HyNet North West

2023 ENVIRONMENTAL STATEMENT ADDENDUM CHANGE 1

Appendix A – ES Appendices Addenda

HyNet Carbon Dioxide Pipeline DCO

Planning Act 2008

The Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009 – Regulations 8(1)(c)

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1. APPENDIX 6.1 – CONSTRUCTION DUST ASSESSMENT

1.1. CONSTRUCTION DUST ASSESSMENT METHODOLOGY

1.1.1. The construction dust assessment methodology has not changed due to the proposed design changes. Therefore, the text within **Section 1** of **Appendix 6-1** of the 2022 ES **(APP-081)** remains unchanged and valid.

1.2. ACTIVITY SPECIFIC CONSTRUCTION DUST ASSESSMENTS

1.2.1. The proposed design change PS02a is related to the removal of an existing slurry tank which could result in impacts from dust during construction. Therefore, an assessment of these impacts has been presented below. The construction dust methodology used is as set out in **Section 1** of **Appendix 6-1** of the 2022 ES (**APP-081**).

ASSESSMENT OF POTENTION DUST EMISSION MAGNITUDE

1.2.2. The activity involves the removal of a metal slurry tank. The total volume of the tank is less than 20,000m^3 and sits less than 10m above the ground. Considering these factors and the thresholds set out in IAQM Guidance, the magnitude of dust emissions during demolition would be **Small**.

ASSESSMENT OF THE SENSITIVITY OF THE STUDY AREA

1.2.3. There is one residential property approximately 20m from the slurry tank, with another approximately 70m away. There is also one Local Wildlife Site and Ancient Woodland approximately 50m from the works. Therefore, using the thresholds set out in IAQM Guidance, the surrounding area is of Low Sensitivity to dust soiling, human health and impacts on ecological sites.

RISK OF IMPACTS

1.2.4. Using IAQM Guidance, the resulting dust emission magnitude was combined with the sensitivity of the area to determine the risk of impacts with no mitigation applied. With a Small dust emission magnitude and a Low Sensitivity area the resulting risk of impacts is Negligible. Therefore, it is unlikely that the demolition of the slurry tank will result in a significant effect.

1.2.5. All other construction dust assessments presented in **Appendix 6-1** of the 2022 ES **(APP-081)** do not change as a result of the proposed design changes and remain valid.

1.3. SCREENING OF CONSTRUCTION TRAFFIC FLOWS

1.3.1. The extension in construction working hours to include Saturday morning working (PS05) will change the traffic data presented in **Appendix 6-1** of the 2022 ES **(APP-081)** as previously only Monday to Friday working was permitted. Therefore, **paragraph 3.1.4** of **Appendix 6-1** of the 2022 ES **(APP-081)** should be replaced with the following text:

Current forecasted construction traffic flows indicate that there will be less than 110 LGVs and 30 HGVs at any individual point on the road network, as an annual average daily flow. The highest flows will occur on the A5117 north of Chester. These flows are well below the IAQM screening threshold and, therefore, it is unlikely that construction traffic will cause a significant air quality effect.

2. APPENDIX 8.1 – HISTORIC ENVIRONMENT DESK-BASED ASSESSMENT

2.1. INTRODUCTION

2.1.1. The introduction to the Historic Environment Desk-Based Assessment (HEDBA) has not changed due to the proposed design changes. Therefore, the text within **Section 1** of **Appendix 8-1** of the 2022 ES **(APP-084** to **APP-086)** remains unchanged and valid.

2.2. PLANNING FRAMEWORK

2.2.1. Since the publication of the 2022 ES the Flintshire County Council Unitary Development Plan 2000–2015 has been superseded by the Flintshire Local Development Plan 2015–2030 adopted 24 January 2023.

2.2.2. Therefore, **paragraph 2.4.3** of **Section 2** of **Appendix 8-1** of the 2022 ES **(APP-084** to **APP-086)** should be replaced with the following text:

The Flintshire Local Development Plan (LDP) was adopted 24 January 2023 and is in force as of the date of this report. The relevant LDP policies are reproduced below:

EN8: Built Historic Environment and Listed Buildings

The County's buildings and features of special architectural and historic importance, and their settings, will be preserved.

a. Development proposals affecting listed buildings will be permitted only where:

i. the alteration and/or extension to a listed building or its curtilage ensures that the special architectural character or historic interest is preserved;

ii. the change of use of a listed building or its curtilage contributes towards the retention of a building or its sustainable re-use without having an adverse effect on its character, special interest or structural integrity;

iii. the total or substantial demolition of a listed building, is accompanied by the strongest justification and convincing evidence that the proposal is necessary and unavoidable.

b. Development should preserve Scheduled Ancient Monuments and their settings and where appropriate the preservation of other archaeological remains, having regard to the intrinsic importance of the remains and the need for the proposed development.

c. Development should protect and conserve historic landscapes, parks and gardens.

EN9: Development In or Adjacent to Conservation Areas

Development within or adjacent to a conservation area will only be permitted if it would preserve or enhance the character and appearance of the conservation area or its setting. New development in such locations must also be of a high standard of design, respond to the area's special characteristics, and pay particular regard to:

a. important views, vistas, street scenes, roofscapes, trees, open spaces, gaps and other features that contribute to the character or appearance of the conservation area;

b. the retention of historically significant boundaries or other elements that contribute to the established form of development;

c. the relationship to existing buildings and spaces, and pattern of development;

d. scale, height and massing, architectural design and detailing, the use of materials, boundary treatment, and public realm materials.

EN10: Buildings of Local Interest

The demolition or alteration of a Building of Local Interest will only be permitted where:

a. in the case of demolition that the building is structurally unsound, it cannot be made safe without extensive alteration or rebuilding and is incapable of refurbishment at a cost which is reasonable in relation to its degree of interest. The design and quality of the replacement building should be equivalent to that which has been demolished; or

b. in the case of alteration and extension that the works do not adversely affect the architectural or historic character of the building.

2.2.3. No other planning framework text in **Section 2** of **Appendix 8-1** of the 2022 ES **(APP-084 to APP-086)** are affected by the proposed design changes or planning updates since the publication of the 2022 ES, and therefore remains unchanged and valid.

2.3. METHODOLOGY AND SOURCES

2.3.1. A site visit was undertaken on the 8 December 2022 to ascertain the setting impact of the proposed relocation of Northop Hall AGI (PS03) to the north-west of its original position on the Grade II listed Highfield Hall (Cadw Ref. 322). The site visit determined that there was no change to the assessment as presented in **Appendix 8.1** of the ES (**APP-084** to **APP-086**).

2.3.2. Therefore, **paragraph 3.3.1** of **Section 3** of **Appendix 8-1** of the 2022 ES **(APP-084** to **APP-086)** should be replaced with the following text:

Five site visits have been conducted within the Newbuild Infrastructure Boundary:

- *A rapid visual survey of the route of the Proposed DCO Development, was undertaken by car on the 20 September 2021. This was to assess access for the proposed geophysical survey, to identify any potential non-archaeological constraints for the non-intrusive survey.*
- *A site walkover was undertaken between 11–15 October 2021, to determine the topography and existing land use, identify any visible heritage assets (e.g., structures and earthworks), and assess any possible factors which may affect the survival or condition of any known or potential heritage assets.*
- *A site walkover undertaken to the BVS and AGI locations and to complete the setting assessments for heritage assets within 1km along the Newbuild Carbon Dioxide Pipeline route on the 24 and 25 February 2022. This was undertaken per Historic England guidance (Historic England, 2016).*
- *A further site walkover was carried out on 3 June 2022 for the purposes of baseline assessment and revised settings appraisal for an additional site parcel located at Deeside Lane in Sealand, Flintshire.*
- *A site visit was undertaken on the 8 December 2022 to ascertain the setting impact of the proposed relocation of Northop Hall AGI (PS03) to the north-west of its original position on the Grade II listed Highfield Hall (Cadw Ref. 322).*

2.3.3. No other methodology and sources text in **Section 3** of **Appendix 8-1** of the 2022 ES **(APP-084** to **APP-086)** are affected by the proposed design changes, and therefore remains unchanged and valid.

2.4. HISTORIC ENVIRONMENT BASELINE

2.4.1. The baseline for the Cultural Heritage assessment has changed due to the proposed design changes. **Paragraphs 4.5.1** to **4.5.3** of **Appendix 8.1** of the 2022 ES **(APP-084** to **APP-086)** should be replaced with the text below:

OVERVIEW OF DESIGNATED HERITAGE ASSETS

A total of 183 designated heritage assets are present within 1km of the Newbuild Infrastructure Boundary, comprise:

- *20 Scheduled Monuments;*
- *150 Listed Buildings;*
- *2 Registered Historic Parks and Gardens;*
- *1 Registered Historic Landscape; and*
- *10 Conservation Areas.*

Of these, only three designated heritage assets lie within the Newbuild Infrastructure Boundary, comprising Chester Canal Conservation Area, Thornton-le-Moors Conservation Area and the Holywell Common and the Halkyn Mountain Registered Historic Landscape (HLW (C) 2).

The 1km Study Area now includes the following designated heritage assets due to the increase to the Newbuild Infrastructure Boundary at the Ince end of the boundary:

- *Ince Manor monastic grange and fishpond scheduled monument (NHLE 1009635);*
- *Roman fortlet at Ince, 150m north east of Hall Farm, scheduled monument (NHLE 1014723);*
- *the Grade I listed Manor House of Abbey of St Werburgh Chester, Including Old Hall and Monastery Cottages (NHLE 1138810);*
- *the Grade II* listed Church of St James (NHLE 1138815);*
- *the Grade II listed Shippon at Lower Green Farm on East Side of Farmyard (NHLE 1138820);*
- *the Grade II listed Lower Green Farmhouse with Wall to Front Garden (NHLE 1086967);*
- *the Grade II listed Churchyard Wall at St James' Church (NHLE 1138813),*
- *the Grade II listed Lamp Post in Churchyard by North Gate (NHLE 1138814);*
- *the Grade II listed Outbuilding Attached to South End of Village Green Farm Facing The Square (NHLE 1138819);*
- *the Grade II listed 1, 2 and 3 with Attached Front Garden Walls (NHLE 1335894);*
- *the Grade II listed Coronation Lamp Post and Lantern (NHLE 1138818);*
- *the Grade II listed K6 Telephone Kiosk (NHLE 1138824);*
- *the Grade II listed 7, 8 and 9, The Square (NHLE 1335917);*
- *the Grade II listed Portion of Boundary Wall between Junction of Kinsey's Lane with Pool Lane and Park Cottages (NHLE 1318905);*
- *the Grade II listed Portion of Boundary Wall Between the Square and Entrance to the Manor House (NHLE 1130346);*
- *the Grade II listed Park Cottages (NHLE 1130341);*
- *the Grade II listed Stocks adjacent to Ince Manor House (NHLE 1329994);*
- *the Grade II listed Farm Buildings Abutting Manor Houses to South East (NHLE 1138811);*
- *the Grade II listed Yew Tree Farmhouse and Attached Shippon (NHLE 1330393);*
- *the Grade II listed Proffit's Lodge (NHLE 1145881);*

- *the Grade II listed Barn at Wood Farm 100 Metres South of Farmhouse (NHLE 1130343);*
- *the Grade II listed Shippon on Wood Farm 30 Metres South of Farmhouse (NHLE 1318909);*
- *the Grade II listed Wood Farm Farmhouse (NHLE 1130342);*
- *the Grade II listed L-Shaped Shippon at Hall Farm 50 Metres South West of Farmhouse (NHLE 1330394); and*
- *the Grade II listed T-Shaped Shippon at Hall Farm 30 Metres South of Farmhouse (NHLE 1318873).*

A total of 30 non-designated heritage assets have been identified within the Newbuild Infrastructure Boundary.

2.4.2. No other historic environment baseline text in **Section 4** of **Appendix 8-1** of the 2022 ES **(APP-084** to **APP-086)** are affected by the proposed design changes, and therefore remains unchanged and valid.

2.5. AERIAL PHOTOGRAPH AND LIDAR ASSESSMENT SUMMARY

2.5.1. The Aerial Photograph and LiDAR Assessment Summary has not changed due to the proposed design changes. Therefore, the text within **Section 5** of **Appendix 8.1** of the 2022 ES **(APP-084** to **APP-086)** remains unchanged and valid.

2.6. FACTORS AFFECTING ARCHAEOLOGICAL SURVIVAL

2.6.1. The factors affecting archaeological survival have not changed due to the proposed design changes. Therefore, the text within **Section 6** of **Appendix 8.1** of the 2022 ES **(APP-084** to **APP-086)** remains unchanged and valid.

2.7. STATEMENT OF VALUE: BURIED HERITAGE ASSETS

2.7.1. The statement of value for buried heritage assets has changed due to the proposed design changes. The relocation of Cornist Lane BVS (PS01) has removed the Pentre Halkyn Windmill (PRN 17017) from within the Newbuild Infrastructure Boundary and added two new heritage assets, Bryn-eithin farmstead (PRN 89541) and Bryn-eithin well (PRN 37999).

2.7.2. Therefore, **Table 7.5** of **Section 7** of **Appendix 8.1** of the 2022 ES **(APP-084** to **APP-086)** should be replaced with **Table 2.1**.

Table 2.1 - Predicted Known Buried Heritage Assets

Value	Buried Heritage Asset
Very High	N/A
High	Wat's Dyke (27066)
Moderate	King's Wood Lane/Saltersway/ Military Way (2030/1, MCH1278) Roman Road - Chester to Wirral (Margary 670) (2010/1/0, MCH6164)
Low	Chester to Crewe Line (L & NWR) (2468/1/0, MCH1705) Birkenhead and Chester Line (L & NWR/GWR) (2527/1/0, MCH19851) ROF Dunham on the Hill (4217, MCH9985) Ridge and Furrow Earthworks in Large Standleys and Standleys Small (15191, MCH25127) Sidings S of Mollington Station, Chester to Birkenhead Railway (2527/1/14, MCH1552) Royal Observer Corps Monitoring Post at Saughall (4135/0/2, MCH9818) Sealand Embankment III (34237) Ashfield Farm Brickworks (103787) Brookside Ridge and Furrow (97837) Chester - St Asaph Roman road (46802) Coal Pit Hey (99047) Ewloe Green Farm Colliery (103806) Ewloe railway (99043) Ewloe, Old Aston Hill, RAF Hawarden wireless station, aerial mast IV (129644) Ewloe, Old Aston Hill, RAF Hawarden wireless station, building II (129640) Hen-dyddyn Farm sand pit (85032) Holly House Farm Sand pits (99061) Little Leadbrook Farm marl pit (85035) Little Leadbrook Farm marl pit (85036)

Value	Buried Heritage Asset
	Mancot Royal strip field system (99060) Sandycroft boundary stone (103807) Bryn-eithin farmstead (89541) Bryn-eithin well (37999)
Negligible	Find spot: Hawarden, finger ring (120329)

2.7.3. No other statement of value: buried heritage assets text in **Section 7** of **Appendix 8-1** of the 2022 ES **(APP-084** to **APP-086)** are affected by the proposed design changes, and therefore remains unchanged and valid.

2.8. STATEMENT OF VALUE: ABOVE GROUND HERITAGE ASSETS

2.8.1. The statement of value for the above ground heritage assets have not changed due to the proposed design changes. Therefore, the text within **Section 8** of **Appendix 8.1** of the 2022 ES **(APP-084** to **APP-086)** remains unchanged and valid.

2.9. STATEMENT OF VALUE: HISTORIC LANDSCAPES AND HEDGEROWS

2.9.1. The statement of value for the historic landscapes and hedgerows have not changed due to the proposed design changes. Therefore, the text within **Section 9** of **Appendix 8.1** of the 2022 ES **(APP-084** to **APP-086)** remains unchanged and valid.

2.10. DCO PROPOSED DEVELOPMENT RELEVANT TO THE ASSESSMENT

2.10.1. The DCO Proposed Development relevant to the assessment for Cultural Heritage have not changed due to the proposed design changes. Therefore, the text within **Section 10** of **Appendix 8.1** of the 2022 ES **(APP-084** to **APP-086)** remains unchanged and valid.

2.11. BURIED HERITAGE ASSETS: IMPACT ASSESSMENT

2.11.1. The buried heritage assets: impact assessment relevant to the assessment for Cultural Heritage has changed due to the proposed design changes.

2.11.2. The following text should be added to **Section 11.3** of **Appendix 8.1** of the 2022 ES **(APP-084** to **APP-086)**:

The relocation of the Cornist Lane BVS (PS01) has changed the impact on heritage assets within the Newbuild Infrastructure Boundary. The design change means there will be an impact on the following heritage assets, which were not previously impacted: Bryn-eithin farmstead (PRN 89541) and Bryn-eithin well (PRN 37999), located adjacent to Cornist Lane in the east of the red line boundary. There will no longer be a potential impact on the Pentre Halkyn windmill (17017).

The site of the post-medieval Bryn-eithin farmstead (PRN 89541) and associated Bryn-eithin well (PRN 37999) is located in the east of the Cornist Lane BVS Newbuild Infrastructure Boundary adjacent to the line of Cornist Lane. These historic assets are no longer extant; however, below ground remains may still survive. The assets are of low value derived from their limited archaeological and historic interest at a local level. Any ground disturbance associated with the DCO Proposed Development would likely result in a major magnitude of impact on the assets, resulting in a slight adverse (not significant) effect.

2.11.3. No other buried heritage assets: impact assessment text in **Section 11** of **Appendix 8-1** of the 2022 ES **(APP-084 to APP-086)** are affected by the proposed design changes, and therefore remains unchanged and valid.

2.12. ABOVE GROUND HERITAGE ASSETS: ASSESSMENT OF IMPACTS

2.12.1. The proposed relocation of the Northop Hall AGI (PS03) brings the AGI slightly closer to Highfield Hall (Cadw Ref. 322), however there will be no change to the impact on the setting of this asset.

2.12.2. Therefore, above ground heritage assets: assessment of impacts for Cultural Heritage has not changed due to the proposed design changes. The text within **Section 12** of **Appendix 8.1** of the 2022 ES **(APP-084** to **APP-086)** remains unchanged and valid.

2.13. HISTORIC LANDSCAPES AND HEDGEROWS: IMPACT ASSESSMENT

2.13.1. The historic landscapes and hedgerows: impact assessment for Cultural Heritage have not changed due to the proposed design changes. Therefore, the text within **Section 13** of **Appendix 8.1** of the 2022 ES **(APP-084** to **APP-086)** remains unchanged and valid.

2.14. CONCLUSIONS AND RECOMMENDATIONS

2.14.1. The proposed design changes are anticipated to alter the findings of **Section 14** of **Appendix 8.1** of the 2022 ES **(APP-084** to **APP-086),** however, the proposed design changes do not result in significant changes to the original assessment.

2.14.2. **Table 14.6** of **Section 14** of **Appendix 8.1** of the 2022 ES **(APP-084** to **APP-086)** has changed and should be replaced with **Table 2.2**.

2.14.3. No other text in **Section 14** of **Appendix 8-1** of the 2022 ES **(APP-084** to **APP-086)** are affected by the proposed design changes, and therefore remains unchanged and valid.

Table 2.2 - Predicted Impacts on known or Possible Heritage Assets Prior to Mitigation

Heritage Asset	Asset Value	Impact of Proposals on Asset Value Prior to mitigation
Previously unrecorded palaeoenvironmental remains within the former Ince Marshes, River Gowy floodplain, and the former River Dee floodplain (including the former Saltney Marshes)	Low or medium depending upon type and extent of remains	The DCO Proposed Development would remove or truncate any unknown heritage assets within their footprint. The proposed dewatering activities would desiccate and potentially degrade any peats or palaeoenvironmental remains within the area of impact. The magnitude of impact on palaeoenvironmental remains within the DCO Proposed Development boundary during the Construction stage would be minor adverse resulting in *slight adverse (not significant)* effects.
Potential Bronze Age funerary remains from Northop Hall west to Babell BVS	Medium to high depending on extent and survival	The DCO Proposed Development would remove or truncate any unknown heritage assets within their footprint. The magnitude of impact on unknown remains within the DCO Proposed Development boundary during the Construction stage would be major adverse resulting in ***moderate*** *to* ***large adverse*** *(****significant****)* effects.
Potential Roman road remains	Medium	The DCO Proposed Development would remove or truncate any unknown heritage assets within their footprint. The magnitude of impact on unknown remains within the DCO Proposed Development boundary during the Construction stage would be moderate adverse resulting in ***moderate adverse*** *(****significant****)* effects.
Potential Roman roadside remains	Medium	The DCO Proposed Development would remove or truncate any unknown heritage assets within their footprint. The magnitude of impact on unknown remains within the DCO Proposed Development boundary during the Construction stage would be major adverse resulting in ***moderate adverse*** *(****significant****)* effects.
Potential later medieval agricultural remains	Low to medium depending on type and survival	The DCO Proposed Development would remove or truncate any unknown heritage assets within their footprint. The magnitude of impact on unknown remains within the DCO Proposed Development boundary during the Construction stage would be major adverse resulting in permanent *slight adverse (not significant) to* ***moderate adverse*** *(****significant****)* effect.
Potential post medieval agricultural remains	Low	The DCO Proposed Development would remove or truncate any unknown heritage assets within their footprint. The magnitude of impact on unknown remains within the DCO Proposed Development boundary during the Construction stage would be major adverse resulting in permanent *slight adverse (not significant)* effect.
Potential modern earthworks/building remains relating to RAF Hawarden	Medium	The DCO Proposed Development would remove or truncate any unknown heritage assets within their footprint. The magnitude of impact on unknown remains within the DCO Proposed Development boundary during the Construction stage would be major adverse resulting in permanent ***moderate adverse*** *(****significant****)* effect.
Potential remains associated with the Second World War Airspeed Oxford II N4731 crash site (130274)	Medium	The DCO Proposed Development would remove or truncate any unknown heritage assets within their footprint. The magnitude of impact on unknown remains within the DCO Proposed Development boundary during the Construction stage would be major adverse resulting in permanent ***moderate adverse*** *(****significant****)* effect.
Potential isolated remains (Prehistoric through post-medieval)	Low	The DCO Proposed Development would remove or truncate any unknown heritage assets within their footprint. The magnitude of impact on unknown remains within the DCO Proposed Development boundary during the Construction stage would be ***major adverse*** resulting in permanent *slight (not significant)* effect depending upon type and context of remain.
Chester Canal Conservation Area	Medium	The DCO Proposed Development would result in a temporary *minor adverse* impact through changes in the setting of the asset, which would result in a temporary *slight adverse (not significant)* effect during the Construction stage. The excavation of the proposed drainage channel would result in a permanent direct minor adverse impact on the conservation area, which would result in a temporary *slight adverse (not significant)* effect during the Construction stage. The construction of Rock Bank BVS to the north-west of the asset would result in a permanent *minor adverse* impact through changes in the setting of the asset during the Operation stage, which would result in a permanent *slight adverse (not significant)* effect.

Heritage Asset	Asset Value	Impact of Proposals on Asset Value Prior to mitigation
Thornton-le-Moors Conservation Area	High	The DCO Proposed Development would result in a temporary *minor adverse* impact through changes in the setting of the asset, which would result in a temporary *slight adverse (not significant)* effect during the Construction stage. The presence of the proposed Stanlow AGI to the north-east of the asset would result in a permanent *negligible adverse* impact through changes in the setting of the asset during the Operation stage, which would result in a permanent *slight adverse (not significant)* effect.
Wat's Dyke (PRN 27061–27084)	Moderate	One of the assets (27066) would be physically impacted by the excavation of a drainage channel through the asset. This would result in a ***moderate adverse*** magnitude of impact on the asset, resulting in a ***moderate adverse*** ***(significant)*** effect. Potential impacts from increased noise levels, increased construction related traffic, visual intrusion from plant and machinery and vibration are judged to be no more than a temporary ***minor adverse*** impact through changes in the setting of the asset resulting in a temporary *slight adverse (not significant)* effect. The DCO Proposed Development would result in a permanent ***minor adverse*** impact through changes in the setting of the asset, which would result in a permanent *slight adverse (not significant)* effect.
Registered Historic Landscape: Hollywell Common and Halkyn Mountain (HLW c 2)	Moderate	There will be a direct physical impact on this asset. The impact would be on less than 1% of the asset and would result in a permanent ***minor adverse*** impact resulting in a permanent *slight adverse (not significant)* effect on the value of the asset. Potential impacts from increased noise levels, increased construction related traffic, visual intrusion from plant and machinery and vibration are judged to be no more than a temporary minor adverse impact through changes in the setting of the asset resulting in a temporary *slight adverse (not significant)* effect.
Moated site, fishpond and connecting channel, Elton (NHLE 1012122)	High	During the construction of the compound, any impact to archaeological remains associated with the Scheduled monument, would have a ***moderate adverse*** impact on the heritage asset, moreover due its value being high the effect would be ***moderate adverse*** ***(significant)***. The DCO Proposed Development would result in a temporary *minor adverse* impact through changes in the setting of the asset, which would result in a temporary *slight adverse (not significant)* effect during the Construction stage.
Picton Conservation Area	Moderate	The DCO Proposed Development would result in a temporary *minor adverse* impact through changes in the setting of the asset, which would result in a temporary *slight adverse (not significant)* effect during the Construction stage.
The Willows (NHLE 1229983) and Barn 25 Metres South East of Willow Farmhouse (NHLE 1229984)	High	The DCO Proposed Development would result in a temporary *minor adverse* impact through changes in the setting of the asset, which would result in a temporary *slight adverse (not significant)* effect during the Construction stage.
Footpath Guidepost 40 Metres North West of No 123 (NHLE 1130583)	Moderate	The DCO Proposed Development would result in a temporary *minor adverse* impact through changes in the setting of the asset, which would result in a temporary *slight adverse (not significant)* effect during the Construction stage.
Plas Moor (Cadw Ref. 15113) and L-Plan range of Farm Buildings (Cadw Ref. 15114)	High	The DCO Proposed Development would result in a temporary *minor adverse* impact through changes in the setting of the asset, which would result in a temporary *slight adverse (not significant)* effect during the Construction stage.
Aston Hall (Cadw ref. 23) and Aedocular Gateway at Aston Hall (Cadw ref. 15103)	High	The construction of Aston Hill BVS and newbuild pipeline to the east and south of the asset would result in a temporary ***moderate adverse*** impact through changes in the setting of the asset during the Construction stage, which would result in a temporary ***moderate adverse (significant)*** effect. The proposed Aston Hill BVS to the east of the assets would result in a permanent *minor adverse* impact through changes in the setting of the asset during the Operation stage, which would result in a permanent *slight adverse (not significant)* effect.
Church of the Holy Spirit (20115)	Moderate	The DCO Proposed Development would result in a temporary *negligible adverse* impact through changes in the setting of the asset, which would result in a temporary *slight adverse (not significant)* effect during the Construction stage.

Heritage Asset	Asset Value	Impact of Proposals on Asset Value Prior to mitigation
Castle Hill Farm Complex (Cadw Ref. 15105 – 15110)	High	The DCO Proposed Development would result in a temporary *minor adverse* impact through changes in the setting of the asset, which would result in a temporary *slight adverse (not significant)* effect during the Construction stage.
Former Maltings at Swndwr Farm (Cadw ref. 575) and associated farm buildings.	High	The DCO Proposed Development would result in a temporary *minor adverse* impact through changes in the setting of the asset, which would result in a temporary *slight adverse (not significant)* effect during the Construction stage.
Highfield Hall	Moderate	The DCO Proposed Development would result in a temporary *minor adverse* impact through changes in the setting of the asset, which would result in a temporary *slight adverse (not significant)* effect during the Construction stage. The construction of Northop Hall AGI to the south-east of the asset would result in a permanent *minor adverse* impact through changes in the setting of the asset during the Operation stage, which would result in a permanent *slight adverse (not significant)* effect.
Hafod Wood Moated Site (FL179)	High	There will be no physical impact to the asset. The proposed Cornist Lane BVS position on the opposite side of the valley would result in a *negligible* impact through changes in the setting resulting in a *slight adverse (not significant)* effect.
Bryn y Cosyn Round Barrows (FL096)	High	There will be no physical impact to the asset. The DCO Proposed Development would result in a permanent *minor adverse* impact through changes in the setting of the asset, which would result in a permanent *slight adverse (not significant)* effect.
Round Barrow 225m south-east of Plas Newydd (FL076)	High	There will be no physical impact to the asset. The DCO Proposed Development would result in a temporary *minor adverse* impact through changes in the setting of the asset, which would result in a temporary *slight adverse (not significant)* effect. The DCO Proposed Development would result in a permanent *minor adverse* impact through changes in the setting of the asset, which would result in a permanent *slight adverse (not significant)* effect.
Offa's Dyke: Section N & S of the Circle on Holywell Racecourse, and Circle and Round Barrow (FL006)	High	There will be no impact *(not significant)* to the asset.
Llyn Du Round Barrow (FL189)	High	There will be no physical impact to the asset. The DCO Proposed Development would result in a permanent *minor adverse* impact through changes in the setting of the asset, which would result in a permanent *slight adverse (not significant)* effect.
Enclosure, Field System & Hollow-ways North of Pant (FL163)	High	There will be no physical impact to the asset. The DCO Proposed Development would result in a temporary *minor adverse* impact through changes in the setting of the asset, which would result in a temporary *slight adverse (not significant)* effect.
Plas-newydd (PRN 24687)	Moderate	There will be no physical impact to the asset. The DCO Proposed Development would result in temporary and permanent *minor adverse* impacts to the setting of the asset, which would result in a *slight adverse (not significant)* effect.
Whitford Dyke (PRN 106723 and 106724)	High	There will be no physical impact to the asset. The DCO Proposed Development would result in a temporary *minor adverse* impact through changes in the setting of the asset, which would result in a temporary *slight adverse (not significant)* effect.
Offa’s Dyke (28102–28105)	High	There will be no physical impact to the asset. The DCO Proposed Development would result in a temporary *minor adverse* impact through changes in the setting of the asset, which would result in a temporary *slight adverse (not significant)* effect.
King's Wood Lane/Saltersway/ Military Way (2030/1, MCH1278)	Moderate	Any ground disturbance associated with the DCO Proposed Development would likely result in a *minor* magnitude of impact on the asset, resulting in a *slight adverse (not significant)* effect.
Roman Road - Chester to Wirral (Margary 670) (2010/1/0, MCH6164)	Moderate	Any ground disturbance associated with the DCO Proposed Development would likely result in a *minor* magnitude of impact on the asset, resulting in a *slight adverse (not significant)* effect.

Heritage Asset	Asset Value	Impact of Proposals on Asset Value Prior to mitigation
ROF Dunham on the Hill (4217, MCH9985)	Low	Any ground disturbance associated with the DCO Proposed Development would likely result in a *major* magnitude of impact on the asset, resulting in a *slight adverse (not significant)* effect.
Ridge and Furrow Earthworks in Large Standleys and Standleys Small (15191, MCH25127)	Low	Any ground disturbance associated with the DCO Proposed Development would likely result in a *major* magnitude of impact on the asset, resulting in a *slight adverse (not significant)* effect.
Royal Observer Corps Monitoring Post at Saughall (4135/0/2, MCH9818)	Low	Any ground disturbance associated with the DCO Proposed Development would likely result in a *major* magnitude of impact on the asset, resulting in a *slight adverse (not significant)* effect.
Sealand Embankment III (34237)	Low	Any ground disturbance associated with the DCO Proposed Development would likely result in a *major* magnitude of impact on the asset, resulting in a *slight adverse (not significant)* effect.
Ashfield Farm Brickworks (103787)	Low	Any ground disturbance associated with the DCO Proposed Development would likely to result in *major adverse* impact on the remains of the asset; however, as the preservation of this asset is likely to be poor the magnitude of effect is anticipated to be no more than *minor adverse (not significant).*
Brookside Ridge and Furrow (97837)	Low	Any ground disturbance associated with the DCO Proposed Development would likely to result in *major adverse* impact on the remains of the asset; however, as the preservation of this asset is likely to be poor the magnitude of effect is anticipated to be no more than *minor adverse (not significant).*
Chester - St Asaph Roman road (46802)	Low	Any ground disturbance associated with the DCO Proposed Development would likely result in a *minor* magnitude of impact on the asset, resulting in a *slight adverse (not significant)* effect.
Coal Pit Hey (99047)	Low	Any ground disturbance associated with the DCO Proposed Development would likely result in a *minor* magnitude of impact on the asset, resulting in a *slight adverse (not significant)* effect.
Ewloe Green Farm Colliery (103806)	Low	Any ground disturbance associated with the DCO Proposed Development would likely result in a *minor* magnitude of impact on the asset, resulting in a *slight adverse (not significant)* effect.
Ewloe railway (99043)	Low	Any ground disturbance associated with the DCO Proposed Development would likely result in a *minor* magnitude of impact on the asset, resulting in a *slight adverse (not significant)* effect.
Ewloe, Old Aston Hill, RAF Hawarden wireless station, aerial mast IV (129644)	Low	Any ground disturbance associated with the DCO Proposed Development would likely result in a *minor* magnitude of impact on the asset, resulting in a *slight adverse (not significant)* effect.
Ewloe, Old Aston Hill, RAF Hawarden wireless station, building II (129640)	Low	Any ground disturbance associated with the DCO Proposed Development would likely result in a *minor* magnitude of impact on the asset, resulting in a *slight adverse (not significant)* effect.
Hen-dyddyn Farm sand pit (85032)	Low	Any ground disturbance associated with the DCO Proposed Development would likely result in a *minor* magnitude of impact on the asset, resulting in a *slight adverse (not significant)* effect.
Holly House Farm Sand pits (99061)	Low	Any ground disturbance associated with the DCO Proposed Development would likely result in a *minor* magnitude of impact on the asset, resulting in a *slight adverse (not significant)* effect.
Little Leadbrook Farm marl pit (85035)	Low	Any ground disturbance associated with the DCO Proposed Development would likely result in a *minor* magnitude of impact on the asset, resulting in a *slight adverse (not significant)* effect.
Little Leadbrook Farm marl pit (85036)	Negligible or very low	Any ground disturbance associated with the DCO Proposed Development would likely result in a *minor* magnitude of impact on the asset, resulting in a *neutral or slight adverse (not significant)* effect.

Heritage Asset	Asset Value	Impact of Proposals on Asset Value Prior to mitigation
Mancot Royal strip field system (99060)	Low	Any ground disturbance associated with the DCO Proposed Development would likely result in a *minor* magnitude of impact on the asset, resulting in a *slight adverse (not significant)* effect.
Sandycroft boundary stone (103807)	Low	Any ground disturbance associated with the DCO Proposed Development would likely result in a *minor* magnitude of impact on the asset, resulting in a *slight adverse (not significant)* effect.
Bryn-eithin farmstead (89541)	Low	Any ground disturbance associated with the DCO Proposed Development would likely result in a *major* magnitude of impact on the asset, resulting in a *slight adverse (not significant)* effect.
Bryn-eithin well (37999)	Low	Any ground disturbance associated with the DCO Proposed Development would likely result in a *major* magnitude of impact on the asset, resulting in a *slight adverse (not significant)* effect.

3. APPENDIX 18.1 – BASELINE INFORMATION

3.1. INTRODUCTION

3.1.1. This appendix addendum presents the changes, in relation to the proposed design changes, to the baseline information for surface water bodies as presented within **Appendix 18.1 – Baseline Rev A** of the 2022 ES **(APP-163)**.

3.2. MAIN RIVERS

3.2.1. Western Boundary Drain is an additional main river within the Newbuild Infrastructure Boundary as a result of the extension to the Newbuild Infrastructure Boundary to enable access to Ince AGI from the adopted highway (PS06).

3.2.2. Therefore, the following section has been added after **Section 2.18 CHESTER ROAD DRAIN TRIBUTARY 1 AND 2 of Appendix 18.1 (APP-163):**

2.19 WESTERN BOUNDARY DRAIN

Catchment area	0.5km^2
Key hydraulic connections	This watercourse flows northwards and connects to West Central Drain.
River Condition Score	The watercourse is in a culvert within the Newbuild Infrastructure Boundary therefore it is assigned Poor condition
Catchment description	The catchment is mostly comprised of arable and horticultural land with some areas of woodland, marshes, industrial and residential land use. The catchment's elevation ranges between approximately 3m to 36m AOD.
Study reach description	A watercourse survey has not been undertaken at this site.
Interaction with the DCO Proposed Development	The extension of the Newbuild Infrastructure Boundary to enable access to Ince AGI from the adopted highway (PS06) includes a small section of the Western Boundary Drain which flows through a culvert beneath Grinsome Road.

3.2.3. No other main rivers included in **Section 2** of **Appendix 18.1** of the 2022 ES **(APP-163)** are affected by the proposed design changes and therefore the text remains unchanged and valid.

3.3. ORDINARY WATERCOURSES

3.3.1. Goldfinch Meadow Drain and Marsh Lane Drain are additional ordinary watercourses within the Newbuild Infrastructure Boundary as a result of the extension of the Newbuild Infrastructure Boundary to enable access to Ince AGI from the adopted highway (PS06). Wepre Brook Tributary 1 is an additional ordinary watercourse within the Newbuild Infrastructure Boundary as a result of the relocation of Northop Hall AGI (PS03).

3.3.2. The relocation of Northop Hall AGI (PS03) has included the relocation of the drainage outfall for Northop Hall AGI from Wepre Brook to a different watercourse (Wepre Brook Tributary 1). Therefore, **Section 3.27 WEPRE BROOK** of **Appendix 18.1 (APP-163)** is updated below.

3.27 WEPRE BROOK

The A55 reach of the Wepre Brook is no longer applicable to the assessment due to the relocation of Northop Hall AGI (PS03), which includes the relocation of its outfall from this reach to Wepre Brook Tributary 1. The Northop Hall and Brookside reaches of Wepre Brook remains unchanged and valid.

3.3.3. The following sections have been added to follow **Section 3.31 NANT-Y-FFLINT** of **Appendix 18.1** of the 2022 ES **(APP-163)**:

3.32 WEPRE BROOK TRIBUTARY 1

Catchment area	<0.5km^2
Key hydraulic connections	This watercourse flows in a southeast direction and joins Wepre Brook downstream of the A55.
River Condition Score	Fairly Poor
Catchment description	The catchment is mostly comprised of arable and horticultural land. The catchment's elevation ranges between approximately 91m to 123m AOD.
Study reach description	Wepre Brook Tributary 1 discharges from a culvert into a shallow trapezoidal ditch for approximately 100m through a field used for grazing. The ditch then flows along a hedgerow for approximately 200m before flowing through a culvert under the A55. On the day of the survey, the

	channel was wet but this was likely due to prolonged rainfall which preceded the survey. It is likely that this channel is dry in summer months.
Interaction with the DCO Proposed Development	The relocation of Northop Hall AGI (PS03) will result in the AGI drainage to discharge to Wepre Brook Tributary 1.

3.33 GOLDFINCH MEADOW DRAIN

Catchment area	**<0.5km^2**
Key hydraulic connections	This watercourse flows northwards and connects to West Central Drain.
River Condition Score	The watercourse is in a culvert within the Newbuild Infrastructure Boundary therefore it is assigned Poor condition
Catchment description	The catchment is mostly comprised of arable and horticultural land with some areas of woodland, marshes, industrial and residential land use. The catchment's elevation ranges between approximately 3m to 36m AOD.
Study reach description	Goldfinch Meadow Drain flows through a culvert beneath Grinsome Road. Based on aerial imagery, Goldfinch Meadow Drain is choked with vegetation at the point where it enters the culvert beneath Grinsome Road and downstream of the culvert.
Interaction with the DCO Proposed Development	The extension of the Newbuild Infrastructure Boundary to enable access to Ince AGI from the adopted highway (PS06) includes a small section of the Goldfinch Meadow Drain which flows through a culvert beneath Grinsome Road.

3.34 MARSH LANE DRAIN

Catchment area	<0.5km^2
Key hydraulic connections	This watercourse flows into Goldfinch Meadow Drain
River Condition Score	The watercourse is in a culvert within the Newbuild Infrastructure Boundary therefore it is assigned Poor condition
Catchment description	The catchment is mostly comprised of arable and horticultural land with some areas of woodland, marshes, industrial and residential land use. The catchment's elevation ranges between approximately 3m to 36m AOD.
Study reach description	Marsh Lane Drain flows through a culvert beneath Grinsome Road. Downstream of the culvert on Grinsome Road, Marsh Lane Drain enters a pond before discharging to Goldfinch Meadow Drain.
Interaction with the DCO Proposed Development	The extension of the Newbuild Infrastructure Boundary to enable access to Ince AGI from the adopted highway (PS06) includes a small section of the Marsh Lane Drain which flows through a culvert beneath Grinsome Road.

3.3.4. No other ordinary watercourses included in **Section 3** of **Appendix 18.1** of the 2022 ES **(APP-163)** are affected by the proposed design changes and therefore the text remains unchanged and valid.

3.4. CANALS

3.4.1. The canals included in **Section 4** of **Appendix 18.1 (APP-163)** have not changed due to the proposed design changes. Therefore, the text within **Section 4** of **Appendix 18.1** of the ES **(APP-163)** remains unchanged and valid.

4. APPENDIX 18.2 – SUMMARY OF EFFECTS

4.1. SUMMARY OF EFFECTS

INTRODUCTION

4.1.1. This appendix addendum presents the changes, in relation to the proposed design changes, to the potential effects on the water environment and flood risk as presented within **Appendix 18.2 – Summary of Effects** of the 2022 ES **(APP-164)**.

4.1.2. Western Boundary Drain, Goldfinch Meadow Drain and Marsh Lane Drain are additional receptors as a result of the extension of the Newbuild Infrastructure Boundary to enable access to Ince AGI from the adopted highway (PS06). Wepre Brook Tributary 1 is an additional receptor as a result of the relocation of Northop Hall AGI (PS03).

4.1.3. Therefore, **Table 1.1 in Appendix 18.2** of the 2022 ES **(APP-164)** should be replaced with **Table 4.1** below:

Table 4-1 - Sensitivity of Receptors Associated with Activities for the DCO Proposed Development

Sensitivity	Receptors
Very High	Protected Areas: Dee Estuary Special Protection Area, Mersey Estuary Site of Special Scientific Interest (including Shellfish Water and Cockle Regulating Order)
	Trenchless crossing Shropshire Union Canal, River Dee
	Downstream of watercourse receiving drainage and open cut crossing Manchester Ship Canal
	Residents and users of the surrounding land
High	Trenchless crossing: River Gowy, Railway Ditch 2, Railway Ditch 1, Broughton Brook, Northop Brook, Principal aquifer, GWDTE
	Open cut crossing

Sensitivity	Receptors
	Stanney Mill Brook, Seahill Tributary 2, Seahill Drain, Sandycroft Drain, Chester Road Drain North, Mancot Brook, Chester Road Brook Tributary 2, Willow Park Brook, New Inn Brook, Alltami Brook, Wepre Brook, Principal aquifer, GWDTE.
	Outfalls: Wepre Brook
Medium	Trenchless crossing: Sandycroft Drain, Secondary A aquifers, private, unlicenced abstractions.
	Open cut crossing: East Central Drain, West Central Drain, Hapsford Brook, Gale Brook, Thornton Uplands, Stanney Main Drain, Gowy Tributary 2, Rake Lane Brook, Backford Brook, Friars Park Ditch, Finchetts Gutter Tributary, Sealand Main Drain, Secondary A aquifers, private, unlicenced abstractions.
	Outfalls: East Central Drain, Gale Brook, Little Lead Brook, Nant-y-Fflint
	Within Newbuild Infrastructure Boundary: Western Boundary Drain
	Crossed using temporary crossings: Hawarden Brook
	Construction Workers
Low	Trenchless crossing: Elton Lane South Ditch, Elton Marsh 1, Elton Brook Tributary 1, Wervin Hall Ditch Tributary
	Trenched crossing: Elton Lane Ditch 1, Elton Lane Ditch 4, Elton Marsh 2, Elton Marsh 13, Hall Green Lane Brook, Thornton Ditch 1, Thornton Ditch 2, Collinge Wood Brook, Grove Road Ditch, Gypsy Lane Brook, Mancot Brook Tributary, Oakfield Ditch 3, Northop Brook Tributary 2, Northop Brook Tributary 1, Canal Ditch.

Sensitivity	Receptors
	Within the Newbuild Infrastructure Boundary which could be subject to trenched crossing measures: Elton Marshes West, Elton Marsh 12, Elton Marsh 11, Thornton Ditch 4, Thornton Ditch 5, Thornton Ditch 5, Thornton Ditch 6, Thornton Ditch 3, Oakfield Ditch 1
	Outfalls: Canal Ditch, Overwood Ditch, Aston Hill Brook Tributary, Wepre Brook Tributary 1
	Within Newbuild Infrastructure Boundary: Goldfinch Meadow Drain, Marsh Lane Drain, Elton Lane Ditch 2, Elton Lane Ditch 6, Glass Factory Ditch, Elton Marsh 3 Elton Marsh 10, Gowy Tributary 2

4.1.4. No other text included in **Section 1** of **Appendix 18.2** of the 2022 ES **(APP-164)** is affected by the proposed design changes and therefore remains unchanged and valid.

4.2. ASSESSMENT OF LIKELY IMPACTS AND EFFECTS

4.2.1. The assessment of likely impacts and effects included in **Section 2** of **Appendix 18.2 (APP-164)** has not changed due to the proposed design changes. Therefore, there text within **Section 2** of **Appendix 18.2** of the 2022 ES **(APP-164)** remains unchanged and valid.

4.3. ASSESSMENT OF RESIDUAL EFFECTS

4.3.1. The assessment of the residual effects included in **Section 3** of **Appendix 18.2 (APP-164)** has not changed due to the proposed design changes. Therefore, there text within **Section 3** of **Appendix 18.2** of the 2022 **(APP-164)** remains unchanged and valid.

4.4. SUMMARY OF ASSESSMENT OF EFFECTS

CONSTRUCTION STAGE

Table 4.1: Assessment of impacts to water quality and hydromorphology by entrainment of materials

4.4.1. The extension of Newbuild Infrastructure Boundary to reduce the impact to veteran trees (PS04) changes the location of the Newbuild Carbon Dioxide Pipeline crossing of Backford Brook.

4.4.2. Backford Brook is a watercourse with a Q95>0.001m3/s not monitored under WFD crossed by open trench methods and has a medium sensitivity. The change in the Newbuild Carbon Dioxide Pipeline crossing of the Backford Brook is a local change and therefore the assessment of effects presented in **Table 4-1** of **Appendix 18.2** of the 2022 ES **(APP-164)** remains unchanged and valid.

4.4.3. The relocation of Northop Hall AGI (PS03) will require a new open channel to connect to Wepre Brook Tributary 1. Wepre Brook Tributary 1 is a watercourse which is not crossed by open trench methods with Q95<0.001m3/s not monitored under WFD and has a low sensitivity. This category is already assessed, therefore, the assessment of effects presented in **Table 4-1** of **Appendix 18.2** of the 2022 ES **(APP-164)** remains unchanged and valid

Table 4.2: Assessment of impacts to water quality by spillage of pollutants

4.4.4. The extension of Newbuild Infrastructure Boundary to reduce the impact to veteran trees (PS04) changes the location of the Newbuild Carbon Dioxide Pipeline crossing of Backford Brook.

4.4.5. Backford Brook is a watercourse with a Q95>0.001m3/s not monitored under WFD crossed by open trench methods and has a medium sensitivity. The change in the Newbuild Carbon Dioxide Pipeline crossing of the Backford Brook is a local change and therefore the assessment of effects presented in **Table 4-2** of **Appendix 18.2** of the 2022 ES **(APP-164)** remains unchanged and valid.

4.4.6. Western Boundary Drain, Goldfinch Meadow Drain and Marsh Lane Drain are additional receptors as a result of the extension of the Newbuild Infrastructure Boundary to enable access to Ince AGI from the adopted highway (PS06). These watercourses had not been previously assessed within **Table 4-2** of **Appendix 18.2** of the 2022 ES **(APP-164).**

4.4.7. Therefore, the updated information within **Table 4.2** should be added to **Table 4-2** of **Appendix 18.2** of the 2022 ES **(APP-164)**.

Table 4-2 - Assessment of Impacts to Water Quality by Spillage of Pollutants to Western Boundary Drain, Goldfinch Meadow Drain and Marsh Lane Drain

Receptor	Sensitivity of Receptor	Potential Impact	Magnitude of Impact	Significance of Effect	Mitigation	Residual Effect
Western Boundary Drain	Medium	The watercourses would be crossed by an existing road which will be used for access to the construction sites. There will be no physical change to the watercourse. There would be a temporary increase in traffic volume on the existing road, but there would be no additional traffic route or any works with machinery close to this watercourse.	Negligible	Neutral (not significant)	Implementation of measures outlined in the OCEMP (Document reference: D.6.5.4).	**Neutral (not significant**

Table 4.4: Assessment of impacts to hydrological and hydromorphological processes from open cut crossings of watercourses

4.4.8. The extension of Newbuild Infrastructure Boundary to reduce the impact to veteran trees (PS04) changes the location of the Newbuild Carbon Dioxide Pipeline crossing of Backford Brook.

4.4.9. Backford Brook is a watercourse with a Q95>0.001m3/s not monitored under WFD. The change in the Newbuild Carbon Dioxide Pipeline crossing of the Backford Brook is a local change and therefore the sensitivity of the watercourse remains medium. Backford Brook would still be crossed via open cut trench and therefore, the magnitude of the impacts remains the same as minor adverse.

4.4.10. Therefore, the assessment of impacts to hydrological and hydromorphological processes from open cut crossings of watercourses within **Table 4.4** of **Appendix 18.2** of the 2022 ES **(APP-164)** remains unchanged and valid.

OPERATION STAGE

Table 4.14: Assessment of impacts associated with installation of permanent artificial features within the channel of watercourse

4.4.11. The relocation of Northop Hall AGI (PS03) will no longer require a new open channel to connect to Wepre Brook but a new open channel will be required to connect Wepre Brook Tributary 1.

4.4.12. Therefore, **Table 4-14** of **Appendix 18.2** of the 2022 ES **(APP-164)** is replaced with **Table 4.3** below.

Table 4-3 - Assessment of Impacts Associated with Installation of Permanent Artificial Features within the Channel of Watercourses

Receptor	Sensitivity of Receptor	Potential Impact	Magnitude of Impact	Signficance of Effect	Mitigation	Residual Effect
Alltami Brook	High	There will be a permanent loss of bed material due to excavation of bedrock and replacement with concrete. Changes to the bed could instigate geomophic change within the reach. This could alter aquatic habitats and prevent fish migration.	Moderate Adverse	***Moderate adverse (significant)***	A bespoke geomorphological assessment will be carried out by the Construction Contractor to inform: • micro-siting the crossing location of the pipe so that the least sensitive section of river bed is permanently impacted, where practicable, • the detailed design of the permanent works installed as part of the reinstatement of the watercourse after pipe is laid Further engagement with Natural Resources Wales and the Lead Local Flood Authority Planning would be undertaken to inform the methodology of this bespoke geomorphological assessment.	*Slight adverse (not signficant)*

Receptor	Sensitivity of Receptor	Potential Impact	Magnitude of Impact	Signficance of Effect	Mitigation	Residual Effect
					At most a length of 4m of the bed of the Alltami Brook will be removed and replaced with artificial material. Geomorphological and ecological monitoring of the permanent works would be carried out, post construction, to identify any potential failure of the permanent works which could lead to a significant impact to the water environment and aquatic habitat. Type, duration and frequency of monitoring is to be determined through the development of the geomorphological assessment and detailed design, and in consultation with NRW and FCC LLFA. Adaptive mitigation would be implemented to prevent deterioration from occurring.	
East Central Drain, Nant-y-Fflint	Medium	A new open channel will connect to these watercourses to discharge runoff from	Minor adverse	*Slight adverse (not signficant)*		*Slight adverse (not signficant)*

Receptor	Sensitivity of Receptor	Potential Impact	Magnitude of Impact	Signficance of Effect	Mitigation	Residual Effect
Canal Ditch, Overwood Ditch, Aston Hill Brook Tributary, Little Lead Brook, Wepre Brook Tributary 1	Low	the new above ground features.	Minor adverse	*Neutral (not significant)*		*Neutral (not significant)*

Table 4.15: Assessment of impacts to surface water associated with the new above ground features

4.4.13. The relocation of Northop Hall AGI (PS03) will no longer outfall into Wepre Brook but will outfall into Wepre Brook Tributary 1. Therefore, Wepre Brook is no longer a surface water feature associated with the new above ground features and Wepre Brook Tributary 1 is an additional surface water feature associated with the new above ground features.

4.4.14. Therefore, **Table 4-15** of **Appendix 18.2** of the 2022 ES **(APP-164)** is replaced with **Table 4.4** below.

Table 4-4 - Assessment of Impacts to Surface Water Associated with the New above Ground Features

Receptor	Sensitivity of Receptor	Potential Impact	Magnitude of impact	Signficance of Effect	Mitigation	Residual Effect
East Central Drain, Nant-y-Fflint	Medium	Impact to hydrological processes in receiving and downstream watercourses is minimised by the control of surface water at the AGIs and BVSs and discharging at greenfield rates. Impact to the sediment regime is minimised by treatment of runoff and settlement of entrained sediments through filter drains and attenuation ponds. No changes to the sediment regime of receiving watercourses is antipcated due to the controlled surface water runoff. Impact to water quality from routine runoff is minimised by the treatment measures embedded within the drainage strategy. Risk of spillage is very low and sufficient treatment measures to slow spread of spillages to watercourses to allow for interception	Negligible	*Neutral (not significant)*		*Neutral (not significant)*
Canal Ditch, Overwood Ditch, Aston Hill Brook Tribuatry, Little Lead Brook, Wepre Brook Tributary 1	Low		Negligible	*Neutral (not significant)*		*Neutral (not significant)*

4.4.15. No other text included in **Section 4** of **Appendix 18.2** of the 2022 ES **(APP-164)** is affected by the proposed design changes and therefore remains unchanged and valid.

5. APPENDIX 18.3 – WATER FRAMEWORK DIRECTIVE ASSESSMENT

5.1. INTRODUCTION

5.1.1. This appendix addendum presents the changes, in relation to the proposed design changes, to the Water Framework Directive assessment (WFDa) as presented within **Appendix 18.3 – Water Framework Directive Assessment** of the 2022 ES **(APP-165)**.

5.1.2. The introduction of **Appendix 18.3 (APP-165)** has not changed due to the proposed design changes. Therefore, the text within **Section 1** of **Appendix 18.3** of the 2022 ES **(APP-165)** remains unchanged and valid.

5.2. METHODOLOGY

5.2.1. The methodology of **Appendix 18.3 (APP-165)** has not changed due to the proposed design changes. Therefore, the text within **Section 2** of **Appendix 18.3 (APP-165)** remains unchanged and valid.

5.3. WFD SCREENING AND SCOPING

5.3.1. Four additional watercourses are now scoped into the assessment as a result of the proposed design changes.

5.3.2. Western Boundary Drain, Goldfinch Meadow Drain and Marsh Lane Drain are scoped into the assessment for the construction phase as a result of the extension of the Newbuild Infrastructure Boundary to enable access to Ince AGI from the adopted highway (PS06).

5.3.3. Wepre Brook Tributary 1 is scoped into the assessment for the construction, operation and decommissioning stage as a result of the relocation of Northop Hall AGI (PS03)

5.3.4. The avoidance of veteran trees around Backford Brook (PS04) has amended the crossing location of the Backford Brook but this is a localised change and the impact remains the same as reported in **Appendix 18.2** of the 2022 ES **(APP-164).**

5.3.5. These waterbodies are presented in **Table 5.1.** The WFD Water Bodies are already screened into the WFD assessment, and the design changes do not impact the conclusions of the water body screening exercise.

Table 5.1 - WFD Waterbodies

Water Body Name	WFD Water Body
Western Boundary Drain	Peckmill Brook, Hoolpool Gutter and Ince Marshes) (referred to as Ince Marshes in the report) (GB112068060330)
Goldfinch Meadow Drain	
Marsh Lane Drain	
Elton Lane south ditch	
West Central Drain	
Wepre Brook Tributary 1	Wepre Brook (GB111067056880)
Backford Brook	Finchetts Gutter (GB111067056930)

5.3.6. Therefore, WFD screening and scoping of **Appendix 18.3 (APP-165)** has not changed due to the proposed design changes. Therefore, the text within **Section 3** of **Appendix 18.3** of the 2022 ES **(APP-165)** remains unchanged and valid.

5.4. BASELINE CONDITIONS

5.4.1. Four additional watercourses are now scoped into the assessment as a result of the proposed design changes and therefore the baseline conditions are updated to include these watercourses. **Table 5.2** below is added to **Table 4-1** of **Appendix 18.3** of the 2022 ES **(APP-165).**

5.4.2. The remaining text within baseline conditions of **Appendix 18.3** of the 2022 ES **(APP-165)** has not changed due to the proposed design changes.

Table 5.2 - WFD status of Watercourses and Surface Water Bodies Screened into this Assessment

Watercourse Name	Water body Name and ID	Watercourse Type	Overall Status	Ecological Status	Chemical Status	Overall Objective	River Condition Score
Western Boundary Drain	Peckmill Brook, Hoolpool Gutter and Ince Marshes (GB112068060330)	Main River	Moderate	Moderate	Fail	Poor in 2015 Disproportionately expensive: Disproportionate burdens. Technically infeasible: No known technical solution is available	Poor
Goldfinch Meadow Drain		Ordinary Watercourse					Poor
Marsh Lane Drain		Ordinary Watercourse					Poor
Wepre Brook Tributary 1	Wepre Brook (GB111067056880)	Ordinary Watercourse	Moderate	Moderate	Good	Good by 2027	Fairly poor

5.5. DETAILED IMPACT ASSESSMENT

5.5.1. The detailed impact assessment of **Appendix 18.3** has not changed due to the proposed design changes. Therefore, the text within **Section 5** of **Appendix 18.3** of the 2022 ES **(APP-165)** remains unchanged and valid.

5.6. CONSTRUCTION IMPACTS

5.6.1. The construction impacts of **Appendix 18.3** have not changed due to the proposed design changes. Therefore, the text within **Section 6** of **Appendix 18.3** of the 2022 ES **(APP-165)** remains unchanged and valid.

5.7. CONCLUSIONS

5.7.1. No proposed design changes have been scoped in for detailed assessment for WFD compliance. Therefore, the conclusions of the WFD assessment have not changed due to the proposed design changes. Therefore, **Section 7** of **Appendix 18.3** of the 2022 ES **(APP-165)** remains unchanged and valid.

5.8. ANNEX A

5.8.1. Meetings notes presented in **Appendix 18.3** have not changed due to the proposed design changes. Therefore, the text within **Annex A** of **Appendix 18.3** of the 2022 ES **(APP-165)** remains unchanged and valid.

5.9. ANNEX B

5.9.1. The WFD scoping for coastal and transitional water bodies has not changed due to the design changes. Therefore, the text within **Annex B** of **Appendix 18.3** of the 2022 ES **(APP-165)** remains unchanged and valid.

5.10. ANNEX C

5.10.1. Four additional watercourses are now scoped into the assessment as a result of the proposed design changes and therefore the baseline conditions are updated to include these watercourses. The following information is added to **Annex C** of **Appendix 18.3** of the 2022 ES **(APP-165).**

5.10.2. The remaining content of **Annex C** of **Appendix 18.3 (APP-165)** has not changed due to the proposed design changes.

PECKMILL BROOK, HOOLPOOL GUTTER AND INCE MARSHES

Western Boundary Drain

Baseline data for Western Boundary Drain

Watercourse name	***Western Boundary Drain***
No photo available as survey was not carried out.	*Water feature type: Main River*
	Catchment area: <1km^2
	Key hydraulic connections: Artificial drain collecting overland flow and discharging to West Central Drain
	Surrounding land use: Industry, farming and agricultural, track roads
	Condition Score: Poor (Survey not completed but watercourse in culvert within Newbuild Infrastructure Boundary therefore assumed Poor)
Catchment Characteristics	*The channel drains a small catchment of farm and agricultural land dissected by track roads and an industrial site.*
Catchment Geology and Soils	*The bedrock geology comprises Kinnerton sandstone formation (sandstone). West Boundary Drain is underlain by superficial deposits of clay, silt and sand, formed from tidal flat deposits at the Quaternary shoreline.* *The catchment features loamy and sandy soils with naturally high groundwater and a peaty surface. These soils drain well into local shallow groundwater. These soils are vulnerable to pollution from nutrients, pesticides and wastes applied to the land.*

Watercourse name	***Western Boundary Drain***
Catchment Hydrology	*The channel drains the adjacent farmland, industrial site and track roads. The watercourse is ungauged.*
Historical Channel Change	*The watercourse has been realigned around the industrial estate since 1970. The watercourse has been culverted beneath the access road. The date of these modifications is not known.*
Biological	
Fish	*No data is available for this watercourse.*
Invertebrates	*No data is available for this watercourse.*
Macrophytes & Phytoplankton	*No data is available for this watercourse.*
Physico-Chemical	
Thermal Conditions	*No data is available for this watercourse.*
Oxygenation Conditions	*No data is available for this watercourse.*
Salinity	*No data is available for this watercourse.*
Acidification Status	*No data is available for this watercourse.*
Nutrient Conditions	*No data is available for this watercourse.*

Watercourse name	***Western Boundary Drain***
Priority Hazardous Substances	*No data is available for this watercourse.*
Hydromorphological	
Quantity and Dynamics of Flow	*The watercourse flows through a culvert within the Newbuild Infrastructure Boundary.*
River Continuity	*The condition of existing culvert is not known. The channel drains to West Central Drain.*
River Depth and Width Variation	*The geometry of the culvert is not known. The river width and depth are fixed to the culvert dimensions.*
Structure and Substrate of the River Bed	*No data is available for this watercourse.*
Structure of the Riparian Zone	*The riparian zone within the Newbuild Infrastructure Boundary is an access road for the industrial estate. The riparian zone is disconnected from the watercourse.*

Goldfinch Meadow Drain

5.10.3. *Baseline data for Goldfinch Meadow Drain*

Watercourse Name	***Goldfinch Meadow Drain***
No photo available as survey was not carried out.	*Water feature type: Ordinary Watercourse*
	Catchment area: <1km^2
	Key hydraulic connections: Artificial drain collecting overland flow and discharging to West Boundary Drain
	Surrounding land use: Farming and agricultural, track roads
	Condition Score: Poor (Survey not completed but watercourse in culvert within Newbuild Infrastructure Boundary therefore assumed Poor)
Catchment Characteristics	*The channel drains a small catchment of farm and agricultural land dissected by track roads.*
Catchment Geology and Soils	*The bedrock geology comprises Kinnerton sandstone formation (sandstone). Goldfinch Meadow Drain is underlain by superficial deposits of clay, silt and sand, formed from tidal flat deposits at the Quaternary shoreline.* *The catchment features loamy and sandy soils with naturally high groundwater and a peaty surface. These soils drain well into local shallow groundwater. These soils are vulnerable to pollution from nutrients, pesticides and wastes applied to the land.*

Watercourse Name	*Goldfinch Meadow Drain*
Catchment Hydrology	*The channel drains the adjacent farmland and track roads. The watercourse is ungauged.*
Historical Channel Change	*The alignment of the watercourse not changed since 1900. The watercourse has been culverted beneath the access road since 1970. The date of this modification is not known.*
Biological	
Fish	*No data is available for this watercourse.*
Invertebrates	*No data is available for this watercourse.*
Macrophytes & Phytoplankton	*No data is available for this watercourse.*
Physico-Chemical	
Thermal Conditions	*No data is available for this watercourse.*
Oxygenation Conditions	*No data is available for this watercourse.*
Salinity	*No data is available for this watercourse.*
Acidification Status	*No data is available for this watercourse.*
Nutrient Conditions	*No data is available for this watercourse.*

Watercourse Name	***Goldfinch Meadow Drain***
Priority Hazardous Substances	*No data is available for this watercourse.*
Hydromorphological	
Quantity and Dynamics of Flow	*The watercourse flows through a culvert within the Newbuild Infrastructure Boundary.*
River Continuity	*The condition of existing culvert is not known. The channel drains to West Boundary Drain.*
River Depth and Width Variation	*The geometry of the culvert is not known. The river width and depth are fixed to the culvert dimensions.*
Structure and Substrate of the River Bed	*No data is available for this watercourse.*
Structure of the Riparian Zone	*The riparian zone within the Newbuild Infrastructure Boundary is an access road for the industrial estate. The riparian zone is disconnected from the watercourse.*

Marsh Lane Drain

Baseline data for Marsh Lane Drain

Watercourse Name	***Marsh Lane Drain***
No photo available as survey was not carried out	*Water feature type: Ordinary Watercourse*
	Catchment area: <1km^2
	Key hydraulic connections: Artificial drain collecting overland flow and discharging to West Boundary Drain
	Surrounding land use: Industry, farming and agricultural, track roads
	Condition Score: Poor (Survey not completed but watercourse in culvert within Newbuild Infrastructure Boundary therefore assumed Poor)
Catchment Characteristics	*The channel drains a small catchment of farm and agricultural land dissected by track roads and an industrial site.*
Catchment Geology and Soils	*The bedrock geology comprises Kinnerton sandstone formation (sandstone). Marsh Lane Drain is underlain by superficial deposits of clay, silt and sand, formed from tidal flat deposits at the Quaternary shoreline.* *The catchment features loamy and sandy soils with naturally high groundwater and a peaty surface. These soils drain well into local shallow groundwater. These soils are vulnerable to pollution from nutrients, pesticides and wastes applied to the land.*

Watercourse Name	***Marsh Lane Drain***
Catchment Hydrology	*The channel drains the adjacent farmland, industrial site and track roads. The watercourse is ungauged.*
Historical Channel Change	*The watercourse has been realigned around the industrial area since 1970. The watercourse has been culverted beneath the access road. The date of these modifications is not known.*
Biological	
Fish	*No data is available for this watercourse.*
Invertebrates	*No data is available for this watercourse.*
Macrophytes & Phytoplankton	*No data is available for this watercourse.*
Physico-Chemical	
Thermal Conditions	*No data is available for this watercourse.*
Oxygenation Conditions	*No data is available for this watercourse.*
Salinity	*No data is available for this watercourse.*
Acidification Status	*No data is available for this watercourse.*
Nutrient Conditions	*No data is available for this watercourse.*

Watercourse Name	***Marsh Lane Drain***
Priority Hazardous Substances	*No data is available for this watercourse.*
Hydromorphological	
Quantity and Dynamics of Flow	*The watercourse flows through a culvert within the Newbuild Infrastructure Boundary.*
River Continuity	*The condition of existing culvert is not known. The channel drains to West Boundary Drain.*
River Depth and Width Variation	*The geometry of the culvert is not known. The river width and depth are fixed to the culvert dimensions.*
Structure and Substrate of the River Bed	*No data is available for this watercourse.*
Structure of the Riparian Zone	*The riparian zone within the Newbuild Infrastructure Boundary is an access road for the industrial estate. The riparian zone is disconnected from the watercourse.*

WEPRE BROOK

Wepre Brook Tributary 1

Baseline data for Wepre Brook Tributary 1

Watercourse Name	***Wepre Brook Tributary 1***
	*Water feature type: Ordinary watercourse*
	Catchment area: <0.5km^2
	Key hydraulic connections: This watercourse flows in a southeast direction and joins Wepre Brook downstream of the A55.
	Surrounding land use: Predominantly agricultural land use. The A55 runs parallel to the Wepre Brook through the study reach.
	River Condition Score: Fairly poor
Catchment Characteristics	*The catchment is mostly comprised of arable and horticultural land. The catchment's elevation ranges between approximately 91m to 123m AOD.*
Catchment Geology and Soils	*Bedrock geology consists of the Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone. Superficial geology largely composed of Devensian till and diamicton.*
Catchment Hydrology	*No gauging station located within catchment.*

Watercourse Name	***Wepre Brook Tributary 1***
Historical Channel Change	*The watercourse has been on the same alignment since 1900. It has been culverted beneath the A55.*
Biological	
Fish	*NRW advised on possible presence of European Eel, however, during the site survey Wepre Brook Tributary 1 was dry. Therefore the presence of European Eel is unlikely due to the ephemeral nature of the watercourse.*
Invertebrates	*No data is available for this watercourse.*
Macrophytes & Phytoplankton	*No data is available for this watercourse.*
Physico-Chemical	
Thermal Conditions	*No data is available for this watercourse.*
Oxygenation Conditions	*No data is available for this watercourse.*
Salinity	*No data is available for this watercourse.*
Acidification Status	*No data is available for this watercourse.*
Nutrient Conditions	*No data is available for this watercourse.*
Priority Hazardous Substances	*No data is available for this watercourse.*

Watercourse Name	***Wepre Brook Tributary 1***
<u>Hydromorphological</u>	
Quantity and Dynamics of Flow	*The watercourse is likely ephemeral and at the time of survey (December 2022) had no perceptible flow.*
River Continuity	*The watercourse is culverted beneath the A55.*
River Depth and Width Variation	*The channel has a uniform trapezoidal cross-section. The channel was approximately 1.5m wide, with 0.5m water width and 0.5m bank height.*
Structure and Substrate of the River Bed	*The channel bed is choked with vegetation and the substrate is mostly silt.*
Structure of the Riparian Zone	*The riparian zone is agricultural land which was used for pastoral farming at the time of survey. There is an intermittent hedgerow along the left bank.*

5.11. ANNEX D

5.11.1. Four additional watercourses are now scoped into the assessment as a result of the proposed design changes and therefore the baseline conditions are updated to include these watercourses. In addition, the proposed activities on Wepre Brook are updated. Therefore, **Table D-1** of Annex D of **Appendix 18.3** of the 2022 ES **(APP-165)** is replaced with **Table 5.3:**

Table 5.3 - Activities Potentially Impacting Watercourses within each WFD Water Body along the DCO Proposed Development

Water Body Name and ID	Watercourse Name	Watercourse Type	Proposed Activities
Peckmill Brook, Hoolpool Gutter and Ince Marshes (GB112068060330)	**Western Boundary Drain**	Main River	Within an existing culvert under road used for construction traffic to access Ince AGI.
	Goldfinch Meadow Drain	Ordinary Watercourse	Within an existing culvert under road used for construction traffic to access Ince AGI.
	Marsh Lane Drain	Ordinary Watercourse	Within an existing culvert under road used for construction traffic to access Ince AGI.
	East Central Drain	Main River	Installation of Ince AGI within 10m Drainage (Ince AGI)
	Elton Lane Ditch 1	Ditch	Installation of Ince AGI within 10m Culvert replacement and extension Open cut crossing
	Elton Lane Ditch 4	Ditch	Open cut crossing
	Elton Lane South Ditch	Ditch	Trenchless crossing
	Elton Marsh 1	Ditch	Trenchless crossing
	Elton Marsh 2	Ditch	Open cut crossing
	West Central Drain	Main River	Open cut crossing Dewatering

Water Body Name and ID	Watercourse Name	Watercourse Type	Proposed Activities
	Hapsford Brook	Main River	Open cut crossing
Mersey (GB531206908100)	**Elton Brook Tributary 1**	Ditch	Trenchless crossing
	Gale Brook	Main River	Open cut crossing
	Thornton Uplands	Main River	Open cut crossing
	Halls Green Lane Brook	Ditch	Open cut crossing
	Mersey	Transitional	Downstream receptor of watercourses with following activities proposed: Open cut crossing Dewatering Drainage
Gowy (Milton Brook to Mersey) (GB112068060250)	**Thornton Main Drain**	Main River	Open cut crossing
	Gowy	Main River	Trenchless crossing, dewatering and downstream receptor of watercourses with following activities proposed: Open cut crossing Temporary watercourse crossings Dewatering
	Stanney Main Drain	Main River	Open cut crossing
Stanney Mill Brook (GB112068060260)	**Stanney Mill Brook**	Main river	Open cut crossing
	Gowy Tributary 2	Ordinary Watercourse	Within Newbuild Infrastructure Boundary
	Wervin Hall Ditch Tributary	Ditch	Trenchless crossing
Shropshire Union Canal (GB71210133)	**Shropshire Union Canal**	Canal (Artificial)	Trenchless crossing

Water Body Name and ID	Watercourse Name	Watercourse Type	Proposed Activities
Manchester Ship Canal (GB71210004)	**Manchester Ship Canal**	Canal (Artificial)	Downstream receptor of watercourses with the following activities proposed: Open cut crossing Dewatering Drainage (Ince AGI) Culvert replacement and extension
Finchetts Gutter (GB111067056930)	**Collinge Wood Brook**	Ditch	Open cut crossing
	Rake Lane Brook	Ordinary Watercourse	Open cut crossing
	Backford Brook	Main River	Open cut crossing
	Friars Park Ditch	Ordinary Watercourse	Open cut crossing Temporary watercourse crossing
	Gypsy Lane Brook	Ditch	Open cut crossing
	Overwood Ditch	Ditch	Drainage (Mollington BVS)
	Finchetts Gutter Tributary	Ordinary Watercourse	Open cut crossing
	Sealand Main Drain	Main River	Open cut crossing
Garden City Drain (GB111067056960)	**Seahill Tributary 2**	Ordinary Watercourse	Open cut crossing
	Seahill Drain	Main River	Open cut crossing
Sandycroft Drain (GB111067052160)	**Railway Ditches**	Ditch	Trenchless crossing
	Broughton Brook	Main River	Trenchless crossing
	Sandycroft Drain	Main River	Open cut crossing Trenchless crossing

Water Body Name and ID	Watercourse Name	Watercourse Type	Proposed Activities
	Mancot Brook	Ordinary Watercourse	3x open cut crossing
	Chester Road Drain North	Main River	Trenchless crossing
	Chester Road Drain Tributary 1	Main River	Trenchless crossing
Wepre Brook (GB111067056880)	**New Inn Brook**	Ordinary Watercourse	Open cut crossing
	Alltami Brook	Ordinary Watercourse	Open cut crossing
	Wepre Brook	Ordinary Watercourse	Open cut crossing
	Wepre Brook Tributary 1	Ordinary Watercourse	Drainage (Northop Hall AGI)
Dee (N. Wales) (GB531106708200)	**Dee Estuary**	Transitional	Trenchless crossing and downstream receptor of watercourses with the following activities proposed: Temporary watercourse crossing Trenchless crossing Open cut crossing Drainage
	Hawarden Brook	Main River	Temporary watercourse crossing
	Willow Park Brook	Ordinary Watercourse	Open cut crossing
	Aston Hall Brook	Ordinary Watercourse	Within Newbuild Infrastructure Boundary
	Northop Brook	Ordinary Watercourse	Trenchless crossing

Water Body Name and ID	Watercourse Name	Watercourse Type	Proposed Activities
	Little Lead Brook	Ordinary Watercourse	Drainage (from Fflint AGI)
Swinchiard Brook (GB111067056940)	**Nant-y-Fflint**	Ordinary Watercourse	Drainage (from Cornist Lane BVS)

5.12. ANNEX E

5.12.1. The design principles for watercourse reinstatement have not changed due to the design changes. Therefore, the text within **Annex E** of **Appendix 18.3** of the 2022 ES **(APP-165)** remains unchanged and valid.

6. APPENDIX 18.5 – FLOOD CONSEQUENCES ASSESSMENT

6.1. INTRODUCTION

APPOINTMENT AND BRIEF

6.1.1. **Appendix 18-5 – Flood Consequences Assessment (FCA (AS-004** to **AS-006)** of the 2022 ES investigates flood risk for the DCO Proposed Development located from the England/Wales border to the Babell Block Valve Station (BVS) in Wales. This FCA Addendum considers only the likely significant effects resulting in changes in flood risk as a result of the proposed design changes.

6.1.2. This addendum appendix considers only the likely significant effects resulting from the proposed design changes as outlined in **Table i.i** of **Chapter I** of this ES Addendum.

LIMITATIONS

6.1.3. The Limitations of FCA has not changed due to the proposed design changes. Therefore, the text within **Section 1.2** of **Appendix 18-5** the 2022 ES **(AS-004** to **AS-006)** remains unchanged and valid.

OBJECTIVE OF THE STUDY AND METHODOLOGY

6.1.4. The Objectives of the Study and Methodology of the FCA has not changed due to the proposed design changes. Therefore, the text within **Section 1.3** of **Appendix 18-5** of the 2022 ES **(AS-004** to **AS-006)** remains unchanged and valid.

PLANNING POLICY WALES VULNERABILITY AND TECHNICAL ADVICE NOTE 15

6.1.5. The Planning Policy Wales Vulnerability and Technical Advice Note 15 in the FCA has not changed due to the proposed design changes. Therefore, the text within **Section 1.4** of **Appendix 18-5** the 2022 ES **(AS-004** to **AS-006)** remains unchanged and valid.

6.1.6. Natural Resources Wales (NRW) has developed a new Flood Map for Planning (FMfP) that was published in November 2022. In due course this will replace the Development Advice Map (DAM) that supports TAN15 (expected to be in June 2023), however at the time of preparing this Addendum the FMfP has no official status, and the current DAM is still valid. That said, a review of the new FMfP has been undertaken for the DCO Proposed Development and no significant changes to flood risk have been identified.

6.2. BASELINE DESCRIPTION

6.2.1. The Baseline Description for the FCA has not changed due to the proposed design changes. Therefore, the text within **Section 2.1** of **Appendix 18-5** of the 2022 ES **(AS-004** to **AS-006)** remains unchanged and valid.

LOCATION OF THE DCO PROPOSED DEVELOPMENT

6.2.2. The location of Cornist Lane BVS (P01) and Northop Hall AGI (P03) has changed compared to the locations discussed in **Appendix 18-5** of the 2022 ES **(AS-004 to AS-006)**.

6.2.3. The relocation of Cornist Lane BVS (P01) and Northop Hall AGI (P03) has been updated in **Chapter 3** and in **Figures 3-1, 3-2** & **18.5.1** as part of this ES Addendum.

6.2.4. Therefore, with the exception of these two sites (Cornist Lane BVS and Northop Hall AGI), the text in the Location of the Proposed Development section has not changed due to the proposed design changes and the remainder of the text within **Section 2.2** of **Appendix 18-5** of the 2022 ES **(AS-004** to **AS-006)** remains unchanged and valid.

SITE TOPOGRAPHY

6.2.5. The general description of the local topography in **Section 2.3** of the FCA **(AS-004** to **AS-006)** for Pipe Reach 4b, Pipe Reach 5, Pipe Reach 6, Flint AGI, Aston Hill BVS, Pentre Halkyn BVS and Babell BVS has not changed due to the proposed design changes and therefore remains unchanged and valid.

6.2.6. The general description of the local topography for the relocated Northop Hall AGI (P03 and Cornist Lane BVS (P01) in **Section 2.3** has changed, therefore, **paragraphs 2.3.8 and 2.3.11** of the FCA **(AS-004 to AS-006)** should be replaced with the following text, respectively.

Northop Hall AGI

The existing elevation of the proposed Northop Hall AGI site ranges from approximately 112m Above Ordnance Datum (AOD) in the northeast to around 109m AOD in the southwest. The nearest road to the site remains the B5125 Village Road. The existing farm gate and access track from the B5125 to the site rises towards the northeast from an elevation of 111.9m AOD at the site boundary to approximately 112.2mAOD where the track meets the B5125.

Cornist Lane BVS

The existing elevation of the proposed Cornist Lane BVS site rises from east to west, from an elevation of approximately 147m AOD to approximately 149m AOD. The location of the proposed access track leading to the site slopes towards the northwest from an elevation of approximately 148m AOD at the edge of the site to approximately 136m AOD where it joins Cornist Lane.

GEOLOGY AND HYDROGEOLOGY

6.2.7. The Geology and Hydrogeology presented in the FCA has not changed due to the proposed design changes. This is due to the proximity of the proposed changes to their original locations. Therefore, the text within **Section 2.4** of **Appendix 18-5** of the 2022 ES **(AS-004** to **AS-006)** remains unchanged and valid.

EXISITING WATERBODIES

6.2.8. The watercourses crossed by the DCO Proposed Development presented in Table 1 of the FCA **(AS-004** to **AS-006)** remain unchanged and valid.

6.2.9. The existing waterbodies in relation to and within 500m of Flint AGI, Aston Hill BVS, Pentre Halkin BVS and Barbell BVS presented in **Section 2.5** of the FCA **(AS-004** to **AS-006)** remain unchanged and valid.

6.2.10. The existing waterbodies in relation to and within 500m of the relocated Northop Hall AGI (P03) and Cornist Lane BVS (P01) in **Section 2.5** has changed, therefore, **paragraphs 2.5.3 and 2.5.6** of the FCA **(AS-004** to **AS-006)** should be replaced with the following text, respectively.

Northop Hall AGI

*A review of OS Mapping (2022) (**Ref. 18**) has been undertaken to identify open waterbodies within 500m of the Site. The closest open waterbody to the proposed Northop Hall AGI Site is an unnamed pond located approximately 55m south-west of the Site. The tributary of the Wepre Brook is located approximately 330m to the south of the Site. The watercourse is culverted beneath the A55 dual carriageway and flows east towards Northop Hall where it joins Altami Brook.*

Cornist Lane BVS

*The Afon Nant-y-Fflint is located approximately 170m to the west of the Cornist Lane BVS at its closest point. This is shown in **Figure 18.5.22 – Cornist Lane Development Advice Map (Sheet 5) (Annex G).** The catchment of Afon Nant-y-Fflint extends approximately 2km northwest and is predominantly rural.*

EXISITING SEWER AND DRAINAGE INFRASTRUCTURE

6.2.11. The Existing Sewers and Drainage Infrastructure presented in the FCA has not changed due to the proposed design changes. Therefore, the text within **Section 2.6** of **Appendix 18.5** the 2022 ES **(AS-004** to **AS-006)** remains unchanged and valid.

EXISITING FLOOD DEFENCES

6.2.12. The Existing Flood Defences presented in the FCA has not changed due to the proposed design changes. Therefore, the text within **Section 2.7** of **Appendix 18.5** the 2022 ES **(AS-004** to **AS-006)** remains unchanged and valid.

6.3. STAKEHOLDER ENGAGEMENT

6.3.1. The scoping opinion has not changed, and no additional consultation has been undertaken regarding the FCA.

6.3.2. No amendments to **Appendix 1.3 – Environmental Statement – Scoping Opinion Responses (APP-076)** are required in relation to flood risk due to the proposed design changes. Therefore, the text within **Section 3** of **Appendix 18.5** the 2022 ES **(AS-004 to AS-006)** remains unchanged and valid.

6.4. CLIMATE CHANGE

6.4.1. The Climate Change information presented in the FCA has not changed due to the proposed design changes. Therefore, the text within **Section 4** of **Appendix 18.5** of the 2022 ES **(AS-004** to **AS-006)** remains unchanged and valid.

6.5. DEFINITION OF A FLOOD HAZARD

6.5.1. The relocation of Northop Hall AGI (P03) and Cornist Lane BVS (P01) have potential to change the information presented in the Definition of Flood Hazard in the FCA.

6.5.2. The NRW's Development Advice Map (DAM) (**Ref. 7**) indicate that the relocated Northop Hall AGI (P03) and Cornist Lane BVS (P01) will still be located within Flood Zone A – "Considered to be at little or no risk of fluvial flooding". A review of the new Flood map for planning (FMfP) has been undertaken for the proposed design changes and no significant changes to flood risk have been identified.

6.5.3. Therefore, the text within **Section 5** of **Appendix 18.5** of the 2022 ES **(AS-004** to **AS-006)** remains unchanged and valid.

6.6. ASSESSMENT OF ACCEPTABILITY CRITERIA

6.6.1. The Assessment of Acceptability Criteria as presented in the FCA has not changed due to the proposed design changes. Therefore, the text within **Section 6** of **Appendix 18.5** of the 2022 ES **(AS-004** to **AS-006)** remains unchanged and valid.

6.7. CONCLUSIONS AND RECOMMENDATIONS

6.7.1. The Conclusions and Recommendations presented in the FCA have not changed due to the proposed design changes. Therefore, the text within **Section 7** of **Appendix 18.5** of the 2022 ES **(AS-004** to **AS-006)** remains unchanged and valid.