets and land use: <ul style="list-style-type: none"> ■ Clarehugh ■ Hemelspeth Farm ■ Causey Park ■ Other (C) 		
Community Facilities Refer to figure 12.2: Commercial Properties and Community Receptors Part A	Air Quality	Changes to air quality within 200 m of construction activities	Community Facilities within 200m of Part A would experience no residual effects after mitigation	There are no residual effects on commercial properties from air quality and noise and vibration after the implementation of mitigation measures as outlined within Chapter 5: Air Quality Part A [APP-040] and Chapter 6: Noise and Vibration Part A [APP-042] .	Overall, the combined effect for Part A would be of no worse than minor adverse significance (not
Noise and Vibration	Increased noise and vibration levels within 300 m of	Community Facilities within 300m of Part A would experience no residual effects after mitigation			

Common receptor group	Relevant technical topic	Potential impact	Significance of residual effects	Potential combined effects	Overall combined effect on common receptor group
[APP-121] for receptor locations		construction activities		<p>There are no residual effects from change in views on community facilities apart from Tritlington School / Tritlington Church of England School. As such, Tritlington School / Tritlington Church of England School has the potential to experience combined effects from change to views, changes to private assets (access) and human health effects of no worse than moderate adverse significance during construction.</p> <p>The following community facilities have the potential to experience a combined effect no worse than slight adverse (not significant) from changes to private assets (access) and human health:</p> <ul style="list-style-type: none"> ■ Fairmoor Cemetery (A) ■ Northgate Hospital (B) 	<p>significant) with the potential for a combined effect of no worse than moderate adverse (significant) on Tritlington Church of England Aided First School during construction.</p>
	Landscape and Visual	Effects on views	<p>There would be no residual effects on community facilities from effects on views with the exception of Tritlington School / Tritlington Church of England School (C) which would experience temporary, short-term moderate adverse (significant) residual effects during construction.</p>		
	Population and Human Health	Effects on community severance, access, private property and human health	<p>Users of the following community facilities experience slight adverse (not significant) residual effects after mitigation for private assets and land use:</p> <ul style="list-style-type: none"> ■ Tritlington Church of England Aided First School (C) ■ Fairmoor Cemetery (A) ■ Northgate Hospital (B) <p>Users of the following community facilities experience slight adverse (not significant) residual effects after mitigation for human health:</p> <ul style="list-style-type: none"> ■ Tritlington Church of England Aided First School (C) ■ Fairmoor Cemetery (A) ■ Northgate Hospital (B) ■ H of St Michael and All Angels (D) ■ Felton Surgery URC Church (E) ■ Felton Church of England Primary School (F) ■ Felton Post Office (G) ■ Felton Recreational Field (H) 		

Table 2-2 – Screening of Receptors Groups for Cross Topic Combined Effect during Operation (Part A)

Common receptor group	Relevant technical topic	Potential impact	Significance of residual effects	Potential combined effects	Overall combined effect on common receptor group
<p>Residents</p> <p>Refer to Figure 7.6: Visual Effects Drawing Residential Properties Part A [APP-093] and Figure 5.2: Human and Ecological Receptors Assessed Part A [APP-076] for receptor locations</p>	Air Quality	Exposure to increased or reduced pollution (NO ₂ and PM ₁₀) from changes to traffic flow, mix and speed	<p>No residual effects on residents are reported in the reassessment [REP3-012] as total concentrations of pollutants remains well below the air quality objective therefore no significant residual effects are likely. Air quality modelling has shown that the following receptors with the potential for combined effects may be exposed to some increase in annual mean concentrations of NO₂ and PM₁₀ (not significant) as a result of Part A:</p> <ul style="list-style-type: none"> ■ Lane Head Farm North of Felton (R006) ■ West Moor House, West Moor Junction (R007) ■ Northgate Farm, adjacent to the A1 (R009) ■ Fairmoor adjacent to the A1 near Morpeth (R012) ■ Causey Park (R020) ■ Causey Park Hag (R021) ■ Newgate Street (A192) Morpeth (R025) 	<p>There are no residual effects on residents from air quality after the implementation of mitigation measures as outlined within the reassessment [REP3-012].</p> <p>Some residents have the potential for combined effects from Noise and Vibration, Landscape and Visual and Population and Human Health effects.</p> <p>Residents at the following properties have the potential to experience a combined effect no worse than slight beneficial to slight adverse (not significant) from changes to views and changes to access:</p> <ul style="list-style-type: none"> ■ Hebron Hill (R87) 	Overall, the combined effects for Part A would be no worse than major beneficial and major adverse (significant) significance during operation.
			<p>No residual effects on residents are reported in the reassessment [REP3-012] as total concentrations of pollutants remains well below the air quality objective therefore no significant residual effects are likely. Air quality modelling has shown that the following receptors with the potential for combined effects may be exposed to some reduction in annual mean concentrations of NO₂ and PM₁₀ (not significant) as a result of Part A:</p> <ul style="list-style-type: none"> ■ Brokenfield Holiday Park adjacent to Part A (R008) ■ School House (R013) ■ Longhorsley (R017) ■ Main Street Felton (R018) ■ Tindale Hill (R019) ■ Oak Inn, Causey Park Bridge (R022) ■ Longframlington on A697 (R023) 	<p>Residents at the following properties have the potential to experience a combined effect no worse than slight beneficial to slight adverse (not significant) from changes to views and reduction in noise levels:</p> <ul style="list-style-type: none"> ■ Longfield Cottage (R9) ■ Bockenfield Manor (R43) ■ Shield Green (R76) ■ Capri Lodge (R96) (including change to access) ■ Warreners Barns (R97) (including change to access) ■ Northgate Farm (R98) (no adverse effects from noise levels anticipated should PNB1 be constructed) (including change to access) ■ Warreners House (R101) (including change to access) ■ Warreners House 2 (R102) (including change to access) 	
	Noise and Vibration	Both an experienced increase and reduction in noise across Part A	<p>Residents at Four Gables (R57) would experience a permanent, direct, long-term major decrease (significant) in noise levels with the construction of PNB2.</p> <p>Residents at the following properties would experience permanent, direct and long-term major and moderate decrease (significant) residual effects:</p>	<p>Residents at the following properties have the potential to experience a combined effect no worse than slight adverse (not significant) from changes to views and noise levels:</p>	

Common receptor group	Relevant technical topic	Potential impact	Significance of residual effects	Potential combined effects	Overall combined effect on common receptor group
			<ul style="list-style-type: none"> ■ The Cottage (R35) ■ Home Cottage (R46) ■ Helm (R47) ■ Causey Park Lodge (R48) ■ Causey Park Lodge South (R49) ■ New Build off Causey Park (R56 – also referred to as Oakwood Holiday Cottages) ■ The Oak Inn (R61) ■ High Trees (R62) ■ Field View (R63) ■ Thornbank (R64) ■ Earsdon Mill (R66) ■ Earsdon Cottage (R67) ■ Earsdon Moor House (R69) ■ Earsdon Moor Farm (R70) ■ Portland House (R71) ■ Welbeck House (R72) ■ The Old School (R73) ■ Warreners Cottages (R100) ■ South View (R74) ■ Priest Bridge House (R82) ■ Woodlands (R83) <p>Residents at the following properties would experience permanent, direct and long-term minor to negligible decrease (not significant) residual effects:</p> <ul style="list-style-type: none"> ■ Cowlsip Hill (R8) ■ Longfield Cottage (R9) ■ West Moor House (R36) ■ West Moorhouse (R37) ■ West Moor Plantation Cottage (R38) ■ The Paddock (R41) ■ Bockenfield (R42) ■ Bockenfield Manor (R43) ■ The Arches (R44) ■ Burgham (R45) ■ Shield Green (R75) ■ Shield Green (R76) ■ Strafford House (R93) 	<ul style="list-style-type: none"> ■ Gamekeepers Cottage (R84) <p>Residents at the following properties have the potential to experience a combined effect no worse than slight beneficial to moderate adverse (significant) from changes to views, changes to access and noise levels:</p> <ul style="list-style-type: none"> ■ Strafford House (R93) <p>Residents at the following properties have the potential to experience a combined effect no worse than moderate adverse (significant) from changes to views and increase in noise levels:</p> <ul style="list-style-type: none"> ■ Fenrother Grange (R78) ■ The Old Barn (R78) ■ Stonebrook Cottage (R78) ■ East Fenrother Farm (R79) ■ The Cottage (R79) ■ 3 The Cottage (R79)R68 Tindale Hill (excluding change to access) <p>Residents at the following properties have the potential to experience a combined effect no worse than moderate adverse (significant) to major adverse (significant) from changes to views and increase in noise levels:</p> <ul style="list-style-type: none"> ■ Joiners Cottage (R58) ■ The Cottage (R59 – also referred to as The Bungalow) <p>Residents at the following properties have the potential to experience a combined effect no worse than minor beneficial (not significant) to large adverse (significant) from changes to views and noise levels:</p> <ul style="list-style-type: none"> ■ West Moor House (R36) ■ West Moorhouse (R37) <p>Residents at the following properties have the potential to experience a combined effect no worse</p>	

Common receptor group	Relevant technical topic	Potential impact	Significance of residual effects	Potential combined effects	Overall combined effect on common receptor group
			<ul style="list-style-type: none"> ■ Capri Lodge (R96) ■ Warreners Barns (R97) ■ North Gate House (R99) ■ Warreners House (R101) ■ Warreners House 2 (R102) ■ West View (R107) ■ West View (R108) <p>Residents at the following properties would experience permanent, direct and long-term minor increase (not significant) residual effects:</p> <ul style="list-style-type: none"> ■ Swarland Dene (R2) ■ West Moor Plantation (R39) ■ Gamekeepers Cottage (R84) ■ West Farm Cottage (R89) ■ Hebron West Farm (R90) ■ Keepers Cottage (R91) ■ The Blacksmiths Cottage (R92) <p>Residents at Northgate Farm (R98) would experience a permanent, direct, long-term minor increase (significant) in noise levels should PNB1 not be able to be constructed. If PNB1 can be constructed, Northgate Farm is predicted not to experience a significant adverse operational noise effect.</p> <p>Residents at the following properties would experience permanent, direct and long-term moderate increase (significant) residual effects from increase in noise during operation:</p> <ul style="list-style-type: none"> ■ Tindale Hill (R68) ■ Fenrother Grange (R78) ■ The Old Barn (R78) ■ Stonebrook Cottage (R78) ■ East Fenrother Farm (R79) ■ The Cottage (R79) ■ 3 The Cottage (R79) <p>Residents at the following properties would experience permanent, direct and long-term major or moderate increase (significant) in noise levels during operation:</p>	<p>than slight beneficial to major adverse (significant) from changes to views, changes access and noise levels:</p> <ul style="list-style-type: none"> ■ New Houses Farm (R65) <p>Residents at the following properties have the potential to experience a combined effect no worse than slight adverse (not significant) to major or moderate beneficial (significant) from changes to views and reduction in noise levels:</p> <ul style="list-style-type: none"> ■ The Old School (R73) ■ South View (R74) ■ The Oak Inn (R61) ■ Causey Park Lodge (R48) ■ New Build off Causey Park (R56 – also referred to as Oakwood Holiday Cottages) ■ Helm (R47) ■ Warreners Cottages (R100) (including change to access) <p>Residents at the following properties have the potential to experience a combined effect no worse than major adverse (significant) from changes to views and noise levels:</p> <ul style="list-style-type: none"> ■ Joiners Cottage (R58) ■ The Cottage (also referred to as the Bungalow) (R59) <p>Residents at the following properties have the potential to experience a combined effect no worse than moderate adverse (significant) to major or moderate beneficial (significant) from changes to views and reduction in noise levels:</p> <ul style="list-style-type: none"> ■ Earsdon Moor Farm (R70) ■ Portland House (R71) ■ Welbeck House (R72) ■ Four Gables (R57) (subject to PNB2) <p>Residents at the following properties have the potential to experience a combined effect no worse than slight beneficial (not significant) to major or</p>	

Common receptor group	Relevant technical topic	Potential impact	Significance of residual effects	Potential combined effects	Overall combined effect on common receptor group
			<ul style="list-style-type: none"> ■ Joiners Cottage (R58) ■ The Cottage (R59 – also referred to as The Bungalow) 	<p>moderate beneficial (significant) from changes to views and reduction in noise levels:</p> <ul style="list-style-type: none"> ■ Thornbank (R64) ■ Earsdon Mill (R66) 	
	Landscape and Visual	Change to views	<p>Residents at New Houses Farm (R65) would experience permanent, direct and long-term major increase (significant) in noise levels during operation.</p> <p>Residents at the following properties would experience permanent, direct long-term slight adverse (not significant) residual effects in Year 1 reducing to Neutral in Year 15:</p> <ul style="list-style-type: none"> ■ Ardyne (R17) ■ Bothy Lodge (R18) ■ The Old Sawmill (R19) ■ Felton Park (R20) ■ St Mary's House (R21) ■ B6345 The Nook (R24) ■ B6345 Riverside House (R25) ■ B6345 The Boarding House (R26) ■ Tithemans Cottage (R32) ■ Bockenfield Manor (R43) ■ Helm (R47) ■ Gamekeepers Cottage (R84) 		
			<p>Residents at the following properties would experience permanent, direct long-term slight adverse (not significant) residual effects at Year 1 and Year 15:</p> <ul style="list-style-type: none"> ■ Longfield Cottage (R9) ■ Hemelspeth (R27) ■ Shothaugh Farm (R30) ■ Causey Park (R51) ■ The Oak Inn (R61) ■ New Houses Farm (R65) ■ The Old School (R73) ■ South View (R74) ■ Shield Green (R76) ■ Middle Fenrother (R80) ■ Fenrother properties (R81) ■ Hebron Hill (R87) ■ High Highlaws (R95) 		

Common receptor group	Relevant technical topic	Potential impact	Significance of residual effects	Potential combined effects	Overall combined effect on common receptor group
			<ul style="list-style-type: none"> ■ Capri Lodge (R96) ■ Warreners Barns (R97) ■ Northgate Farm (R98) ■ Warreners Cottages (R100) ■ Warreners House (R101) ■ Warreners House 2 (R102) <p>Residents at the following properties would experience permanent, direct long-term moderate adverse (significant) residual effects in Year 1 reducing to slight adverse (not significant) in Year 15:</p> <ul style="list-style-type: none"> ■ Thirston New House (R34) ■ Causey Park Lodge (R48) ■ Causey Park Hag (R50) ■ New Build off Causey Park (R56) ■ Four Gables (R57) ■ Stonebrook Cottage (R78) ■ East Fenrother (R79) ■ High Highlaws Cottage (R94) <p>Residents at the following properties would experience permanent, direct long-term moderate adverse (significant) residual effects at Year 1 and Year 15:</p> <ul style="list-style-type: none"> ■ Portland House (R71) ■ Welbeck House (R72) ■ Strafford House (R93) <p>Residents at the following properties would experience permanent, direct long-term large adverse (significant) residual effects in Year 1 reducing to moderate adverse in Year 15:</p> <ul style="list-style-type: none"> ■ The Cottage (R35) ■ West Moor House (R36) ■ West Moorhouse (R37) ■ Joiners Cottage (R58) ■ The Bungalow (R59) ■ Bridge House (R60) ■ Tindale Hill (R68) ■ Earsdon Moor farm (R70) 		

Common receptor group	Relevant technical topic	Potential impact	Significance of residual effects	Potential combined effects	Overall combined effect on common receptor group
	Population and Human Health	Effects on access and private property	Residents at the following properties would experience permanent, direct long-term slight beneficial (not significant) residual effects for changes to access: <ul style="list-style-type: none"> ■ New Houses Farm (R65) ■ Hebron Hill (R87) ■ Hebron Hill Farm (R88) ■ Strafford House (R93) ■ Capri Lodge (R96) ■ Warreners Barns (R97) ■ Northgate Farm (R98) ■ Warreners Cottages (R100) ■ Warreners House (R101) ■ Warreners House 2 (R102) 		
Areas of Amenity surrounding Part A Refer to Figure 7.2 Landscape Character Area Part A [APP-089] and Appendix 7.1 Landscape Effects Schedule Part A [APP-216] for receptor locations	Air Quality	Exposure to increased pollution (NO ₂ and PM ₁₀) from changes to traffic flow, mix and speed	There would be no residual effects after mitigation	There are no residual effects on areas of amenity from air quality, noise and vibration, cultural heritage and population and human health after the implementation of mitigation measures as outlined within Chapter 5: Air Quality Part A [APP-040] ; the reassessment [REP3-012] Chapter 6: Noise and Vibration Part A [APP-042] ; noise addendum [REP1-019] and Chapter 12 Population and Human Health Part A [APP-054] . Some users of areas of amenity have the potential for combined effects from Population and Human Health effects, including changes to amenity, access and driver stress; Landscape and Visual Effects, including effects on landscape character and Road Drainage and the Water Environment effects including effects on watercourses. Some residual effects are anticipated to reduce once mitigation planting [as shown on Figure 7.8 Landscape Mitigation Masterplan Part A [REP4-060]] has established.	Overall, the combined effects of Part A would be no worse than minor beneficial and minor adverse significance (not significant) during operation.
	Noise and Vibration	Both an experienced increase and reduction in noise across Part A	There would be no residual effects after mitigation		
	Landscape and Visual	Change to views	The following landscape character areas would experience permanent, direct, long-term slight adverse (not significant) residual effects in Year 1 reducing to Neutral in Year 15: <ul style="list-style-type: none"> ■ Broad Lowland Valley – Northgate (35b) ■ Coalfield Farmland – Coastal Coalfields (39a) The following landscape character areas would experience permanent, direct, long-term slight adverse (not significant) residual effects: <ul style="list-style-type: none"> ■ Broad Lowland Valley – Coquet Valley (35a) ■ Coquet Valley (17) 		

Common receptor group	Relevant technical topic	Potential impact	Significance of residual effects	Potential combined effects	Overall combined effect on common receptor group
			<p>The following landscape character areas would experience permanent, direct, long-term moderate adverse (significant) residual effects in Year 1 reducing to slight adverse in Year 15:</p> <ul style="list-style-type: none"> Lowland Rolling Farmland – Longhorsley (38b) 	<p>As such, there is the potential for areas of amenity to experience a permanent, long-term a combined effect no worse than minor beneficial to minor adverse from changes to amenity, access, driver stress, changes to landscape character and works within watercourses.</p>	
Road and Drainage and Water	Impacts from works within watercourses	<p>There would be no residual effects on areas of amenity from change to the ecological quality of waterways with the exception of works within watercourses which would experience permanent, long-term slight adverse (not significant) residual effects on some watercourses during operation.</p>			
Population and Human Health	Effects on access, amenity value, driver stress	<p>There would be a slight adverse (not significant) residual effect on recreational users of the River Coquet and Felton Park from a change in amenity and access.</p> <p>The would be a slight beneficial (not significant) residual effect from reduced driver stress which may include users of areas of amenity.</p>			
<p>Road Users Refer to Appendix 7.2: Viewpoints Visual Effects Schedule Part A [APP-216] and Figure 12.1: Road Sections Assessed for Driver Stress [APP-120] for representative receptor locations.</p>	Noise and Vibration	Both an experienced increase and reduction in noise across Part A	<p>There would be no residual effects on road users from change to the noise levels with the exception road users some permanent, long-term minor increase (not significant) in noise levels at the Church of St Cuthbert during operation of Part A.</p>	<p>Some road users have the potential for combined effects from Population and Human Health effects, Noise and Vibration and Landscape and Visual. Road users at the following viewpoints have the potential to experience a combined effect no worse than slight beneficial to neutral (not significant) from changes to views and driver stress:</p> <ul style="list-style-type: none"> Users of the A1 (VP-21, VP-19, VP-9) (1) View looking west from Widdrington Road at the Bungalow (VP-13) (7) <p>Road users at the following viewpoints have the potential to experience a combined effect no worse than slight beneficial to slight adverse (not significant) from driver stress, changes to noise levels and changes to views:</p> <ul style="list-style-type: none"> View looking west from Hebron Road within the vicinity of the Church of St Cuthbert (VP-4) (3) 	<p>Overall, the combined effects of Part A would be no worse than minor beneficial (not significant) and moderate adverse (significant) during operation.</p>
Landscape and Visual	Effects on views	<p>Road users travelling along the following roads and at the following viewpoints would experience permanent, direct, long-term slight adverse (not significant) residual effects in Year 1 reducing to neutral/negligible in Year 15:</p> <ul style="list-style-type: none"> Users of the A1 (VP-21, VP-19, VP-9) (1) View looking west from Widdrington Road at the Bungalow (VP-13) (7) <p>Road users travelling along the following roads and at the following viewpoints would experience permanent, direct, long-term slight adverse (not significant) residual effects:</p> <ul style="list-style-type: none"> View looking east from Fenrother Lane (west) at Fenrother (VP-35) (5) 			

Common receptor group	Relevant technical topic	Potential impact	Significance of residual effects	Potential combined effects	Overall combined effect on common receptor group
			<p>Road users travelling along the following roads and at the following viewpoints would experience permanent, direct, long-term moderate adverse (significant) residual effects in Year 1 reducing to slight adverse in Year 15:</p> <ul style="list-style-type: none"> ■ View looking west from Hebron Road within the vicinity of the Church of St Cuthbert (VP-4) (3) ■ View looking east from PRow 422/011 adjacent to Burgham Park Golf and Leisure Club (VP-28) (10) ■ View looking east from Causey park Hag/Causey Park Road (VP-31) (8) <p>Road users travelling along the following roads and at the following viewpoints would experience permanent, direct, long-term moderate adverse (significant) residual effects:</p> <ul style="list-style-type: none"> ■ View looking north-east from Howdens Glebe Cottages, off West Moor Road (VP-27) (12) 	<p>Road users at the following viewpoints have the potential to experience a combined effect no worse than slight beneficial to slight adverse (not significant) from changes to driver stress and changes to views:</p> <ul style="list-style-type: none"> ■ View looking east from PRow 422/011 adjacent to Burgham Park Golf and Leisure Club (VP-28) (10) ■ View looking east from Causey Park Hag/Causey Park Road (VP-31) (8) ■ View looking east from Fenrother Lane (west) at Fenrother (VP-35) (5) <p>Road users at the following viewpoints have the potential to experience a combined effect no worse than slight beneficial to moderate adverse (significant) from changes to driver stress and changes to views:</p> <ul style="list-style-type: none"> ■ View looking north-east from Howdens Glebe Cottages, off West Moor Road (VP-27) (12) 	
	Population and Human Health	Effects on road users from increased driver stress	<p>Road users travelling along the following roads and at the following viewpoints would experience permanent, direct, long-term slight beneficial (not significant) residual effects for driver stress:</p> <ul style="list-style-type: none"> ■ Users of the A1 (VP-21, VP-19, VP-9) (1) ■ View looking west from Widdrington Road at the Bungalow (VP-13) (7) ■ View looking west from Hebron Road within the vicinity of the Church of St Cuthbert (VP-4) (3) ■ View looking north-east from Howdens Glebe Cottages, off West Moor Road (VP-27) (12) ■ View looking east from PRow 422/011 adjacent to Burgham Park Golf and Leisure Club (VP-28) (10) ■ View looking east from Causey park Hag/Causey Park Road (VP-31) (8) ■ View looking east from Fenrother Lane (west) at Fenrother (VP-35) (5) ■ The unnamed road between the A1 and A697 which provides access to proposed Highlaws Junction, west of the A1 (2) ■ The unnamed road to the east of Part A from the A1 to Tritlington, where Tritlington Church of England First School is located (4) 	<ul style="list-style-type: none"> ■ View looking north-east from Howdens Glebe Cottages, off West Moor Road (VP-27) (12) 	

Common receptor group	Relevant technical topic	Potential impact	Significance of residual effects	Potential combined effects	Overall combined effect on common receptor group
			<ul style="list-style-type: none"> ■ Earsdon Road, located to the east of the A1, which provides access to the community of Easdon from the A1 (6) ■ An unnamed road to the east of the A1, between the A1 and Eshott Burn (9) ■ Bywell Road located to the east of the A1 (11) ■ Unnamed road to the east of the A1 which provides access from the A1 to Thirston New Houses (13) ■ The B6345 which runs perpendicular to the A1 to the north of the River Coquet (14) 		
Users of PRow (WCH) Refer to Figure 2.1: Environmental Constraints Plan Part A [APP-066] for receptor locations.	Air Quality	Exposure to increased pollution (NO ₂ and PM ₁₀) from changes to traffic flow, mix and speed	There would be no residual effects after mitigation	There are no residual effects on users of PRow from air quality and noise and vibration after the implementation of mitigation measures as outlined within the air quality reassessment [REP3-012] the noise addendum [REP1-019].	Despite the potential for some minor beneficial effects (not significant) the overall combined effects of Part A would be no worse than moderate adverse (significant) during operation.
	Noise and Vibration	Both an experienced increase and reduction in noise across Part A	There would be no residual effects after mitigation	Some users of PRow have the potential for combined effects from Population and Human Health effects, including changes to community severance and journey amenity, and Landscape and Visual. Users of the following PRow have the potential to experience a combined effect no worse than slight adverse (not significant) from population and human health and changes to views: <ul style="list-style-type: none"> ■ 407/010: Bridleway ■ 407/004: Footpath ■ 423/002: Footpath ■ 423/011: Footpath ■ 422/018: Byway ■ 422/003: Footpath ■ St Oswald's Way: Long Distance Trail ■ 115/013: Footpath ■ 422/022: Footpath ■ 422/001: Footpath ■ 422/009: Footpath Users of the following PRow have the potential to experience a combined effect no worse than slight beneficial (not significant) from population and human health and changes to views:	
	Landscape and Visual	Effects on views	WCH at the following PRow would experience permanent, direct, long-term slight adverse (not significant) residual effects in Year 1 reducing to neutral in Year 15: <ul style="list-style-type: none"> ■ 407/010: Bridleway ■ 407/004: Footpath ■ 422/018: Byway ■ 422/020: Footpath ■ 115/008: Footpath ■ 115/016: Footpath WCH at the following PRow would experience permanent, direct, long-term slight adverse (not significant) residual effects in Year 1 and Year 15: <ul style="list-style-type: none"> ■ 423/002: Footpath ■ 423/011: Footpath ■ 422/011: Footpath ■ 422/003: Footpath ■ 115/013: Footpath ■ 422/022: Footpath 		

Common receptor group	Relevant technical topic	Potential impact	Significance of residual effects	Potential combined effects	Overall combined effect on common receptor group
			<ul style="list-style-type: none"> ■ 422/001: Footpath ■ 422/009: Footpath <p>WCH at the following PRow would experience permanent, direct, long-term moderate adverse (significant) residual effects in Year 1 reducing to neutral in Year 15:</p> <ul style="list-style-type: none"> ■ 115/009: St Oswald's Way: Long Distance Trail <p>WCH at the following PRow would experience permanent, direct, long-term large adverse (significant) residual effects in Year 1 reducing to moderate adverse in Year 15:</p> <ul style="list-style-type: none"> ■ 423/001: Footpath ■ 423/006: Footpath ■ 423/016: Footpath ■ 407/018: Footpath (large adverse to slight adverse in Year 15) <p>WCH at the following PRow would experience permanent, direct, long-term slight beneficial (not significant) residual effects:</p> <ul style="list-style-type: none"> ■ 423/008: Footpath 	<ul style="list-style-type: none"> ■ 423/008: Footpath <p>Users of the following PRow have the potential to experience a combined effect no worse than slight adverse to slight beneficial (not significant) from population and human health and changes to views:</p> <ul style="list-style-type: none"> ■ 407/018: Footpath ■ 422/011: Footpath ■ 422/020: Footpath ■ 115/008: Footpath ■ 115/016: Footpath <p>Users of the following PRow have the potential to experience a combined effect no worse than moderate adverse (significant) from population and human health and changes to views:</p> <ul style="list-style-type: none"> ■ 423/001: Footpath ■ 423/006: Footpath ■ 423/013: Footpath 	
	Population and Human Health	Effects on community severance, access, journey amenity and human health	<p>WCH at the following PRow would experience permanent, direct, long-term slight adverse (not significant) residual effects for community severance:</p> <ul style="list-style-type: none"> ■ 423/013: Footpath ■ 423/017: Footpath <p>WCH at the following PRow would experience permanent, direct, long-term moderate adverse (significant) residual effects for community severance:</p> <ul style="list-style-type: none"> ■ 423/001: Footpath <p>WCH at the following PRow would experience permanent, direct, long-term slight beneficial (not significant) residual effects for community severance:</p> <ul style="list-style-type: none"> ■ 407/018: Footpath ■ 422/011: Footpath ■ 422/020: Footpath 		

Common receptor group	Relevant technical topic	Potential impact	Significance of residual effects	Potential combined effects	Overall combined effect on common receptor group
			<ul style="list-style-type: none"> ■ 115/008: Footpath ■ 115/016: Footpath ■ 422/002: Footpath ■ 407/001: Footpath <p>WCH at the following PRow would experience permanent, direct, long-term slight adverse (not significant) residual effects for journey amenity:</p> <ul style="list-style-type: none"> ■ 407/010: Bridleway ■ 407/004: Footpath ■ 407/018: Footpath ■ 423/001: Footpath ■ 423/002: Footpath ■ 423/006: Footpath ■ 423/013: Footpath ■ 423/011: Footpath ■ 422/018: Byway ■ 422/011: Footpath ■ 422/003: Footpath ■ 422/020: Footpath ■ 115/009: St Oswald's Way: Long Distance Trail ■ 115/008: Footpath ■ 115/016: Footpath ■ 115/013: Footpath ■ 422/022: Footpath ■ 422/001: Footpath ■ 422/002: Footpath ■ 407/001: Footpath ■ 422/009: Footpath <p>WCH at the following PRow would experience permanent, direct, long-term slight beneficial (not significant) residual effects for journey amenity:</p> <ul style="list-style-type: none"> ■ 423/008: Footpath ■ 423/017: Footpath 		
Statutory and Non-Statutory designated	Air Quality	Increase in nitrogen deposition on ecological receptors	The following ecological receptors would experience a moderate adverse (significant) effect from nitrogen deposition: <ul style="list-style-type: none"> ■ Borough Woods LNR 	There are no residual effects on ecological receptors from noise and vibration after the implementation of	Overall, the combined effect of Part

Common receptor group	Relevant technical topic	Potential impact	Significance of residual effects	Potential combined effects	Overall combined effect on common receptor group
ecological sites/local biodiversity Refer to Figure 9.1: Final Phase 1 Plan Part A [APP-105], Figure 3: Statutory Designated Sites Part A [APP-108] and Figure 9.4: Non-Statutory Designated Sites Part A [APP-109] for receptor locations			The following ecological receptors would experience a very large adverse (significant) effect from nitrogen deposition: <ul style="list-style-type: none"> ■ Borough Woods Ancient Woodland ■ Well Wood Ancient Woodland ■ Veteran trees T682 and T701 	mitigation measures as outlined within the noise addendum [REP1-019]. There is the potential for a combined effect of no worse than slight adverse (not significant) significance on watercourses including the River Coquet and River Coquet and Coquet Valley Woodland SSSI from effects on morphology, water quality and effects on supporting species. There is also the potential for a combined effect from the loss of commuting habitat for bats of no worse than slight adverse (not significant) significance.	A would be no worse than minor adverse (not significant) during operation.
			The following ecological receptors would experience a slight adverse (not significant) effect from nitrogen deposition: <ul style="list-style-type: none"> ■ Coquet River Felton Park LWS ■ Wansbeck and Hartburn Woods LWS ■ Cawledge Burn LWS 		
			The following ecological receptors experience slight beneficial (not significant) residual effects from decrease in nitrogen deposition: <ul style="list-style-type: none"> ■ Ulgham Meadows LWS 		
	Noise and Vibration	Both an experienced increase and reduction in noise across Part A	There would be no residual effects after mitigation		
	Landscape and Visual	Impacts to retained arboricultural features (e.g. salt spray, wind exposure, road surface run off) and compensation planting	There would be a slight adverse (not significant) effect on high and medium value retained arboricultural features including Duke's Bank Wood.		
			There would be a slight beneficial (not significant) effect on low and very low features as the replacement planting matures.		
	Biodiversity	Direct loss of habitats and/or pollution and habitat degradation	The following ecological receptors experience slight adverse (not significant) residual effects after mitigation: <ul style="list-style-type: none"> ■ Bats ■ Aquatic invertebrates ■ Fish ■ River Coquet Watercourse (HPI) ■ River Coquet and Coquet Valley Woodlands SSSI 		

Common receptor group	Relevant technical topic	Potential impact	Significance of residual effects	Potential combined effects	Overall combined effect on common receptor group
	Road Drainage and the Water Environment	Localised permanent changes to morphology from proposed scour protection	There would be localised geomorphological impacts to the River Coquet and River Coquet and Coquet Valley Woodlands SSSI from the proposed Southern Access Works [REP4-064] and Stabilisation works [REP4-063] of slight (not significant) .		
Community Facilities Refer to Figure 12.2: Commercial Properties and Community Receptors Part A [APP-121] for receptor locations	Air Quality	Exposure to increased pollution (NO ₂ and PM ₁₀) from changes to traffic flow, mix and speed	There would be no residual effects after mitigation	There are no residual effects on community facilities from air quality after the implementation of mitigation measures as outlined within air quality reassessment [REP3-012].	Overall, the combined effect of Part A would be no worse than minor adverse (not significant) for community facilities with the exception of Tritlington Church of England Aided First School which would experience a combined effect of no worse than moderate and major beneficial (significant) significance during operation.
	Noise and Vibration	Both an experienced increase and reduction in noise across Part A	There would be no residual effects on community facilities (including Northumbria Woodland Burials) from changes to noise levels with the exception of Tritlington Church of England Aided First School which would experience permanent, long-term major and moderate decrease (significant) in noise levels during operation.	Some community facilities have the potential for combined effects from Noise and Vibration, Landscape and Visual and Population and Human Health effects.	
	Landscape and Visual	Effects on views	There would be no residual effects on community facilities from effects on views with the exception of Tritlington Church of England Aided First School which would experience slight adverse (not significant) residual effects in Year 1 reducing to Neutral in Year 15.	Tritlington Church of England Aided First School would experience a combined effect from changes to noise, views and access and journey amenity of no worse than moderate and major beneficial (significant) to neutral residual effects during operation. The combined effect is therefore no greater than the individual effect.	
	Population and Human Health	Effects on access, amenity and private property	Users of the following community facilities experience slight adverse (not significant) residual effects after mitigation for access and amenity: <ul style="list-style-type: none"> ▪ Felton Park Users of the following community facilities experience slight beneficial (not significant) residual effects after mitigation for access and amenity: <ul style="list-style-type: none"> ▪ Tritlington Church of England Aided First School ▪ Northumbria Woodland Burials 		

3. SCREENING FOR CROSS TOPIC COMBINED EFFECTS PART B

3.1. INTRODUCTION

- 1.3.15. **Table 3-1** and **Table 3-2** identify the common sensitive receptors from **Part B Technical Chapters 5 to 13** of the ES [**APP-040 to APP-057**] that are exposed to residual effects with a significance of 'minor' or above and sensitive receptors that have the potential for cross topic combined effects. The significance of residual effect for each individual receptor has been reviewed to present the potential combined effects for each individual receptor. The overall combined effect for that receptor group is then provided.
- 1.3.16. The screening matrix for common sensitive receptors and residual effects during construction and operation of Part B is provided in Appendix B of this Technical Note.

3.2. ASSESSMENT METHODOLOGY

- 1.3.17. The assessment methodology and legislative and policy framework is in accordance with the methodology set out in **Chapter 15: Assessment of Combined Effects Part B** of the ES [**APP-061**].

3.3. UPDATED DMRB GUIDANCE

- 1.3.18. Some DMRB guidance documents were updated in 2019 and 2020 (and associated IANs replaced), by which time the EIA for the Scheme was largely complete. However, a sensitivity test was undertaken in April / May 2020 by the Applicant either to demonstrate that the assessments reported in this ES are already compliant with the updated guidance, or to identify any changes to the conclusions of the assessments as a result of the updated guidance (determined through further assessment). A sensitivity appraisal was undertaken for the Part B cross topic combined effects assessment.
- 1.3.19. As outlined in **Section 15.8, paragraphs 15.8.2 and 15.8.3** of **Chapter 15: Assessment of Combined Effects Part B** of the ES [**APP-061**], a number of environmental effects that arose from Part B increased in significance as a result of the application of the updated DMRB guidance (refer to **Appendix 4.5: DMRB Sensitivity Test [APP-197]**). **Section 15.8, paragraph 15.8.2 and 15.8.3** of **Chapter 15: Assessment of Combined Effects Part B** of the ES [**APP-061**] considers whether the changes to these significant effects would change the outcome of the combined effects assessment.
- 1.3.20. As set out in **Section 15.8, paragraph 15.8.2** of **Chapter 15: Assessment of Combined Effects Part B [APP-061]**, with the application of the updated DMRB guidance, the effect on Grade 3b agricultural land would increase from a slight adverse effect to a moderate adverse effect.
- 1.3.21. As set out in **Section 15.8, paragraph 15.8.3** of **Chapter 15: Assessment of Combined Effects Part B** of the ES [**APP-061**], an existing beneficial significant effect for noise would increase from moderate beneficial to major beneficial as a result of application of the updated DMRB guidance. Following the reassessment of operational noise [**REP1-019 to**

022], the screening matrix for Part B has been reviewed and updated to include the changes in operational noise effects as a result of the application of the updated DMRB guidance. These additional effects have been included within the screening matrix in **Table 3-2**.

3.4. MITIGATION AND MONITORING

- 1.3.22. As outlined in **Section 15.9 of Chapter 15: Assessment of Combined Effects Part B [APP-061]**, following the best practice and mitigation measures outlined in the **Outline Construction Environmental Management Plan (CEMP) [REP6-025 and 026]**, no further combined significant residual effects have been identified above the level of significance of those residual effects reported in **Part B Technical Chapters 5 to 13 [APP-040 to APP-057]**. Therefore, no further mitigation or monitoring is required above that already presented in **Part B Technical Chapter 5 to 13 [APP-040 to APP-057]** and the **Outline CEMP [REP6-025 and 026]**.
- 1.3.23. **Appendix GEN.4 Justification for Significant Residual Effects WQ GEN.1.35 [REP1-036]** provides a justification for the residual significant effects reported in **Technical Chapter 5 to Chapter 17 [APP-040 to 062]** of the ES and why no further mitigation is proposed to be implemented. As set out in **Table 1 of Appendix GEN.4 Justification for Significant Residual Effects WQ GEN.1.35 [REP1-036]**, no further mitigation measures are feasible to reduce the residual significant, cross topic combined effects anticipated as a result of Part B and significant effects would remain for combined effects.

Table 3-1 - Screening of Receptors Groups for Cross Topic Combined Effects during Construction (Part B)

Common receptor group	Relevant technical topic	Potential impact	Significance of residual effects	Potential combined effects	Overall combined effect on common receptor group
Residents Refer to Figure 7.2: Visual Receptors Plan Part B [APP-136] for receptor locations	Air Quality	Changes to air quality within 200 m of construction activities	Residents within 200m of Part B would experience no residual effects after mitigation	There are no residual effects on residents from air quality and noise and vibration after the implementation of mitigation measures as outlined within Chapter 5: Air Quality Part B and Chapter 6: Noise and Vibration Part B [APP-041 and APP-043] . Some residents have the potential for combined effects from Population and Human Health effects including human health, change to access, community severance and reduced access to PRow. The following residents have the potential to experience a combined effect no worse than slight to moderate adverse (significant) from effects on human health, private assets, community severance and reduced access to PRow: <ul style="list-style-type: none"> ▪ Properties at South Charlton (18) ▪ Silvermoor (22) ▪ Goldenmoor (23) ▪ Properties at Denwick (24) The following residents have the potential to experience combined effects of no worse than moderate adverse (significant) from change to views, human health, private assets, community severance and reduced access to PRow: <ul style="list-style-type: none"> ▪ Broom House (1) ▪ Loaning Head (2) ▪ Broxfield and Surrounding Properties (9) ▪ Rock Midstead Cottages and Rock Midstead Farmhouse (11) ▪ Rock South Farm (12) ▪ Rock Moor House (14) ▪ West Lodge (15) ▪ Properties at East Linkhall (16) ▪ Properties at North Charlton (17) 	Overall, Part B would have a combined, temporary residual effect of no worse than large adverse (significant) significance on residents during construction.
	Noise and Vibration	Increased noise and vibration levels within 300 m of construction activities	Residents within 300m of Part B would experience no residual effects after mitigation		
	Landscape and Visual	Change to views	Residents at the following properties would experience temporary, direct short-term moderate adverse (significant) residual effects: <ul style="list-style-type: none"> ▪ Broom House (1) ▪ Loaning Head (2) ▪ Broxfield and Surrounding Properties (9) ▪ Rock Midstead Cottages and Rock Midstead Farmhouse (11) ▪ Rock South Farm (12) ▪ Rock Moor House (14) ▪ West Lodge (15) ▪ Properties at East Linkhall (16) ▪ Properties at North Charlton (17) Residents at the following properties would experience temporary, direct short-term large adverse (significant) residual effects: <ul style="list-style-type: none"> ▪ Heckley House and Heckley Cottage (3) ▪ Heckley Fence (4) ▪ Heiferlaw Bank (5) ▪ Rock Lodge (6) ▪ Rock Nab (7) ▪ Holywell Cottage (8) ▪ West Linkhall Farmhouse and surrounding properties (including Patterson Cottage) (10) ▪ Drythropple (13) 		

Common receptor group	Relevant technical topic	Potential impact	Significance of residual effects	Potential combined effects	Overall combined effect on common receptor group
	Population and Human Health	Effects on human health	<p>During construction there would be works within the vicinity of residential properties which would experience temporary, short-term slight adverse (not significant) residual effects for human health. These residents with the potential for combined effects are as follows:</p> <ul style="list-style-type: none"> ▪ Broom House (1) ▪ Loaning Head (2) ▪ Heckley House and Heckley Cottage (3) ▪ Heckley Fence (4) ▪ Heiferlaw Bank (5) ▪ Rock Lodge (6) ▪ Rock Nab (7) ▪ Holywell Cottage (8) ▪ Broxfield and Surrounding Properties (9) ▪ West Linkhall Farmhouse and surrounding properties (10) ▪ Rock Midstead Cottages and Farmhouse (11) ▪ Rock South Farm (12) ▪ Drythropple (13) ▪ Rock Moor House (14) ▪ West Lodge (15) ▪ Properties at East Linkhall (16) ▪ Properties at North Charlton (17) ▪ Properties at South Charlton (18) ▪ Brockley Hall Cottages and Brockley Hall (20) ▪ Silvermoor (22) ▪ Goldenmoor (23) ▪ Properties at Denwick (24) 	<p>The following residents have the potential to experience combined effects of no worse than large adverse (significant) from change to views, human health, private assets, community severance and reduced access to PRow:</p> <ul style="list-style-type: none"> ▪ Heckley House and Heckley Cottage (3) ▪ Heckley Fence (4) ▪ Heiferlaw Bank (5) ▪ Rock Lodge (6) ▪ Rock Nab (7) ▪ Holywell Cottage (8) ▪ West Linkhall Farmhouse and surrounding properties (including Patterson Cottage) (10) ▪ Drythropple (13) <p>All residents have the potential for minor beneficial effects (not significant) from socio-economic benefits during construction of the Part B.</p>	
		Effects on community severance and reduced access to PRow	<p>Residents at the following properties would experience temporary, direct short-term slight to moderate adverse (significant) residual effects for community severance and reduced access to PRow:</p> <ul style="list-style-type: none"> ▪ Broom House (1) 		

Common receptor group	Relevant technical topic	Potential impact	Significance of residual effects	Potential combined effects	Overall combined effect on common receptor group
			<ul style="list-style-type: none"> ▪ Loaning Head (2) ▪ Heckley House and Heckley Cottage (3) ▪ Heckley Fence (4) ▪ Heiferlaw Bank (5) ▪ Rock Lodge (6) ▪ Rock Nab (7) ▪ Holywell Cottage (8) ▪ Broxfield and Surrounding Properties (9) ▪ West Linkhall Farmhouse and surrounding properties (10) ▪ Rock Midstead Cottages and Farmhouse (11) ▪ Rock South Farm (12) ▪ Drythropple (13) ▪ Rock Moor House (14) ▪ West Lodge (15) ▪ Properties at East Linkhall (16) ▪ Properties at North Charlton (17) ▪ Properties at South Charlton (18) ▪ Brockley Hall Cottages and Brockley Hall (20) ▪ Silvermoor (22) ▪ Goldenmoor (23) ▪ Properties at Denwick (24) 		

Common receptor group	Relevant technical topic	Potential impact	Significance of residual effects	Potential combined effects	Overall combined effect on common receptor group
			<p>Residents at the following properties would experience temporary, direct short-term minor beneficial (not significant) residual effects for socio-economic:</p> <ul style="list-style-type: none"> ▪ Broom House (1) ▪ Loaning Head (2) ▪ Heckley House and Heckley Cottage (3) ▪ Heckley Fence (4) ▪ Heiferlaw Bank (5) ▪ Rock Lodge (6) ▪ Rock Nab (7) ▪ Holywell Cottage (8) ▪ Broxfield and Surrounding Properties (9) ▪ West Linkhall Farmhouse and surrounding properties (10) ▪ Rock Midstead Cottages and Farmhouse (11) ▪ Rock South Farm (12) ▪ Drythropple (13) ▪ Rock Moor House (14) ▪ West Lodge (15) ▪ Properties at East Linkhall (16) ▪ Properties at North Charlton (17) ▪ Properties at South Charlton (18) ▪ Brockley Hall Cottages and Brockley Hall (20) ▪ Silvermoor (22) ▪ Goldenmoor (23) ▪ Properties at Denwick (24) 		
		<p>Change in access to the A1 and proximity to construction activities</p>	<p>Residents at the following properties would experience temporary, direct short-term slight adverse (not significant) residual effects from change in access:</p> <ul style="list-style-type: none"> ▪ Heckley Fence (4) ▪ Rock Nab (7) ▪ West Linkhall Farmhouse and surrounding properties (10) ▪ Rock South Farm (12) ▪ West Lodge (15) 		

Common receptor group	Relevant technical topic	Potential impact	Significance of residual effects	Potential combined effects	Overall combined effect on common receptor group
			<ul style="list-style-type: none"> ■ Properties at East Linkhall (16) ■ Properties at South Charlton (18) 		
		Loss of private property	Residents at the following properties would experience permanent, direct large adverse (not significant) residual effects for private assets and land use as these properties will be demolished during construction to facilitate the Scheme: <ul style="list-style-type: none"> ■ Charlton Mires Farm ■ East Cottage 		
		Socio-Economic benefits during construction	The construction stage would see a beneficial, temporary effect on the local economy through enhancing local labour and supporting local business through expenditure from direct spend on materials for Part B. There may also be beneficial effects from any construction labour employed from outside the region who would need to use local hotels and/or restaurants. Therefore, there is likely to be a direct, temporary effect on local (Northumberland) receptors including local residents of minor beneficial significance (not significant).		
Road Users Refer to Figure 7.2: Visual Receptors Plan Part B [APP-136] and Figure 12: Assessment Area	Landscape and Visual	Effects on views	There would be no residual effects on road users from change in views with the exception of Users of the A1 which would experience temporary, short-term moderate adverse (significant) residual effects during construction.	There are no residual effects from change in views on road users with the exception of users of the A1. As such, users of the A1 have the potential to experience combined effects from change to views and increased	Overall, Part B would have a combined temporary effect of no worse than moderate adverse (significant) significance

Common receptor group	Relevant technical topic	Potential impact	Significance of residual effects	Potential combined effects	Overall combined effect on common receptor group
for Driver Stress Part B [APP-181] for receptor locations	Population and Human Health	Effects on road users from increased driver stress	<p>Road users travelling on the following roads would experience temporary adverse effects (not significant) for driver stress:</p> <ul style="list-style-type: none"> Users of the A1 (37) Users of the B6347 (38) Users of the B6341 (39) Users of the B1340 (40) Alnmouth Road between the A1, B1340, A1069 and Denwick The unnamed road to the east between the A1 at Charlton Mires to Rock Moor Farm 	driver stress of no worse than moderate adverse significance during construction.	on road users during construction
Users of PRow (WCH) Refer to Figure 7.2: Visual Receptors Plan Part B [APP-136] for receptor locations	Air Quality	Changes to air quality within 200 m of construction activities	WCH using PRow within 200m of Part B would experience no residual effects after mitigation (not significant)	There are no residual effects on users of PRow from air quality and noise and vibration after the implementation of mitigation measures as outlined within Chapter 5: Air Quality Part B [APP-041] and Chapter 6: Noise and Vibration Part B [APP-043] . Users of the following PRow have the potential to experience a combined effect of no worse than moderate adverse (significant) from changes in views, effects on community severance, access, human health and journey amenity: <ul style="list-style-type: none"> PRoW 110/013 (33) PRoW 110/004 (34) Users of the following PRow have the potential to experience a combined effect of no worse than large adverse (significant) from changes in views, effects on community severance, access, human health and journey amenity: <ul style="list-style-type: none"> PRoW 129/004 (27) PRoW 129/005 (28) 	Overall, Part B would have a combined effect of no worse than large adverse (significant) significance on PRow users during construction
	Noise and Vibration	Increased noise and vibration levels within 300 m of construction activities	WCH using PRow within 300m of Part B would experience no residual effects after mitigation (not significant)		
	Landscape and Visual	Effects on views	<p>WCH at the following PRow would experience temporary, direct short-term slight adverse (significant) residual effects:</p> <ul style="list-style-type: none"> PRoW 110/004 (34) <p>WCH at the following PRow would experience temporary, direct short-term moderate adverse (significant) residual effects:</p> <ul style="list-style-type: none"> PRoW 112/008 (25) PRoW 112/009 (26) PRoW 110/013 (33) PRoW 129/006 (36) <p>WCH at the following PRow would experience temporary, direct short-term large adverse (significant) residual effects:</p>		

Common receptor group	Relevant technical topic	Potential impact	Significance of residual effects	Potential combined effects	Overall combined effect on common receptor group
	Population and Human Health	Effects on community severance, access, journey amenity and human health	<ul style="list-style-type: none"> ■ PRoW 129/004 (27) ■ PRoW 129/005 (28) ■ PRoW 141/013 (42) ■ PRoW 141/002 (43) <p>WCH at the following PRoW would experience temporary, direct short-term slight adverse (significant) residual effects for community severance:</p> <ul style="list-style-type: none"> ■ PRoW 129/005 (28) ■ PRoW 129/013 <p>WCH at the following PRoW would experience temporary, direct short-term moderate adverse (significant) residual effects for community severance:</p> <ul style="list-style-type: none"> ■ PRoW 129/004 (27) ■ PRoW 129/009 and 110/003 (29) ■ PRoW 110/019 (30) ■ PRoW 129/022 (32) ■ PRoW 110/013 (33) ■ PRoW 110/004 (34) ■ PRoW 129/014 (35) ■ PRoW 129/024 <p>WCH at the following PRoW would experience temporary, direct short-term slight adverse (not significant) residual effects for journey amenity:</p> <ul style="list-style-type: none"> ■ PRoW 129/004 (27) ■ PRoW 129/005 (28) ■ PRoW 129/009 and 110/003 (29) ■ PRoW 110/019 (30) ■ PRoW 129/022 (32) ■ PRoW 110/013 (33) ■ PRoW 110/004 (34) ■ PRoW 129/014 (35) ■ PRoW 129/013 ■ PRoW 129/024 		

Common receptor group	Relevant technical topic	Potential impact	Significance of residual effects	Potential combined effects	Overall combined effect on common receptor group
			Users of the following PRow would experience temporary, slight adverse (not significant) effect on human health: <ul style="list-style-type: none"> ■ PRow 112/008 (25) ■ PRow 112/009 (26) ■ PRow 129/004 (27) ■ PRow 129/009 and 110/003 (29) ■ PRow 110/019 (30) ■ PRow 129/022 (32) ■ PRow 110/013 (33) ■ PRow 110/004 (34) ■ PRow 129/014 (35) ■ PRow 129/006 (36) ■ PRow 141/013 (42) ■ PRow 141/002 (43) ■ PRow 422/020 (53) ■ PRow 129/013 ■ PRow 129/024 		
Statutory and Non-Statutory designated ecological sites Refer to Figure 9.1: Statutory Designated Sites Part B [APP-153] Figure 9.2: Non-Statutory Designated Sites Part B [APP154] and Figure 9.3: Phase 1 Habitat Survey Part B [APP-155] for receptor locations	Air Quality	Changes to air quality within 200 m of construction activities	Ecological receptors within 200 m of Part B would experience no residual effects after mitigation	There are no residual effects on ecological receptors from air quality and noise and vibration after the implementation of mitigation measures as outlined within Chapter 5: Air Quality Part B [APP-041] and Chapter 6: Noise and Vibration Part B [APP-043] . The following ecological receptors have the potential to experience combined effects of no worse than moderate adverse (significant) from direct loss of habitats and/or pollution and degradation and impacts to ecological quality of habitat: <ul style="list-style-type: none"> ■ Watercourses (including Shipperton Burn) ■ Aquatic Invertebrates ■ Fish The creation/reinstatement of compensatory woodland at a quantity significantly greater than that lost (10.14 ha created in comparison to 0.69 ha lost) would result in a moderate beneficial (significant) effect on	Overall, Part B would have a combined effect of no worse than moderate adverse and moderate beneficial significance (significant) on ecological receptors during construction
	Noise and vibration	Increased noise and vibration levels within 300 m of construction activities	Ecological receptors within 300 m of Part B would experience no residual effects after mitigation		
	Road and Drainage and Water	Impacts to the ecological quality of watercourses	Shipperton Burn (watercourse) would experience a slight adverse (not significant) residual effect during construction due to the extension of the culvert.		
	Biodiversity	Direct loss of habitats and/or pollution and habitat degradation/creation	The following ecological receptors experience slight adverse (not significant) residual effects after mitigation: <ul style="list-style-type: none"> ■ Hedgerow ■ Watercourses ■ Bats ■ Aquatic Invertebrates 		

Common receptor group	Relevant technical topic	Potential impact	Significance of residual effects	Potential combined effects	Overall combined effect on common receptor group
			<p>Fish would experience moderate adverse (significant) residual effects after mitigation.</p> <p>Broadleaved semi-natural woodland would experience moderate beneficial (significant) residual effects after mitigation.</p>	Habitats of Principal Importance (including broadleaved semi-natural woodland).	
Commercial Properties Refer to Figure 12.3: Properties and Commercial Facilities Part B [APP-183] for receptor locations	Air Quality	Changes to air quality within 200 m of construction activities	Commercial properties within 200m of Part B would experience no residual effects after mitigation	There are no residual effects on users of commercial properties from air quality, noise and vibration and landscape and visual after the implementation of mitigation measures as outlined within Chapter 5: Air Quality Part B [APP-041] and Chapter 6: Noise and Vibration Part B [APP-043] and Chapter 7: Landscape and Visual Part B [APP-045] . There is the potential for combined effect of no worse than slight adverse (not significant) from effects to human health and access for the following commercial properties: <ul style="list-style-type: none"> ■ Rock Lodge Holiday Lets ■ Reading Rooms Cottage ■ The Old Stables Tea Room ■ The Armstrong Household and Farming Museum ■ Patterson's Cottage Boarding Kennels ■ Middlemoor Cottage ■ Rocking Horse Café and Gallery ■ Rock Moor House Bed and Breakfast ■ Beal ME and Sons ■ Drythroppe ■ Grahamslaw JEG and Sons ■ Blossoms Plantation Pods ■ Charlton Hall Wedding Venue ■ Lionheart Industrial Estate (45) 	Overall, Part B would have a combined effect of slight adverse significance (not significant) on commercial properties during construction
	Noise and Vibration	Increased noise and vibration levels within 300 m of construction activities	Commercial properties within 300m of Part B would experience no residual effects after mitigation		
	Landscape and Visual	Effects on views	Commercial properties would experience no residual effects after mitigation (not significant)		
	Population and Human Health	Effects on access and human health	The following commercial properties experience slight adverse (not significant) residual effects after mitigation for both human health and access: <ul style="list-style-type: none"> ■ Rock Lodge Holiday Lets ■ Reading Rooms Cottage ■ The Old Stables Tea Room ■ The Armstrong Household and Farming Museum ■ Patterson's Cottage Boarding Kennels ■ Middlemoor Cottage ■ Rocking Horse Café and Gallery ■ Rock Moor House Bed and Breakfast ■ Beal ME and Sons ■ Drythroppe ■ Grahamslaw JEG and Sons ■ Blossoms Plantation Pods ■ Charlton Hall Wedding Venue ■ Lionheart Industrial Estate (45) 		

Common receptor group	Relevant technical topic	Potential impact	Significance of residual effects	Potential combined effects	Overall combined effect on common receptor group
<p>Agricultural Land and associated rural enterprises</p> <p>Refer to Appendix 12.1: Likely Impacts on Agricultural Businesses Part B (CONFIDENTIAL) for receptor locations</p>	<p>Geology and Soils</p>	<p>Temporary and permanent loss of quality agricultural land</p>	<p>The following agricultural land holdings experience slight adverse (not significant) residual effects after mitigation:</p> <ul style="list-style-type: none"> ■ Broxfield Farm ■ Drythrople Cottage ■ Goldenmoor Farm ■ Humbleheugh Farm ■ Rock Nab ■ Silvermoor Farm ■ North Charlton Farm ■ Rock Estate <p>The following agricultural land holdings experience large adverse (significant) residual effects after mitigation:</p> <ul style="list-style-type: none"> ■ Charlton Mires Farm ■ East Cottage ■ East Link Hall Farm ■ North Charlton Farm ■ Rock Estate ■ Rock Farms ■ West Link Hall Farm 	<p>There is the potential for some agricultural land holdings to experience combined adverse effects from loss of quality agricultural land, land take and loss of private property. The following agricultural land holdings have the potential to experience a combined effect of no worse than slight adverse (not significant) significance from loss of quality agricultural land, severance, nuisance, reduction in viability and land take:</p> <ul style="list-style-type: none"> ■ Broxfield Farm ■ Drythrople Cottage ■ Goldenmoor Farm ■ Humbleheugh Farm ■ Rock Nab ■ Silvermoor Farm ■ North Charlton Farm ■ Rock Estate <p>The following agricultural land holdings have the potential to experience a combined effect of no worse than large adverse (significant) significance from loss of quality agricultural land, severance, nuisance, reduction in viability and land take:</p> <ul style="list-style-type: none"> ■ Charlton Mires Farm ■ East Link Hall Farm ■ North Charlton Farm ■ Rock Estate ■ Rock Farms ■ West Link Hall Farm <p>East Cottage has the potential to experience a combined effect of very large adverse significance (significant) from loss of quality agricultural land, permanent land take and demolition of farm buildings resulting in the loss of private property.</p>	<p>Overall, Part B would have a combined effect of no worse than very large adverse significance (significant) on agricultural land and identified rural enterprises during construction.</p>
	<p>Population and Human Health</p>	<p>Temporary and permanent effects on agricultural land holdings from severance, nuisance, reduction in viability, land take and loss of property</p>	<p>The following agricultural land holdings experience slight adverse (not significant) residual effects after mitigation:</p> <ul style="list-style-type: none"> ■ Broxfield Farm ■ Drythrople Cottage ■ East Link Hall Farm ■ Goldenmor Farm ■ Heckley Farm ■ Humbleheugh Farm ■ North Charlton Farm ■ Rock Estate ■ Rock Farms ■ Rock Nab ■ Silvermoor Farm ■ West Link Hall Farm 		

Common receptor group	Relevant technical topic	Potential impact	Significance of residual effects	Potential combined effects	Overall combined effect on common receptor group
			<ul style="list-style-type: none"> ▪ Northumberland Estate ▪ West Farm <p>Charlton Mires Farm would experience large adverse (significant) residual effects after mitigation from land take and the loss of private property.</p> <p>East Cottage would experience very large adverse (significant) residual effects after mitigation from land take and the loss of private property.</p>		

Table 3-2 - Screening of Receptors Groups during Operation (Part B)

Common receptor group	Relevant technical topic	Potential impact	Significance of residual effects	Potential combined effects	Overall combined effect on common receptor group
<p>Residents</p> <p>Refer to Figure 7.2: Visual Receptors Plan Part B [APP-136] and Figure 5.2: Human Receptors Assessed Part B [APP-124] for receptor locations</p>	Air Quality	Exposure to increased pollution (NO ₂ and PM ₁₀) from changes to traffic flow, mix and speed	<p>No residual effects on residents are reported in the air quality reassessment [REP3-012] however, the following receptors may experience an increase in annual mean concentrations of NO₂ and PM₁₀ (not significant) as a result of Part B:</p> <ul style="list-style-type: none"> ▪ Properties at North Charlton, adjacent to the A1 (R05) ▪ Broom House, near B6341 roundabout (R12) ▪ Properties north east of Alnwick adjacent to the B1340 and near the A1 (R13) <p>No residual effects on residents are reported in the air quality reassessment [REP3-012] however, the following receptors would experience an improvement in air quality from a reduction in annual mean concentrations of NO₂ and PM₁₀ as a result of Part B (not significant):</p>	<p>The following residents have the potential to experience combined effects of no worse than slight adverse from increase change to views, increase in noise and change to access:</p> <ul style="list-style-type: none"> ▪ Broom House (1) <p>The following residents have the potential to experience combined effects of no worse than major beneficial to moderate adverse from change to noise and vibration levels, change to views and change to access:</p> <ul style="list-style-type: none"> ▪ 3 properties at West Linkhall Farmhouse and surrounding properties (including 1 and 2 West Linkhall and Patterson Cottage) (10) <p>The following residents have the potential to experience combined effects of no worse than minor beneficial to moderate adverse at design year (2038) from change to noise</p>	Overall, the combined effect of Part B would be no worse than major beneficial to moderate adverse significance effects on residents during operation

Common receptor group	Relevant technical topic	Potential impact	Significance of residual effects	Potential combined effects	Overall combined effect on common receptor group
	Noise and Vibration	Increase and /or reduction in noise across Part B	<ul style="list-style-type: none"> ▪ Properties at South Charlton, adjacent to the B6347 (R06) ▪ Rock Lodge, adjacent to the B6341 and near A1 (R09) ▪ Heiferlaw Bank, adjacent to B6341 (R10) <p>Residents at the following properties would experience long-term minor to negligible decrease (not significant) residual effects:</p> <ul style="list-style-type: none"> ▪ Loaning Head (2) ▪ Heckley Fence (4) ▪ Heiferlaw Bank (5) ▪ Rock Lodge (6) ▪ Rock Nab (7) ▪ Holywell Cottage (8) ▪ Rock Midstead Cottages and Rock Midstead Farmhouse (11) ▪ Rock South Farm (12) ▪ Drythropple (13) ▪ Rock Moor House (14) ▪ West Lodge (15) ▪ Properties at East Linkhall (16) ▪ 1 property at North Charlton (17) <p>Residents at the following properties would experience long-term major to moderate decrease (significant) residual effects:</p> <ul style="list-style-type: none"> ▪ 3 dwellings at West Linkhall Farmhouse and surrounding properties (including 1 and 2 West Linkhall and Patterson Cottage) (10) <p>Residents at the following properties would experience long-term minor increase (not significant) residual effects:</p> <ul style="list-style-type: none"> ▪ 3 properties at North Charlton (17) (referred to as 1 – 10 The cottages in the Noise Addendum [REP1-019]) ▪ 1 property at Broom House (1) 	<p>and vibration levels, change to views and private assets and land use:</p> <ul style="list-style-type: none"> ▪ Heckley Fence (4) ▪ Heiferlaw Bank (5) (R10) ▪ Rock Lodge (6) (R09) ▪ Rock Nab (7) ▪ Holywell Cottage (8) <p>Properties at Heiferlaw Bank and Rock Lodge would also experience a reduction in air pollutants.</p> <p>The following residents have the potential to experience combined effects of no worse than minor beneficial to slight adverse from change to noise and vibration levels, change to views and private assets and land use:</p> <ul style="list-style-type: none"> ▪ Loaning Head (2) ▪ Rock Midstead Cottages and Rock Midstead Farmhouse (11) ▪ Rock South Farm (12) ▪ Drythropple (13) ▪ Rock Moor House (14) ▪ West Lodge (15) ▪ Properties at East Linkhall (16) ▪ Properties at North Charlton (17) <p>The following residents have the potential to experience combined effects of no worse than slight adverse to beneficial effects (not significant) from reduction in air pollutants and change to access:</p> <ul style="list-style-type: none"> ▪ Properties at South Charlton (R06) (18) <p>Properties at North Charlton and Broom House would also experience an increase in air pollutants during operation.</p>	

Common receptor group	Relevant technical topic	Potential impact	Significance of residual effects	Potential combined effects	Overall combined effect on common receptor group
	Landscape and Visual	Effects on views	<p>Properties at North Charlton (17) would experience slight adverse in year 1 reducing to neutral in year 15.</p> <p>Residents at the following properties would experience moderate adverse in year 1 reducing to slight adverse in year 15:</p> <ul style="list-style-type: none"> ■ Broom House (1) ■ Loaning Head (2) ■ Broxfield and surrounding properties (9) ■ Rock Midstead Cottage and Rock Midstead Farmhouse (11) ■ Rock South Farm (12) ■ Drythropple (13) ■ Rock Moor House (14) ■ West Lodge (15) ■ Properties at East Linkhall (16) <p>Residents at the following properties would experience large adverse in year 1 reducing to moderate adverse in year 15:</p> <ul style="list-style-type: none"> ■ Heckley House and Heckley Cottage (3) ■ Heckley Fence (4) ■ Heiferlaw Bank (5) ■ Rock Lodge (6) ■ Rock Nab (7) ■ Holywell Cottage (8) ■ West Linkhall Farmhouse and surrounding properties (10) 		
	Population and Human Health	Effects on private property from change in access	<p>Residents at the following properties would experience permanent slight adverse (not significant) residual effects from change in access:</p> <ul style="list-style-type: none"> ■ Heckley Fence (4) ■ Rock Nab (7) ■ West Linkhall Farmhouse and surrounding properties (10) ■ Rock South Farm (12) ■ West Lodge (15) ■ Properties at East Linkhall (16) 		

Common receptor group	Relevant technical topic	Potential impact	Significance of residual effects	Potential combined effects	Overall combined effect on common receptor group
			<ul style="list-style-type: none"> Properties at North Charlton (17) Properties at South Charlton (18) 		
Road Users Refer to Figure 7.2: Visual Receptors Plan Part B [APP-136] and Figure 12: Assessment Area for Driver Stress Part B [APP-181] for receptor locations	Landscape and Visual	Effects on views	There would be no residual effects on road users from change in views with the exception of Users of the A1 which would experience permanent, long-term slight adverse (not significant) residual effects during operation.	There are no residual effects from change in views on road users with the exception of users of the A1. As such, users of the A1 have the potential to experience combined effects from change to views and improved driver stress of no worse than slight beneficial to slight adverse (not significant) significance during operation.	Overall, the combined effect of Part B would be of no worse than slight beneficial to slight adverse significance (not significant) effects on road users during operation.
	Population and Human Health	Effects on driver stress	Road users travelling on the following roads would experience permanent slight beneficial residual effects (not significant) from improved driver stress: <ul style="list-style-type: none"> Road users travelling along the A1 (37) Road users travelling the B6347 (38) Road users travelling along the B6341 (39) Road users travelling along the B1340 (40) Alnmouth Road between the A1, B1340, A1069 and Denwick The unnamed road to the east between the A1 at Charlton Mires to Rock Moor Farm 		
Users of PRow (WCH) Refer to Figure 7.2: Visual Receptors Plan Part B [APP-136] for receptor locations	Air Quality	Exposure to increased pollution (NO ₂ and PM ₁₀) from changes to traffic flow, mix and speed	No residual effects from changes to air pollutants are reported within Chapter 5: Air Quality Part B [APP-041] and reassessment [REP3-012] with the exception of those locations covered under 'Residents'. Due to the proximity of some PRow to these locations, there is the potential for changes in air pollutants to be experienced by users of PRow although, given the transient nature of the receptor, these impacts would be temporary.	Users of the following PRow have the potential to experience combined effects no worse than moderate adverse (significant) from changes in views, changes to noise, changes to air pollutants, effects on community severance and effects on journey amenity: <ul style="list-style-type: none"> PRow 129/004 (27) PRow 129/005 (28) PRow 110/013 (33) PRow 110/004 (34) PRow 129/013 Users of the following PRow have the potential to experience combined effects no worse than moderate adverse (significant) from changes to noise, changes to air	Overall, the combined effect of Part B would be of no worse than slight beneficial to moderate adverse significance effects on PRow users during operation.
	Noise and Vibration	Increase and /or reduction in noise across Part B activities	No residual effects from a change in noise are reported in the noise addendum [REP1-019] . However, there is the potential for changes in operational noise to be experienced by users of PRow dependant		

Common receptor group	Relevant technical topic	Potential impact	Significance of residual effects	Potential combined effects	Overall combined effect on common receptor group
	Landscape and Visual	Effects on views	on their locations although given the transient nature of the receptor, this impact would be temporary.	pollutants, changes to community severance and journey amenity: <ul style="list-style-type: none"> ■ PRow 129/009 and 110/003 (29) ■ PRow 110/019 (30) ■ PRow 129/022 (32) ■ PRow 129/014 (35) ■ PRow 129/024 	
			WCH at the following PRow would experience slight adverse effects in Year 1 reducing to negligible in year 15: <ul style="list-style-type: none"> ■ PRow 141/003 (42) ■ PRow 141/022 (53) ■ PRow 129/013 		
			WCH at the following PRow would experience permanent long-term slight adverse effects: <ul style="list-style-type: none"> ■ PRow 110/013 (33) ■ PRow 110/004 (34) ■ PRow 129/006 (36) 		
	WCH at the following PRow would experience moderate adverse effects in year 1 reducing to slight adverse in year 15: <ul style="list-style-type: none"> ■ PRow 112/008 (25) ■ PRow 112/009 (26) ■ PRow 129/004 (27) ■ PRow 129/005 (28) 				
Population and Human Health	Effects on community severance and journey amenity	WCH at the following PRow would experience permanent, direct long-term moderate adverse (significant) residual effects for community severance: <ul style="list-style-type: none"> ■ PRow 129/004 (27) ■ PRow 129/009 and 110/003 (29) ■ PRow 110/019 (30) ■ PRow 129/022 (32) ■ PRow 110/013 (33) ■ PRow 110/004 (34) ■ PRow 129/014 (35) ■ PRow 129/013 ■ PRow 129/024 			

Common receptor group	Relevant technical topic	Potential impact	Significance of residual effects	Potential combined effects	Overall combined effect on common receptor group
			<p>WCH at the following PRoW would experience permanent, direct long-term slight adverse (not significant) residual effects for journey amenity:</p> <ul style="list-style-type: none"> ■ PRoW 129/004 (27) ■ PRoW 129/005 (28) ■ PRoW 129/009 and 110/003 (29) ■ PRoW 110/019 (30) ■ PRoW 129/022 (32) ■ PRoW 110/013 (33) ■ PRoW 110/004 (34) ■ PRoW 129/014 (35) ■ PRoW 129/013 ■ PRoW 129/024 		
<p>Statutory and Non-Statutory designated ecological sites</p> <p>Refer to Figure 9.1: Statutory Designated Sites Part B [APP-153] Figure 9.2: Non-Statutory Designated Sites Part B [APP154] and Figure 9.3: Phase 1 Habitat Survey Part B [APP-155] for receptor locations</p>	Air Quality	Exposure to increased pollution (NO ₂ and PM ₁₀) from changes to traffic flow, mix and speed on designated sites and local biodiversity	There would be no residual effects after mitigation	<p>There are no residual effects on ecological receptors from air quality, noise and vibration and biodiversity after the implementation of mitigation measures as outlined within Chapter 5: Air Quality Part B [APP-041], the air quality reassessment [REP3-012], Chapter 6: Noise and Vibration Part B [APP-043], the noise addendum [REP1-019] and Chapter 9: Biodiversity Part B [APP-049].</p>	<p>Overall, there would be no combined effect (not significant) on ecological receptors during operation.</p>
	Noise and Vibration	Increase and /or reduction in noise across Part B	There would be no residual effects after mitigation		
	Biodiversity	Disturbance on local biodiversity	There would be no residual effects on ecological receptors from direct loss of habitats and/or pollution and habitat degradation.		
<p>Commercial Properties</p> <p>Refer to Figure 12.3: Properties and Commercial Facilities Part B [APP-183] for receptor locations</p>	Air Quality	Changes to air quality from changes to traffic flow, mix and speed	There are no residual effects after mitigation (not significant) on commercial properties during operation of the Scheme.	<p>There are no residual effects on users of commercial properties from air quality, noise and vibration and landscape and visual after the implementation of mitigation measures as outlined within Chapter 5: Air Quality Part B [APP-041], the air quality reassessment [REP3-012], and Chapter 7: Landscape and Visual Part B [APP-045].</p> <p>Patterson's Cottage Boarding Kennels has the potential to experience a combined effect of no worse than major beneficial</p>	<p>Overall, the combined effect would be of no worse than major beneficial (significant) to slight adverse (not significant) on commercial properties during operation</p>
	Noise and Vibration	Increase and reduction in noise across Part B	Following the application of mitigation, there would be no residual effects on commercial properties from change in noise levels from Part B with the exception of Patterson's Cottage Boarding Kennels which would experience permanent, long-term major and moderate decrease (significant) residual effects during operation.		

Common receptor group	Relevant technical topic	Potential impact	Significance of residual effects	Potential combined effects	Overall combined effect on common receptor group
	Landscape and Visual	Changes to views	No residual effects from change to views are reported within Chapter 7: Landscape and Visual [APP-045] on commercial properties during operation of Part B.	(significant) to slight adverse (not significant) from improvements in noise and changes to access.	
	Population and Human Health	Effects on journey time, access, human health and private property	All commercial properties experience slight adverse (not significant) residual effects after mitigation for access and negligible (not significant) effects for human health: <ul style="list-style-type: none"> ■ Rock Lodge Holiday Lets ■ Reading Rooms Cottage ■ The Old Stables Tea Room ■ The Armstrong Household and Farming Museum ■ Patterson's Cottage Boarding Kennels ■ Middlemoor Cottage ■ Rocking Horse Café and Gallery ■ Rock Moor House Bed and Breakfast ■ Beal ME and Sons ■ Drythroppe ■ Grahamslaw JEG and Sons ■ Blossoms Plantation Pods ■ Charlton Hall Wedding Venue ■ Lionheart Industrial Estate 		

4. SCREENING FOR CROSS TOPIC COMBINED EFFECT INTERACTIONS THE SCHEME

4.1. INTRODUCTION

- 1.3.24. **Table 4-1** identifies the common sensitive receptors from **Technical Chapters 5 to 13** of the Scheme [**APP-040 to APP-057**] that are exposed to residual effects with a significance of 'minor' or above and sensitive receptors that have the potential for cross topic combined effects. The significance of residual effect for each individual receptor has been reviewed to present the cross topic combined effects for each individual receptor. The overall combined effect for that receptor group is then provided.
- 1.3.25. As outlined in **Section 16.4, paragraph 16.4.44 and 16.4.45 of Chapter 16: Assessment of Cumulative Effects [APP-062]**, the cross topic combined effects assessment was undertaken individually for Part A (refer to **Chapter 15: Assessment of Combined Effects Part A [APP-060]** and Part B (refer to **Chapter 15: Assessment of Combined Effects Part A [APP-061]**), therefore the cross topic combined effects assessment considered within **Chapter 16: Assessment of Cumulative Effects [APP-062]** considered only sensitive receptors that are common between Part A and Part B (i.e. sensitive receptors that would be affected by both Part A and Part B when considered together).
- 1.3.26. This identified common sensitive receptors as residents within the vicinity of the Main Compound only due to the shared use of the compound for Part A and Part B and construction traffic traveling between the Main Compound and Part B.
- 1.3.27. The screening matrix for residual effects on residents during construction of The Scheme is provided in Appendix C of this Technical Note.

4.2. ASSESSMENT METHODOLOGY

- 1.3.28. The assessment methodology and legislative and policy framework is in accordance with the methodology set out in **Chapter 16: Assessment of Cumulative Effects** of the ES [**APP-062**].

4.3. UPDATED DMRB GUIDANCE

- 1.3.29. Some DMRB guidance documents were updated in 2019 and 2020 (and associated IANs replaced), by which time the EIA for the Scheme was largely complete. However, a sensitivity test was undertaken in April / May 2020 by the Applicant either to demonstrate that the assessments reported in this Environmental Statement (ES) are already compliant with the updated guidance, or to identify any changes to the conclusions of the assessments as a result of the updated guidance (determined through further assessment). A sensitivity appraisal was undertaken for the Scheme cross topic combined effects assessment.
- 1.3.30. As outlined in **paragraph 16.8.66 of Chapter 16: Assessment of Cumulative Effects of the ES [APP-062]**, the updated DMRB guidance does not affect the assessment outcomes

for construction dust, construction noise, community severance and human health receptors. For visual amenity, the updated DMRB guidance assigns scattered residential receptors and small settlements a reduced sensitivity, meaning the assessment in **Table 4-1** presents a worst case scenario. The assessment on the economy and employment is not required under the updated DMRB. Although not required under DMRB, the assessment of economy and employment has been undertaken making reference to overall significance criteria. It is considered that the assessment of economy and employment is robust and with the application of the updated guidance the conclusions of the assessment would remain unchanged. Therefore, the assessment presented in **Table 4-1** would remain unchanged as a result of the updated DMRB guidance.

4.4. MITIGATION AND MONITORING

- 1.3.31. As outlined in **Section 16.10 of Chapter 16: Assessment of Cumulative Effects [APP-062]**, no further likely combined significant residual effects have been identified above the level of significance of those reported for the Scheme alone. Therefore, no further mitigation or monitoring is required other than that set out in **Part A Technical Chapters 5 to 13 [APP-040 to APP-056]** and **Part B Technical Chapters 5 to 13 [APP-040 to APP-057]** **[APP-040 to 061]** and **Outline CEMP [REP6-025 and 026]**.
- 1.3.32. **Appendix GEN.4 Justification for Significant Residual Effects WQ GEN.1.35 [REP1-036]** provides a justification for the residual significant effects reported in **Technical Chapter 5 to Chapter 17 [APP-040 to 063]** of the ES and why no further mitigation is proposed to be implemented. As set out in **Table 3 of Appendix GEN.4 Justification for Significant Residual Effects WQ GEN.1.35 [REP1-036]**, no further mitigation measures are feasible to reduce the residual significant, cross topic combined effects anticipated as a result of the Scheme and significant effects would remain for cross topic combined effects.

Table 4-1 - Screening of Receptor Group for Cross Topic Combined Effects during Construction (The Scheme)

Common receptor group	Relevant technical topic	Potential impact	Significance of residual effects	Potential combined effects	Overall combined effect on common receptor group
Residents within the vicinity of the Main Compound that could be affected by the use of the Main Compound and construction traffic travelling between the Main Compound and Part B.	Air Quality (Part A)	Changes to air quality within 200 m of construction activities	Residents within 200m of Part A would experience no residual effects after mitigation (not significant)	<p>There are no residual effects on residents from air quality and noise and vibration after the implementation of mitigation measures as outlined within Chapter 5: Air Quality Part A [APP-040] and Part B [APP-041], and Chapter 6: Noise and Vibration Part A [APP-042] and Part B [APP-043].</p> <p>Residents have the potential to experience combined effects from landscape and visual and population and human health. Residents at the following properties have the potential to experience combined effects of no worse than slight beneficial to slight adverse (not significant) for changes to views and effects on community severance, private property, human health and socio-economics:</p> <ul style="list-style-type: none"> ■ B6345 (The Boarding House) (R26) ■ Hemelspeth (R27) ■ Glenshotton (R28) ■ Cahone Cottage (R31) ■ Tithemans Cottage (R32) ■ Thirston New Houses (R33) <p>Residents at the following properties have the potential to experience combined effects of no worse than slight beneficial to moderate adverse (significant) for change to views and effects on community severance, private property, human health and socio-economics:</p> <ul style="list-style-type: none"> ■ Thirston New House (R34) 	Overall, when considering the air quality, noise and vibration as well as population and human health effects along with the visual effects, the Scheme would have a combined temporary, residual effect of no worse than moderate adverse to slight beneficial significance on residents closest to the Scheme during construction
	Air Quality (Part B)	Changes to air quality within 200 m of construction activities	Residents located within the vicinity of the Main Compound would experience no residual effects after mitigation from changes to air quality associated with construction of Part B.		
	Noise and Vibration (Part A)	Increased noise and vibration levels within 300 m of construction activities	Residents within 300m of Part A would experience no residual effects after mitigation (not significant)		
	Noise and Vibration (Part B)	Increased noise and vibration levels within 300 m of construction activities	Residents located within the vicinity of the Main Compound would experience no residual effects after mitigation from noise and vibration associated with construction of Part B.		
	Landscape and Visual (Part A)	Changes to views	<p>Residents at the following properties would experience temporary, direct short-term neutral (not significant) residual effects:</p> <ul style="list-style-type: none"> ■ Glenshotton (R28) ■ Cahone Cottage (R31) ■ Thirston New Houses (R33) <p>Residents at the following properties would experience temporary, direct short-term slight adverse (not significant) residual effects:</p> <ul style="list-style-type: none"> ■ B6345 (The Boarding House) (R26) ■ Hemelspeth (R27) ■ Tithemans Cottage (R32) 		

Common receptor group	Relevant technical topic	Potential impact	Significance of residual effects	Potential combined effects	Overall combined effect on common receptor group
			Residents at the following properties would experience temporary, direct short-term moderate adverse (significant) residual effects: <ul style="list-style-type: none"> ▪ Thirston New House (R34) 		
	Landscape and Visual (Part B)	Changes to Views	Residents located within the vicinity of the Main Compound would experience no residual effects after mitigation for changes to views from construction of Part B.		
	Population and Human Health (Part A)	Effects on community severance, human health and socio-economic benefits	Residents at the following properties would experience temporary, direct short-term slight adverse (not significant) residual effects for community severance: <ul style="list-style-type: none"> ▪ B6345 (The Boarding House) (R26) ▪ Hemelspeth (R27) ▪ Glenshotton (R28) ▪ Cahone Cottage (R31) ▪ Tithemans Cottage (R32) ▪ Thirston New Houses (R33) ▪ Thirston New House (R34) 		
			Residents at the following properties would experience temporary, direct short-term slight adverse (not significant) residual effects for private property: <ul style="list-style-type: none"> ▪ B6345 (The Boarding House) (R26) ▪ Hemelspeth (R27) ▪ Glenshotton (R28) ▪ Cahone Cottage (R31) ▪ Tithemans Cottage (R32) ▪ Thirston New Houses (R33) ▪ Thirston New House (R34) 		

Common receptor group	Relevant technical topic	Potential impact	Significance of residual effects	Potential combined effects	Overall combined effect on common receptor group
			<p>Residents at the following properties would experience temporary, direct short-term slight adverse (not significant) residual effects for human health:</p> <ul style="list-style-type: none"> ■ B6345 (The Boarding House) (R26) ■ Hemelspeth (R27) ■ Glenshotton (R28) ■ Cahone Cottage (R31) ■ Tithemans Cottage (R32) ■ Thirston New Houses (R33) ■ Thirston New House (R34) 		
	Population and Human Health (Part B)	Effects on community severance, human health and socio-economic:	<p>The construction stage would see a beneficial, temporary effect on the local economy through enhancing local labour and supporting local business through expenditure from direct spend on materials for Part A. There may also be beneficial effects from any construction labour employed from outside the region who would need to use local hotels and/or restaurants. Therefore, there is likely to be a direct, temporary effect on local (Northumberland) receptors including local residents of minor beneficial significance (not significant).</p>		
			<p>Residents located within the vicinity of the Main Compound would experience negligible (not significant) residual effects for human health as a result of Part B using the Main Compound during construction.</p> <p>Residents located within the vicinity of the Main Compound would experience no residual effects after mitigation for community severance from construction of Part B.</p> <p>The construction stage would see a beneficial, temporary effect on the local</p>		

Common receptor group	Relevant technical topic	Potential impact	Significance of residual effects	Potential combined effects	Overall combined effect on common receptor group
			economy through enhancing local labour and supporting local business through expenditure from direct spend on materials for Part B. There may also be beneficial effects from any construction labour employed from outside the region who would need to use local hotels and/or restaurants. Therefore, there is likely to be a direct, temporary effect on local (Northumberland) receptors including local residents of minor beneficial significance (not significant).		

Appendix A

SCREENING MATRIX (PART A)

A1 Morpeth to Ellingham, Part A: Morpeth to Felton

	Air Quality	Noise and Vibration	Landscape and Visual	Cultural Heritage	Biodiversity	Road Drainage and Water	Geology and Soils	Population and Human Health	Material Resources
Sensitive Receptor									
CONSTRUCTION									
RESIDENTS	P	P	P					P	
R9: Longfield Cottage			Moderate Adverse					Human Health Slight adverse	
R17: Ardyne			Slight Adverse					Human Health Slight adverse	
R18: Bothy Lodge			Slight Adverse					Human Health Slight adverse	
R19: The Old Sawmill			Slight Adverse					Human Health Slight adverse	
R20: Felton Park			Slight Adverse					Human Health Slight adverse	
R21: St Mary's House			Slight Adverse					Human Health Slight adverse	
R24: B6345 (The Nook) (4 properties)			Slight Adverse					Human Health Slight adverse	
R25: B6345 (Riverside House) (4 properties)			Slight Adverse					Human Health Slight adverse	
R26: B6345 (The Boarding House) (6 properties)			Slight Adverse					Human Health Slight adverse	
R27: Hemelspeth (1 property)			Slight Adverse					Human Health Slight adverse	
R30: Shothaugh Farm			Slight Adverse					Human Health Slight adverse	
R32: Tithemans Cottage			Slight Adverse					Physical Asset (access) Slight adverse Human Health Slight adverse	

R34: Thirston New House						Physical Asset (access) Slight adverse Human Health Slight adverse	
R35: The Cottage						Physical Asset (access) Slight adverse Human Health Slight adverse	
R36: West Moor House						Physical Asset (access) Slight adverse Human Health Slight adverse	
R37: West Moorhouse (4 properites)						Physical Asset (access) Slight adverse Human Health Slight adverse	
R40: Blackwood Hall						Physical Asset (access) Slight adverse Human Health Slight adverse	
R42: Bockenfield						Human Health Slight adverse	
R43: Bockenfield Manor						Human Health Slight adverse	
R47: Helm (2 properties)						Human Health Slight adverse	
R48: Causey Park Lodge (North)						Physical Asset (access) Slight adverse Human Health Slight adverse	
R49: Causey Park Lodge (South)						Human Health Slight adverse	
R50: Causey Hag (2 properties)						Physical Asset (access) Slight adverse Human Health Slight adverse	
R51: Causey Park						Physical Asset (access) Slight adverse Human Health Slight adverse	
R56: New Build Off Causey Park						Physical Asset (access) Slight adverse Human Health Slight adverse	
R57: Four Gables						Physical Asset (access) Slight adverse Human Health Slight adverse	
R58: Joiners Cottage						Physical Asset (access) Slight adverse Human Health Slight adverse	
R59: The Bungalow						Physical Asset (access) Slight adverse Human Health Slight adverse	

R60: Bridge House	No Residual Effects After Mitigation	No Residual Effects After Mitigation	Large Adverse					Physical Asset (access) Slight adverse Human Health Slight adverse	
R61: The Oak Inn			Moderate Adverse					Human Health Slight adverse	
R62: High Trees								Physical Asset (access) Slight adverse Human Health Slight adverse	
R63: Field View								Physical Asset (access) Slight adverse Human Health Slight adverse	
R64: Thornbank			Slight Adverse					Physical Asset (access) Slight adverse Human Health Slight adverse	
R65: New Houses Farm			Moderate Adverse					Physical Asset (access) Slight adverse Human Health Slight adverse	
R66: Earsdon Mill			Slight Adverse					Physical Asset (access) Slight adverse Human Health Slight adverse	
R68: Tindale Hill			Large Adverse					Physical Asset (access) Slight adverse Human Health Slight adverse	
R69: Earsdon Moor House			Slight Adverse					Human Health Slight adverse	
R70: Earsdon Moor Farm			Large Adverse					Physical Asset (access) Slight adverse Human Health Slight adverse	
R71: Portland House			Moderate Adverse					Human Health Slight adverse	
R72: Welbeck House (2 properties)			Moderate Adverse					Human Health Slight adverse	
R73: The Old School (1 properties)			Moderate Adverse					Human Health Slight adverse	
R74: South View			Slight Adverse					Human Health Slight adverse	
R76: Shield Green (2 properties)			Slight Adverse					Human Health Slight adverse	
R78: Stonebrook Cottage (5 properties)	Moderate Adverse					Human Health Slight adverse			

R79: East Fenrother (3 properties)						Human Health Slight adverse	
R80: Middel Fenrother (4 properties)						Human Health Slight adverse	
R81: Fenrother (4 properties)						Human Health Slight adverse	
R84: Gamekeepers Cottage						Human Health Slight adverse	
R87: Hebron Hill (The Cottage)						Human Health Slight adverse	
R93: Strafford House						Physical Asset (access) Slight adverse Human Health Slight adverse	
R94: High Highlaws Cottage						Physical Asset (access) Slight adverse Human Health Slight adverse	
R95: High Highlaws						Physical Asset (access) Slight adverse Human Health Slight adverse	
R96: Capri Lodge						Physical Asset (access) Slight adverse Human Health Slight adverse	
R97: Warreners Barns (2 properties)						Physical Asset (access) Slight adverse Human Health Slight adverse	
R98: Northgate Farm						Physical Asset (access) Slight adverse Human Health Slight adverse	
R99: North Gate House						Physical Asset Moderate Adverse (loss of prop) Human Health Slight adverse	
R100: Warreners Cottages (2 properties)						Physical Asset (access) Slight adverse Human Health Slight adverse	
R101: Warreners House						Physical Asset (access) Slight adverse Human Health Slight adverse	
R102: Warreners House (2)						Physical Asset (access) Slight adverse Human Health Slight adverse	
	Moderate Adverse						
	Slight Adverse						
	Slight Adverse						
	Slight Adverse						
	Slight Adverse						
	Large Adverse						
	Moderate Adverse						
	Moderate Adverse						
	Large Adverse						
	Large Adverse						
	Large Adverse						
	Not assessed as being demolished						
	Large Adverse						
	Large Adverse						
	Large Adverse						

R107: West View (2 properties)			Slight Adverse					Physical Asset (access) Slight adverse Human Health Slight adverse	
R108: West View (8 properties)			Slight Adverse					Physical Asset (access) Slight adverse Human Health Slight adverse	
R109: West View (2 properties)			Slight Adverse					Physical Asset (access) Slight adverse Human Health Slight adverse	
R110: Middle Rigg			Slight Adverse					Physical Asset (access) Slight adverse Human Health Slight adverse	
AREAS OF AMENITY SURROUNDING PART A	P	P	P	P			P	P	
35a Broad Lowland Valley - Coquet Valley	No Residual Effects After Mitigation	No Residual Effects After Mitigation	Moderate (localised large adverse around the bridge construction)					Slight adverse (pollution on River Coquet which is located in this LCA)	Journey amenity Slight adverse Human health Slight adverse
35b (2) Broad Lowland Valley - Northgate	No Residual Effects After Mitigation	No Residual Effects After Mitigation	Slight Adverse					No Residual Effects After Mitigation	Journey amenity Slight adverse Human health Slight adverse
37a Lowland Farm Ridges - Wingates Ridge	No Residual Effects After Mitigation	No Residual Effects After Mitigation	Slight Adverse					No Residual Effects After Mitigation	Journey amenity Slight adverse Human health Slight adverse
38a Lowland Rolling Farmland - Longframlington	No Residual Effects After Mitigation	No Residual Effects After Mitigation	Slight Adverse					No Residual Effects After Mitigation	Journey amenity Slight adverse Human health Slight adverse
38b Lowland Rolling Farmland - Longhorsley	No Residual Effects After Mitigation	No Residual Effects After Mitigation	Moderate Adverse	Removal of Grade II Listed Building Milepost	Slight Adverse (not significant)			No Residual Effects After Mitigation	Journey amenity Slight adverse Human health Slight adverse
38b (1) Lowland Rolling Farmland - Hub of Recreational Activity	No Residual Effects After Mitigation	No Residual Effects After Mitigation	Slight Adverse					No Residual Effects After Mitigation	Journey amenity Slight adverse Human health Slight adverse
39a Coalfield Farmland - Coastal Coalfields	No Residual Effects After Mitigation	No Residual Effects After Mitigation	Slight Adverse					No Residual Effects After Mitigation	Journey amenity Slight adverse Human health Slight adverse

17 Coquet Valley (Alnwick Landscape Character SPD Adopted May 2010)	No Residual Effects After Mitigation	No Residual Effects After Mitigation	Moderate Adverse* (localised Large Adverse around the bridge construction)				No Residual Effects After Mitigation	Journey amenity Slight adverse Human health Slight adverse	
ROAD USERS			P					P	
VP-21, VP-19, VP-9 - Users of the A1 - section 1 for Driver Stress			Slight adverse					Driver Stress No overall change in driver stress Vehivle travellers (views) moderate adverse	
VP-4 - View looking west from Hebron Road within the vicinity of the Church of St Cuthbert - section 3 Driver Stress			Moderate Adverse					Driver Stress No overall change in driver stress	
VP-13 - View looking west from the Widdrington Road at the Bungalow - section 7 for Driver Stress			Slight adverse					Driver Stress No overall change in driver stress	
VP-27 - View looking north-east from Howdens Glebe cottages, off West Moor Road - section 12 Driver Stress			Large Adverse					Driver Stress No overall change in driver stress	
VP-28 - View looking east from PRow (422/011) adjacent to Burgham Park Golf and Leisure Club - section 10 Driver Stress			Moderate Adverse					Driver Stress No overall change in driver stress	
VP-31 - View looking east from Causey Park Hag/Causey Park Road - section 8 Driver Stress			Moderate Adverse					Driver Stress No overall change in driver stress	
VP-35 - View looking east from Fenrother Lane (west) at Fenrother - section 5 Driver Stress			Slight adverse					Driver Stress No overall change in driver stress	
USERS OF FOOTPATHS AND PUBLIC RIGHTS OF WAY (WALKING, CYCLING AND HORSE RIDING)									
407/013:Footpath			Slight Adverse					Community Severance Moderate adverse Human Health Slight adverse Journey Amenity Slight Adverse	
407/012: Bridleway			Slight Adverse					Human Health Slight adverse Journey Amenity Slight Adverse	

407/010: Bridleway	No Residual Effects After Mitigation	No Residual Effects After Mitigation	Moderate Adverse					Community Severance Moderate adverse Journey Amenity Slight Adverse	
407/004: Footpath			Slight Adverse					Human Health Slight adverse Journey Amenity Slight Adverse	
407/018: Footpath			Large Adverse					Community Severance Moderate adverse Journey Amenity Slight Adverse	
407/001: Footpath			Slight Adverse					Community Severance Slight adverse Journey Amenity Slight Adverse	
407/002: Footpath			Slight Adverse					Community Severance Slight adverse Journey Amenity Slight Adverse	
423/001: Footpath			Large Adverse					Community Severance Moderate adverse Journey Amenity Slight Adverse	
423/002: Footpath			Large Adverse					Community Severance Slight adverse Journey Amenity Slight Adverse	
423/006: Footpath			Large Adverse					Community Severance Moderate adverse Journey Amenity Slight Adverse	
423/008: Footpath			Slight Adverse					Journey Amenity Slight Adverse	
423/013: Footpath			Large Adverse					Community Severance Moderate adverse Journey Amenity Slight Adverse	
423/011: Footpath			Large Adverse					Journey Amenity Slight Adverse	
422/018: Byway open to all traffic			Slight Adverse					Journey Amenity Slight Adverse	
422/011: Footpath			Slight Adverse					Community Severance Moderate adverse Journey Amenity Slight Adverse	
422/003: Footpath			Slight Adverse					Journey Amenity Slight Adverse	

422/020: Footpath			Large Adverse					Community Severance Moderate adverse Journey Amenity Slight Adverse	
115/009 St Oswald's Way: Long Distance Trail			Large Adverse					Journey Amenity Slight Adverse	
115/008: Footpath			Slight Adverse					Community Severance Moderate adverse Journey Amenity Slight Adverse	
115/016: Footpath			Large Adverse					Community Severance Moderate adverse Journey Amenity Slight Adverse	
115/013: Footpath			Slight Adverse					Community Severance Moderate adverse Journey Amenity Slight Adverse	
422/002: Footpath			Slight Adverse					Community Severance Moderate adverse Journey Amenity Slight Adverse	
422/001: Footpath			Slight Adverse					Journey Amenity Slight Adverse	
422/009: Footpath			Slight Adverse					Journey Amenity Slight Adverse	
423/007								Community Severance Moderate adverse Journey Amenity Slight Adverse	
115/009								Community Severance Moderate adverse* Journey Amenity Slight Adverse	
407/019								Community Severance Slight adverse Journey Amenity Slight Adverse	
STATUTORY AND NON-STATUTORY DESIGNATED ECOLOGICAL SITES/LOCAL BIODIVERSITY	P	P			P	P			
River Coquet and Coquet Valley Woodlands SSSI	No Residual Effects After Mitigation	No Residual Effects After Mitigation			Very Large Adverse				
Coquet River Felton Park LWS	No Residual Effects After Mitigation	No Residual Effects After Mitigation			Moderate Adverse				
Duke Bank Wood ancient woodland	No Residual Effects After Mitigation	No Residual Effects After Mitigation			Very Large Adverse				

Broadleaved woodland - semi-natural	No Residual Effects After Mitigation	No Residual Effects After Mitigation			Moderate Beneficial				
Neutral grassland - semi-improved	No Residual Effects After Mitigation	No Residual Effects After Mitigation			Moderate Beneficial				
Arable field margins	No Residual Effects After Mitigation	No Residual Effects After Mitigation			Slight Adverse				
Hedgerow	No Residual Effects After Mitigation	No Residual Effects After Mitigation			Slight Adverse				
Watercourses	No Residual Effects After Mitigation	No Residual Effects After Mitigation			Slight Adverse	Neutral to slight adverse on watercourses			
Fish	No Residual Effects After Mitigation	No Residual Effects After Mitigation			Slight Adverse				
Aquatic invertebrates	No Residual Effects After Mitigation	No Residual Effects After Mitigation			Slight Adverse				
Watercourses:									
Fenrother Burn	No Residual Effects After Mitigation	No Residual Effects After Mitigation				Neutral-Slight Adverse			
Cotting Burn	No Residual Effects After Mitigation	No Residual Effects After Mitigation				Neutral-Slight Adverse			
Shieldhill Burn	No Residual Effects After Mitigation	No Residual Effects After Mitigation				Neutral-Slight Adverse			
Floodgate Burn	No Residual Effects After Mitigation	No Residual Effects After Mitigation				Neutral-Slight Adverse			
River Lyne	No Residual Effects After Mitigation	No Residual Effects After Mitigation				Neutral-Slight Adverse			
Unamed tributary of Thirston Burn	No Residual Effects After Mitigation	No Residual Effects After Mitigation				Neutral-Slight Adverse			
Earsdon Burn	No Residual Effects After Mitigation	No Residual Effects After Mitigation				Neutral-Slight Adverse			
Longdike Burn	No Residual Effects After Mitigation	No Residual Effects After Mitigation				Neutral-Slight Adverse			
Bradley Brook and Back Burn	No Residual Effects After Mitigation	No Residual Effects After Mitigation				Neutral-Slight Adverse			
COMMERCIAL PROPERTIES	P	P	P					P	

Eshott Airfield (C17)	No Residual Effects After Mitigation	No Residual Effects After Mitigation	Slight Adverse					Physical Asset (access) Slight adverse Human Health Slight adverse	
Burgham Park Golf Course (C05)			Slight Adverse					Physical Asset (access) Slight adverse Human Health Slight adverse	
Bockenfield Holiday Park / Felmoor Park (C14 and C15)			Slight Adverse					Physical Asset (access) Slight adverse Human Health Slight adverse	
The shooting ground at Bywell (C07)			Slight Adverse					Physical Asset (access) Slight adverse Human Health Slight adverse	
Oak Inn (Public House) (C02)			Moderate Adverse					Physical Asset (access) Slight adverse Human Health Slight adverse	
Jackson G K and Sons garage (C13)			Moderate Adverse					Physical Asset (access) Slight adverse Human Health Slight adverse	
Heighley Gate Garden Centre (C01)			Slight Adverse					Physical Asset (access) Slight adverse Human Health Slight adverse	
G Youll & Son Fencing (C04)								Physical Asset (access) Slight adverse Human Health Slight adverse	
Causey Park Bridge Café (C03)								Physical Asset (access) Slight adverse Human Health Slight adverse	
Coquet Cottages (shown as Sunflower and Clover Cottages) (C06)								Physical Asset (access) Slight adverse Human Health Slight adverse	
Northumberland Canine Centre (C08)						Physical Asset (access) Slight adverse Human Health Slight adverse			

Jet Petrol Station (C10)								Physical Asset (access) Slight adverse Human Health Slight adverse	
Londis Supermarket (C11)								Physical Asset (access) Slight adverse Human Health Slight adverse	
The Quilt Shop (C12)								Physical Asset (access) Slight adverse Human Health Slight adverse	
Northumberland Woodland Burials (C18)								Physical Asset (access) Slight adverse Human Health Slight adverse	
Thurston Garage (C19)								Physical Asset (access) Slight adverse Human Health Slight adverse	
Command Zone Paintball (C20)								Physical Asset (access) Slight adverse Human Health Slight adverse	
Alnorthumbria Veterinary Practice (C09)								Physical Asset (access) Slight adverse Human Health Slight adverse	
ENTERPRISES							P	P	
Bywell Farm							Minor	Minor adverse	
Thirston New Houses							Negligible	negligible	
Hebron West Farm							Minor	Minor adverse	
Clarehugh							Moderate	Moderate adverse	
Hemelspeth Farm							Moderate	Moderate adverse	
Highlaws							Minor	Minor adverse	
Causey Park							Moderate	Moderate adverse	
Hebron Hill							Minor	Minor adverse	
East Fenrother Farm							Minor	Minor adverse	
West Moor							Minor	Minor adverse	
Other 8 (A)							Minor	Minor adverse	
(B)							Minor	Minor adverse	
©							Moderate	Moderate adverse	
(D)							Minor	Minor adverse	
€							Minor	Minor adverse	
(F)							negligible	Minor adverse	
(G)							Minor	Minor adverse	

(H)							Minor	Minor adverse	
COMMUNITY FACILITIES	P	P	P					P	
Tritlington School / Tritlington Church of England School ©	No Residual Effects After Mitigation	No Residual Effects After Mitigation	Moderate Adverse					Physical Asset (access) Slight adverse Human Health Slight adverse	
Fairmoor Cemetery (A)								Physical Asset (access) Slight adverse Human Health Slight adverse	
Northgate Hospital (B)								Physical Asset (access) Slight adverse Human Health Slight adverse	
H of St Michael and All Angels (D)								Human Health Slight adverse	
Felton Surgery URC Church €								Human Health Slight adverse	
Felton Church or England Primary School (F)								Human Health Slight adverse	
Felton Post Office (G)								Human Health Slight adverse	
Felton Recreational Field (H)								Human Health Slight adverse	

A1 Morpeth to Ellingham, Part A: Morpeth to Felton

Sensitive Receptor	Air Quality	Noise and Vibration	Landscape and Visual	Cultural Heritage	Biodiversity	Road Drainage and Water	Geology and Soils	Population and Human Health	Material Resources
OPERATION									
RESIDENTS	P	P	P					P	
R2: Swarland Dene (2 properties)	No Residual Effects After Mitigation	Minor adverse (not significant)							
R8: Cowslip Hill (3 properties)	No Residual Effects After Mitigation	Minor to negligible beneficial (not significant)							
R9: Longfield Cottage	No Residual Effects After Mitigation	Minor to negligible beneficial (not significant)	Slight Adverse						
R17: Ardyne	No Residual Effects After Mitigation		Slight Adverse in Year 1 reducing to Neutral in Year 15						
R18: Bothy Lodge	No Residual Effects After Mitigation		Slight Adverse in Year 1 reducing to Neutral in Year 15						
R19: The Old Sawmill	No Residual Effects After Mitigation		Slight Adverse in Year 1 reducing to Neutral in Year 15						
R20: Felton Park	No Residual Effects After Mitigation		Slight Adverse in Year 1 reducing to Neutral in Year 15						
R21: St Mary's House	No Residual Effects After Mitigation		Slight Adverse in Year 1 reducing to Neutral in Year 15						
R24: B6345 (The Nook) (4 properties)	No Residual Effects After Mitigation		Slight Adverse in Year 1 reducing to Neutral in Year 15						
R25: B6345 (Riverside House) (4 properties)	No Residual Effects After Mitigation		Slight Adverse in Year 1 reducing to Neutral in Year 15						
R26: B6345 (The Boarding House) (6 properties)	No Residual Effects After Mitigation		Slight Adverse in Year 1 reducing to Neutral in Year 15						

R27: Hemelspeth (1 property)	No Residual Effects After Mitigation		Slight Adverse						
R30: Shothaugh Farm	No Residual Effects After Mitigation		Slight Adverse						
R32: Tithemans Cottage	No Residual Effects After Mitigation		Slight Adverse in Year 1 reducing to Neutral in Year 15						
R34: Thirston New House	No Residual Effects After Mitigation		Moderate Adverse in Year 1 reducing to Slight Adverse in Year 15						
R35: The Cottage	No Residual Effects After Mitigation	Major to moderate decrease (significant)	Large Adverse in Year 1 reducing to Moderate Adverse in Year 15						
R36: West Moor House	increase in pollutants (not significant)	Minor to negligible beneficial (not significant)	Large Adverse in Year 1 reducing to Moderate Adverse in Year 15						
R37: West Moorhouse (4 properties)	No Residual Effects After Mitigation	Minor to negligible beneficial (not significant)	Large Adverse in Year 1 reducing to Moderate Adverse in Year 15						
R38: West Moor Plantation Cottage	No Residual Effects After Mitigation	Minor to negligible beneficial (not significant)							
R39: West Moor Plantation	No Residual Effects After Mitigation	Minor adverse (not significant)							
R41: The Paddock	No Residual Effects After Mitigation	Minor to negligible beneficial (not significant)							
R42: Bockenfield	No Residual Effects After Mitigation	Minor to negligible beneficial (not significant)							
R43: Bockenfield Manor	No Residual Effects After Mitigation	Minor to negligible beneficial (not significant)	Slight Adverse in Year 1 reducing to Neutral in Year 15						
R44: The Arches	No Residual Effects After Mitigation	Minor to negligible beneficial (not significant)							

R45: Burgham	No Residual Effects After Mitigation	Minor to negligible beneficial (not significant)							
R46: Home Cottage	No Residual Effects After Mitigation	Major to moderate decrease (significant)							
R47: Helm (2 properties)	No Residual Effects After Mitigation	Major to moderate decrease (significant)	Slight Adverse in Year 1 reducing to No change in Year 15						
R48: Causey Park Lodge	No Residual Effects After Mitigation	Major to moderate decrease (significant)	Moderate Adverse in Year 1 reducing to Slight Adverse in Year 15						
R49 Causey Park Lodge South	No Residual Effects After Mitigation	Major to moderate decrease (significant)	Neutral						
R50: Causey Park Hag (2 properties)	potential increase in pollutants (not significant) in properties at		Moderate Adverse in Year 1 reducing to Slight Adverse in Year 15						
R51: Causey Park	potential increase in pollutants (not significant) in properties at Causey Oark		Slight Adverse						
R56: New Build Off Causey Park	No Residual Effects After Mitigation	Major to moderate decrease (significant)	Moderate Adverse in Year 1 reducing to Slight Adverse in Year 15						
R57: Four Gables	No Residual Effects After Mitigation	Major beneficial (PNB2)	Moderate Adverse in Year 1 reducing to Slight Adverse in Year 15						
R58: Joiners Cottage	No Residual Effects After Mitigation	major or moderate increase (significant)	Large Adverse in Year 1 reducing to Moderate Adverse in Year 15						
R59: The Bungalow	No Residual Effects After Mitigation	major or moderate increase (significant)	Large Adverse in Year 1 reducing to Moderate Adverse in Year 15						
R60: Bridge House	No Residual Effects After Mitigation		Large Advserse in Year 1 reducing to Slight Adverse in Year 15						

R61: The Oak Inn	reduction in pollutants (not significant)	Major to moderate decrease (significant)	Slight Adverse						
R62: High Trees	No Residual Effects After Mitigation	Major to moderate decrease (significant)							
R63: Field View	No Residual Effects After Mitigation	Major to moderate decrease (significant)							
R64: Thornbank	No Residual Effects After Mitigation	Major to moderate decrease (significant)	Slight Beneficial						
R65: New Houses Farm	No Residual Effects After Mitigation	Major increase (significant)	Slight Adverse					Physical Asset (access) Slight beneficial	
R66: Earsdon Mill	No Residual Effects After Mitigation	Major to moderate decrease (significant)	Slight Beneficial						
R67: Earsdon Cottage	No Residual Effects After Mitigation	Major to moderate decrease (significant)	Neutral						
R68: Tindale Hill	reduction in pollutants (not significant)	moderate increase (significant)	Large Adverse in Year 1 reducing to Moderate Adverse in Year 15						
R69: Earsdon Moor House	No Residual Effects After Mitigation	Major to moderate decrease (significant)							
R70: Earsdon Moor Farm	No Residual Effects After Mitigation	Major to moderate decrease (significant)	Large Adverse in Year 1 reducing to Moderate Adverse in Year 15						
R71: Portland House	No Residual Effects After Mitigation	Major to moderate decrease (significant)	Moderate Adverse						
R72: Welbeck House (2 properties)	No Residual Effects After Mitigation	Major to moderate decrease (significant)	Moderate Adverse						
R73: The Old School (1 property)	No Residual Effects After Mitigation	Major to moderate decrease (significant)	Slight Adverse						

R74: South View	No Residual Effects After Mitigation	Major to moderate decrease (significant)	Slight Adverse						
R75 : Shield Green (2 properties)	No Residual Effects After Mitigation	Minor to negligible beneficial (not significant)							
R76: Shield Green (2 properties)	No Residual Effects After Mitigation	Minor to negligible beneficial (not significant)	Slight Adverse						
R78: Stonebrook Cottage (5 properties)	No Residual Effects After Mitigation	moderate increase (significant)	Moderate Adverse in Year 1 reducing to Slight Adverse in Year 15						
R79: East Fenrother (3 properties)	No Residual Effects After Mitigation	moderate increase (significant)	Moderate Adverse in Year 1 reducing to Slight Adverse in Year 15						
R80: Middle Fenrother (4 properties)	No Residual Effects After Mitigation		Slight Adverse						
R81: Fenrother properties (4 properties)	No Residual Effects After Mitigation		Slight Adverse						
R82 Priest Bridge House	No Residual Effects After Mitigation	Major to moderate decrease (significant)							
R83: Woodlands	No Residual Effects After Mitigation	Major to moderate decrease (significant)							
R84: Gamekeepers Cottage	No Residual Effects After Mitigation	Minor adverse (not significant)	Slight Adverse in Year 1 reducing to Neutral in Year 15						
R87: Hebron Hill (The Cottage)	No Residual Effects After Mitigation		Slight Adverse					Physical Asset (access) Slight beneficial	
R88: Hebron Hill Farm	No Residual Effects After Mitigation							Physical Asset (access) Slight beneficial	
R89: West Farm Cottage (3 properties)	No Residual Effects After Mitigation	Minor adverse (not significant)							
R90: Hebron West Farm	No Residual Effects After Mitigation	Minor adverse (not significant)							

R91: Keepers Cottage	No Residual Effects After Mitigation	Minor adverse (not significant)							
R92: The Blacksmiths Cottage (5 properties)	No Residual Effects After Mitigation	Minor adverse (not significant)							
R93: Strafford House	No Residual Effects After Mitigation	Minor to negligible beneficial (not significant)	Moderate Adverse					Physical Asset (access) Slight beneficial	
R94: High Highlaws Cottage	No Residual Effects After Mitigation		Moderate Adverse in Year 1 reducing to Slight Adverse in Year 15						
R95: High Highlaws	No Residual Effects After Mitigation		Slight Adverse						
R96: Capri Lodge	No Residual Effects After Mitigation	Minor to negligible beneficial (not significant)	Slight Adverse					Physical Asset (access) Slight beneficial	
R97: Warreners Barns (2 properties)	No Residual Effects After Mitigation	Minor to negligible beneficial (not significant)	Slight Adverse					Physical Asset (access) Slight beneficial	
R98: Northgate Farm	increase in pollutants (not significant)	minor increase (if no PNB1)	Slight Adverse					Physical Asset (access) Slight beneficial	
R99: North Gate House	No Residual Effects After Mitigation	Minor to negligible beneficial (not significant)							
R100: Warreners Cottages (2 properties)	No Residual Effects After Mitigation	Major to moderate decrease (significant)	Slight Adverse					Physical Asset (access) Slight beneficial	
R101: Warreners House	No Residual Effects After Mitigation	Minor to negligible beneficial (not significant)	Slight Adverse					Physical Asset (access) Slight beneficial	
R102: Warreners House (2)	No Residual Effects After Mitigation	Minor to negligible beneficial (not significant)	Slight Adverse					Physical Asset (access) Slight beneficial	
R107: West View	No Residual Effects After Mitigation	Minor to negligible beneficial (not significant)							

R108: West View	No Residual Effects After Mitigation	Minor to negligible beneficial (not significant)							
AREAS OF AMENITY SURROUNDING PART A	P	P	P			P		P	
35a Broad Lowland Valley - Coquet Valley	No Residual Effects After Mitigation	No Residual Effects After Mitigation	Slight Adverse			No Residual Effects After Mitigation		Slight adverse (not significant) on recreational use of River Coquet and Felton Park human	
35b (2) Broad Lowland Valley - Northgate	No Residual Effects After Mitigation	No Residual Effects After Mitigation	Slight Adverse in Year 1 reducing to Neutral in Year 15			No Residual Effects After Mitigation			
38b Lowland Rolling Farmland - Longhorsley	No Residual Effects After Mitigation	No Residual Effects After Mitigation	Moderate Adverse in Year 1 reducing to Slight Adverse in Year 15			No Residual Effects After Mitigation			
39a Coalfield Farmland - Coastal Coalfields	No Residual Effects After Mitigation	No Residual Effects After Mitigation	Slight Adverse in Year 1 reducing to Neutral in Year 15			No Residual Effects After Mitigation			
17 Coquet Valley (Alnwick Landscape Character SPD Adopted May 2010)	No Residual Effects After Mitigation	No Residual Effects After Mitigation	Slight Adverse			No Residual Effects After Mitigation			
Works within Watercourses	No Residual Effects After Mitigation	No Residual Effects After Mitigation	No Residual Effects After Mitigation			Slight Adverse			
ROAD USERS		P	P					P	
VP-21, VP-19, VP-9 - Users of the A1			Slight adverse year 1 to neutral year 15.					Driver Stress Slight Beneficial	
VP-4 - View looking west from Hebron Road within the vicinity of the Church of St Cuthbert - section 3 Driver Stress		minor adverse on st cuthbert church	Moderate Adverse in Year 1 reducing to Slight Adverse in Year 15					Driver Stress Slight Beneficial	
VP-13 - View looking west from the Widdrington Road at the Bungalow - section 7 for Driver Stress			Slight adverse year 1 reducing to neutral in Year 15					Driver Stress Slight Beneficial	
VP-27 - View looking north-east from Howdens Glebe cottages, off West Moor Road - section 12 Driver Stress			Moderate Adverse Year 1 and Year 15					Driver Stress Slight Beneficial	
VP-28 - View looking east from PRow (422/011) adjacent to Burgham Park Golf and Leisure Club - section 10 Driver Stress			Moderate Adverse in Year 1 reducing to Slight Adverse in Year 15					Driver Stress Slight Beneficial	
VP-31 - View looking east from Causey Park Hag/Causey Park Road - section 8 Driver Stress			Moderate Adverse in Year 1 reducing to Slight Adverse in Year 15					Driver Stress Slight Beneficial	
VP-35 - View looking east from Fenrother Lane (west) at Fenrother - section 5 Driver Stress			Slight adverse year 1 and year 15					Driver Stress Slight Beneficial	
USERS OF FOOTPATHS AND PUBLIC RIGHTS OF WAY (W	P	P	P					P	

407/010: Bridleway	No Residual Effects After Mitigation	No Residual Effects After Mitigation	Slight Adverse in Year 1 reducing to Neutral in Year 15					Journey Amenity Slight Adverse	
407/004: Footpath	No Residual Effects After Mitigation	No Residual Effects After Mitigation	Slight Adverse in Year 1 reducing to Neutral in Year 15					Journey Amenity Slight Adverse	
407/018: Footpath	No Residual Effects After Mitigation	No Residual Effects After Mitigation	Large Adverse in Year 1 reducing to Slight Adverse in Year 15					Community Severance Slight beneficial Journey Amenity Slight Adverse	
423/001: Footpath	No Residual Effects After Mitigation	No Residual Effects After Mitigation	Large Adverse in Year 1 reducing to Moderate Adverse in Year 15					Community Severance Moderate adverse Journey Amenity Slight Adverse	
423/002: Footpath	No Residual Effects After Mitigation	No Residual Effects After Mitigation	Slight Adverse					Journey Amenity Slight Adverse	
423/006: Footpath	No Residual Effects After Mitigation	No Residual Effects After Mitigation	Large Adverse in Year 1 reducing to Moderate Adverse in Year 15					Journey Amenity Slight Adverse	
423/008: Footpath	No Residual Effects After Mitigation	No Residual Effects After Mitigation	Slight Beneficial					Journey Amenity Slight Beneficial	
423/013: Footpath	No Residual Effects After Mitigation	No Residual Effects After Mitigation	Large Adverse in Year 1 reducing to Moderate Adverse in Year 15					Community Severance Slight adverse Journey Amenity Slight Adverse	
423/011: Footpath	No Residual Effects After Mitigation	No Residual Effects After Mitigation	Slight Adverse					Journey Amenity Slight Adverse	
422/018: Byway open to all traffic	No Residual Effects After Mitigation	No Residual Effects After Mitigation	Slight Adverse in Year 1 reducing to Neutral in Year 15					Journey Amenity Slight Adverse	
422/011: Footpath	No Residual Effects After Mitigation	No Residual Effects After Mitigation	Slight Adverse					Community Severance Slight beneficial Journey Amenity Slight Adverse	
422/003: Footpath	No Residual Effects After Mitigation	No Residual Effects After Mitigation	Slight Adverse					Journey Amenity Slight Adverse	
422/020: Footpath	No Residual Effects After Mitigation	No Residual Effects After Mitigation	Slight Adverse in Year 1 reducing to slight adverse in Year 15					Community Severance Slight beneficial Journey Amenity Slight Adverse	

115/009: St Oswald's Way: Long Distance Trail	No Residual Effects After Mitigation	As the area of minor increase makes up a very small percentage of the whole PRow, the change in noise level caused by Part A is deemed not significant for St Oswald's Way	Large Adverse in Year 1 reducing to Slight adverse in Year 15					Journey Amenity Slight Adverse	
115/008: Footpath	No Residual Effects After Mitigation	No Residual Effects After Mitigation	Slight Adverse in Year 1 reducing to Neutral in Year 15					Community Severance Slight beneficial Journey Amenity Slight Adverse	
115/016: Footpath	No Residual Effects After Mitigation	No Residual Effects After Mitigation	Slight Adverse in Year 1 reducing to Neutral in Year 15					Community Severance Slight beneficial Journey Amenity Slight Adverse	
115/013: Footpath	No Residual Effects After Mitigation	No Residual Effects After Mitigation	Slight Adverse					Journey Amenity Slight Adverse	
422/022: Footpath	No Residual Effects After Mitigation	No Residual Effects After Mitigation	Slight Adverse					Journey Amenity Slight Adverse	
422/001: Footpath	No Residual Effects After Mitigation	No Residual Effects After Mitigation	Slight Adverse					Journey Amenity Slight Adverse	
422/002	No Residual Effects After Mitigation	No Residual Effects After Mitigation						Community Severance Slight beneficial Journey Amenity Slight Adverse	
423/017	No Residual Effects After Mitigation	No Residual Effects After Mitigation						Community Severance Slight adverse Journey Amenity Slight Beneficial	
407/001	No Residual Effects After Mitigation	No Residual Effects After Mitigation						Community Severance Slight beneficial Journey Amenity Slight Adverse	
422/009: Footpath	No Residual Effects After Mitigation	No Residual Effects After Mitigation	Slight Adverse					Journey Amenity Slight Adverse	
STATUTORY AND NON-STATUTORY DESIGNATED ECOLOGICAL SITES/LOCAL BIODIVERSITY	P	P	P			P	P		

Wansbeck and Hartburn Woods LWS	slight adverse (not significant) effect from nitrogen deposition				Slight Adverse				
Cawledge Burn LWS	slight adverse (not significant) effect from nitrogen deposition				Slight Adverse				
Well Wood Ancient Woodland	very large adverse (significant) effect from nitrogen deposition								
Ulgham Meadow LWS	slight beneficial (not significant) effect from nitrogen deposition				Slight Beneficial				
Borough Wood LNR	moderate adverse (significant) effect from nitrogen deposition								
Borough Wood ancient woodland	very large adverse (significant) effect from nitrogen deposition				Slight Adverse				
Coquet River Felton LWS	slight adverse (not significant) effect from nitrogen deposition								
Bats					Slight Adverse from severance				
High and Medium value retained arboriculture features			slight adverse (not significant)		Slight Adverse (Duke's Bank Wood would be impacted by salt spray)				
Low and very low arboriculture features			slight beneficial (not significant)		Slight Beneficial				

River Coquet and Coquet Valley Woodlands SSSI		The predicted long-term change in noise level follows a similar pattern, with a small area			Slight adverse	Slight adverse (Change request SA and SW)			
Fish and aquatic invertebrates					Slight adverse				
River Coquet watercourse (HPI)					slight adverse				
COMMUNITY FACILITIES	P	P	P					P	
Tritlington School / Tritlington Church of England School ©	No Residual Effects After Mitigation	Major to moderate Significant (Beneficial)	Slight Adverse in Year 1 reducing to Neutral in Year 15					Physical Asset (amenity) Slight beneficial Journey Amenity Slight Beneficial	
Fairmoor Cemetery (A)	No Residual Effects After Mitigation								
Northgate Hospital (B)	No Residual Effects After Mitigation								
H of St Michael and All Angels (D)	No Residual Effects After Mitigation								
Felton Surgery URC Church €	No Residual Effects After Mitigation								
Felton Church or England Primary School (F)	No Residual Effects After Mitigation								
Felton Post Office (G)	No Residual Effects After Mitigation								
Felton Recreational Field (H)	No Residual Effects After Mitigation								
Felton Park	No Residual Effects After Mitigation							Physical Asset (amenity) Slight adverse	
Northumbria Woodland Burials	No Residual Effects After Mitigation	In both the short and long-term, the noise levels as a							

Appendix B

SCREENING MATRIX (PART B)

Sensitive Receptor	Air Quality	Noise and Vibration	Landscape and Visual	Cultural Heritage	Biodiversity	Road Drainage and Water	Geology and Soils	Population and Human Health	Material Resources
CONSTRUCTION									
RESIDENTS	✓	✓	✓					✓	
1. Broom House (5 properties)	No Residual Effects After Mitigation		Moderate Adverse					<u>Human Health</u> Slight Adverse <u>Community Severance</u> Slight to Moderate Adverse <u>Reduced Access to PRow</u> Slight to Moderate Adverse <u>Socio-economic Effects</u> Minor Beneficial	
2. Loaning Head			Moderate Adverse					<u>Human Health</u> Slight Adverse <u>Community Severance</u> Slight to Moderate Adverse <u>Reduced Access to PRow</u> Slight to Moderate Adverse <u>Socio-economic Effects</u> Minor Beneficial	
3. Heckley House and Heckley Cottage (2 properties)			Large Adverse					<u>Human Health</u> Slight Adverse <u>Community Severance</u> Slight to Moderate Adverse <u>Reduced Access to PRow</u> Slight to Moderate Adverse <u>Socio-economic Effects</u> Minor Beneficial	
4. Heckley Fence			Large Adverse					<u>Private Assets and Land Use</u> Slight Adverse <u>Human Health</u> Slight Adverse <u>Community Severance</u> Slight to Moderate Adverse <u>Reduced Access to PRow</u> Slight to Moderate Adverse <u>Socio-economic Effects</u> Minor Beneficial	
5. Heiferlaw Bank			Large Adverse					<u>Human Health</u> Slight Adverse <u>Community Severance</u> Slight to Moderate Adverse <u>Reduced Access to PRow</u> Slight to Moderate Adverse <u>Socio-economic Effects</u> Minor Beneficial	

6. Rock Lodge			Large Adverse					<u>Human Health</u> Slight Adverse <u>Community Severance</u> Slight to Moderate Adverse <u>Reduced Access to PRow</u> Slight to Moderate Adverse <u>Socio-economic Effects</u> Minor Beneficial	
7. Rock Nab			Large Adverse					<u>Private Assets and Land Use</u> Slight Adverse <u>Human Health</u> Slight Adverse <u>Community Severance</u> Slight to Moderate Adverse <u>Reduced Access to PRow</u> Slight to Moderate Adverse <u>Socio-economic Effects</u> Minor Beneficial	
8. Holywell Cottage (4 properties)			Large Adverse					<u>Human Health</u> Slight Adverse <u>Community Severance</u> Slight to Moderate Adverse <u>Reduced Access to PRow</u> Slight to Moderate Adverse <u>Socio-economic Effects</u> Minor Beneficial	
9. Broxfield and surrounding properties (2 properties)			Moderate Adverse					<u>Human Health</u> Slight Adverse <u>Community Severance</u> Slight to Moderate Adverse <u>Reduced Access to PRow</u> Slight to Moderate Adverse <u>Socio-economic Effects</u> Minor Beneficial	
10. West Linkhall Farmhouse and surrounding properties including Patterson Cottage			Large Adverse					<u>Private Assets and Land Use</u> Slight Adverse <u>Human Health</u> Slight Adverse <u>Community Severance</u> Slight to Moderate Adverse <u>Reduced Access to PRow</u> Slight to Moderate Adverse <u>Socio-economic Effects</u> Minor Beneficial	
11. Rock Midstead Cottages and Rock Midstead Farmhouse (6 properties)			Moderate Adverse					<u>Human Health</u> Slight Adverse <u>Community Severance</u> Slight to Moderate Adverse <u>Reduced Access to PRow</u> Slight to Moderate Adverse <u>Socio-economic Effects</u> Minor Beneficial	

12. Rock South Farm (7 properties)			Moderate Adverse				<u>Private Assets and Land Use</u> Slight Adverse <u>Human Health</u> Slight Adverse <u>Community Severance</u> Slight to Moderate Adverse <u>Reduced Access to PRow</u> Slight to Moderate Adverse <u>Socio-economic Effects</u> Minor Beneficial	
13. Drythroppe			Large Adverse				<u>Human Health</u> Slight Adverse <u>Community Severance</u> Slight to Moderate Adverse <u>Reduced Access to PRow</u> Slight to Moderate Adverse <u>Socio-economic Effects</u> Minor Beneficial	
14. Rock Moor House			Moderate Adverse				<u>Human Health</u> Slight Adverse <u>Community Severance</u> Slight to Moderate Adverse <u>Reduced Access to PRow</u> Slight to Moderate Adverse <u>Socio-economic Effects</u> Minor Beneficial	
15. West Lodge			Moderate Adverse				<u>Private Assets and Land Use</u> Slight Adverse <u>Human Health</u> Slight Adverse <u>Community Severance</u> Slight to Moderate Adverse <u>Reduced Access to PRow</u> Slight to Moderate Adverse <u>Socio-economic Effects</u> Minor Beneficial	
16. Properties at East Linkhall (2 properties)			Moderate Adverse				<u>Private Assets and Land Use</u> Slight Adverse <u>Human Health</u> Slight Adverse <u>Community Severance</u> Slight to Moderate Adverse <u>Reduced Access to PRow</u> Slight to Moderate Adverse <u>Socio-economic Effects</u> Minor Beneficial	
17. Properties at North Charlton			Moderate Adverse				<u>Human Health</u> Slight Adverse <u>Community Severance</u> Slight to Moderate Adverse <u>Reduced Access to PRow</u> Slight to Moderate Adverse <u>Socio-economic Effects</u> Minor Beneficial	

18. Properties at South Charlton			Scoped out					Private Assets and Land Use Slight Adverse Community Severance Slight to Moderate Adverse Reduced Access to PRow Slight to Moderate Adverse Socio-economic Effects Minor Beneficial
19. Whinny			Scoped out					Outside of 1km study area
20. Brockley Hall Cottages and Brockley Hall			Scoped out					Human Health Slight Adverse Community Severance Slight to Moderate Adverse Reduced Access to PRow Slight to Moderate Adverse Socio-economic Effects Minor Beneficial
21. South Charlton Farm			Scoped out					Outside of study area
22. Silvermoor			Scoped out					Human Health Slight Adverse Community Severance Slight to Moderate Adverse Reduced Access to PRow Slight to Moderate Adverse Socio-economic Effects Minor Beneficial
23. Goldenmoor			Scoped out					Human Health Slight Adverse Community Severance Slight to Moderate Adverse Reduced Access to PRow Slight to Moderate Adverse Socio-economic Effects Minor Beneficial
24. Properties at Denwick			Scoped out					Human Health Slight Adverse Community Severance Slight to Moderate Adverse Reduced Access to PRow Slight to Moderate Adverse Socio-economic Effects Minor Beneficial
41. Greensfield Moor Farm			Scoped out					
46. The Boarding House (6 properties)								
47. Hemelspeth (8 properties)								
48. Glenshotton								
49. Cahore Cottage (3 properties)								
50. Tithemans Cottage (2 properties)								
51. Thirston New Houses								
52. Thirston New House								
Charlton Mires Farm	Not assessed as being demolished	Not assessed as being demolished	Not assessed as being demolished					Private Assets and Land Use Large Adverse

East Cottage	Not assessed as being demolished	Not assessed as being demolished	Not assessed as being demolished					Private Assets and Land Use Large Adverse		
ROAD USERS			✓					✓		
37. Road users travelling along the A1 (1)			Moderate Adverse					Driving Stress* Temporary Adverse Effects		
38. Road users travelling along the B6347 (5)			No Residual Effects After Mitigation					Driving Stress Temporary Adverse Effects		
39. Road users travelling along the B6341 (3)			No Residual Effects After Mitigation					Driving Stress Temporary Adverse Effects		
40. Road users travelling along the B1340 (4)			No Residual Effects After Mitigation					Driving Stress Temporary Adverse Effects		
44. Road users travelling along the unnamed road			No Residual Effects After Mitigation					N/A		
55. Road users travelling along the the unnamed local road			No Residual Effects After Mitigation					N/A - Part of M2F		
USERS OF FOOTPATHS AND PUBLIC RIGHTS OF WAY (WALKING, CYCLING A	✓	✓	✓					✓		
25. PRoW Ref: 112/008	No Residual Effects After Mitigation	No Residual Effects After Mitigation	Moderate Adverse					Human health Slight adverse		
26. PRoW Ref: 112/009			Moderate Adverse					Human health Slight adverse		
27. PRoW Ref: 129/004			Large Adverse					Community Severance Moderate Adverse Journey Amenity Slight Adverse Human health Slight adverse		
28. PRoW Ref: 129/005			Large Adverse					Community Severance Slight Adverse Journey Amenity Slight Adverse Human health Slight adverse		
29. PRoW Ref: 129/009 and 110/003			Scoped out					Community Severance Moderate Adverse Journey Amenity Slight Adverse Human health Slight adverse		
30. PRoW Ref: 110/019			Scoped out					Community Severance Moderate Adverse Journey Amenity Slight Adverse Human health Slight adverse		
31. PRoW Ref: 110/010			Scoped out					Human health Slight adverse		
32. PRoW Ref: 129/022			Scoped out					Community Severance Moderate Adverse Journey Amenity Slight Adverse		
33. PRoW Ref: 110/013			No Residual Effects After Mitigation	No Residual Effects After Mitigation	Moderate Adverse				Moderate Adverse Journey Amenity Slight Adverse Human health	

34. PRoW Ref: 110/004			Slight Adverse					Moderate Adverse Journey Amenity Slight Adverse Human health	
35. PRoW Ref: 129/014			Scoped out					Community Severance Moderate Adverse Journey Amenity Slight Adverse Human health Slight adverse	
36. PRoW Ref: 129/006			Moderate Adverse					Human health Slight adverse	
42. PRoW Ref: 141/013			Large Adverse					Human health Slight adverse	
43. PRoW Ref: 141/002			Large Adverse					Human health Slight adverse	
53. PRoW Ref: 422/020								Human health Slight adverse	
PRoW Ref: 129/013			N/A					Community Severance Slight adverse Journey Amenity Slight Adverse Human health Slight adverse	
PRoW Ref: 129/024								Community Severance Moderate Adverse Journey Amenity Slight Adverse Human health Slight adverse	
Statutory and non-statutory designated ecological sites	✓	✓			✓	✓			
Statutory and non-statutory designated sites					No Residual Effects After Mitigation	No Residual Effects After Mitigation			
Broadleaved seminatural woodland					Moderate Beneficial	No Residual Effects After Mitigation			
Hedgerow					Slight Adverse	No Residual Effects After Mitigation			
Watercourses					Slight Adverse from net loss of length; neutral from	Slight adverse* effect on Shipperton Burn			
Badger					No Residual Effects After Mitigation				
Water Vole					No Residual Effects After Mitigation				
Otter					No Residual Effects After Mitigation				
Red Squirrel	No Residual Effects After Mitigation	No Residual Effects After Mitigation			No Residual Effects After Mitigation				
Bats					Slight Adverse				

Breeding and Wintering Birds					No Residual Effects After Mitigation				
Barn Owl					No Residual Effects After Mitigation				
Great Crested Newt					No Residual Effects After Mitigation				
Reptiles					No Residual Effects After Mitigation				
Fish					Moderate Adverse	Slight adverse* effect on Shipperton Burn			
Aquatic Invertebrates					Slight Adverse	Slight adverse* effect on Shipperton Burn			
Commercial Properties	✓	✓	✓					✓	
45. Lionheart Industrial Estate				No Residual Effects After Mitigation				Private Assets and Land Use Slight Adverse Human Health temporary adverse	
Rock Lodge Holiday Lets				Scoped out				Private Assets and Land Use Slight Adverse Human Health Slight Adverse	
Reading Rooms Cottage				Scoped out				Private Assets and Land Use Slight Adverse Human Health Slight Adverse	
The Old Stables Tea Room				Scoped out				Private Assets and Land Use Slight Adverse Human Health Slight Adverse	
The Armstrong Household and Farming Museum				Scoped out				Private Assets and Land Use Slight Adverse Human Health Slight Adverse	
Patterson's Cottage boarding kennels				Scoped out				Private Assets and Land Use Slight Adverse Human Health Slight Adverse	
Middlemoor Cottage	No Residual Effects	No Residual Effects		Scoped out				Private Assets and Land Use Slight Adverse Human Health Slight Adverse	

Rocking Horse Café and Gallery	After Mitigation	After Mitigation	Scoped out					Private Assets and Land Use Slight Adverse Human Health Slight Adverse	
Rock Moor House Bed and Breakfast								Private Assets and Land Use Slight Adverse Human Health Slight Adverse	
Beal ME and Sons								Private Assets and Land Use Slight Adverse Human Health Slight Adverse	
Drythrople (sells produce from the residential property)								Private Assets and Land Use Slight Adverse Human Health Slight Adverse	
Grahamslaw JEG and Sons			Scoped out					Private Assets and Land Use Slight Adverse Human Health Slight Adverse	
Blossoms Plantation Pods			Scoped out					Private Assets and Land Use Slight Adverse Human Health Slight Adverse	
Charlton Hall Wedding Venue			Scoped out					Private Assets and Land Use Slight Adverse Human Health Slight Adverse	
Agricultural Land and associated rural enterprises ***							✓	✓	
Broxfield Farm							Slight Adverse	Private Assets and Land Use Slight Adverse	
Charlton Mires Farm							Large Adverse	Private Assets and Land Use Large Adverse	
Drythrople Cottage							Slight Adverse	Private Assets and Land Use Slight Adverse	
East Cottage							Large Adverse	Private Assets and Land Use Very Large Adverse	
East Link Hall Farm							Large Adverse to No Residual Effects After Mitigation	Private Assets and Land Use Slight Adverse	

Goldenmoor Farm							Slight Adverse to No Residual Effects After Mitigation	<u>Private Assets and Land Use</u> Slight Adverse	
Heckley Farm							No Residual Effects After Mitigation	<u>Private Assets and Land Use</u> Slight Adverse	
Humbleheugh Farm							Slight Adverse	<u>Private Assets and Land Use</u> Slight Adverse	
North Charlton Farm							Large Adverse to Slight Adverse	<u>Private Assets and Land Use</u> Slight Adverse	
Rock Estate							Large Adverse to Slight Adverse	<u>Private Assets and Land Use</u> Slight Adverse	
Rock Farms							Large Adverse	<u>Private Assets and Land Use</u> Slight Adverse	
Rock Nab							Slight Adverse	<u>Private Assets and Land Use</u> Slight Adverse	
Silvermoor Farm							Slight Adverse	<u>Private Assets and Land Use</u> Slight Adverse	
West Link Hall Farm							Large Adverse	<u>Private Assets and Land Use</u> Slight Adverse	
Northumberland Estate							No Residual Effects After Mitigation	<u>Private Assets and Land Use</u> Slight Adverse	
West Farm							No Residual Effects After Mitigation	<u>Private Assets and Land Use</u> Slight Adverse	

A1 Morpeth to Ellingham, Part B: Alnwick to Ellingham

Sensitive Receptor	Air Quality	Noise and Vibration	Landscape and Visual	Cultural Heritage	Biodiversity	Road Drainage and Water	Geology and Soils	Population and Human Health	Material Resources
OPERATION									
RESIDENTS									
	✓	✓	✓					✓	
1. Broom House (5 properties)	increase in pollutant levels (not significant)	minor increase (not significant)	Moderate Adverse in Year 1 reducing to Slight Adverse in Year 15						
2. Loaning Head		Minor to Negligible Beneficial Significance	Moderate Adverse in Year 1 reducing to Slight Adverse in Year 15						
3. Heckley House and Heckley Cottage (2 properties)			Large Adverse in Year 1 reducing to Moderate Adverse in Year 15						
4. Heckley Fence	Imperceptible change	Minor to Negligible Beneficial Significance	Large Adverse in Year 1 reducing to Moderate Adverse in Year 15					Private Assets and Land Use Slight Adverse	
5. Heiferlaw Bank	reduction in pollutant levels (not significant)	Minor to Negligible Beneficial Significance	Large Adverse in Year 1 reducing to Moderate Adverse in Year 15						
6. Rock Lodge	reduction in pollutant levels (not significant)	Minor to Negligible Beneficial Significance	Large Adverse in Year 1 reducing to Moderate Adverse in Year 15						
7. Rock Nab	Imperceptible change	Minor to Negligible Beneficial Significance	Large Adverse in Year 1 reducing to Moderate Adverse in Year 15					Private Assets and Land Use Slight Adverse	
8. Holywell Cottage (4 properties)		Minor to Negligible Beneficial Significance	Large Adverse in Year 1 reducing to Moderate Adverse in Year 15						
9. Broxfield and surrounding properties (2 properties)			Moderate Adverse in Year 1 reducing to Slight Adverse in Year 15						
10. West Linkhall Farmhouse and surrounding properties including Patterson Cottage	reduction in pollutant levels (not significant)	Major to Moderate Beneficial Significance	Large Adverse in Year 1 reducing to Moderate Adverse in Year 15					Private Assets and Land Use Slight Adverse	

11. Rock Midstead Cottages and Rock Midstead Farmhouse (6 properties)		Minor to Negligible Beneficial Significance	Moderate Adverse in Year 1 reducing to Slight Adverse in Year 15					
12. Rock South Farm (7 properties)		Minor to Negligible Beneficial Significance	Moderate Adverse in Year 1 reducing to Slight Adverse in Year 15				Private Assets and Land Use Slight Adverse	
13. Drythropple		Minor to Negligible Beneficial Significance	Moderate Adverse in Year 1 reducing to Slight Adverse in Year 15					
14. Rock Moor House		Minor to Negligible Beneficial Significance	Moderate Adverse in Year 1 reducing to Slight Adverse in Year 15					
15. West Lodge		Minor to Negligible Beneficial Significance	Moderate Adverse in Year 1 reducing to Slight Adverse in Year 15				Private Assets and Land Use Slight Adverse	
16. Properties at East Linkhall (2 properties)		Minor to Negligible Beneficial Significance	Moderate Adverse in Year 1 reducing to Slight Adverse in Year 15				Private Assets and Land Use Slight Adverse	
17. Properties at North Charlton	increase in pollutant levels (not significant)	Minor to Negligible Beneficial Significance	Slight Adverse in Year 1 reducing to Neutral in Year 15				Private Assets and Land Use Slight Adverse	
18. Properties at South Charlton	Imperceptible change		Scoped out				Private Assets and Land Use Slight Adverse	
19. Whinny			Scoped out					
20. Brockley Hall Cottages and Brockley Hall			Scoped out					
21. South Charlton Farm			Scoped out					
22. Silvermoor			Scoped out					
23. Goldenmoor			Scoped out					
24. Properties at Denwick			Scoped out					
Property North east of Alnwick adjacent to the B1340 and near the A1, predominant	increase in pollutant levels (not significant)							
41. Greensfield Moor Farm			Scoped out					
46. The Boarding House (6 properties)								
47. Hemelspeth (8 properties)								
48. Glenshotton								
49. Cahore Cottage (3 properties)								
50. Tithemans Cottage (2 properties)								
51. Thirston New Houses								
52. Thirston New House								
ROAD USERS			✓				✓	
37. Road users travelling along the A1			Slight Adverse				Driving Stress * Slight Beneficial	
38. Road users travelling along the B6347			No Residual Effects After Mitigation				Driving Stress Slight Beneficial	
39. Road users travelling along the B6341			No Residual Effects After Mitigation				Driving Stress Slight Beneficial	
40. Road users travelling along the B1340			No Residual Effects After Mitigation				Driving Stress Slight Beneficial	

44. Road users travelling along the unnamed road			No Residual Effects After Mitigation					Driving Stress Slight Beneficial
55. Road users travelling along the the unnamed local road			No Residual Effects After Mitigation					Driving Stress Slight Beneficial
USERS OF PUBLIC RIGHTS OF WAY	✓	✓	✓					✓
25. PRoW Ref: 112/008	No Residual Effects After Mitigation	No Residual Effects After Mitigation	Moderate Adverse in Year 1 reducing to Slight Adverse in Year 15					
26. PRoW Ref: 112/009	No Residual Effects After Mitigation	No Residual Effects After Mitigation	Moderate Adverse in Year 1 reducing to Slight Adverse in Year 15					
27. PRoW Ref: 129/004	No Residual Effects After Mitigation	No Residual Effects After Mitigation	Moderate Adverse in Year 1 reducing to Slight Adverse in Year 15					Community Severance Moderate Adverse Journey Amenity Slight Adverse
28. PRoW Ref: 129/005	No Residual Effects After Mitigation	No Residual Effects After Mitigation	Moderate Adverse in Year 1 reducing to Slight Adverse in Year 15					Community Severance No Residual Effects After Mitigation Journey Amenity Slight Adverse
29. PRoW Ref: 129/009 and 110/003	No Residual Effects After Mitigation	No Residual Effects After Mitigation	Scoped out					Community Severance Moderate Adverse Journey Amenity Slight Adverse
30. PRoW Ref: 110/019	No Residual Effects After Mitigation	No Residual Effects After Mitigation	Scoped out					Community Severance Moderate Adverse Journey Amenity Slight Adverse
31. PRoW Ref: 110/010	No Residual Effects After Mitigation	No Residual Effects After Mitigation	Scoped out					
32. PRoW Ref: 129/022	No Residual Effects After Mitigation	No Residual Effects After Mitigation	Scoped out					Community Severance Moderate Adverse Journey Amenity Slight Adverse
33. PRoW Ref: 110/013	No Residual Effects After Mitigation	No Residual Effects After Mitigation	Slight Adverse					Community Severance Moderate Adverse Journey Amenity Slight Adverse
34. PRoW Ref: 110/004	adjacent to R12 in AQ assessment (increase in air pollutants)	No Residual Effects After Mitigation	Slight Adverse					Community Severance Moderate Adverse Journey Amenity Slight Adverse
35. PRoW Ref: 129/014	No Residual Effects After Mitigation	No Residual Effects After Mitigation	Scoped out					Community Severance Moderate Adverse Journey Amenity Slight Adverse

36. PRoW Ref: 129/006	No Residual Effects After Mitigation	No Residual Effects After Mitigation	Slight Adverse						
42. PRoW Ref: 141/003	No Residual Effects After Mitigation	No Residual Effects After Mitigation	Slight Adverse in Year 1 reducing to Neutral in Year 15						
43. PRoW Ref: 141/022	No Residual Effects After Mitigation	No Residual Effects After Mitigation	Slight Adverse in Year 1 reducing to Neutral in Year 15						
53. PRoW Ref: 422/020	No Residual Effects After Mitigation	No Residual Effects After Mitigation							
PRoW Ref: 129/013	No Residual Effects After Mitigation	No Residual Effects After Mitigation	Slight Adverse in Year 1 reducing to Neutral in Year 16					Community Severance Moderate Adverse Journey Amenity Slight Adverse	
PRoW Ref: 129/024	adjacent to R09 in AQ assessment (reduction in air pollutants)	No Residual Effects After Mitigation						Community Severance Moderate Adverse Journey Amenity Slight Adverse	
Statutory and non-statutory designated ecological sites	✓	✓			✓				
Statutory and non-statutory designated sites	*No Residual Effects After Mitigation	No Residual Effects After Mitigation			No Residual Effects After Mitigation				
Broadleaved seminatural woodland	No Residual Effects After Mitigation	No Residual Effects After Mitigation			No Residual Effects After Mitigation				
Hedgerow	No Residual Effects After Mitigation	No Residual Effects After Mitigation			No Residual Effects After Mitigation				
Watercourses	No Residual Effects After Mitigation	No Residual Effects After Mitigation			No Residual Effects After Mitigation				
Badger	No Residual Effects After Mitigation	No Residual Effects After Mitigation			No Residual Effects After Mitigation				
Water Vole	No Residual Effects After Mitigation	No Residual Effects After Mitigation			No Residual Effects After Mitigation				
Otter	No Residual Effects After Mitigation	No Residual Effects After Mitigation			No Residual Effects After Mitigation				
Red Squirrel	No Residual Effects After Mitigation	No Residual Effects After Mitigation			No Residual Effects After Mitigation				
Bats	No Residual Effects After Mitigation	No Residual Effects After Mitigation			No Residual Effects After Mitigation				
Breeding and Wintering Birds	No Residual Effects After Mitigation	No Residual Effects After Mitigation			No Residual Effects After Mitigation				

Barn Owl	No Residual Effects After Mitigation	No Residual Effects After Mitigation			No Residual Effects After Mitigation				
Great Crested Newt	No Residual Effects After Mitigation	No Residual Effects After Mitigation			No Residual Effects After Mitigation				
Reptiles	No Residual Effects After Mitigation	No Residual Effects After Mitigation			No Residual Effects After Mitigation				
Fish	No Residual Effects After Mitigation	No Residual Effects After Mitigation			No Residual Effects After Mitigation				
Aquatic Invertebrates	No Residual Effects After Mitigation	No Residual Effects After Mitigation			No Residual Effects After Mitigation				
COMMERCIAL PROPERTIES	✓	✓	✓					✓	
45. Lionheart Industrial Estate	No Residual Effects After Mitigation	No Residual Effects After Mitigation	No Residual Effects After Mitigation					Private Assets and Land Use (access) Slight Adverse Human Health Negligible	
Rock Lodge Holiday Lets	No Residual Effects After Mitigation	No Residual Effects After Mitigation	Scoped out					Private Assets and Land Use (access) Slight Adverse Human Health Negligible	
Reading Rooms Cottage	No Residual Effects After Mitigation	No Residual Effects After Mitigation	Scoped out					Private Assets and Land Use (access) Slight Adverse Human Health Negligible	
The Old Stables Tea Room	No Residual Effects After Mitigation	No Residual Effects After Mitigation	Scoped out					Private Assets and Land Use (access) Slight Adverse Human Health Negligible	
The Armstrong Household and Farming Museum	No Residual Effects After Mitigation	No Residual Effects After Mitigation	Scoped out					Private Assets and Land Use (access) Slight Adverse Human Health Negligible	

Patterson's Cottage boarding kennels	No Residual Effects After Mitigation	Major Beneficial	Scoped out					Private Assets and Land Use (access) Slight Adverse Human Health Negligible
Middlemoor Cottage	No Residual Effects After Mitigation	No Residual Effects After Mitigation	Scoped out					Private Assets and Land Use (access) Slight Adverse Human Health Negligible
Rocking Horse Café and Gallery	No Residual Effects After Mitigation	No Residual Effects After Mitigation	Scoped out					Private Assets and Land Use (access) Slight Adverse Human Health Negligible
Rock Moor House Bed and Breakfast	No Residual Effects After Mitigation	No Residual Effects After Mitigation						Private Assets and Land Use (access) Slight Adverse Human Health Negligible
Beal ME and Sons	No Residual Effects After Mitigation	No Residual Effects After Mitigation						Private Assets and Land Use (access) Slight Adverse Human Health Negligible
Drythroppe (sells produce from the residential property)	No Residual Effects After Mitigation	No Residual Effects After Mitigation						Private Assets and Land Use (access) Slight Adverse Human Health Negligible
Grahamslaw JEG and Sons	No Residual Effects After Mitigation	No Residual Effects After Mitigation	Scoped out					Private Assets and Land Use (access) Slight Adverse Human Health Negligible
Blossoms Plantation Pods	No Residual Effects After Mitigation	No Residual Effects After Mitigation	Scoped out					Private Assets and Land Use (access) Slight Adverse Human Health Negligible
Charlton Hall Wedding Venue	No Residual Effects After Mitigation	No Residual Effects After Mitigation	Scoped out					Private Assets and Land Use (access) Slight Adverse Human Health Negligible

Appendix C

SCREENING MATRIX (THE SCHEME)

PART A					PART B				
	Air Quality	Noise and Vibration	Landscape and Visual	Population and Human Health		Air Quality	Noise and Vibration	Landscape and Visual	Population and Human Health
CONSTRUCTION					CONSTRUCTION				
Main Compound					Main Compound				
RESIDENTS					RESIDENTS				
R26: B6345 (The Boarding House) (6 properties)	No residual effects after mitigation	No residual effects after mitigation	Slight Adverse	Community severance Slight adverse Private property: Slight adverse Human Health: Slight adverse Socio-economic: Slight beneficial	Effects from additional construction traffic movements insignificant.	Effects from additional construction traffic movements insignificant.	No additional effects	Human Health negligible Driver Stress negligible Community Severance No effects	
R27: Hemelspeth (1 property)			Slight Adverse	Community severance Slight adverse Private property: Slight adverse Human Health: Slight adverse Socio-economic: Slight beneficial			No additional effects	Human Health negligible Driver Stress negligible Community Severance No effects	
R28: Glenshotton			Neutral	Community severance Slight adverse Private property: Slight adverse Human Health: Slight adverse Socio-economic: Slight beneficial			No additional effects	Human Health negligible Driver Stress negligible Community Severance No effects	
R31: Cahore Cottage (3 properties)			Neutral	Community severance Slight adverse Private property: Slight adverse Human Health: Slight adverse Socio-economic: Slight beneficial			No additional effects	Human Health negligible Driver Stress negligible Community Severance No effects	
R32: Tithemans Cottage			Slight Adverse	Community severance Slight adverse Private property: Slight adverse Human Health: Slight adverse Socio-economic: Slight beneficial			No additional effects	Human Health negligible Driver Stress negligible Community Severance No effects	
R33: Thirston New Houses			Neutral	Community severance Slight adverse Private property: Slight adverse Human Health: Slight adverse Socio-economic: Slight beneficial			No additional effects	Human Health negligible Driver Stress negligible Community Severance No effects	
R34: Thirston New House			Moderate Adverse	Community severance Slight adverse Private property: Slight adverse Human Health: Slight adverse Socio-economic: Slight beneficial			No additional effects	Human Health negligible Driver Stress negligible Community Severance No effects	

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