DECARBONISATION

APPENDIX C: FLOOD RISK TECHNICAL NOTE - BREACH ASSESSMENT SCENARIOS

Cory Decarbonisation Project

PINS Reference: EN010128

JANUARY 2025

Revision A

TABLE OF CONTENTS

1. INTRODUCTION

1.1.1. This Technical Note summarises further modelling that has been undertaken in addition to that provided in **Annex 11-2: Flood Risk Assessment (FRA) (Volume 3) of the Environmental Statement (AS-023)** (referred to as 'the FRA') for the Cory Decarbonisation Project (referred to as the 'Proposed Scheme'). This Technical Note has been prepared in response to the Environment Agency's concerns regarding the potential for increased residual flood risk in the event of a breach of the River Thames flood defences. In particular, the Applicant has brought forward the review of the Development Platform for the Carbon Capture Facility, in terms of its layout and level, to present results that are more reflective of the developing design.

1.1.2. The assessment of flood risk as presented in the **FRA (AS-023)** considered the worst-case 'glass wall' approach for the inclusion of the Development Platform, with a proposed minimum platform level of 2.8m AOD. At the time of preparing the **FRA (AS-023)** the likely layout and vulnerability of infrastructure that forms the Carbon Capture Facility was uncertain and hence a worst-case approach was applied that raised the entirety of the Development Platform above the modelled flood level. This approach creates an impermeable barrier to the flow of flood waters through the Development Platform and therefore models the worst-case in terms of change to residual flood risk in the event of a breach. This approach also presented a worst-case for other aspects of the Proposed Scheme assessment including topics such as transport (of materials) and was therefore considered to preset a robust starting point for assessment of environmental effects.

1.1.3. It was always the Applicant's intention to review the layout and level of the Development Platform in accordance with the **Design Principles and Design Code (as updated alongside this submission)** that states the intention to minimise, where practicable, raising ground levels in the creation of the Development Platform for the Carbon Capture Facility. The **Design Principles and Design Code (as updated alongside this submission)** will form the basis of the design for the development of the Proposed Scheme as the detailed design comes forward through requirement discharge. A Compliance Statement would be submitted to support the discharge of the detailed design requirement (Requirement 4(3) of the **Draft DCO (as updated alongside this submission)**) which will report on compliance with the **Design Principles and Design Code (as updated alongside this submission)**.

1.1.4. As stated above, this Technical Note brings forward the assessment of alternative development scenarios to understand the implications these could have on residual flood risk in the event of a breach of the River Thames flood defences. Whilst the design of the Proposed Scheme is still subject to change during detailed design, the scenarios presented in this Technical Note have been informed by discussion with the design team of the Proposed Scheme and represent reasonable and proportionate scenarios for the developing design of the Proposed Scheme, noting that further betterment will still be explored in accordance with demonstration of compliance with the **Design Principles and Design Code (as updated alongside this submission)**.

1.1.5. The assessment presented in this Technical Note has been informed by updated results of the Cory Thames Estuary Breach Model built by WSP, taking into account alternative scenarios for the layout and levels of the Proposed Scheme and building on the assessment presented in the **FRA (AS-023)**. This Technical Note also summarises updated results for the Cory Marsh Dykes Model that was adapted from the Environment Agency's Marsh Dykes Model[1]. A review of the Marsh Dykes Model following submission of the DCO application identified an issue with the breach set up within the Environment Agency's Marsh Dykes Model, which inherently affected the Cory Marsh Dykes Model. The issue has been fixed and the updated results supersede those presented in **Paragraphs 8.3.46 to 8.3.48** and **Table 8-4** of the **FRA (AS-023)**.

1.1.6. As previously depicted in the **FRA (AS-023)**, a review of the updated results of the Cory Marsh Dykes Model still indicates that the flood risk indicated by the Cory Marsh Dykes Model to both the Proposed Scheme and elsewhere is generally less than that indicated by the Cory Thames Estuary Breach Model (details of the models are described in later sections of this Technical Note) and therefore the updates to the Cory Marsh Dykes Model do not materially change the conclusions of the **FRA (AS-023)**. Furthermore, the updates to the Cory Marsh Dykes Model do not change the assessment of fluvial-only flood risk or combined fluvial and pluvial flood risk as presented in **Sections 8.6 and 8.7** of the **FRA (AS-023)**.

1.1.7. This Technical Note also details the requirements of the Exception Test, providing additional clarity to that provided in the **FRA (AS-023)**. The information provided in this Technical Note confirms that the Applicant's position remains, in that the Proposed Scheme fulfils the requirements of the Exception Test.

[1] Environment Agency. (2020). 'Marsh Dykes Model'.

2. SUMMARY OF FLOOD RISK

2.1.1. This section briefly summarises fluvial and tidal flood risk to the Proposed Scheme and the wider flood cell to inform those sources that have been subject to additional assessment or discussion that goes beyond that presented in the **FRA (AS-023)**.

2.1.2. The updated tidal breach assessment presented in this Technical Note is supported by a table of point location data presented in **Annex A** and flood depth and depth difference figures presented in **Annex B**. The point location data has been extracted from the hydraulic models to provide coverage across the Site Boundary and the wider flood cell.

2.1.3. Many of the points are in the same locations as those presented in **Table 8-4** of the **FRA (AS-023)** but several additional points have been added to provide a wider coverage and to provide an improved representation of the change in flood levels and depths. Some of the point location data differs slightly from the data presented in the **FRA (AS-023)**; this is due to changes to the underlying mesh and to ensure the points are well located to generate meaningful results, but there are no significant changes that would alter the findings of the **FRA (AS-023)**. In some locations it was also necessary to move the points very slightly between the baseline and with-Proposed Scheme simulations due to issues with the underlying mesh; this introduces discrepancies of a few millimetres between scenarios, but this is not considered to be significant to the findings of the assessment. The location of all points is provided in **Figure 5** in **Annex B** of this Technical Note.

2.2. FLUVIAL FLOOD RISK

2.2.1. As discussed within the **FRA (AS-023)**, the Proposed Scheme has limited interaction with the modelled fluvial flood extents that are largely limited to the watercourse channels and do not indicate flooding that extends beyond the top of the bank of the channel. The Development Platform of the Proposed Scheme will be located adjacent to several of these channels.

2.2.2. The Applicant is committed to reducing the loss of areas that may be located within fluvial flood extents by the inclusion of proposed offsets to watercourses from the edge of the Development Platform to the top of bank. Proposed offsets are discussed in the **Design Principles and Design Code (as updated alongside this submission)** that will form the basis of design development for the Proposed Scheme as the detailed design comes forward through requirement discharge. The **Design Principles and Design Code (as updated alongside this submission)** state the intention to allow for a minimum 5m offset, up to 8m or greater where practicable, from the top of the bank on existing retained watercourses to allow for maintenance, to protect habitats and for the delivery of flood compensation. A Compliance Statement would be submitted to support the discharge of the detailed design DCO Requirements which will report on compliance with the **Design Principles and the Design Code (as updated alongside this submission)**.

2.2.3. The **FRA (AS-023)** therefore concludes that the Proposed Scheme will not be at risk of fluvial flooding and will not increase fluvial flood risk elsewhere. No further assessment or discussion regarding fluvial flood risk is therefore deemed to be required.

2.3. TIDAL FLOOD RISK

2.3.1. As discussed within the **FRA (AS-023)**, the entirety of the Proposed Scheme and the wider flood cell is at tidal flood risk from the River Thames in the event of a breach of the existing flood defences. The existing River Thames flood defences protect the Proposed Scheme and wider flood cell from tidal flooding up to the present-day 1 in 1000 annual probability event. The Environment Agency's TE2100 Plan[2] states that defences within this region will be managed to account for climate change in accordance with Policy 4 which states '*take further action to keep up with climate and land use change so that flood risk does not increase*.' The Proposed Scheme will not affect the current standard of protection provided by the existing River Thames flood defences nor prevent continued management to maintain the protection they provide.

2.3.2. The **FRA (AS-023)** therefore concludes that the Proposed Scheme will not be at risk of tidal flooding and will not increase tidal flood risk elsewhere. No further assessment or discussion regarding tidal flood risk (excluding breach, which is discussed below) is deemed to be required.

2.4. TIDAL BREACH

2.4.1. Although not at risk of tidal flooding under normal conditions, the Proposed Scheme and the wider flood cell are at residual flood risk should a breach of the River Thames flood defences occur. The Proposed Scheme also has the potential to change residual flood mechanisms in the event of a breach of the defences depending on the specific location of the breach.

2.4.2. The probability of a breach is influenced by the condition of the flood defences. Within the vicinity of the Proposed Scheme, the defences comprise of a mix of sheet piled wall, reinforced concrete wall and reinforced concrete apron on continuous flight auger (CFA) piles. A previous inspection of the defences within the vicinity of the Proposed Scheme was completed by the Applicant in 2021 and reported within the Riverside Energy Park River Wall Condition Survey (undertaken pursuant to Requirement 20, Schedule 2 of the Riverside Energy Park Order (2020) as amended[3]). This concluded a condition grade that ranged from 2 (good) to 3 (fair) in accordance with the Environment Agency's Condition Assessment Manual (2006)[4].

[2] Environment Agency. (2023). 'Thames Estuary 2100 Plan'. Available at: https://www.gov.uk/government/collections/thames-estuary-2100-te2100
[3] Schedule 2 Requirement 20 of The Riverside Energy Park Order 2020 – available at: https://www.legislation.gov.uk/uksi/2020/419/contents
[4] Environment Agency Condition Assessment Manual. 2006. Document Reference 166_03_SD01.

2.4.3. To support the continued management of the existing flood defences, the Applicant has completed all bar one of the required subsequent improvements to the existing flood defences to the north of Riverside 1 and Riverside 2, along a total length of 420m, to bring the defences up to a 'good' standard in accordance with the Environment Agency's condition grades. The final improvement is being progressed and intended to be completed in 2025. The Riverside Energy Park River Wall Condition Survey states that the residual design life of the flood defence wall (subject to ongoing maintenance and inspections to monitor the rate of deterioration) is expected to be between 95 and 130 years (and so well within the lifetime of the Proposed Scheme) following the implementation of remedial works proposed within the report. The Applicant has committed to undertaking a similar exercise where the Proposed Jetty interacts with the flood defence walls (as set out in Requirement 17 of the **Draft DCO (as updated alongside this submission)**.

3. BREACH ASSESSMENT WITH 'GLASS WALL' DEVELOPMENT PLATFORM

3.1.1. The **FRA (AS-023)** provided an assessment of residual flood risk to the Proposed Scheme in the event of a breach of the River Thames flood defences, and provided an assessment of how the Proposed Scheme may change the residual flood risk to people, property and infrastructure elsewhere. This was informed by two separate hydraulic models (described in detail in the **FRA (AS-023)**):

- The Cory Thames Estuary Breach Model, built by WSP in MIKE by DHI Flexible Mesh modelling software; and
- The Cory Marsh Dykes Model, adapted by WSP from the Environment Agency's Marsh Dykes Model[5] that is an integrated fluvial, surface water and sewer model built in Infoworks ICM.

3.1.2. The results of hydraulic modelling as presented in the **FRA (AS-023)** considered the worst-case 'glass wall' approach for the inclusion of the Development Platform. As discussed in **Section 1** of this Technical Note, at the time of preparing the **FRA (AS-023)** the likely layout and vulnerability of infrastructure that forms the Carbon Capture Facility was uncertain and hence a worst-case approach was applied that raised the entirety of the Development Platform above the highest modelled flood levels. This approach provides a very conservative assessment that creates an impermeable barrier to the flow of flood waters through the Development Platform and therefore models the worst-case in terms of change to residual flood risk in the event of a breach.

3.1.3. **Table 3** in **Annex A** of this Technical Note presents the point location data for the glass wall scenario. This extracts the maximum peak flood level from all seven modelled breach locations (as described in **Paragraph 8.3.51** of the **FRA (AS-023)**) for the modelled 200-year plus climate change event, with additional data provided for breach locations 1, 4 and 6. **Figure 6** and **Figure 7** in **Annex B** of this Technical Note present the baseline peak flood depths and with-scheme depth difference map, for the modelled 200-year plus climate change event.

3.1.4. The results of the Cory Thames Estuary Breach Model (that presented the greatest flood depths) indicate an increase in peak flood depths immediately to the west of the Site Boundary of up to 100mm during a breach scenario for the 200-year plus climate change event with glass wall scenario. This area comprises the Mitigation and Enhancement Area and parts of Crossness Local Nature Reserve, with no buildings or other infrastructure within the impacted zone. Flood depths in this area for the baseline scenario (i.e. prior to inclusion of the Proposed Scheme) are in excess of 1.5m. Given the water compatible nature of this land and baseline flood depths, the

[5] Environment Agency. (2020). 'Marsh Dykes Model'.

change is not considered significant and the Proposed Scheme is not considered to increase flood risk in the glass wall scenario.

3.1.5. The results of the Cory Thames Estuary Breach Model also indicate an increase in peak flood depths immediately to the east of the Site Boundary in the vicinity of the Asda Belvedere Distribution Centre (North Building) of up to 0.57m during the 200-year plus climate change event with glass wall scenario (Point 24 in **Table 3** in **Annex A**). Flood depths at this location for the baseline scenario (i.e. prior to inclusion of the Proposed Scheme) are approximately 1.24m. Although this is a localised, significant increase in peak flood depth, breach modelling indicated that baseline peak flood depths immediately to the north and east of the Asda Belvedere Distribution Centre (North Building) are greater than those predicted at Point 24 with the Proposed Scheme, with baseline peak flood depths of 1.98m, 1.79m and 2.31m at Points 22, 27 and 28 (with reference to **Table 3** in **Annex A**) respectively. The maximum increase in peak flood depths at these locations to the north and east of the Asda Belvedere Distribution Centre (North Building) (i.e. Points 22, 27 and 28) with the Proposed Scheme in place was predicted to be 10mm. The Proposed Scheme is therefore not considered to increase the overall flood risk to the Asda Belvedere Distribution Centre (North Building) during a breach event in the glass wall scenario.

3.1.6. The Applicant does however take on board the concerns raised by the Environment Agency and further model simulations are discussed in **Section 4** of this Technical Note, demonstrating a reduction in the expected change to peak flood depths in the vicinity of the Asda Belvedere Distribution Centre, including in the area of Point 24.

3.1.7. Further analysis has been undertaken of Norman Road and the access roads serving the Asda Belvedere Distribution Centre and Iron Mountain Records Storage Facility. A review of Points 43, 45, 46 and 47 (with reference to **Table 3** in **Annex A**) indicates a potential increase in flood depths of between 0.45m and 0.7m during the 200-year plus climate change event with glass wall scenario. Baseline flood depths at these locations range between 0.35m and 1.18m therefore the increase could be considered significant in the glass wall scenario, although review of modelling data indicates increases of this scale are localised.

3.1.8. The results of hydraulic modelling as presented in **Table 3** and **Figures 6 and 7** of this Technical Note show a minimal increase in peak flood depths further from the Site Boundary and within the wider flood cell. Maximum increases of up to 50mm are predicted during the 200-year plus climate change event in areas that experience a baseline flood depth of between 1.27m and 1.62m. This magnitude of change is not considered significant in the glass wall scenario.

3.1.9. The findings of the **FRA (AS-023)** and additional hydraulic modelling/analysis presented in this Technical Note are based on several factors that are considered to represent a worst-case scenario. These include:

- Applying a ‘glass wall’ approach to the inclusion of the Development Platform, as discussed above.

- Assumption i/n the hydraulic modelling that the breach of the Thames tidal defences would constitute an instantaneous breach (i.e. an immediate opening in the defences of 20m rather than a more realistic slower progression of a flood defence failure) that occurs at the peak tidal flood level in the River Thames during a 1 in 200 annual probability event with climate change applied to a design year of 2081.
- Applying peak flood depths that would occur shortly after the instantaneous breach of the defences, with these depths occurring for only a short duration before the flood waters dissipate.
- Selecting the worst-case breach location for the assessment of changes in peak flood levels. Seven breach locations were modelled and the greatest changes in peak flood depth as presented above and in the **FRA (AS-023)** were selected from the breach location that poses greatest risk to the area under consideration. A review of changes in peak flood depth from other modelled breach locations generally show far less of an increase in peak flood levels.
- Exclusion of the Marsh Dykes watercourse network and the Environment Agency's pumping stations at Great Breach Dyke and Green Level within the Cory Thames Estuary Breach Model that may assist with conveyance and removal of Centurion Way Industrial Area flood waters.

3.1.10. The Environment Agency has raised concerns regarding the potential for increased residual flood risk in the event of a breach of the Thames flood defences, with particular reference to large-scale ground raising to elevate the Development Platform for the Proposed Scheme.

3.1.11. As discussed in **Section 1** of this Technical Note, the glass wall approach to the Development Platform was adopted as a starting point for the assessment of environmental effects to present a worst-case assessment, with the intention that the layout and level of the Development Platform would be revised during the detailed design of the Proposed Scheme. The **Design Principles and Design Code (as updated alongside this submission)** state the intention to minimise, where practicable, raising ground levels in the creation of the Development Platform for the Carbon Capture Facility. The **Design Principles and Design Code (as updated alongside this submission)** will form the basis of the design for the development of the Proposed Scheme as the detailed design comes forward through requirement discharge. A Compliance Statement would be submitted to support the discharge of the detailed design requirement (Requirement 4(3) of the **Draft DCO (as updated alongside this submission)**) which will report on compliance with the **Design Principles and Design Code (as updated alongside this submission)**.

3.1.12. In response to the Environment Agency's concerns, the Applicant has brought forward the review of the Development Platform for the Carbon Capture Facility in terms of its layout and level. This presents results that are more reflective of the developing design of the Proposed Scheme (although noting that the final layout will be subject to detailed design) and that demonstrate a smaller change to peak flood depths compared to those presented above, and in the **FRA (AS-023)**.

3.1.13. A summary of this additional breach assessment is presented below. This is presented separately for the Cory Thames Estuary Modelling **(Section 4)** and the Cory Marsh Dykes Modelling **(Section 5)**.

4. CORY THAMES ESTUARY BREACH MODELLING: UPDATED ASSESSMENT

4.1. DEVELOPMENT LAYOUT AND PLATFORM LEVEL SCENARIOS

4.1.1. The **Indicative Equipment Layout (AS-054)** has been reviewed to identify the sensitivity of each item of required infrastructure to flood water inundation in the event of a breach, considering the operational sensitivity of the equipment, the safety of operational staff and the risk of pollution to the surrounding environment should inundation occur. A summary of this review is presented in **Table 1** below.

4.1.2. The review of equipment sensitivity is coupled with a review of a more realistic level for the Development Platform. This replaces the previous worst-case glass wall approach (that all equipment would be raised or protected from flood water inundation using an impermeable base) to instead identify only those items of equipment that are most sensitive and therefore require protection. To this end, the Development Platform would be lowered to a level more commensurate with adjacent ground levels, and only individual items of equipment would be raised or protected. Flood waters in the event of breach would subsequently be able to flow through the Development Platform.

4.1.3. The review of the development layout and platform levels has therefore considered the following alternatives:

- Two scenarios for the lowering of the Development Platform (Platform Scenario 1 and Platform Scenario 2); and
- Two scenarios for the protection of equipment that would be sensitive to flood water inundation (Equipment Scenario 1 and Equipment Scenario 2).

4.1.4. These are discussed in greater detail below.

4.1.5. Platform Scenario 1 for the revised platform level proposes a level of 1.1m AOD to the north of the Thames Water Access Road, and a level of 1.3m AOD to the south of the Thames Water Access Road. These levels have been informed by a review of the existing Site topography and adjacent ground levels; and are considered to provide a reasonable and realistic scenario for the proposed Development Platform. **Figure 1** in **Annex B** illustrates the difference in the proposed platform level compared to existing ground levels within the footprint of the Development Platform for Platform Scenario 1.

4.1.6. Platform Scenario 2 for the revised platform level has been tested as a sensitivity run, to understand the implications that raising the platform could have on residual flood risk compared to the levels proposed above. For this test scenario, platform levels have been set at a level of 1.3m AOD to the north of the Thames Water Access Road, and a level of 1.5m AOD to the south of the Thames Water Access Road. This raised platform level is considered to provide a reasonable and proportionate alternative scenario for the Development Platform. **Figure 2** in **Annex B** illustrates the difference in the proposed platform level for this test scenario, compared to existing

ground levels within the footprint of the Development Platform for Platform Scenario 2.

4.1.7. Lowering the platform level to reduce changes to residual flood risk will have implications for the **Outline Drainage Strategy (AS-027)**. The current strategy promotes gravity discharge of surface water runoff to the adjacent ditch network and wastewater discharge to the Thames Water sewerage network. Lowering the platform levels will require additional pumping to enable outfalls to be achieved and sufficient surface water attenuation provided. This will however not change the key design principles as set out within the **Outline Drainage Strategy (AS-027)** including those relating to greenfield runoff rates, storage volume requirements, water quality management, foul water connection point, and Mitigation and Enhancement Area works. In particular, the drainage strategy for the alternative platform scenarios maintains the same discharge rates, attenuation volumes and outfall to the adjacent ditch network / Thames Water sewerage network (as appropriate) as presented in the **Outline Drainage Strategy (AS-027)**. Pumping also already forms an integral part of the **Outline Drainage Strategy (AS-027)** to maximise opportunities for rainwater harvesting and water reuse.

4.1.8. A summary of the required adaptations to the drainage strategy to serve the alternative level and layout scenarios for the Development Platform is provided in **Annex C** of this **Technical Note**. It is important to note that this does not change the design principles as set out in **Outline Drainage Strategy (AS-027)** but provides clarity on how these design principles would be adapted and applied to alternative design scenarios. A full drainage strategy will be prepared to support the detailed design and implemented as approved, as secured by a requirement in the **Draft DCO (as updated alongside this submission)**.

4.1.9. As summarised in **Table 1** below, equipment that is considered sensitive to flood water inundation will be protected by either locating equipment on a platform raised to a height above the maximum breach flood level (including welfare facilities required for safe refuge) or protecting equipment by an impervious bund raised to a height above the maximum breach flood level. A freeboard of 600mm will be provided as set out within the **FRA (AS-023)**. Certain equipment that is sensitive to weather conditions will also be located within buildings with finished floor levels set above the maximum breach flood level with 450mm freeboard, as set out the **FRA (AS-023)**.

4.1.10. Two scenarios have been considered to assess the likely implications of the equipment layout:

- Equipment Scenario 1: A scenario that considers those aspects of the Carbon Capture Facility that require protection from flood water inundation and are included within the updated hydraulic assessment as barriers to the flow of flood waters.
- Equipment Scenario 2: An alternative scenario that allows for a larger number of equipment to be protected from flood water inundation.

4.1.11. The majority of the Carbon Capture Facility equipment does not require protection from flood water inundation in the event of a breach of the flood defences. Flood waters would therefore be able to flow across the Development Platform and around individual pieces of equipment. Modelling multiple small obstructions within the hydraulic model is not practicable. An approach was therefore adopted that significantly increased the roughness coefficient within those areas that are not sensitive to flood water inundation but that will slow down the flow of flood waters, as water flows around the equipment.

4.1.12. Equipment that was deemed to require protection from flood water inundation (including welfare facilities) or that was required to be located in a building to protect from adverse weather was included in the hydraulic model as a glass wall, similar to the previous method applied to the entirety of the Development Platform.

4.1.13. **Figure 3** and **Figure 4** in **Annex B** illustrate the application of having increased roughness coefficients and glass wall structures within the model, to represent the alternative development scenarios for Equipment Scenario 1 and Equipment Scenario 2. These design scenarios (along with the platform levels discussed above) are not fixed at this stage and will be subject to further development during the detailed design of the Proposed Scheme, however they are considered to present reasonable and proportionate scenarios to demonstrate the practical application of the **Design Principles and Design Code (as updated alongside this submission)**.

Table 1 - Review of equipment sensitivity to flood water inundation

Item	Description	Sensitivity to inundation	Equipment Scenario 1	Equipment Scenario 2
1	Proposed Jetty (Liquid CO_2 Export Jetty)	Jetty located in River Thames – excluded from breach assessment.	Excluded	Excluded
2	Elevated Process Pipe and Duct Bridge	Equipment elevated above ground level and not within the footprint of the Development Platform - excluded from breach assessment.	Excluded	Excluded
3	Back Pressure Turbines and Steam Processing	Equipment to the east and west of this area is required to be protected from flood water inundation. Equipment in the centre of this area is not sensitive to flood water inundation.	Modelled east and west as solid building structures. Modelled central area as permeable with increased roughness.	As Scenario 1.
4	Direct Contact Cooler	The majority of equipment is elevated above platform level on permeable support structures. Not sensitive to flood water inundation.	Modelled area as permeable with increased roughness.	As Scenario 1.
5	Chemical Storage and Injection	Equipment requires protection during flood event to prevent pollution risk.	Modelled area as solid structure that prevents flood water inundation.	As Scenario 1.
6	Equipment Platform	Equipment elevated above platform level on permeable support structures. Not sensitive to flood water inundation.	Modelled area as permeable with increased roughness.	As Scenario 1.
7	Absorber Column(s) and Stack(s)	The majority of equipment is elevated above platform level on permeable support structures. Not sensitive to flood water inundation.	Modelled area as permeable with increased roughness.	As Scenario 1.
8	Solvent Regeneration and Reclaiming System	Equipment in the majority of this area is not sensitive to flood water inundation. Solvent storage to the south of this area requires protection during flood events to prevent pollution risk.	Modelled majority of area as permeable with increased roughness to represent several isolated pieces of equipment. Modelled solvent storage area as solid structure that prevents flood water inundation.	Modelled greater part of permeable area as solid structure to increase flood flow resistance and allow flexibility in design. Modelled solvent storage area as Scenario 1.
9	CO_2 Conditioning	Equipment in this area not sensitive to flood water inundation.	Modelled area as permeable with increased roughness to represent several isolated pieces of equipment.	As Scenario 1.

Item	Description	Sensitivity to inundation	Equipment Scenario 1	Equipment Scenario 2
10	Substation and Transformers	Equipment in this area is sensitive to flood water inundation although impact limited to effect on site operation and not pollution or welfare risk.	Modelled majority of area as permeable with increased roughness to represent several isolated pieces of equipment. The Applicant accepts risk to site operation in the event of breach. Equipment that is required to be protected from rainfall and adverse weather will be located in a building and modelled to prevent flood water inundation.	Modelled all of area as solid structures that prevent flood water inundation.
11	Refrigeration Package (Liquefaction)	Equipment in this area is required to be protected from rainfall and adverse weather and will therefore be located in a building.	Modelled area as solid structure that prevents flood water inundation.	As Scenario 1.
12	CO_2 Compression	Equipment in this area is required to be located in a building.	Modelled area as solid structure that prevents flood water inundation.	As Scenario 1.
13	LCO_2 Buffer Storage Area	Storage tanks to be located on stilts that enable flow of flood waters beneath.	Modelled area as permeable with increased roughness.	As Scenario 1.
14	CO_2 Liquefaction	Equipment in this area required to be protected from rainfall and adverse weather and will therefore be located in a building.	Modelled area as solid structure that prevents flood water inundation.	As Scenario 1.
15	Hybrid Cooling System	Equipment surrounded by a protective bund and requires protection during flood events to prevent pollution risk.	Modelled area as solid structure that prevents flood water inundation.	As Scenario 1.
16	Control Room and Welfare Facilities and Gatehouse	Equipment and welfare facilities require protection during flood event and (for welfare facilities) elevation above predicted flood water levels.	Modelled area as solid structures that prevent flood water inundation.	As Scenario 1.
17	Water Treatment Plant	Equipment in this area is required to be protected from rainfall and adverse weather and will therefore be located in a building.	Modelled area as solid structure that prevents flood water inundation.	As Scenario 1.
18	Heat Transfer Station	Equipment in this area required to be protected from rainfall and adverse weather and will therefore be located in a building.	Modelled area as solid structure that prevents flood water inundation.	As Scenario 1.
19	Operational Laydown Area	Area not sensitive to flood water inundation and will not pose pollution risk.	Modelled area as permeable with increased roughness.	As Scenario 1.
20	Water Management Area	Area not sensitive to flood water inundation.	Tanks are below ground level. No impact to flood flow. Excluded from model.	As Scenario 1.

4.2. BREACH ASSESSMENT RESULTS

4.2.1. As summarised in **Paragraph 8.3.42** of the **FRA (AS-023)**, the Cory Thames Estuary Model included seven breach locations along a 2.25km length of the Thames tidal defences in the vicinity of the Proposed Scheme. Each breach scenario was modelled for a 1 in 200 annual probability event with climate change applied to a design year of 2081.

4.2.2. **Figure 6** in **Annex B** of this Technical Note illustrates the peak flood depths for the baseline scenario (i.e. without inclusion of the Proposed Scheme), by taking the highest peak flood depths associated with all of the seven breach locations combined and effectively stitching these together into a single figure.

4.2.3. **Figure 7** in **Annex B** of this Technical Note reproduces the previous glass wall scenario to the entirety of the Development Platform as discussed in the **FRA (AS-023)**, illustrating the increases to peak flood depths associated with all of the seven breach locations combined. The results of this modelling are discussed in the **FRA (AS-023)** and in **Section 3** of this Technical Note.

4.2.4. Additional modelling has been undertaken for Breach Locations 1, 4 and 6, as these were selected to provide appropriate coverage to assess the likely benefits of the lowered Development Platform for the Carbon Capture Facility and two equipment scenarios. Not all breach locations were assessed for these alternative scenarios given the significant duration of the model run times and relatively minimal additional benefit that would be provided. **Table 2** summarises the additional runs that were undertaken to inform the assessment of alternative design approaches.

Table 2 - Additional Model Runs Completed to Assess Alternative Development Scenarios

Platform Level Scenarios	Equipment Scenarios	
	Equipment Scenario 1	**Equipment Scenario 2**
Platform Scenario 1: 1.1 to 1.3 mAOD	Breach Location 4	Breach Location 1 Breach Location 4 Breach Location 6
Platform Scenario 2: 1.3 to 1.5 mAOD	Breach Location 4	Breach Location 4

BREACH LOCATION 4

4.2.5. Review of the modelling results demonstrated that Breach Location 4 (located between Riverside 1 and the Iron Mountain Records Storage Facility) causes the greatest change to residual flood risk between the baseline and with-scheme

scenarios in the majority of locations that experience change as a result of the Proposed Scheme. A breach at this location is responsible for the increases in peak flood depths adjacent to the Asda Belvedere Distribution Centre, as during this specific scenario flood waters are channelled down Norman Road and are prevented from flowing into the Crossness Local Nature Reserve (LNR) as would occur in the baseline scenario.

4.2.6. Breach Location 4 has been used as the primary location to assess and demonstrate the effects provided by lowering the level of the Development Platform and the alternative equipment scenarios as discussed above.

4.2.7. **Figures 10 to 13** in **Annex B** of this Technical Note illustrate the peak flood depths associated with Breach Location 4 for the baseline, glass wall, Equipment Scenario 1 and Equipment Scenario 2 for the revised Platform Scenario 1 (1.1m AOD to the north of the Thames Water Access Road and 1.3m AOD to the south of the Thames Water Access Road, respectively). **Figure 8** and **Figure 9** in **Annex B** illustrate the changes to peak flood depths (i.e. the depth difference) between the baseline scenario and Equipment Scenario 1 and Equipment Scenario 2 , respectively, for Platform Scenario 1. **Figure 16** and **Figure 17** in **Annex B** illustrate the changes to peak flood depths (i.e. the depth difference) between the baseline scenario and the Equipment Scenario 1 and Equipment Scenario 2 model runs, respectively, for Platform Scenario 2 (1.3m to 1.5m AOD platform level).

4.2.8. **Table 4 and Table 5** in **Annex A** of this Technical Note summarise the peak flood levels and flood depths for Equipment Scenario 1 and Equipment Scenario 2 , including both Platform Scenario 1 and 2 for the platform level.

4.2.9. The results indicate a significant reduction in predicted flood depths following an instantaneous breach at Breach Location 4. In the glass wall scenario, flood depths were predicted to increase by up to 0.57m adjacent to the Asda Belvedere Distribution Centre. In the alternative development scenarios with lowered platform level, flood depths are predicted to increase as follows, noting a baseline peak flood depth of 1.24m in this location:

- Equipment Scenario 1 with Platform Scenario 1 (1.1m to 1.3m AOD): 0.07m increase in peak flood depth;
- Equipment Scenario 1 with Platform Scenario 2 (1.3m to 1.5m AOD): 0.12m increase in peak flood depth;
- Equipment Scenario 2 with Platform Scenario 1 (1.1m to 1.3m AOD): 0.08m increase in peak flood depth; and
- Equipment Scenario 2 with Platform Scenario 2 (1.3m to 1.5m AOD): 0.15m increase in peak flood depth.

4.2.10. Flood depths within Norman Road and the access road serving the Asda Belvedere Distribution Centre and Iron Mountain Records Storage Facility are also predicted to reduce significantly from a peak increase of 0.7m to a peak increase as follows, noting a baseline peak flood depth of 0.5m in this location:

- Equipment Scenario 1 with Platform Scenario 1 (1.1m to 1.3m AOD): 0.14m increase in peak flood depth;
- Equipment Scenario 1 with Platform Scenario 2 (1.3m to 1.5m AOD): 0.22m increase in peak flood depth;
- Equipment Scenario 2 with Platform Scenario 1 (1.1m to 1.3m AOD): 0.19m increase in peak flood depth; and
- Equipment Scenario 2 with Platform Scenario 2 (1.3m to 1.5m AOD): 0.25m increase in peak flood depth.

4.2.11. The extent of the predicted increase to Norman Road and the access road has also reduced significantly, with only the northern half of the road experiencing an increase greater than 0.1m rather than the majority of the road as per the previously modelled glass wall scenario.

4.2.12. The modelling indicates that the increase in platform level (i.e. between the 1.1m to 1.3m AOD platform level and the 1.3m to 1.5m AOD platform level) has relatively limited effect on peak flood levels, with flood levels still significantly less than those modelled for the glass wall scenario. **Tables 4 and 5** in **Annex B** of this Technical Note summarises the difference in peak flood depth between the two platform scenarios for Breach Location 4.

BREACH LOCATIONS 1 AND 6

4.2.13. Review of the modelling results demonstrated that Breach Locations 1 and 6 (located at Great Breach Dyke and immediately east of the Iron Mountain Records Storage Facility, respectively) generally pose the next greatest increase in residual risk to property to the west and east of the Proposed Scheme after Breach Location 4. Further consideration has therefore been given to these locations to assess and demonstrate the effects of lowering the level of the Development Platform and the alternative equipment scenarios as discussed above.

4.2.14. **Figure 14** and **Figure 15** in **Annex B** of this Technical Note illustrate the changes to peak flood depths for Breach Locations 1 and 6, respectively, between the baseline scenario and Equipment Scenario 2 with the revised Platform Scenario 1 (1.1m AOD to the north of the Thames Water Access Road and 1.3m AOD to the south of the Thames Water Access Road).

4.2.15. **Table 5** in **Annex B** of this Technical Note summarises the peak flood levels and flood depths for Equipment Scenario 2 with Platform Scenario 1 (1.1m AOD to 1.3m AOD).

Breach Location 1

4.2.16. The results for Breach Location 1 indicate some benefit when compared to the glass wall scenario, principally in the vicinity of the northern platform boundary, northern extent of the Crossness LNR, Norman Road and the Asda Belvedere Distribution Centre, with reductions in flood depths of up to 300mm. Flooding in these areas is however greater should a breach occur at Breach Location 4 as discussed above.

4.2.17. Within the wider flood cell, the results for Breach Location 1 indicate minimal change to the majority of the area, but with localised increase in breach flood depths when compared to the baseline and glass wall scenarios in pockets to the south the Site Boundary around Lidl, North Road and Yarnton Way. Increases of up to 320mm are predicted, however flood depths associated with a breach at Breach Location 1 are still far less than flood depths predicted during the baseline scenario of other breach locations. The peak post-development flood depth within this area associated with Breach Location 1 is approximately 0.96m, compared to a peak baseline flood depth of approximately 1.67m associated with other breach locations.

Breach Location 6

4.2.18. The results for Breach Location 6 indicate significant benefit when compared to the glass wall scenario following an instantaneous breach at this location, with the following reductions noted in the vicinity of the Proposed Scheme:

- Reduction of between approximately 250mm to 490mm in Norman Road compared to the glass wall scenario; with a residual increase of approximately 80mm compared to baseline flood depths of 0.42m to 0.93m at this location.
- Reduction of between approximately 220mm to 390mm in the vicinity of the Asda Belvedere Distribution Centre compared to the glass wall scenario; with a residual increase of approximately 40mm to 190mm compared to baseline flood depths of 0.45m to 1.23m at this location.
- Reduction of approximately 120mm between Riverside 1 and the Iron Mountain Records Storage Facility compared to the glass wall scenario; with a residual increase of approximately 100mm compared to baseline flood depths of 0.28m at this location.

4.2.19. Flood depths within these areas are still generally slightly higher for Breach Location 4 as discussed above.

4.2.20. The results for Breach Location 6 indicate minimal change to baseline flood depths within the wider flood cell associated with a breach at this location.

5. CORY MARSH DYKES BREACH MODELLING: UPDATED ASSESSMENT

5.1.1. The Cory Marsh Dykes Model simulated a breach in the Thames flood defences at two locations: Great Breach Pumping Station immediately to the west of the Proposed Scheme (in the same location at Breach Location 1 as modelled in the Cory Thames Estuary Breach Model); and Green Level Pumping Station approximately 1.6km to the east of the Proposed Scheme (in the same location at Breach Location 7 as modelled in the Cory Thames Estuary Breach Model).

5.1.2. As discussed in Section 1.1 of this Technical Note, a review of the Cory Marsh Dykes Model results following submission of the DCO application identified an issue with the breach set up within the model. The issue has been fixed and the updated results supersede those presented in **Paragraphs 8.3.46 to 8.3.48** and **Table 8-4** of the **FRA (AS-023)**.

5.1.3. **Figure 19** and **Figure 20** in **Annex B** of this Technical Note illustrate the changes to peak flood levels (i.e. the depth difference) between the baseline scenario and the worst-case glass wall scenario for the height of the Development Platform as initially assessed in the **FRA (AS-023)** for a breach in the defences at Great Breach Pumping Station and Green Level Pumping Station, respectively.

5.1.4. **Figure 21** and **Figure 22** in **Annex B** of this Technical Note illustrate the changes to peak flood levels (i.e. the depth difference) between the baseline scenario and Equipment Scenario 2 with Platform Scenario 1 (1.1m AOD to 1.3m AOD platform level) applying the same amendments described as **Section 4.1** of this Technical Note, to understand the effects of a lowered development platform to the currently assessed glass wall scenario following a breach in the defences at Great Breach Pumping Station and Green Level Pumping Station, respectively.

5.1.5. **Table 6** and **Table 7** in **Annex A** of this Technical Note summarises the peak flood levels and flood depths for the glass wall and alternative development scenarios for a breach in the defences at Great Breach Pumping Station and Green Level Pumping Station, respectively.

5.2. BREACH ASSESSMENT RESULTS

GREAT BREACH PUMPING STATION

5.2.1. **Figure 19** indicates the potential for an increase in peak flood depths of up to 300mm within the Site Boundary following a breach at Great Breach Pumping Station in the glass wall development scenario, principally within the northern extent of Crossness LNR as well as adjacent to the development platform north of the Thames Water Access Road and land surrounding Riverside 1 as breach flows are deflected by the glass wall. A localised increase of up to 150mm is also indicated immediately west of the Asda Belvedere Distribution Centre although not within the main operational area of the facility. Given the water compatible nature of the Crossness LNR and the

baseline flood risk in other areas adjacent to the Site Boundary, the change is not considered significant and is not considered to increase flood risk; although consideration has been given to alternative development scenarios as discussed below.

5.2.2. **Figure 19** indicates little change to flood depths elsewhere following a breach at Great Breach Pumping Station for the glass wall development scenario. A slight reduction in flood depths is predicted to the east and south-east of the Site Boundary as the glass wall creates a barrier to current flow routes. A slight increase of up to 10mm is indicated within the wider flood cell, although review of the point levels in **Table 6** indicates these are not widespread and in areas that experience a baseline flood depth of approximately 150-300mm.

5.2.3. **Figure 21** illustrates the significant reduction in predicted flood depths within the Site Boundary and adjacent to the Asda Belvedere Distribution Centre for Equipment Scenario 2 with Platform Scenario 1 (1.1m AOD to 1.3m AOD) when compared to the glass wall scenario. The increase in peak flood depths within the northern extent of Crossness LNR, land surrounding Riverside 1 and immediately west of the Asda Belvedere Distribution Centre are generally less than 50mm compared to the baseline scenario. Peak flood depths increase to approximately 100mm immediately adjacent to the Development Platform, but review of **Table 6** indicates significantly less increase elsewhere.

GREEN LEVEL PUMPING STATION

5.2.4. **Figure 20** indicates the potential for an increase in peak flood depths of up to 150mm within the Site Boundary and immediately to the east and west of the Site Boundary following a breach at Green Level Pumping Station in the glass wall development scenario. Review of **Table 7** indicates the predicted increases are generally less than 100mm with the exception of locations close to the Development Platform that creates a barrier to the flow. Baseline flood depths within these areas following a breach at Green Level Pumping Station are indicated to range between approximately 300-500mm.

5.2.5. **Figure 20** indicates a potential increase in breach flood depths of up to 50mm across the wider flood cell following a breach at Green Level Pumping Station for the glass wall development scenario. Review of the point levels in **Table 7** indicates a baseline flood depth in these areas of over 300mm.

5.2.6. **Figure 22** illustrates the reduction in predicted flood depths within the Site Boundary and immediately to the east and west of the Site Boundary for Equipment Scenario 2 with Platform Scenario 1 (1.1m AOD to 1.3m AOD) when compared to the glass wall scenario. The increase in peak flood depths within Crossness LNR and surrounding the Asda Belvedere Distribution Centre are generally less than 50mm compared to the baseline scenario, with only isolated areas experiencing a slight increase over 50mm. The most notable increase over 50mm is within the Crossness LNR where baseline flood depths generally exceed 1m.

5.2.7. **Figure 22** also indicates a reduction in predicted flood depths across the wider flood cell when compared to the glass wall scenario, with increases compared to baseline generally less than 10mm. The exception is the Hailey Road Industrial Area and Centurion Way Industrial Area, where increases of just over 10mm are predicted, noting baseline flood depths in these areas exceed 1m.

INFORMATIVES

5.2.8. As previously depicted in the **FRA (AS-023)**, the flood levels indicated by the Cory Marsh Dykes Model to both the Proposed Scheme and elsewhere are generally less than that indicated by the Cory Thames Estuary Breach Model and therefore the updates to the Cory Marsh Dykes Model do not materially change the conclusions of the **FRA (AS-023)**.

5.2.9. The updates to the Cory Marsh Dykes Model do not change the assessment of fluvial-only flood risk or combined fluvial and pluvial flood risk as presented in **Sections 8.6 and 8.7** of the **FRA (AS-023)**.

6. ASSESSMENT OF RESIDUAL FLUVIAL AND PLUVIAL RISK TO THE DEVELOPMENT PLATFORM

6.1.1. As discussed above, the Applicant has brought forward the review of the Development Platform for the Carbon Capture Facility in terms of its layout and level to present results that are more reflective of the developing design. To support this, consideration has also been given to the potential residual risk to the Development Platform should a failure occur at the Great Breach Pumping Station during a 1 in 100 year plus climate change flood event, noting that flood waters from the surrounding network of watercourses close to the Development Platform are managed by the operation of the Great Breach Pumping Station.

6.1.2. **Figure 18** in **Annex B** of this Technical Note illustrates the fluvial and pluvial flood extents as modelled using the Cory Marsh Dykes Model, applying the same modelling approach as discussed in **Paragraphs 8.7.12 to 8.7.17** of the **FRA (AS-023)**, and applying a revised platform level of 1.1m AOD to the north of the Thames Water Access Road and 1.3m AOD to the south of the Thames Water Access Road. The figure indicates negligible flood risk to the Development Platform should failure of the Great Breach Pumping Station occur during a 1 in 100 year plus climate change flood event. Minor flooding of up to 50mm could occur within the north of the platform but this is not considered to pose a risk to the operation of the Carbon Capture Facility.

7. APPLICATION OF THE EXCEPTION TEST

7.1.1. This section provides additional clarity to that provided in the **FRA (AS-023)** regarding application of the Exception Test in accordance with the Overarching National Policy Statement for Energy (NPS EN-1)[6], National Planning Policy Framework[7], and the Flood Risk and Coastal Change Planning Practice Guidance[8].

7.2. DEFINITION OF THE EXCEPTION TEST

7.2.1. Paragraphs 5.8.9 to 5.8.11 of NPS EN-1[1] detail the requirements for the Exception Test, stating that to pass the Exception Test the **FRA (AS-023)** should demonstrate:

- '*the project would provide wider sustainability benefits to the community that outweigh flood risk; and*
- *the project will be safe for its lifetime taking account of the vulnerability of its users, without increasing flood risk elsewhere, and, where possible will reduce flood risk overall.'*

7.3. DEMONSTRATION OF THE EXCEPTION TEST: PART 1

7.3.1. The sustainability benefits of the Proposed Scheme are detailed in the **Planning Statement (APP-040)** and the **Project Benefits Report (APP-042)**. In summary, the Proposed Scheme provides sustainability benefits to the community, through the application of carbon capture technology to support the existing Riverside 1 and 2[9] energy from waste operations that provide a safe and reliable approach to residual waste management with energy recovery, which is environmentally more sustainable than landfill and aligns with NPS EN-1[1] and relevant carbon and waste management policy. The Carbon Capture Facility will capture at least 95% of the carbon dioxide emissions, with net negative carbon emissions, so contributing to the transition to a net-zero society, and aligning with UK Government policy to be net zero by 2050[10].

7.3.2. The Proposed Scheme is required to be located adjacent to the existing Riverside 1 and Riverside 2 energy from waste facilities to enable safe, efficient and effective operation. The location of the Proposed Scheme adjacent to the River Thames and the construction of the Proposed Jetty also enables the capture carbon dioxide to be exported via vessel, avoiding road transport that would be substantial. The entirety of the Carbon Capture Facility and surrounding area is at flood risk from the River Thames in the event of breach of the existing defences; it is therefore not considered

[6] Department of Energy and Climate Change. (2024). 'Overarching National Policy Statement for Energy (EN-1)'. Available at: https://www.gov.uk/government/publications/overarching-national-policy-statement-for-energy-en-1
[7] Ministry of Housing, Communities and Local Government. (2024). 'National Planning Policy Framework'. Available at: https://www.gov.uk/guidance/national-planning-policy-framework
[8] Ministry of Housing, Communities & Local Government. (2022). 'Flood Risk and Coastal Change'. Available at: https://www.gov.uk/guidance/flood-risk-and-coastal-change
[9] Riverside 2 was granted development consent in April 2020 and is currently under construction, with operation intended to commence in 2026.
[10] Net Zero Strategy: Build Back Greener. Available at: https://www.gov.uk/government/publications/net-zero-strategy

viable to locate the Proposed Scheme in an area at lower flood risk whilst still meeting the objectives of the Proposed Scheme.

7.3.3. The majority (70%) of the Development Platform for the Carbon Capture Facility is located on land that is allocated in the Bexley Local Plan[11] as a Strategic Industrial Location, discussed in paragraph 1.26 of the Local Plan as follows: '*Strategic Industrial Locations (SIL) will be intensified where possible to optimise the use of this land for appropriate business uses, including waste facilities and wharves, safeguarded for their industrial purposes'*; and within Policy SP3 as follows: '*Designated Strategic Industrial Locations (SIL) and Locally Significant Industrial Sites (LSIS) will be protected for industrial type activities and related functions, including ancillary facilities, specific to their designation in the hierarchy, as set out in Policy DP7 Appropriate uses within designated industrial areas. These designations are defined on the Policies Map*.'

7.3.4. The layout of the Proposed Scheme has maximised use of the designated SIL as far as practicable. The northern extent of the Development Platform of the Proposed Scheme is located within the Crossness LNR, in an area known as the East and Stable Paddocks. For the reasons given in the **Terrestrial Site Alternatives Report (TSAR) (APP-125)**, **Appendix H**: **TSAR Addendum** of the **Relevant Representation Appendices (AS-044)** and **Appendix F** to **Written Summary of the Applicant's Oral Submission at Issue Specific Hearing 1 (ISH1) (REP1-027)**, it is however not considered feasible to deliver the Proposed Scheme without occupying this land given its location between the Development Platform and existing Riverside 1 and 2 facilities that the Proposed Scheme is required to serve.

7.3.5. Enhancement within the Mitigation and Enhancement Area is required to compensate for the loss of this land due to the Proposed Scheme, this is discussed further within **Annex 7-1: Biodiversity Net Gain Report of the Environmental Statement (Volume 3) (APP-088)** and the **Outline Landscape, Biodiversity, Access and Recreation Delivery Strategy (as updated alongside this submission)**.

7.3.6. In summary:

- The Proposed Scheme aligns with NPS EN-1[1] by providing carbon capture technology to support the existing Riverside 1 and 2[12] energy from waste operations that provide a sustainable approach to residual waste management including the recovery of energy.
- The Proposed Scheme aligns with UK Government policy to be net zero by 2050.
- The majority (70%) of the Proposed Scheme is located on land that is allocated in the Bexley Local Plan as a SIL.

[11] Bexley Local Plan, April 2023
[12] Riverside 2 was granted development consent in April 2020 and is currently under construction, with operation intended to commence in 2026.

- Some land take within the Crossness LNR is required and enhancement of the Mitigation and Enhancement Area is proposed to compensate for this land take as described in **Annex 7-1: Biodiversity Net Gain Report of the Environmental Statement (Volume 3) (APP-088)**.
- It is not possible to locate the Proposed Scheme in an area at lower flood risk whilst still meeting the objectives of the Proposed Scheme, noting that the Proposed Scheme and surrounding area is protected by the Thames tidal defences and at minimal risk from other sources. Other locations considered for the Proposed Scheme would also be at risk of flooding in the event of breach and would inevitably change local flood risk elsewhere should a breach in the defences occur.

7.3.7. The Applicant therefore concludes that the Proposed Scheme will provide wider sustainability benefits that align with local and national policy and that outweigh flood risk, thereby meeting the requirements of Part 1 of the Exception Test.

7.4. DEMONSTRATION OF THE EXCEPTION TEST: PART 2

7.4.1. As discussed in **Section 2** of this Technical Note, the Proposed Scheme is not considered to be at risk of fluvial or tidal flooding and will not increase fluvial or tidal flood risk elsewhere. The **FRA (AS-023)** also concluded negligible risk from other sources of flooding including surface water, groundwater, sewerage and reservoirs.

7.4.2. The Proposed Scheme is at risk of flooding in the event of a breach in the Thames tidal defences and could change the flood risk elsewhere depending on the location of the breach.

7.4.3. As discussed above, hydraulic modelling indicates negligible change to peak flood levels in the majority of the flood cell. The most significant changes are to the east of the Development Platform in the vicinity of Norman Road and the Asda Belvedere Distribution Centre associated with Breach Location 4.

7.4.4. In the glass wall scenario that was modelled for the **FRA (AS-023)**, increases to peak flood depths of up to 0.57m were predicted adjacent to the Asda Belvedere Distribution Centre during the 200-year plus climate change event within areas that are modelled to experience baseline flood depths of up to 1.24m. Updated modelling following a review of alternative development layouts and platform level predicts increases to peak flood depths of up to 0.15m during the 200-year plus climate change event and with significant reduction in the extent of predicted increases. Baseline peak flood depths immediately to the north and east of the Asda Belvedere Distribution Centre are also noted to be greater than those predicted with the Proposed Scheme, with baseline peak flood depths of up to 2.47m to the north and east of the Asda Belvedere Distribution Centre, and with a maximum increase in peak flood levels within this area predicted to be 10mm in the glass wall scenario.

7.4.5. In the glass wall scenario that was modelled in the **FRA (AS-023)**, an increase in peak flood depths in Norman Road of 0.7m was predicted. Updated modelling following a review of alternative development layouts and platform level reduced this

to a more localised increase of up to 0.25m, noting a baseline peak flood depth of 0.5m. The extent of the predicted increase to Norman Road has also reduced significantly, with only the northern half of the road experiencing an increase greater than 0.1m.

7.4.6. There is no known policy or guidance on what would constitute an unacceptable increase in flood risk during a breach scenario. The Environment Agency agreed with the Applicant on this point during the meeting on 14th August 2024, as described within the **Environment Agency Statement of Common Ground (AS-037)**. Whilst the Proposed Scheme has the potential to increase peak flood depths, particularly in the vicinity of the Proposed Scheme, it is not considered that this would constitute a change in risk as defined by the NPPF as '*a combination of the probability and the potential consequences of flooding'*; because the probability of a breach remains the same, or less, given the Applicant's improvement of the flood defence structures in the vicinity of the Proposed Scheme (reduced probability); and the localised changes to flood depth are not considered to pose a change in consequence given the significant flood depths predicted in the baseline scenarios.

7.4.7. As discussed above, the updated modelling for the alternative development scenarios demonstrates significant reduction in flood depths when compared to the previous glass wall approach by reducing the formation level of the Proposed Scheme's Development Platform and allowing flood waters to flow across the platform in the event of a breach. Whilst the design of the Proposed Scheme is still subject to change during detailed design, the scenarios presented in this Technical Note have been informed by discussion with the design team of the Proposed Scheme and represent reasonable and proportionate scenarios for the developing design of the Proposed Scheme, noting that further betterment will still be explored in accordance with demonstration of compliance with the **Design Principles and Design Code (as updated alongside this submission)**.

7.4.8. Furthermore, the results presented in this assessment assume an instantaneous 20m-wide breach of the River Thames flood defences that occurs at the peak tidal flood level; a peak flood depth that would occur shortly after the instantaneous breach; and that the breach would occur at the worst-case breach location which is unlikely to be representative of true conditions.

7.4.9. The Applicant therefore concludes that the Proposed Scheme will be safe for its lifetime taking account of the vulnerability of its users without increasing flood risk elsewhere, thereby meeting the requirements of Part 2 of the Exception Test.

ANNEX A: MODEL POINT DATA

Table 3: Cory Thames Estuary Breach Model: Glass Wall Scenario

Location Point	Cory Thames Estuary Breach Model: Glass Wall Scenario																Location Description	
	Breach Peak Water Level (mAOD)								Breach Peak Flood Depth (m)								Difference in Breach Peak Flood Depth (m)	
	Baseline				With Proposed Scheme				Baseline				With Proposed Scheme					
	Maximum (all locations)	Breach location 1	Breach location 4	Breach location 6	Maximum (all locations)	Breach location 1	Breach location 4	Breach location 6	Maximum (all locations)	Breach location 1	Breach location 4	Breach location 6	Maximum (all locations)	Breach location 1	Breach location 4	Breach location 6	Maximum (all locations)		
1	**2.26**	1.75	2.20	2.04	**3.47**	2.03	2.62	2.25	**0.78**	0.31	0.72	0.57	**1.99**	0.55	1.14	0.77	**1.21**	Platform edge	Northern platform boundary
2	**2.33**	1.75	2.21	2.05	3.02	2.02	2.63	2.29	**1.81**	1.24	1.69	1.54	**2.50**	1.51	2.12	1.77	**0.69**	Platform edge	Northern platform boundary
3	**2.28**	1.75	2.11	2.04	**3.14**	2.01	3.14	2.46	**1.16**	0.64	1.00	0.93	**2.02**	0.89	2.02	1.34	**0.86**	Platform edge	Norman Rd - Eastern platform boundary
4	**2.23**	1.75	2.23	2.05	**2.89**	1.99	2.89	2.42	**0.95**	0.48	0.95	0.77	**1.61**	0.71	1.61	1.14	**0.66**	Platform edge	Norman Rd - Eastern platform boundary
5	**2.12**	error	2.12	2.04	**2.74**	1.77	2.74	2.37	**0.50**	0.05	0.50	0.42	**1.12**	0.15	1.12	0.75	**0.62**	Platform edge	Norman Rd - Eastern platform boundary
6	**2.09**	1.64	2.09	2.04	**2.23**	1.67	2.22	2.10	**0.90**	0.45	0.90	0.86	**1.04**	0.48	1.04	0.91	**0.14**	Platform edge	Norman Rd - Eastern platform boundary
7	**2.09**	1.64	2.09	2.04	**2.07**	1.66	2.05	2.05	**1.45**	1.00	1.45	1.40	**1.43**	1.02	1.41	1.41	-0.02	Platform edge	Western platform boundary
8	**2.12**	1.65	2.12	2.04	**2.07**	1.66	2.05	2.06	**1.47**	0.99	1.47	1.39	**1.42**	1.01	1.39	1.40	-0.05	Platform edge	Western platform boundary
9	**2.18**	1.75	2.18	2.04	**2.19**	2.06	2.09	2.06	**0.90**	0.47	0.90	0.76	**0.91**	0.78	0.81	0.78	0.01	Platform edge	Western platform boundary
10	**2.10**	1.64	2.10	2.04	**2.07**	1.67	2.05	2.06	**1.27**	0.80	1.27	1.20	**1.24**	0.83	1.21	1.22	-0.03	West of Site	Central Crossness LNR
11	**2.09**	1.64	2.09	2.04	**2.07**	1.66	2.04	2.05	**1.65**	1.19	1.65	1.59	**1.62**	1.22	1.60	1.61	-0.03	West of Site	Southern Crossness LNR
12	**2.10**	1.64	2.10	2.04	**2.08**	1.68	2.05	2.05	**3.08**	2.61	3.08	3.01	**3.05**	2.65	3.02	3.03	-0.03	West of Site	South-western Crossness LNR
13	**2.11**	1.64	2.11	2.04	**2.08**	1.68	2.05	2.05	**0.87**	0.40	0.87	0.80	**0.84**	0.44	0.81	0.81	-0.03	West of Site	Central Crossness LNR
14	**2.17**	1.78	2.17	2.04	**2.23**	2.07	2.10	2.06	**1.51**	1.12	1.51	1.39	**1.57**	1.41	1.45	1.41	0.06	West of Site	Northern Crossness LNR
15	**4.36**		3.57	2.87	**4.36**		3.58	2.88	**2.46**		1.67	0.97	**2.46**		1.67	0.98	0.00	East of Site	West of Iron Mountain
16	**3.58**		3.58	2.89	**3.59**		3.59	2.90	**1.65**		1.65	1.04	**1.66**		1.66	1.05	0.01	East of Site	West of Iron Mountain
17	**3.42**		3.42	2.88	**3.43**		3.43	2.89	**0.89**		0.89	0.36	**0.91**		0.91	0.37	0.02	East of Site	Car park of Iron Mountain
18	**4.59**		2.81	4.59	**4.59**		2.83	4.59	**3.03**		1.26	3.03	**3.03**		1.28	3.03	0.00	East of Site	East of Iron Mountain
19	**2.61**		2.61	2.16	**2.97**	1.98	2.97	2.43	**0.95**		0.95	0.50	**1.31**	0.31	1.31	0.77	**0.36**	East of Site	West of Asda DC (north bld)
20	**3.34**		3.34	3.11	**3.37**		3.37	3.11	**1.01**		1.01	0.78	**1.03**		1.03	0.78	0.02	East of Site	North of Asda DC (north bld)
21	**3.42**		3.30	3.41	**3.42**		3.33	3.41	**1.09**		0.98	1.08	**1.10**		1.00	1.08	0.01	East of Site	North of Asda DC (north bld)
22	**4.31**		2.81	4.31	**4.31**		2.83	4.31	**1.98**		0.48	1.98	**1.98**		0.50	1.98	0.00	East of Site	North of Asda DC (north bld)
23	**2.12**	error	2.12	2.11	**2.68**	1.68	2.68	2.39	**0.52**	0.10	0.52	0.51	**1.08**	0.14	1.08	0.79	**0.55**	East of Site	Lorry park of Asda DC (north bld)
24	**2.12**	1.62	2.12	2.12	**2.69**	1.68	2.69	2.39	**1.24**	0.74	1.24	1.23	**1.81**	0.80	1.81	1.51	**0.57**	East of Site	Lorry park of Asda DC (north bld)
25	**2.13**		2.13	2.06	**2.67**	1.76	2.67	2.38	**0.52**		0.52	0.45	**1.07**	0.16	1.07	0.77	**0.54**	East of Site	Lorry park of Asda DC (north bld)
26	**2.19**	1.62	2.09	2.19	**2.44**	1.67	2.44	2.39	**0.90**	0.33	0.80	0.90	**1.15**	0.38	1.15	1.10	**0.25**	East of Site	South of Asda DC (north bld)
27	**3.18**	1.62	2.10	3.18	**3.18**	1.67	2.42	3.18	**1.79**	0.23	0.72	1.79	**1.80**	0.28	1.03	1.80	0.00	East of Site	East of Asda DC (north bld)
28	**4.34**		2.74	4.34	**4.34**		2.76	4.34	**2.31**		0.81	2.31	**2.31**		0.83	2.31	0.00	East of Site	East of Asda DC (north bld)
29	**2.47**	1.62	2.07	2.47	**2.56**	1.67	2.31	2.56	**1.49**	0.69	1.12	1.49	**1.58**	0.73	1.34	1.58	0.09	East of Site	East of Asda DC (south bld)
30	**2.10**	1.63	2.10	2.04	**2.61**	1.67	2.61	2.27	**0.65**	0.28	0.65	0.60	**1.05**	0.31	1.05	0.79	**0.41**	East of Site	West of Asda DC (south bld)
31	**2.31**		1.86	2.17	**2.29**		1.96	2.22	**1.23**		0.78	1.10	**1.22**	0.01	0.88	1.14	-0.02	Wider flood cell	Thamesmead Industrial Area (Church Manor Way)
32	**2.20**		error	2.13	**2.18**		1.95	2.18	**0.41**		0.02	0.34	**0.38**		0.16	0.38	-0.02	Wider flood cell	Thamesmead Industrial Area (Bronze Age Way)
33	**1.99**	1.44	1.92	1.99	**2.01**	1.46	1.90	2.01	**1.43**	0.89	1.37	1.43	**1.46**	0.90	1.35	1.46	0.03	Wider flood cell	Hailey Road Industrial Area
34	**1.83**	1.05	1.81	1.83	**1.84**	1.05	1.82	1.84	**0.93**	0.15	0.91	0.93	**0.94**	0.15	0.92	0.94	0.01	Wider flood cell	Open green space south of Eastern Way
35	**1.80**		1.77	1.80	**1.81**		1.79	1.81	**0.29**		0.27	0.29	**0.31**		0.28	0.31	0.01	Wider flood cell	Residential area
36	**1.80**		1.77	1.80	**1.81**		1.79	1.81	**0.20**		0.17	0.20	**0.21**		0.18	0.21	0.01	Wider flood cell	Residential area
37	**1.80**		1.77	1.80	**1.81**		1.79	1.81	**1.12**		1.10	1.12	**1.14**		1.11	1.14	0.01	Wider flood cell	De Lucy Primary School
38	**1.82**		1.80	1.82	**1.83**		1.81	1.83	**0.96**		0.93	0.96	**0.97**	0.00	0.95	0.97	0.01	Wider flood cell	Residential area
39	**2.03**	1.31	1.85	2.03	**2.07**	1.33	1.92	2.07	**1.13**	0.41	0.95	1.13	**1.16**	0.42	1.02	1.16	0.03	Wider flood cell	Residential area
40	**1.89**	1.41	1.83	1.89	**1.91**	1.42	1.84	1.91	**1.32**	0.84	1.26	1.32	**1.34**	0.85	1.27	1.34	0.02	Wider flood cell	Centurion Way Industrial Area
41	**3.68**		3.67		**3.69**		3.68		**0.80**		0.79	0.11	**0.81**		0.79	0.12	0.01	East of Site	Between Riverside 1 and Iron Mountain
42	**3.61**		3.61	2.76	**3.62**		3.62	2.78	**1.13**		1.13	0.28	**1.14**		1.14	0.30	0.01	East of Site	Between Riverside 1 and Iron Mountain
43	**2.32**		2.32	2.05	**3.02**	1.99	3.02	2.44	**0.50**		0.50	0.24	**1.20**	0.18	1.20	0.62	**0.70**	East of Site	Access road serving Iron Mountain
44	**2.11**		2.11	2.11	**2.67**		2.67	2.39	**0.35**		0.35	0.35	**0.91**	0.01	0.91	0.63	**0.56**	East of Site	Lorry park of Asda DC (north bld)
45	**2.12**		2.12	2.04	**2.70**		2.70	2.37	**0.37**		0.37	0.30	**0.96**		0.96	0.62	**0.59**	East of Site	Access road serving Asda DC
46	**2.10**	1.64	2.10	2.04	**2.62**	1.67	2.62	2.30	**1.18**	0.71	1.18	1.12	**1.69**	0.75	1.69	1.38	**0.52**	Platform edge	Norman Rd - Eastern platform boundary
47	**2.09**	1.64	2.09	2.04	**2.55**	1.67	2.55	2.25	**0.91**	0.46	0.91	0.86	**1.37**	0.49	1.37	1.06	**0.45**	East of Site	Access road serving Asda DC
48	**2.07**	1.62	2.07	2.05	**2.18**	1.66	2.18	2.14	**1.00**	0.55	1.00	0.98	**1.11**	0.60	1.11	1.07	**0.11**	East of Site	South of Asda DC (south bld)
49	**2.27**	1.62	2.06	2.27	**2.33**	1.67	2.21	2.33	**1.28**	0.62	1.06	1.28	**1.34**	0.67	1.22	1.34	0.06	East of Site	South of Asda DC (south bld)
50	**2.11**	1.64	2.11	2.04	**2.08**	1.68	2.05	2.05	**3.10**	2.64	3.10	3.03	**3.07**	2.67	3.04	3.05	-0.03	West of Site	East of Crossness STW
51	**2.41**		1.86	2.41	**2.43**		1.97	2.43	**0.81**		0.33	0.81	**0.83**		0.43	0.83	0.02	East of Site	Amazon Yard to east of Site
52	**2.18**	1.32	1.86	2.17	**2.22**	1.34	1.96	2.22	**1.36**	0.50	1.03	1.35	**1.40**	0.51	1.14	1.40	0.04	Wider flood cell	Thamesmead Industrial Area (Mulberry Way)
53	**2.04**	1.40	2.01	2.04	**2.08**	1.44	2.02	2.08	**1.43**	0.79	1.39	1.43	**1.47**	0.82	1.40	1.47	0.04	Wider flood cell	Lidl car park to south of Site
54	**2.14**		1.86	2.12	**2.17**		1.95	2.17	**0.50**		0.22	0.48	**0.53**		0.31	0.53	0.03	Wider flood cell	Thamesmead Industrial Area (Bronze Age Way)
55	**2.07**	1.04	1.85	2.07	**2.12**	1.11	1.94	2.12	**1.67**	0.63	1.45	1.67	**1.71**	0.71	1.54	1.71	0.04	Wider flood cell	North Road residential area
56	**2.09**	0.99	1.85	2.09	**2.14**	1.05	1.94	2.14	**1.62**	0.53	1.39	1.62	**1.67**	0.58	1.48	1.67	0.05	Wider flood cell	North Road residential area
57	**2.11**		1.85	2.11	**2.15**		1.95	2.15	**1.27**		1.02	1.27	**1.32**		1.11	1.32	0.05	Wider flood cell	Belvedere Infant School
58	**1.83**	1.27	1.81	1.83	**1.84**	1.28	1.82	1.84	**0.73**	0.17	0.70	0.73	**0.74**	0.18	0.72	0.74	0.01	Wider flood cell	Veridion Park
59	**1.83**	1.38	1.81	1.83	**1.85**	1.39	1.83	1.85	**0.88**	0.43	0.86	0.88	**0.89**	0.43	0.87	0.89	0.01	Wider flood cell	Northwood Primary School
60	**1.82**		1.79	1.82	**1.83**		1.81	1.83	**0.62**		0.60	0.62	**0.63**		0.61	0.63	0.01	Wider flood cell	Residential area south of railway
61	**1.83**	1.23	1.81	1.83	**1.84**	1.25	1.82	1.84	**1.20**	0.60	1.18	1.20	**1.21**	0.62	1.19	1.21	0.01	Wider flood cell	Yarnton Way Nursery
62	**1.82**		1.80	1.82	**1.83**		1.81	1.83	**0.73**		0.71	0.73	**0.75**	0.00	0.72	0.75	0.01	Wider flood cell	Parkway Primary School
63	**1.80**		1.78	1.80	**1.82**		1.79	1.82	**0.77**		0.74	0.77	**0.78**		0.76	0.78	0.01	Wider flood cell	Harris Garrard Academy
64	**1.80**		1.77	1.80	**1.81**		1.79	1.81	**0.76**		0.74	0.76	**0.78**		0.75	0.78	0.01	Wider flood cell	Willow Bank Primary School
65	**1.80**		error	1.80	**1.81**		1.79	1.81	**0.12**		0.08	0.12	**0.13**		0.10	0.13	0.01	Wider flood cell	Residential area
66	**1.80**		1.77	1.80	**1.81**		1.79	1.81	**0.61**		0.58	0.61	**0.62**		0.59	0.62	0.01	Wider flood cell	Residential area
67	**1.80**		1.77	1.80	**1.81**		1.79	1.81	**1.30**		1.27	1.30	**1.31**	0.00	1.28	1.31	0.01	Wider flood cell	Weybourne Care Home
68	**1.80**		1.77	1.80	**1.81**		1.79	1.81	**0.22**		0.19	0.22	**0.23**		0.21	0.23	0.01	Wider flood cell	St Paul's Academy
69	**1.83**		1.81	1.83	**1.84**		1.82	1.84	**0.76**		0.74	0.76	**0.77**		0.75	0.77	0.01	Wider flood cell	West of Crossness STW

Table 4: Cory Thames Estuary Breach Model: Equipment Scenario 1

Location Point	Cory Thames Estuary Breach Model: Equipment Scenario 1											Location Description	
	Breach Peak Water Level (mAOD)				Breach Peak Flood Depth (m)								
	Baseline		With Proposed Scheme		Baseline		With Proposed Scheme						
							Breach location 4 1.1 to 1.3 mAOD platform level		Breach location 4 1.3 to 1.5 mAOD platform level		Difference in peak flood depth between platform scenarios (m)		
	Maximum (all locations)	Breach location 4	Breach location 4 1.1 to 1.3 mAOD platform level	Breach location 4 1.3 to 1.5 mAOD platform level	Maximum (all locations)	Breach location 4	Breach Peak Flood Depth (m)	Depth difference at breach location 4 (m)	Breach Peak Flood Depth (m)	Depth difference at breach location 4 (m)			
1	**2.26**	2.20	2.39	2.43	**0.78**	0.72	0.94	**0.22**	0.94	**0.22**	0.00	Platform edge	Northern platform boundary
2	**2.33**	2.21	2.45	2.50	**1.81**	1.69	1.81	**0.12**	1.85	**0.16**	0.04	Platform edge	Northern platform boundary
3	**2.28**	2.11	2.58	2.66	**1.16**	1.00	1.32	**0.32**	1.34	**0.34**	0.02	Platform edge	Norman Rd - Eastern platform boundary
4	**2.23**	2.23	2.41	2.48	**0.95**	0.95	1.17	**0.22**	1.24	**0.29**	0.07	Platform edge	Norman Rd - Eastern platform boundary
5	**2.12**	2.12	2.26	2.32	**0.50**	0.50	0.68	**0.18**	0.73	**0.23**	0.05	Platform edge	Norman Rd - Eastern platform boundary
6	**2.09**	2.09	2.09	2.11	**0.90**	0.90	0.91	0.00	0.93	0.03	0.02	Platform edge	Norman Rd - Eastern platform boundary
7	**2.09**	2.09	2.07	2.07	**1.45**	1.45	1.46	0.00	1.45	0.00	0.00	Platform edge	Western platform boundary
8	**2.12**	2.12	2.10	2.09	**1.47**	1.47	1.44	-0.04	1.40	-0.07	-0.04	Platform edge	Western platform boundary
9	**2.18**	2.18	2.19	2.18	**0.90**	0.90	1.03	**0.14**	0.97	0.08	-0.06	Platform edge	Western platform boundary
10	**2.10**	2.10	2.08	2.07	**1.27**	1.27	1.25	-0.02	1.25	-0.02	0.00	West of Site	Central Crossness LNR
11	**2.09**	2.09	2.07	2.07	**1.65**	1.65	1.63	-0.02	1.63	-0.02	0.00	West of Site	Southern Crossness LNR
12	**2.10**	2.10	2.08	2.07	**3.08**	3.08	3.05	-0.03	3.05	-0.03	0.00	West of Site	South-western Crossness LNR
13	**2.11**	2.11	2.08	2.08	**0.87**	0.87	0.83	-0.04	0.83	-0.04	0.00	West of Site	Central Crossness LNR
14	**2.17**	2.17	2.16	2.15	**1.51**	1.51	1.49	-0.02	1.49	-0.02	0.00	West of Site	Northern Crossness LNR
15	**4.36**	3.57	3.54	3.54	**2.46**	1.67	1.63	-0.04	1.63	-0.04	0.00	East of Site	West of Iron Mountain
16	**3.58**	3.58	3.56	3.56	**1.65**	1.65	1.78	**0.14**	1.78	**0.14**	0.00	East of Site	West of Iron Mountain
17	**3.42**	3.42	3.39	3.39	**0.89**	0.89	0.86	-0.03	0.86	-0.03	0.00	East of Site	Car park of Iron Mountain
18	**4.59**	2.81	2.84	2.84	**3.03**	1.26	1.25	0.00	1.25	0.00	0.00	East of Site	East of Iron Mountain
19	**2.61**	2.61	2.62	2.64	**0.95**	0.95	0.90	-0.05	0.92	-0.03	0.02	East of Site	West of Asda DC (north bld)
20	**3.34**	3.34	3.29	3.29	**1.01**	1.01	0.98	-0.03	0.98	-0.03	0.00	East of Site	North of Asda DC (north bld)
21	**3.42**	3.30	3.22	3.23	**1.09**	0.98	0.93	-0.05	0.93	-0.05	0.00	East of Site	North of Asda DC (north bld)
22	**4.31**	2.81	2.81	2.81	**1.98**	0.48	0.44	-0.03	0.44	-0.03	0.00	East of Site	North of Asda DC (north bld)
23	**2.12**	2.12	2.19	2.24	**0.52**	0.52	0.57	0.04	0.62	0.09	0.05	East of Site	Lorry park of Asda DC (north bld)
24	**2.12**	2.12	2.19	2.24	**1.24**	1.24	1.31	0.07	1.36	**0.12**	0.05	East of Site	Lorry park of Asda DC (north bld)
25	**2.13**	2.13	2.23	2.29	**0.52**	0.52	0.63	**0.10**	0.69	**0.16**	0.06	East of Site	Lorry park of Asda DC (north bld)
26	**2.19**	2.09	2.12	2.14	**0.90**	0.80	0.63	-0.17	0.65	-0.15	0.02	East of Site	South of Asda DC (north bld)
27	**3.18**	2.10	2.15	2.17	**1.79**	0.72	0.76	0.04	0.78	0.06	0.02	East of Site	East of Asda DC (north bld)
28	**4.34**	2.74	2.73	2.73	**2.31**	0.81	0.81	0.00	0.81	0.00	0.00	East of Site	East of Asda DC (north bld)
29	**2.47**	2.07	2.09	2.11	**1.49**	1.12	1.13	0.02	1.15	0.04	0.02	East of Site	East of Asda DC (south bld)
30	**2.10**	2.10	2.13	2.17	**0.65**	0.65	0.62	-0.02	0.65	0.01	0.03	East of Site	West of Asda DC (south bld)
31	**2.31**	1.86	1.87	1.87	**1.23**	0.78	0.77	-0.01	0.77	-0.01	0.01	Wider flood cell	Thamesmead Industrial Area (Church Manor Way)
32	**2.20**	error			**0.41**	0.02	0.05	0.02	0.07	0.05	0.02	Wider flood cell	Thamesmead Industrial Area (Bronze Age Way)
33	**1.99**	1.92	1.92	1.92	**1.43**	1.37	1.36	0.00	1.37	0.00	0.00	Wider flood cell	Hailey Road Industrial Area
34	**1.83**	1.81	1.83	1.84	**0.93**	0.91	0.93	0.02	0.94	0.03	0.00	Wider flood cell	open green space south of Eastern Way
35	**1.80**	1.77	1.81	1.82	**0.29**	0.27	0.28	0.01	0.28	0.01	0.00	Wider flood cell	Residential area
36	**1.80**	1.77	1.81	1.82	**0.20**	0.17	0.22	0.05	0.23	0.06	0.00	Wider flood cell	Residential area
37	**1.80**	1.77	1.81	1.82	**1.12**	1.10	1.13	0.03	1.13	0.03	0.00	Wider flood cell	De Lucy Primary School
38	**1.82**	1.80	1.83	1.83	**0.96**	0.93	0.95	0.02	0.96	0.02	0.00	Wider flood cell	Residential area
39	**2.03**	1.85	1.86	1.86	**1.13**	0.95	0.96	0.01	0.96	0.01	0.00	Wider flood cell	Residential area
40	**1.89**	1.83	1.85	1.85	**1.32**	1.26	1.27	0.01	1.27	0.02	0.00	Wider flood cell	Centurion Way Industrial Area
41	**3.68**	3.67	3.64	3.64	**0.80**	0.79	0.75	-0.04	0.75	-0.04	0.00	East of Site	Between Riverside 1 and Iron Mountain
42	**3.61**	3.61	3.60	3.60	**1.13**	1.13	1.11	-0.02	1.11	-0.02	0.00	East of Site	Between Riverside 1 and Iron Mountain
43	**2.32**	2.32	2.47	2.54	**0.50**	0.50	0.65	**0.14**	0.72	**0.22**	0.08	East of Site	Access road serving Iron Mountain
44	**2.11**	2.11	2.16	2.21	**0.35**	0.35	0.40	0.05	0.45	**0.10**	0.05	East of Site	Lorry park of Asda DC (north bld)
45	**2.12**	2.12	2.22	2.28	**0.37**	0.37	0.48	**0.11**	0.55	**0.17**	0.06	East of Site	Access road serving Asda DC
46	**2.10**	2.10	2.13	2.17	**1.18**	1.18	1.20	0.03	1.25	0.07	0.04	Platform edge	Norman Rd - Eastern platform boundary
47	**2.09**	2.09	2.11	2.15	**0.91**	0.91	0.93	0.01	0.96	0.05	0.04	East of Site	Access road serving Asda DC
48	**2.07**	2.07	2.05	2.06	**1.00**	1.00	0.98	-0.02	0.98	-0.02	0.01	East of Site	South of Asda DC (south bld)
49	**2.27**	2.06	2.06	2.07	**1.28**	1.06	1.05	-0.02	1.06	-0.01	0.01	East of Site	South of Asda DC (south bld)
50	**2.11**	2.11	2.08	2.07	**3.10**	3.10	3.05	-0.06	3.04	-0.06	0.00	West of Site	East of Crossness STW
51	**2.41**	1.86	1.87	1.87	**0.81**	0.33	0.27	-0.06	0.28	-0.05	0.01	East of Site	Amazon Yard to east of Site
52	**2.18**	1.86	1.86	1.87	**1.36**	1.03	1.02	-0.01	1.03	0.00	0.01	Wider flood cell	Thamesmead Industrial Area (Mulberry Way)
53	**2.04**	2.01	1.99	1.99	**1.43**	1.39	1.38	-0.01	1.38	-0.01	0.00	Wider flood cell	Lidl car park to south of Site
54	**2.14**	1.86	1.86	1.87	**0.50**	0.22	0.24	0.03	0.24	0.03	0.00	Wider flood cell	Thamesmead Industrial Area (Bronze Age Way)
55	**2.07**	1.85	1.87	1.87	**1.67**	1.45	1.47	0.02	1.47	0.02	0.00	Wider flood cell	North Road residential area
56	**2.09**	1.85	1.86	1.87	**1.62**	1.39	1.39	0.00	1.39	0.00	0.00	Wider flood cell	North Road residential area
57	**2.11**	1.85	1.86	1.87	**1.27**	1.02	1.03	0.01	1.03	0.01	0.00	Wider flood cell	Belvedere Infant School
58	**1.83**	1.81	1.83	1.84	**0.73**	0.70	0.73	0.02	0.73	0.03	0.00	Wider flood cell	Veridion Park
59	**1.83**	1.81	1.84	1.84	**0.88**	0.86	0.87	0.02	0.88	0.02	0.00	Wider flood cell	Northwood Primary School
60	**1.82**	1.79	1.82	1.83	**0.62**	0.60	0.59	-0.01	0.59	-0.01	0.00	Wider flood cell	Residential area south of railway
61	**1.83**	1.81	1.83	1.83	**1.20**	1.18	1.19	0.02	1.20	0.02	0.00	Wider flood cell	Yarnton Way Nursery
62	**1.82**	1.80	1.83	1.83	**0.73**	0.71	0.74	0.03	0.74	0.03	0.00	Wider flood cell	Parkway Primary School
63	**1.80**	1.78	1.81	1.82	**0.77**	0.74	0.77	0.02	0.77	0.03	0.00	Wider flood cell	Harris Garrard Academy
64	**1.80**	1.77	1.81	1.82	**0.76**	0.74	0.77	0.04	0.78	0.04	0.00	Wider flood cell	Willow Bank Primary School
65	**1.80**	error	1.81	1.82	**0.12**	0.08	0.16	0.07	0.16	0.08	0.00	Wider flood cell	Residential area
66	**1.80**	1.77	1.81	1.82	**0.61**	0.58	0.62	0.04	0.62	0.04	0.00	Wider flood cell	Residential area
67	**1.80**	1.77	1.81	1.82	**1.30**	1.27	1.32	0.04	1.32	0.05	0.00	Wider flood cell	Weybourne Care Home
68	**1.80**	1.77	1.81	1.82	**0.22**	0.19	0.23	0.04	0.23	0.04	0.00	Wider flood cell	St Paul's Academy
69	**1.83**	1.81	1.83	1.83	**0.76**	0.74	0.73	-0.01	0.73	-0.01	0.00	Wider flood cell	West of Crossness STW

Table 5: Cory Thames Estuary Breach Model: Equipment Scenario 2

Location Point	Cory Thames Estuary Breach Model: Equipment Scenario 2																		
	Breach Peak Water Level (mAOD)								Breach Peak Flood Depth (m)										
	Baseline				With Proposed Scheme				Baseline				With Proposed Scheme						
					1.1 to 1.3 mAOD platform level			1.3 to 1.5 mAOD platform level					1.1 to 1.3 mAOD platform level				1.3 to 1.5 mAOD platform level		Difference in peak flood depth between platform scenarios (m) (breach location 4 only)		
	Maximum (all locations)	Breach location 1	Breach location 4	Breach location 6	Breach location 1	Breach location 4	Breach location 6	Breach location 4	Maximum (all locations)	Breach location 1	Breach location 4	Breach location 6	Breach location 1	Breach location 4	Breach location 6	Difference to combined maximum (m)	Breach location 4	Difference to location 4 maximum (m)		Location Description	
1	**2.26**	1.75	2.20	2.04	1.86	2.40	2.08	2.45	**0.78**	0.31	0.72	0.57	0.40	0.95	0.63	**0.17**	0.96	**0.23**	0.01	Platform edge	Northern platform boundary
2	**2.33**	1.75	2.21	2.05	1.86	2.46	2.10	2.52	**1.81**	1.24	1.69	1.54	1.22	1.83	1.44	0.02	1.87	**0.18**	0.04	Platform edge	Northern platform boundary
3	**2.28**	1.75	2.11	2.04	1.84	2.61	2.10	2.70	**1.16**	0.64	1.00	0.93	0.59	1.36	0.85	**0.19**	1.37	**0.37**	0.01	Platform edge	Norman Rd - Eastern platform boundary
4	**2.23**	1.75	2.23	2.05	1.80	2.43	2.09	2.50	**0.95**	0.48	0.95	0.77	0.58	1.20	0.85	**0.24**	1.26	**0.31**	0.07	Platform edge	Norman Rd - Eastern platform boundary
5	**2.12**	error	2.12	2.04	error	2.28	2.07	2.35	**0.50**	0.05	0.50	0.42	0.15	0.70	0.50	**0.20**	0.75	**0.25**	0.05	Platform edge	Norman Rd - Eastern platform boundary
6	**2.09**	1.64	2.09	2.04	1.70	2.08	2.05	2.12	**0.90**	0.45	0.90	0.86	0.52	0.90	0.87	0.00	0.94	0.04	0.04	Platform edge	Norman Rd - Eastern platform boundary
7	**2.09**	1.64	2.09	2.04	1.70	2.06	2.03	2.07	**1.45**	1.00	1.45	1.40	1.09	1.45	1.42	0.00	1.45	0.00	0.01	Platform edge	Western platform boundary
8	**2.12**	1.65	2.12	2.04	1.72	2.08	2.03	2.09	**1.47**	0.99	1.47	1.39	1.04	1.42	1.37	-0.05	1.40	-0.07	-0.03	Platform edge	Western platform boundary
9	**2.18**	1.75	2.18	2.04	1.87	2.18	2.04	2.18	**0.90**	0.47	0.90	0.76	0.70	1.02	0.88	**0.13**	0.97	0.07	-0.05	Platform edge	Western platform boundary
10	**2.10**	1.64	2.10	2.04	1.71	2.07	2.03	2.07	**1.27**	0.80	1.27	1.20	0.88	1.24	1.21	-0.03	1.25	-0.02	0.01	West of Site	Central Crossness LNR
11	**2.09**	1.64	2.09	2.04	1.70	2.06	2.03	2.07	**1.65**	1.19	1.65	1.59	1.26	1.62	1.59	-0.03	1.63	-0.02	0.01	West of Site	Southern Crossness LNR
12	**2.10**	1.64	2.10	2.04	1.71	2.06	2.03	2.07	**3.08**	2.61	3.08	3.01	2.69	3.04	3.01	-0.04	3.05	-0.03	0.01	West of Site	South-western Crossness LNR
13	**2.11**	1.64	2.11	2.04	1.71	2.07	2.03	2.07	**0.87**	0.40	0.87	0.80	0.46	0.82	0.78	-0.05	0.82	-0.04	0.01	West of Site	Central Crossness LNR
14	**2.17**	1.78	2.17	2.04	1.88	2.15	2.04	2.15	**1.51**	1.12	1.51	1.39	1.21	1.48	1.37	-0.03	1.49	-0.03	0.00	West of Site	Northern Crossness LNR
15	**4.36**		3.57	2.87		3.54	2.83	3.54	**2.46**		1.67	0.97		1.63	0.92	-0.83	1.63	-0.04	0.00	East of Site	West of Iron Mountain
16	**3.58**		3.58	2.89		3.56	2.84	3.56	**1.65**		1.65	1.04		1.78	1.10	**0.14**	1.78	**0.14**	0.00	East of Site	West of Iron Mountain
17	**3.42**		3.42	2.88		3.39	2.84	3.39	**0.89**		0.89	0.36		0.86	0.31	-0.03	0.86	-0.03	0.00	East of Site	Car park of Iron Mountain
18	**4.59**		2.81	4.59		2.83	4.62	2.84	**3.03**		1.26	3.03		1.25	3.04	0.00	1.25	0.00	0.00	East of Site	East of Iron Mountain
19	**2.61**		2.61	2.16	1.79	2.63	2.16	2.65	**0.95**		0.95	0.50	0.13	0.91	0.47	-0.04	0.93	-0.02	0.02	East of Site	West of Asda DC (north bld)
20	**3.34**		3.34	3.11		3.29	3.02	3.29	**1.01**		1.01	0.78		0.98	0.71	-0.03	0.98	-0.03	0.00	East of Site	North of Asda DC (north bld)
21	**3.42**		3.30	3.41		3.22	3.67	3.23	**1.09**		0.98	1.08		0.93	1.38	**0.29**	0.93	-0.05	0.00	East of Site	North of Asda DC (north bld)
22	**4.31**		2.81	4.31		2.81	4.27	2.81	**1.98**		0.48	1.98		0.44	1.89	-0.09	0.44	-0.03	0.00	East of Site	North of Asda DC (north bld)
23	**2.12**	error	2.12	2.11	error	2.20	2.15	2.27	**0.52**	0.10	0.52	0.51	0.09	0.58	0.53	0.06	0.64	**0.12**	0.06	East of Site	Lorry park of Asda DC (north bld)
24	**2.12**	1.62	2.12	2.12	1.70	2.20	2.17	2.26	**1.24**	0.74	1.24	1.23	0.82	1.32	1.29	0.08	1.38	**0.15**	0.06	East of Site	Lorry park of Asda DC (north bld)
25	**2.13**		2.13	2.06		2.25	2.09	2.30	**0.52**		0.52	0.45		0.65	0.49	**0.12**	0.70	**0.18**	0.06	East of Site	Lorry park of Asda DC (north bld)
26	**2.19**	1.62	2.09	2.19	1.70	2.12	2.21	2.16	**0.90**	0.33	0.80	0.90	0.28	0.63	0.71	-0.19	0.66	-0.13	0.03	East of Site	South of Asda DC (north bld)
27	**3.18**	1.62	2.10	3.18	1.69	2.15	3.21	2.18	**1.79**	0.23	0.72	1.79	0.30	0.76	1.82	0.02	0.79	0.07	0.03	East of Site	East of Asda DC (north bld)
28	**4.34**		2.74	4.34		2.73	4.35	2.73	**2.31**		0.81	2.31		0.81	2.33	0.02	0.81	0.00	0.00	East of Site	East of Asda DC (north bld)
29	**2.47**	1.62	2.07	2.47	1.69	2.09	2.51	2.12	**1.49**	0.69	1.12	1.49	0.75	1.13	1.54	0.05	1.16	0.05	0.03	East of Site	East of Asda DC (south bld)
30	**2.10**	1.63	2.10	2.04	1.70	2.14	2.06	2.19	**0.65**	0.28	0.65	0.60	0.31	0.63	0.57	-0.02	0.67	0.02	0.04	East of Site	West of Asda DC (south bld)
31	**2.31**		1.86	2.17	error	1.85	2.16	1.87	**1.23**		0.78	1.10	0.03	0.76	1.07	-0.17	0.78	0.00	0.02	Wider flood cell	Thamesmead Industrial Area (Church Manor Way)
32	**2.20**		error	2.13			2.12		**0.41**		0.02	0.34		0.04	0.33	-0.07	0.08	0.05	0.04	Wider flood cell	Thamesmead Industrial Area (Bronze Age Way)
33	**1.99**	1.44	1.92	1.99	1.54	1.90	1.98	1.92	**1.43**	0.89	1.37	1.43	0.98	1.35	1.43	0.00	1.37	0.00	0.01	Wider flood cell	Hailey Road Industrial Area
34	**1.83**	1.05	1.81	1.83	1.15	1.82	1.85	1.84	**0.93**	0.15	0.91	0.93	0.25	0.92	0.95	0.02	0.94	0.03	0.02	Wider flood cell	open green space south of Eastern Way
35	**1.80**		1.77	1.80		1.79	1.83	1.82	**0.29**		0.27	0.29		0.25	0.30	0.00	0.28	0.01	0.03	Wider flood cell	Residential area
36	**1.80**		1.77	1.80		1.79	1.83	1.82	**0.20**		0.17	0.20		0.20	0.24	0.05	0.23	0.06	0.03	Wider flood cell	Residential area
37	**1.80**		1.77	1.80		1.79	1.83	1.82	**1.12**		1.10	1.12		1.10	1.15	0.02	1.13	0.03	0.03	Wider flood cell	De Lucy Primary School
38	**1.82**		1.80	1.82	1.23	1.81	1.85	1.83	**0.96**		0.93	0.96	0.36	0.94	0.97	0.02	0.96	0.02	0.02	Wider flood cell	Residential area
39	**2.03**	1.31	1.85	2.03	1.43	1.85	2.03	1.86	**1.13**	0.41	0.95	1.13	0.53	0.94	1.13	0.00	0.96	0.02	0.02	Wider flood cell	Residential area
40	**1.89**	1.41	1.83	1.89	1.49	1.83	1.88	1.85	**1.32**	0.84	1.26	1.32	0.91	1.26	1.31	-0.01	1.27	0.02	0.02	Wider flood cell	Centurion Way Industrial Area
41	**3.68**		3.67			3.64		3.64	**0.80**		0.79	0.11		0.75	0.07	-0.05	0.75	-0.04	0.00	East of Site	Between Riverside 1 and Iron Mountain
42	**3.61**		3.61	2.76		3.60	2.66	3.60	**1.13**		1.13	0.28		1.11	0.18	-0.02	1.11	-0.02	0.00	East of Site	Between Riverside 1 and Iron Mountain
43	**2.32**		2.32	2.05		2.51	2.10	2.58	**0.50**		0.50	0.24		0.69	0.28	**0.18**	0.76	**0.25**	0.07	East of Site	Access road serving Iron Mountain
44	**2.11**		2.11	2.11		2.17	2.16	2.23	**0.35**		0.35	0.35		0.41	0.40	0.06	0.47	**0.12**	0.06	East of Site	Lorry park of Asda DC (north bld)
45	**2.12**		2.12	2.04		2.24	2.07	2.31	**0.37**		0.37	0.30		0.50	0.33	**0.13**	0.57	**0.19**	0.07	East of Site	Access road serving Asda DC
46	**2.10**	1.64	2.10	2.04	1.70	2.14	2.07	2.19	**1.18**	0.71	1.18	1.12	0.78	1.21	1.14	0.04	1.27	0.09	0.05	Platform edge	Norman Rd - Eastern platform boundary
47	**2.09**	1.64	2.09	2.04	1.70	2.12	2.06	2.16	**0.91**	0.46	0.91	0.86	0.52	0.93	0.87	0.02	0.98	0.06	0.05	East of Site	Access road serving Asda DC
48	**2.07**	1.62	2.07	2.05	1.69	2.05	2.06	2.07	**1.00**	0.55	1.00	0.98	0.62	0.97	0.98	-0.02	0.99	-0.01	0.02	East of Site	South of Asda DC (south bld)
49	**2.27**	1.62	2.06	2.27	1.69	2.05	2.27	2.07	**1.28**	0.62	1.06	1.28	0.68	1.04	1.26	-0.02	1.06	0.00	0.02	East of Site	South of Asda DC (south bld)
50	**2.11**	1.64	2.11	2.04	1.71	2.07	2.03	2.07	**3.10**	2.64	3.10	3.03	2.68	3.03	3.00	-0.07	3.04	-0.06	0.01	West of Site	East of Crossness STW
51	**2.41**		1.86	2.41		1.85	2.34	1.88	**0.81**		0.33	0.81	0.00	0.26	0.75	-0.07	0.28	-0.05	0.02	East of Site	Amazon Yard to east of Site
52	**2.18**	1.32	1.86	2.17	1.37	1.85	2.16	1.87	**1.36**	0.50	1.03	1.35	0.53	1.01	1.32	-0.03	1.03	0.00	0.02	Wider flood cell	Thamesmead Industrial Area (Mulberry Way)
53	**2.04**	1.40	2.01	2.04	1.53	1.98	2.05	1.99	**1.43**	0.79	1.39	1.43	0.92	1.37	1.44	0.01	1.38	-0.01	0.01	Wider flood cell	Lidl car park to south of Site
54	**2.14**		1.86	2.12		1.85	2.11	1.87	**0.50**		0.22	0.48		0.23	0.49	-0.01	0.25	0.03	0.02	Wider flood cell	Thamesmead Industrial Area (Bronze Age Way)
55	**2.07**	1.04	1.85	2.07	1.35	1.85	2.07	1.87	**1.67**	0.63	1.45	1.67	0.96	1.45	1.67	0.00	1.47	0.02	0.02	Wider flood cell	North Road residential area
56	**2.09**	0.99	1.85	2.09	1.25	1.85	2.08	1.87	**1.62**	0.53	1.39	1.62	0.78	1.38	1.61	-0.02	1.39	0.00	0.02	Wider flood cell	North Road residential area
57	**2.11**		1.85	2.11		1.85	2.10	1.87	**1.27**		1.02	1.27		1.01	1.26	-0.01	1.03	0.01	0.02	Wider flood cell	Belvedere Infant School
58	**1.83**	1.27	1.81	1.83	1.31	1.82	1.86	1.84	**0.73**	0.17	0.70	0.73	0.20	0.71	0.75	0.02	0.73	0.03	0.02	Wider flood cell	Veridion Park
59	**1.83**	1.38	1.81	1.83	1.42	1.82	1.86	1.84	**0.88**	0.43	0.86	0.88	0.46	0.86	0.89	0.02	0.88	0.02	0.02	Wider flood cell	Northwood Primary School
60	**1.82**		1.79	1.82		1.80	1.84	1.83	**0.62**		0.60	0.62	0.00	0.57	0.61	-0.01	0.59	0.00	0.02	Wider flood cell	Residential area south of railway
61	**1.83**	1.23	1.81	1.83	1.36	1.82	1.85	1.84	**1.20**	0.60	1.18	1.20	0.73	1.18	1.21	0.02	1.20	0.02	0.02	Wider flood cell	Yarnton Way Nursery
62	**1.82**		1.80	1.82	1.18	1.81	1.84	1.83	**0.73**		0.71	0.73	0.09	0.72	0.76	0.02	0.74	0.03	0.02	Wider flood cell	Parkway Primary School
63	**1.80**		1.78	1.80		1.79	1.83	1.82	**0.77**		0.74	0.77		0.74	0.79	0.02	0.77	0.03	0.03	Wider flood cell	Harris Garrard Academy
64	**1.80**		1.77	1.80		1.79	1.83	1.82	**0.76**		0.74	0.76		0.75	0.79	0.03	0.78	0.04	0.03	Wider flood cell	Willow Bank Primary School
65	**1.80**		error	1.80		1.79	1.83	1.82	**0.12**		0.08	0.12		0.13	0.18	0.06	0.16	0.08	0.03	Wider flood cell	Residential area
66	**1.80**		1.77	1.80		1.79	1.83	1.82	**0.61**		0.58	0.61		0.59	0.64	0.03	0.62	0.04	0.03	Wider flood cell	Residential area
67	**1.80**		1.77	1.80		1.79	1.83	1.82	**1.30**		1.27	1.30	0.00	1.29	1.34	0.04	1.32	0.05	0.03	Wider flood cell	Weybourne Care Home
68	**1.80**		1.77	1.80		1.79	1.83	1.82	**0.22**		0.19	0.22		0.21	0.25	0.03	0.23	0.04	0.03	Wider flood cell	St Paul's Academy
69	**1.83**		1.81	1.83		1.82	1.85	1.84	**0.76**		0.74	0.76		0.71	0.75	-0.01	0.73	-0.01	0.02	Wider flood cell	West of Crossness STW

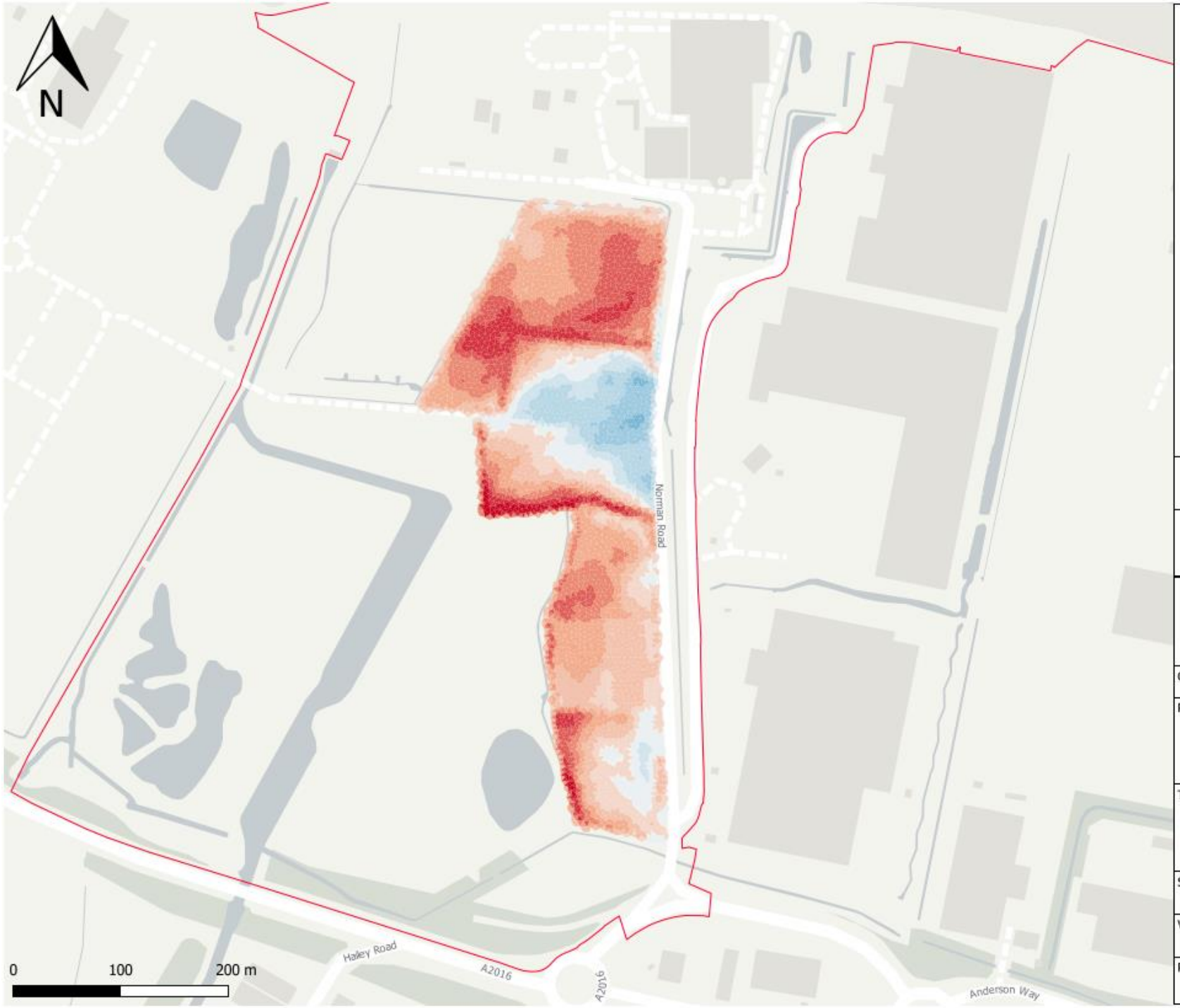
Table 6: Cory Marsh Dykes Breach Model: Great Breach Pumping Station

Location Point	Cory Marsh Dykes Breach Model: Great Breach Pumping Station								Location Description	
	Breach Peak Water Level (mAOD)			Breach Peak Flood Depth (m)						
	Baseline	With Proposed Scheme		Baseline	With Proposed Scheme					
		Glass Wall Scenario	Equipment Scenario 2		Glass Wall Scenario	Difference in Breach Peak Flood Depth to Baseline (m)	Equipment Scenario 2	Difference in Breach Peak Flood Depth to Baseline (m)		
1		1.96			0.09	0.09		0.00	Platform edge	Northern platform boundary
2	1.74	1.96	1.80	1.15	1.21	0.06	1.19	0.04	Platform edge	Northern platform boundary
3									Platform edge	Norman Rd - Eastern platform boundary
4	1.73	1.88	1.75	0.36	0.51	0.15	0.43	0.07	Platform edge	Norman Rd - Eastern platform boundary
5	1.64	1.78		0.03	0.15	0.12			Platform edge	Norman Rd - Eastern platform boundary
6	1.52	1.53	1.50	0.30	0.31	0.01	0.35	0.05	Platform edge	Norman Rd - Eastern platform boundary
7	1.51	1.50	1.46	0.85	0.84	-0.01	0.80	-0.05	Platform edge	Western platform boundary
8	1.58	1.54	1.55	0.92	0.86	-0.06	0.91	-0.02	Platform edge	Western platform boundary
9	1.75	1.99	1.80	0.40	0.75	0.35	0.50	0.10	Platform edge	Western platform boundary
10	1.54	1.54	1.51	0.76	0.76	0.01	0.73	-0.02	West of Site	Central Crossness LNR
11	1.54	1.54	1.52	1.10	1.10	0.00	1.09	0.00	West of Site	Southern Crossness LNR
12	1.69	1.64	1.63	2.67	2.64	-0.03	2.63	-0.04	West of Site	South-western Crossness LNR
13	1.54	1.55	1.53	0.27	0.28	0.01	0.27	0.00	West of Site	Central Crossness LNR
14	1.78	1.98	1.83	1.20	1.37	0.17	1.12	-0.08	West of Site	Northern Crossness LNR
15	2.11	2.11	2.11	0.27	0.27	0.00	0.27	0.00	East of Site	West of Iron Mountain
16	2.07	2.07	2.06	0.37	0.37	0.00	0.36	0.00	East of Site	West of Iron Mountain
17	2.54	2.54	2.54	0.01	0.01	0.00	0.01	0.00	East of Site	Car park of Iron Mountain
18	1.47	1.46	1.48	0.18	0.12	-0.06	0.12	-0.06	East of Site	East of Iron Mountain
19	1.72	1.86	1.75	0.05	0.19	0.14	0.08	0.03	East of Site	West of Asda DC (north bld)
20								0.00	East of Site	North of Asda DC (north bld)
21	2.20	2.19	2.20	0.04	0.03	-0.01	0.04	0.00	East of Site	North of Asda DC (north bld)
22								0.00	East of Site	North of Asda DC (north bld)
23								0.00	East of Site	Lorry park of Asda DC (north bld)
24	1.54	1.52	1.50	0.70	0.68	-0.02	0.65	-0.04	East of Site	Lorry park of Asda DC (north bld)
25	1.66	1.81	1.67	0.06	0.23	0.17	0.09	0.02	East of Site	Lorry park of Asda DC (north bld)
26	1.54	1.52	1.49	0.28	0.26	-0.02	0.24	-0.04	East of Site	South of Asda DC (north bld)
27	1.52	1.52	1.50	0.09	0.05	-0.04	0.10	0.01	East of Site	East of Asda DC (north bld)
28									East of Site	East of Asda DC (north bld)
29	1.52	1.51	1.50	0.62	0.61	-0.01	0.55	-0.07	East of Site	East of Asda DC (south bld)
30	1.54	1.52	1.50	0.26	0.23	-0.02	0.21	-0.04	East of Site	West of Asda DC (south bld)
31	1.49	1.49	1.48	0.41	0.38	-0.03	0.40	-0.01	Wider flood cell	Thamesmead Industrial Area (Church Manor Way)
32				0.00	0.00	0.00	0.00	0.00	Wider flood cell	Thamesmead Industrial Area (Bronze Age Way)
33	1.42	1.42	1.42	0.86	0.87	0.00	0.84	-0.03	Wider flood cell	Hailey Road Industrial Area
34	1.20	1.19	1.19	0.32	0.32	0.00	0.32	0.00	Wider flood cell	Open green space south of Eastern Way
35	1.52	1.52	1.52	0.01	0.01	0.00	0.01	0.00	Wider flood cell	Residential area
36									Wider flood cell	Residential area
37	0.87	0.87	0.86	0.12	0.13	0.00	0.12	0.00	Wider flood cell	De Lucy Primary School
38	1.20	1.21	1.21	0.36	0.36	0.01	0.37	0.01	Wider flood cell	Residential area
39	1.43	1.43	1.43	0.53	0.53	0.00	0.53	0.00	Wider flood cell	Residential area
40	1.40	1.40	1.40	0.84	0.84	0.00	0.84	0.00	Wider flood cell	Centurion Way Industrial Area
41									East of Site	Between Riverside 1 and Iron Mountain
42									East of Site	Between Riverside 1 and Iron Mountain
43		1.89			0.06	0.06			East of Site	Access road serving Iron Mountain
44									East of Site	Lorry park of Asda DC (north bld)
45									East of Site	Access road serving Asda DC
46	1.54	1.51	1.48	0.60	0.57	-0.04	0.54	-0.06	Platform edge	Norman Rd - Eastern platform boundary
47	1.53	1.53	1.51	0.33	0.32	0.00	0.31	-0.02	East of Site	Access road serving Asda DC
48	1.51	1.51	1.50	0.46	0.45	0.00	0.44	-0.02	East of Site	South of Asda DC (south bld)
49	1.52	1.51	1.49	0.52	0.52	0.00	0.50	-0.02	East of Site	South of Asda DC (south bld)
50	1.54	1.54	1.54	2.53	2.53	0.00	2.53	0.00	West of Site	East of Crossness STW
51				0.00	0.00	0.00	0.00	0.00	East of Site	Amazon Yard to east of Site
52	1.49	1.49	1.49	0.67	0.67	0.01	0.67	0.00	Wider flood cell	Thamesmead Industrial Area (Mulberry Way)
53	1.47	1.46	1.47	0.91	0.90	-0.01	0.91	0.00	Wider flood cell	Lidl car park to south of Site
54									Wider flood cell	Thamesmead Industrial Area (Bronze Age Way)
55	1.47	1.47	1.47	1.08	1.07	0.00	1.08	0.00	Wider flood cell	North Road residential area
56	1.46	1.46	1.46	0.97	0.97	0.00	0.97	0.00	Wider flood cell	North Road residential area
57	1.49	1.49	1.48	0.63	0.63	0.00	0.63	0.00	Wider flood cell	Belvedere Infant School
58	1.27	1.27	1.27	0.14	0.14	-0.01	0.14	0.00	Wider flood cell	Veridion Park
59	1.38	1.38	1.38	0.42	0.43	0.00	0.43	0.00	Wider flood cell	Northwood Primary School
60									Wider flood cell	Residential area south of railway
61	1.31	1.31	1.31	0.68	0.68	0.00	0.68	0.01	Wider flood cell	Yarnton Way Nursery
62	1.23	1.24	1.24	0.17	0.17	0.00	0.17	0.00	Wider flood cell	Parkway Primary School
63	1.21	1.21	1.21	0.18	0.19	0.01	0.19	0.01	Wider flood cell	Harris Garrard Academy
64	1.05	1.05	1.05	0.03	0.03	0.00	0.03	0.00	Wider flood cell	Willow Bank Primary School
65									Wider flood cell	Residential area
66	1.38	1.38	1.38	0.21	0.21	0.00	0.21	0.00	Wider flood cell	Residential area
67	0.87	0.87	0.86	0.37	0.37	0.01	0.37	0.00	Wider flood cell	Weybourne Care Home
68									Wider flood cell	St Paul's Academy
69	1.21	1.22	1.22	0.14	0.15	0.01	0.16	0.02	Wider flood cell	West of Crossness STW

Table 7: Cory Marsh Dykes Breach Model: Green Level Pumping Station

Location Point	Cory Marsh Dykes Breach Model: Green Level Pumping Station								Location Description	
	Breach Peak Water Level (mAOD)			Breach Peak Flood Depth (m)						
	Baseline	With Proposed Scheme		Baseline	With Proposed Scheme					
		Glass Wall Scenario	Equipment Scenario 2		Glass Wall Scenario	Difference in Breach Peak Flood Depth to Baseline (m)	Equipment Scenario 2	Difference in Breach Peak Flood Depth to Baseline (m)		
1		1.67			0.15	0.15		0.00	Platform edge	Northern platform boundary
2	1.60	1.67	1.63	1.00	0.93	-0.08	1.03	0.02	Platform edge	Northern platform boundary
3									Platform edge	Norman Rd - Eastern platform boundary
4	1.61	1.69	1.62	0.24	0.32	0.08	0.31	0.07	Platform edge	Norman Rd - Eastern platform boundary
5		1.68			0.04	0.04			Platform edge	Norman Rd - Eastern platform boundary
6	1.62	1.72	1.63	0.40	0.50	0.11	0.48	0.08	Platform edge	Norman Rd - Eastern platform boundary
7	1.55	1.63	1.60	0.89	0.98	0.08	0.94	0.05	Platform edge	Western platform boundary
8	1.60	1.69	1.65	0.90	0.97	0.07	0.96	0.06	Platform edge	Western platform boundary
9	1.60	1.67	1.63	0.24	0.43	0.19	0.33	0.09	Platform edge	Western platform boundary
10	1.58	1.65	1.59	0.80	0.87	0.06	0.82	0.01	West of Site	Central Crossness LNR
11	1.60	1.67	1.61	1.12	1.19	0.07	1.13	0.01	West of Site	Southern Crossness LNR
12	1.67	1.71	1.73	2.67	2.71	0.04	2.73	0.06	West of Site	South-western Crossness LNR
13	1.58	1.65	1.59	0.33	0.38	0.06	0.32	0.00	West of Site	Central Crossness LNR
14	1.60	1.67	1.63	1.01	0.94	-0.07	0.96	-0.06	West of Site	Northern Crossness LNR
15	2.11	2.11	2.11	0.27	0.27	0.00	0.27	0.00	East of Site	West of Iron Mountain
16	2.07	2.07	2.06	0.36	0.36	0.00	0.36	0.00	East of Site	West of Iron Mountain
17	2.54	2.54	2.54	0.01	0.01	0.00	0.01	0.00	East of Site	Car park of Iron Mountain
18									East of Site	East of Iron Mountain
19									East of Site	West of Asda DC (north bld)
20									East of Site	North of Asda DC (north bld)
21	2.20	2.20	2.19	0.04	0.04	0.00	0.03	-0.01	East of Site	North of Asda DC (north bld)
22									East of Site	North of Asda DC (north bld)
23		1.73			0.02	0.02			East of Site	Lorry park of Asda DC (north bld)
24	1.63	1.73	1.65	0.78	0.88	0.10	0.80	0.02	East of Site	Lorry park of Asda DC (north bld)
25	1.65	1.66	1.66	0.04	0.06	0.02	0.07	0.03	East of Site	Lorry park of Asda DC (north bld)
26	1.62	1.72	1.64	0.36	0.46	0.10	0.38	0.02	East of Site	South of Asda DC (north bld)
27	1.64	1.73	1.71	0.26	0.31	0.06	0.30	0.04	East of Site	East of Asda DC (north bld)
28									East of Site	East of Asda DC (north bld)
29	1.64	1.73	1.67	0.76	0.79	0.04	0.76	0.00	East of Site	East of Asda DC (south bld)
30	1.61	1.72	1.63	0.33	0.44	0.10	0.35	0.01	East of Site	West of Asda DC (south bld)
31	2.15	2.15	2.16	1.07	1.07	0.00	1.04	-0.03	Wider flood cell	Thamesmead Industrial Area (Church Manor Way)
32	2.10	2.11	2.10	0.32	0.33	0.01	0.32	0.00	Wider flood cell	Thamesmead Industrial Area (Bronze Age Way)
33	1.59	1.62	1.60	1.03	1.07	0.03	1.02	-0.01	Wider flood cell	Hailey Road Industrial Area
34	1.46	1.49	1.47	0.55	0.64	0.10	0.59	0.05	Wider flood cell	Open green space south of Eastern Way
35	1.52	1.52	1.52	0.01	0.01	0.00	0.01	0.00	Wider flood cell	Residential area
36									Wider flood cell	Residential area
37	0.96	1.00	0.97	0.22	0.26	0.04	0.23	0.01	Wider flood cell	De Lucy Primary School
38	1.37	1.40	1.38	0.53	0.56	0.03	0.54	0.01	Wider flood cell	Residential area
39	1.74	1.75	1.74	0.84	0.85	0.01	0.84	0.00	Wider flood cell	Residential area
40	1.54	1.56	1.55	0.98	1.01	0.02	0.99	0.01	Wider flood cell	Centurion Way Industrial Area
41									East of Site	Between Riverside 1 and Iron Mountain
42									East of Site	Between Riverside 1 and Iron Mountain
43									East of Site	Access road serving Iron Mountain
44									East of Site	Lorry park of Asda DC (north bld)
45									East of Site	Access road serving Asda DC
46	1.68	1.76	1.60	0.74	0.82	0.08	0.66	-0.08	Platform edge	Norman Rd - Eastern platform boundary
47	1.62	1.72	1.62	0.42	0.51	0.10	0.41	0.00	East of Site	Access road serving Asda DC
48	1.63	1.73	1.64	0.57	0.67	0.10	0.58	0.01	East of Site	South of Asda DC (south bld)
49	1.64	1.73	1.67	0.65	0.74	0.09	0.67	0.03	East of Site	South of Asda DC (south bld)
50	1.59	1.65	1.59	2.58	2.63	0.05	2.59	0.01	West of Site	East of Crossness STW
51	2.14	2.11	2.10	0.63	0.63	0.00	0.33	-0.30	East of Site	Amazon Yard to east of Site
52	2.08	2.07	2.08	1.26	1.26	0.00	1.26	0.00	Wider flood cell	Thamesmead Industrial Area (Mulberry Way)
53	1.82	1.82	1.82	1.26	1.26	0.00	1.26	0.00	Wider flood cell	Lidl car park to south of Site
54	2.03	2.04	2.03	0.37	0.38	0.01	0.36	-0.01	Wider flood cell	Thamesmead Industrial Area (Bronze Age Way)
55	1.85	1.85	1.85	1.46	1.46	0.01	1.46	0.00	Wider flood cell	North Road residential area
56	1.88	1.88	1.88	1.39	1.39	0.00	1.38	0.00	Wider flood cell	North Road residential area
57	2.02	2.02	2.03	1.16	1.16	0.00	1.18	0.01	Wider flood cell	Belvedere Infant School
58	1.45	1.49	1.46	0.32	0.36	0.04	0.33	0.01	Wider flood cell	Veridion Park
59	1.49	1.51	1.50	0.54	0.56	0.02	0.55	0.01	Wider flood cell	Northwood Primary School
60	1.38	1.41	1.38	0.11	0.14	0.03	0.12	0.01	Wider flood cell	Residential area south of railway
61	1.45	1.46	1.45	0.82	0.84	0.02	0.83	0.01	Wider flood cell	Yarnton Way Nursery
62	1.38	1.41	1.39	0.31	0.34	0.03	0.32	0.01	Wider flood cell	Parkway Primary School
63	1.37	1.39	1.37	0.34	0.37	0.03	0.35	0.01	Wider flood cell	Harris Garrard Academy
64	1.12	1.14	1.12	0.10	0.12	0.02	0.10	0.00	Wider flood cell	Willow Bank Primary School
65									Wider flood cell	Residential area
66	1.38	1.38	1.38	0.21	0.21	0.00	0.21	0.00	Wider flood cell	Residential area
67	0.96	1.00	0.97	0.46	0.50	0.04	0.47	0.01	Wider flood cell	Weybourne Care Home
68									Wider flood cell	St Paul's Academy
69	1.46	1.48	1.46	0.39	0.42	0.03	0.40	0.01	Wider flood cell	West of Crossness STW

ANNEX B: FIGURES



LEGEND:

Site Boundary

Platform Level Difference (m)

- Below -1.05
- -1.05 - -0.9
- -0.9 - -0.75
- -0.75 - -0.6
- -0.6 - -0.45
- -0.45 - -0.3
- -0.3 - -0.15
- -0.15 - -0.01
- -0.01 - 0.01
- 0.01 - 0.15
- 0.15 - 0.3
- 0.3 - 0.45
- 0.45 - 0.6
- 0.6 - 0.75
- 0.75 - 0.9
- Above 0.90

WSP, 6 Devonshire Square
London, EC2M 4YE
Tel: +44 (0) 20 7337 1700
www.wsp.com

CLIENT: Cory Environmental Holdings Ltd

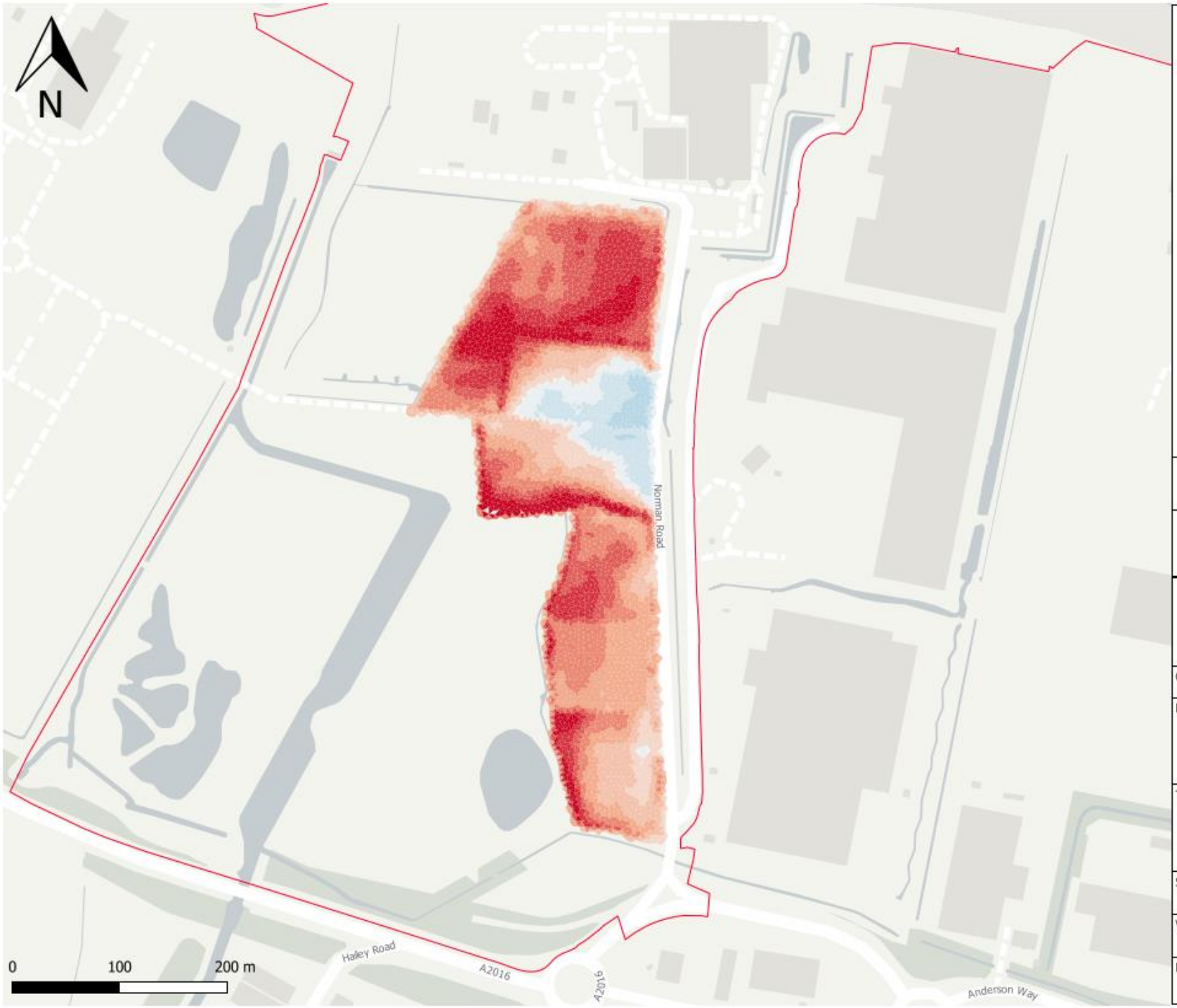
PROJECT: Cory Decarbonisation Project

TITLE: Platform Level Difference 1.1mAOD (North) / 1.3mAOD (South)

SCALE @A3:	CHECKED:	APPROVED:
1:3250	BV	JG

VERSION:	DRAWN:	
1	09/01/25	

PROJECT No:	DRAWING No:	REV:
70090329	Figure 1	P01



LEGEND:

Site Boundary

Platform Level Difference (m)

- Below -1.05
- -1.05 - -0.9
- -0.9 - -0.75
- -0.75 - -0.6
- -0.6 - -0.45
- -0.45 - -0.3
- -0.3 - -0.15
- -0.15 - -0.01
- -0.01 - 0.01
- 0.01 - 0.15
- 0.15 - 0.3
- 0.3 - 0.45
- 0.45 - 0.6
- 0.6 - 0.75
- 0.75 - 0.9
- Above 0.90

WSP, 6 Devonshire Square
London, EC2M 4YE
Tel: +44 (0) 20 7337 1700
www.wsp.com

CLIENT: Cory Environmental Holdings Ltd

PROJECT: Cory Decarbonisation Project

TITLE: Platform Level Difference 1.3mAOD (North) / 1.5mAOD (South)

SCALE @A3:	CHECKED:	APPROVED:
1:3250	BV	JG

VERSION:	DRAWN:	
1	09/01/25	

PROJECT No:	DRAWING No:	REV:
70090329	Figure 2	P01

LEGEND:

- Site Boundary
- Buildings
- Roughness Areas

Platform Raised Area

- North
- South

WSP, 6 Devonshire Square
London, EC2M 4YE
Tel: +44 (0) 20 7337 1700
www.wsp.com

CLIENT:	Cory Environmental Holdings Ltd
PROJECT:	Cory Decarbonisation Project
TITLE:	Option 1 Layout

SCALE @A3:	CHECKED:	APPROVED:
1:3250	BV	JG
VERSION: 1	DRAWN: 09/01/25	
PROJECT No: 70090329	DRAWING No: Figure 3	REV: P01

LEGEND:

- Site Boundary
- Buildings
- Roughness Areas

Platform Raised Area

- North
- South

WSP, 6 Devonshire Square
London, EC2M 4YE
Tel: +44 (0) 20 7337 1700
www.wsp.com

CLIENT:	Cory Environmental Holdings Ltd
PROJECT:	Cory Decarbonisation Project
TITLE:	Option 2 Layout

SCALE @A3:	CHECKED:	APPROVED:
1:3250	BV	JG
VERSION: 1	DRAWN: 09/01/25	
PROJECT No: 70090329	DRAWING No: Figure 4	REV: P01

WSP, 6 Devonshire Square
London, EC2M 4YE
Tel: +44 (0) 20 7337 1700
www.wsp.com

CLIENT: Cory Environmental Holdings Ltd

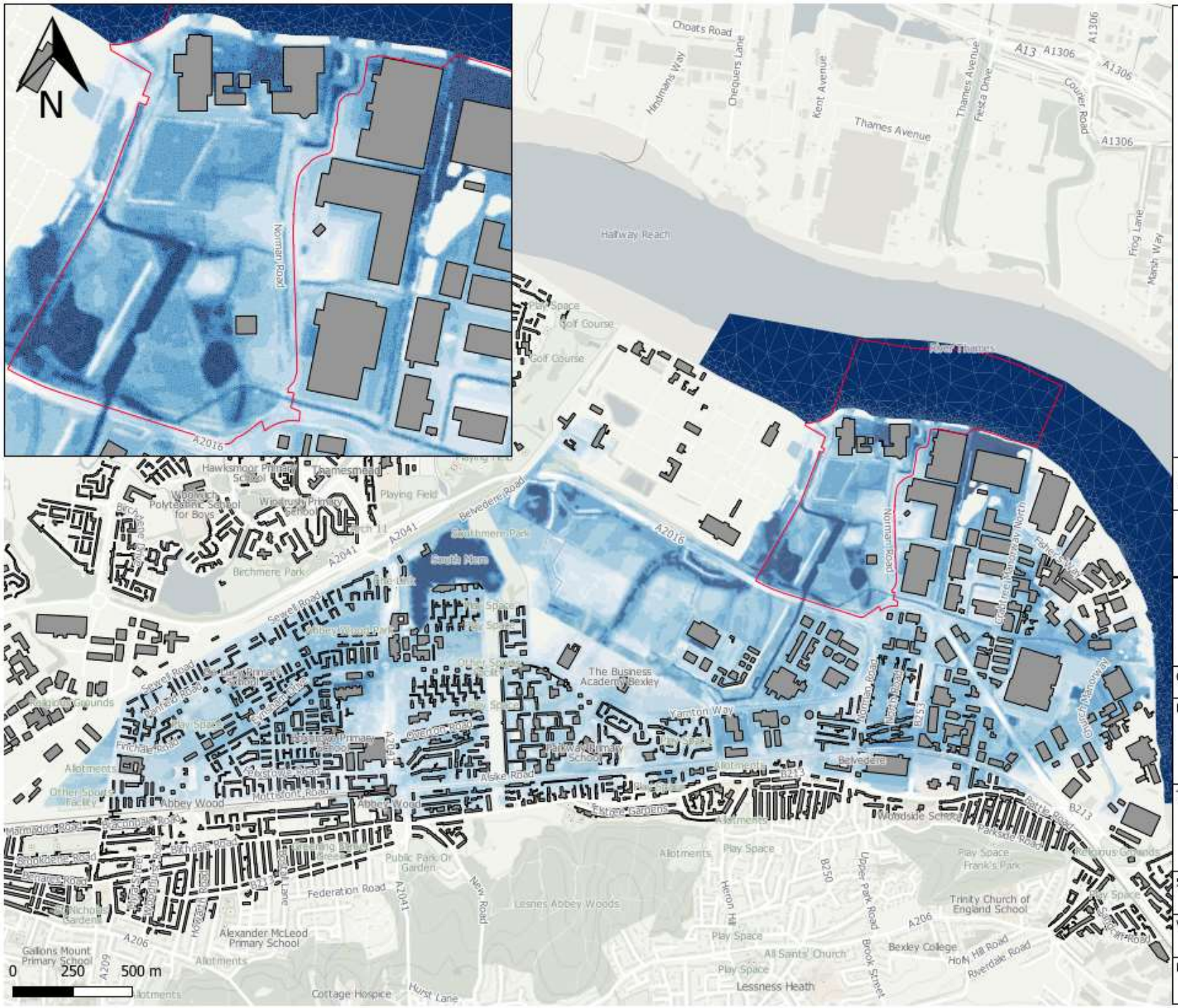
PROJECT: Cory Decarbonisation Project

TITLE: Point Locations

SCALE @A3:	CHECKED:	APPROVED:
1:14500	BV	JG

VERSION:	DRAWN:	
1	09/01/25	

PROJECT No:	DRAWING No:	REV:
70090329	Figure 5	P01



LEGEND:

- Site Boundary
- Buildings

Flood Depth (m)

- 0
- 0 - 0.3
- 0.3 - 0.6
- 0.6 - 0.9
- 0.9 - 1.2
- 1.2 - 1.5
- 1.5 - 1.8
- 1.8 - 2.1
- 2.1 - 2.4

WSP, 6 Devonshire Square
London, EC2M 4YE
Tel: +44 (0) 20 7337 1700
www.wsp.com

CLIENT: Cory Environmental Holdings Ltd

PROJECT: Cory Decarbonisation Project

TITLE: Cory Thames Estuary Breach Model
Flood Depths
All Breach Locations | Baseline

SCALE @A3:	CHECKED:	APPROVED:
1:16000	BV	JG
VERSION: 1	DRAWN: 09/01/25	
PROJECT No: 70090329	DRAWING No: Figure 6	REV: P01

WSP, 6 Devonshire Square
London, EC2M 4YE
Tel: +44 (0) 20 7337 1700
www.wsp.com

CLIENT: Cory Environmental Holdings Ltd

PROJECT: Cory Decarbonisation Project

TITLE: Cory Thames Estuary Breach Model
Depth Difference to Baseline
All Breach Locations | Glass Wall

SCALE @A3:	CHECKED:	APPROVED:
1:16000	BV	JG
VERSION: 1	DRAWN: 09/01/25	
PROJECT No: 70090329	DRAWING No: Figure 7	REV: P01

LEGEND:

- Site Boundary
- Buildings

Flood Depth Difference (m)

- Below -0.10
- -0.1 - -0.05
- -0.05 - -0.01
- -0.01 - 0
- 0 - 0.01
- 0.01 - 0.05
- 0.05 - 0.15
- 0.15 - 0.3
- 0.3 - 0.5
- Above 0.50

WSP, 6 Devonshire Square
London, EC2M 4YE
Tel: +44 (0) 20 7337 1700
www.wsp.com

CLIENT: Cory Environmental Holdings Ltd

PROJECT: Cory Decarbonisation Project

TITLE: Cory Thames Estuary Breach Model
Depth Difference to Baseline
Breach Location 4 | Option 1
Platform Level 1.1mAOD North & 1.3mAOD South

SCALE @A3:	CHECKED:	APPROVED:
1:3250	BV	JG

VERSION:	DRAWN:	
1	09/01/25	

PROJECT No:	DRAWING No:	REV:
70090329	Figure 8	P01

LEGEND:

- Site Boundary
- Buildings

Flood Depth Difference (m)

- Below -0.10
- -0.1 - -0.05
- -0.05 - -0.01
- -0.01 - 0
- 0 - 0.01
- 0.01 - 0.05
- 0.05 - 0.15
- 0.15 - 0.3
- 0.3 - 0.5
- Above 0.50

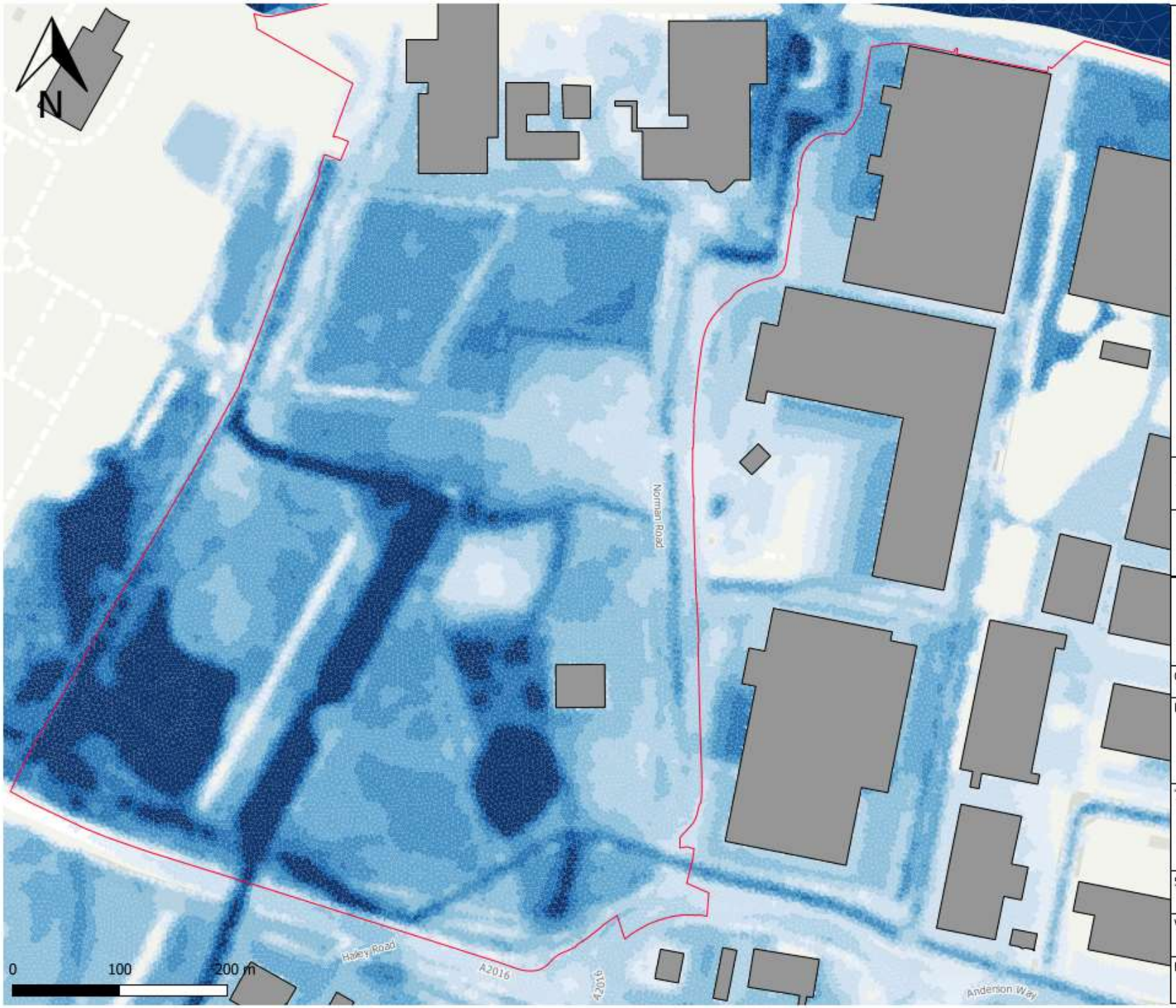
WSP, 6 Devonshire Square
London, EC2M 4YE
Tel: +44 (0) 20 7337 1700
www.wsp.com

CLIENT: Cory Environmental Holdings Ltd

PROJECT: Cory Decarbonisation Project

TITLE: Cory Thames Estuary Breach Model
Depth Difference to Baseline
Breach Location 4 | Option 2
Platform Level 1.1mAOD North & 1.3mAOD South

SCALE @A3:	CHECKED:	APPROVED:
1:3250	BV	JG
VERSION: 1	DRAWN: 09/01/25	
PROJECT No: 70090329	DRAWING No: Figure 9	REV: P01



LEGEND:

- Site Boundary
- Buildings

Flood Depth (m)

- 0
- 0 - 0.3
- 0.3 - 0.6
- 0.6 - 0.9
- 0.9 - 1.2
- 1.2 - 1.5
- 1.5 - 1.8
- 1.8 - 2.1
- 2.1 - 2.4
- Above 2.4

WSP, 6 Devonshire Square
London, EC2M 4YE
Tel: +44 (0) 20 7337 1700
www.wsp.com

CLIENT: Cory Environmental Holdings Ltd

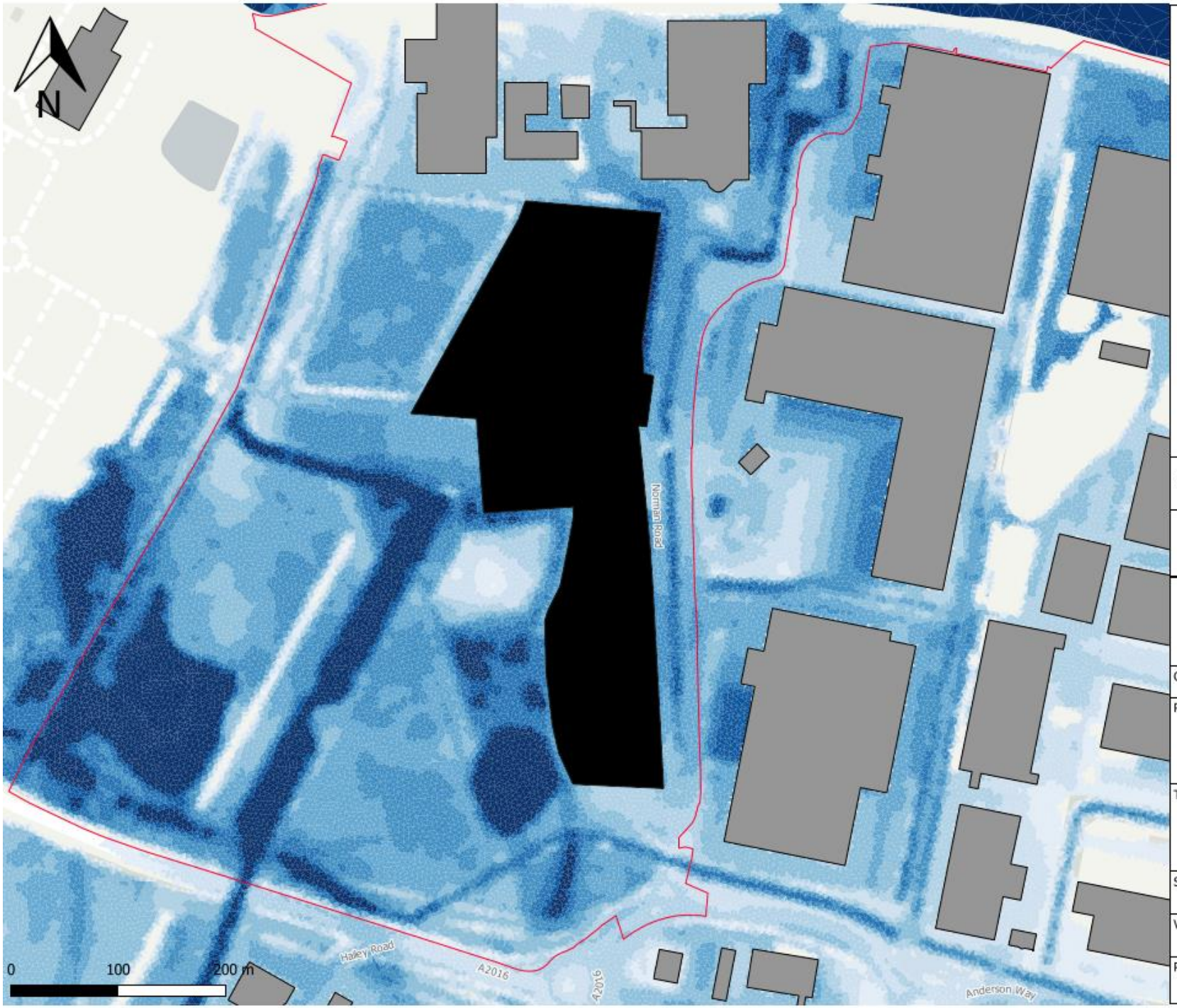
PROJECT: Cory Decarbonisation Project

TITLE: Cory Thames Estuary Breach Model
Flood Depths
Breach Location 4 | Baseline

SCALE @A3:	CHECKED:	APPROVED:
1:3250	BV	JG

VERSION:	DRAWN:	
1	09/01/25	

PROJECT No:	DRAWING No:	REV:
70090329	Figure 10	P01



LEGEND:

- Site Boundary
- Buildings
- Platform (Glass Wall)

Flood Depth (m)

- 0
- 0 - 0.3
- 0.3 - 0.6
- 0.6 - 0.9
- 0.9 - 1.2
- 1.2 - 1.5
- 1.5 - 1.8
- 1.8 - 2.1
- 2.1 - 2.4
- Above 2.4

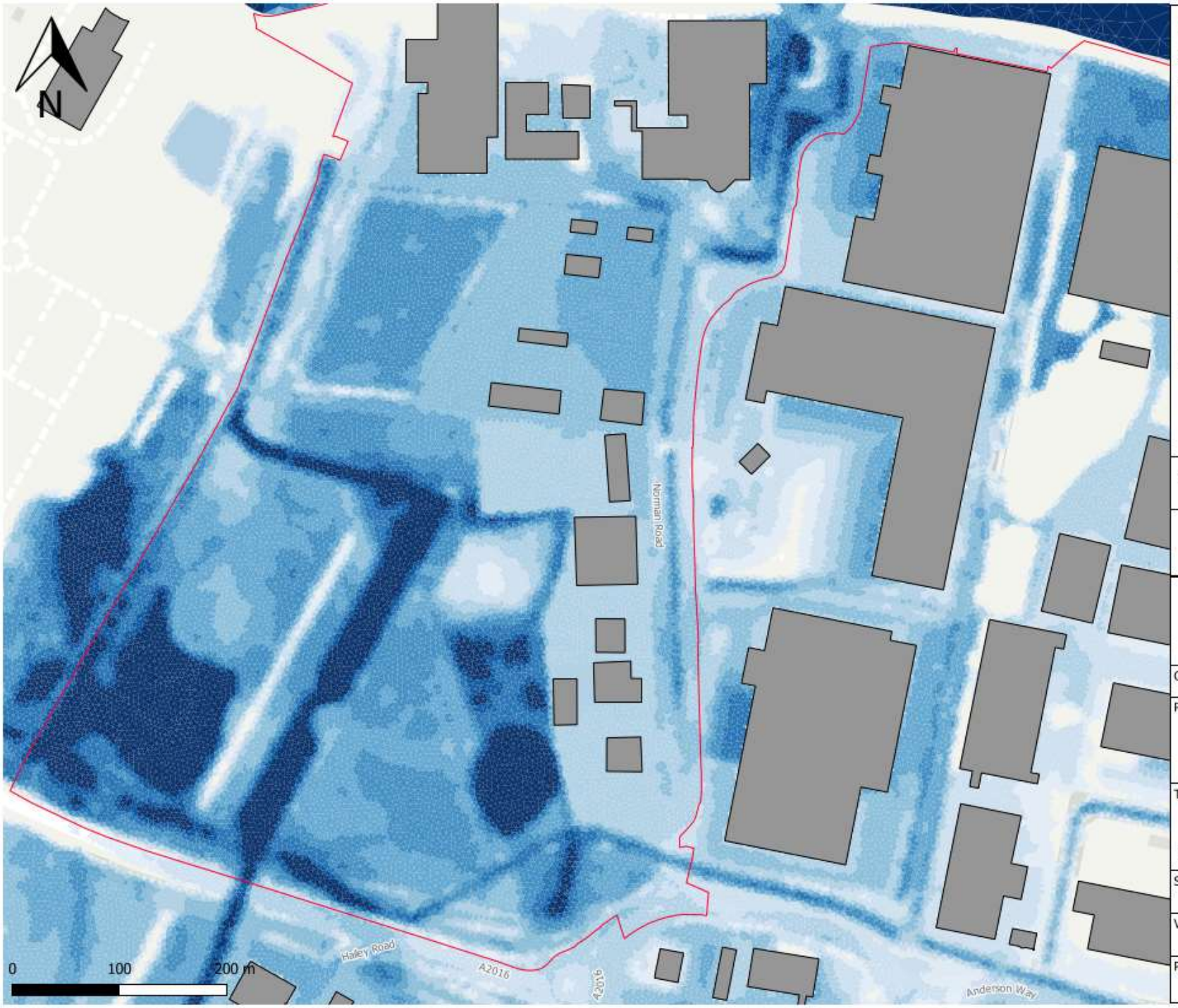
WSP, 6 Devonshire Square
London, EC2M 4YE
Tel: +44 (0) 20 7337 1700
www.wsp.com

CLIENT: Cory Environmental Holdings Ltd

PROJECT: Cory Decarbonisation Project

TITLE: Cory Thames Estuary Breach Model
Flood Depths
Breach Location 4 | Glass Wall

SCALE @A3:	CHECKED:	APPROVED:
1:3250	BV	JG
VERSION: 1	DRAWN: 09/01/25	
PROJECT No: 70090329	DRAWING No: Figure 11	REV: P01



LEGEND:

- Site Boundary
- Buildings

Flood Depth (m)

- 0
- 0 - 0.3
- 0.3 - 0.6
- 0.6 - 0.9
- 0.9 - 1.2
- 1.2 - 1.5
- 1.5 - 1.8
- 1.8 - 2.1
- 2.1 - 2.4
- Above 2.4

WSP, 6 Devonshire Square
London, EC2M 4YE
Tel: +44 (0) 20 7337 1700
www.wsp.com

CLIENT: Cory Environmental Holdings Ltd

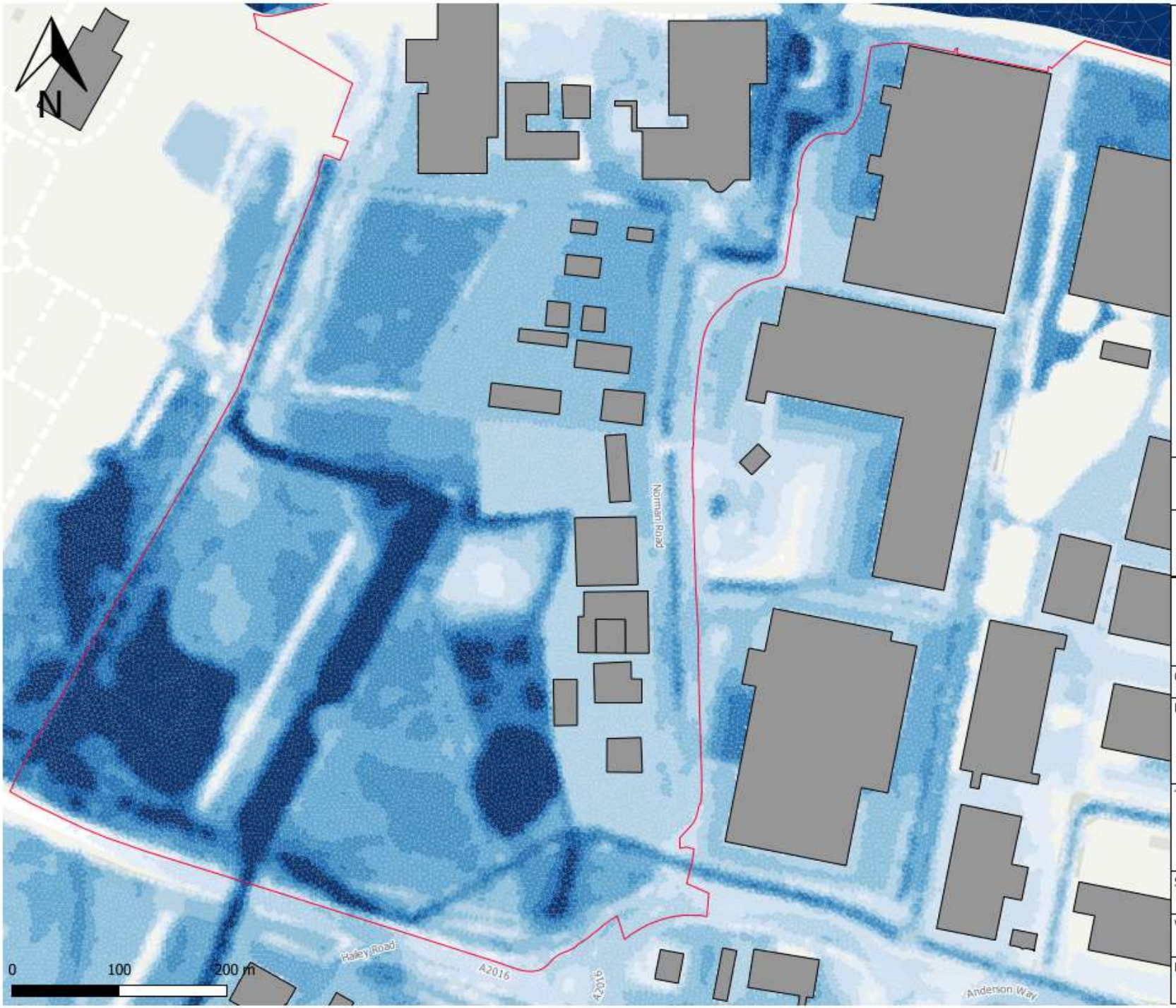
PROJECT: Cory Decarbonisation Project

TITLE: Cory Thames Estuary Breach Model
Flood Depths
Breach Location 4 | Option 1
Platform Level 1.1mAOD North & 1.3mAOD South

SCALE @A3:	CHECKED:	APPROVED:
1:3250	BV	JG

VERSION:	DRAWN:	
1	09/01/25	

PROJECT No:	DRAWING No:	REV:
70090329	Figure 12	P01



LEGEND:

- Site Boundary
- Buildings

Flood Depth (m)

- 0
- 0 - 0.3
- 0.3 - 0.6
- 0.6 - 0.9
- 0.9 - 1.2
- 1.2 - 1.5
- 1.5 - 1.8
- 1.8 - 2.1
- 2.1 - 2.4
- Above 2.4

WSP, 6 Devonshire Square
London, EC2M 4YE
Tel: +44 (0) 20 7337 1700
www.wsp.com

CLIENT: Cory Environmental Holdings Ltd

PROJECT: Cory Decarbonisation Project

TITLE: Cory Thames Estuary Breach Model
Flood Depths
Breach Location 4 | Option 2
Platform Level 1.1mAOD North & 1.3mAOD South

SCALE @A3:	CHECKED:	APPROVED:
1:3250	BV	JG

VERSION:	DRAWN:	
1	09/01/25	

PROJECT No:	DRAWING No:	REV:
70090329	Figure 13	P01

LEGEND:

- Site Boundary
- Buildings

Flood Depth Difference (m)

- Below -0.10
- -0.1 - -0.05
- -0.05 - -0.01
- -0.01 - 0
- 0 - 0.01
- 0.01 - 0.05
- 0.05 - 0.15
- 0.15 - 0.3
- 0.3 - 0.5
- Above 0.50

WSP, 6 Devonshire Square
London, EC2M 4YE
Tel: +44 (0) 20 7337 1700
www.wsp.com

CLIENT: Cory Environmental Holdings Ltd

PROJECT: Cory Decarbonisation Project

TITLE: Cory Thames Estuary Breach Model
Depth Difference to Baseline
Breach Location 1 | Option 2
Platform Level 1.1mAOD North & 1.3mAOD South

SCALE @A3:	CHECKED:	APPROVED:
1:3250	BV	JG
VERSION: 1	DRAWN: 09/01/25	
PROJECT No: 70090329	DRAWING No: Figure 14	REV: P01

LEGEND:

- Site Boundary
- Buildings

Flood Depth Difference (m)

- Below -0.10
- -0.1 - -0.05
- -0.05 - -0.01
- -0.01 - 0
- 0 - 0.01
- 0.01 - 0.05
- 0.05 - 0.15
- 0.15 - 0.3
- 0.3 - 0.5
- Above 0.50

WSP, 6 Devonshire Square
London, EC2M 4YE
Tel: +44 (0) 20 7337 1700
www.wsp.com

CLIENT: Cory Environmental Holdings Ltd

PROJECT: Cory Decarbonisation Project

TITLE: Cory Thames Estuary Breach Model
Depth Difference to Baseline
Breach Location 6 | Option 2
Platform Level 1.1mAOD North & 1.3mAOD South

SCALE @A3:	CHECKED:	APPROVED:
1:3250	BV	JG

VERSION:	DRAWN:	
1	09/01/25	

PROJECT No:	DRAWING No:	REV:
70090329	Figure 15	P01

LEGEND:

- Site Boundary
- Buildings

Flood Depth Difference (m)

- Below -0.10
- -0.1 - -0.05
- -0.05 - -0.01
- -0.01 - 0
- 0 - 0.01
- 0.01 - 0.05
- 0.05 - 0.15
- 0.15 - 0.3
- 0.3 - 0.5
- Above 0.50

WSP, 6 Devonshire Square
London, EC2M 4YE
Tel: +44 (0) 20 7337 1700
www.wsp.com

CLIENT: Cory Environmental Holdings Ltd

PROJECT: Cory Decarbonisation Project

TITLE: Cory Thames Estuary Breach Model
Depth Difference to Baseline
Breach Location 4 | Option 1
Platform Level 1.3mAOD North & 1.5mAOD South

SCALE @A3:	CHECKED:	APPROVED:
1:3250	BV	JG
VERSION: 1	DRAWN: 09/01/25	
PROJECT No: 70090329	DRAWING No: Figure 16	REV: P01

LEGEND:

- Site Boundary
- Buildings

Flood Depth Difference (m)

- Below -0.10
- -0.1 - -0.05
- -0.05 - -0.01
- -0.01 - 0
- 0 - 0.01
- 0.01 - 0.05
- 0.05 - 0.15
- 0.15 - 0.3
- 0.3 - 0.5
- Above 0.50

WSP, 6 Devonshire Square
London, EC2M 4YE
Tel: +44 (0) 20 7337 1700
www.wsp.com

CLIENT: Cory Environmental Holdings Ltd

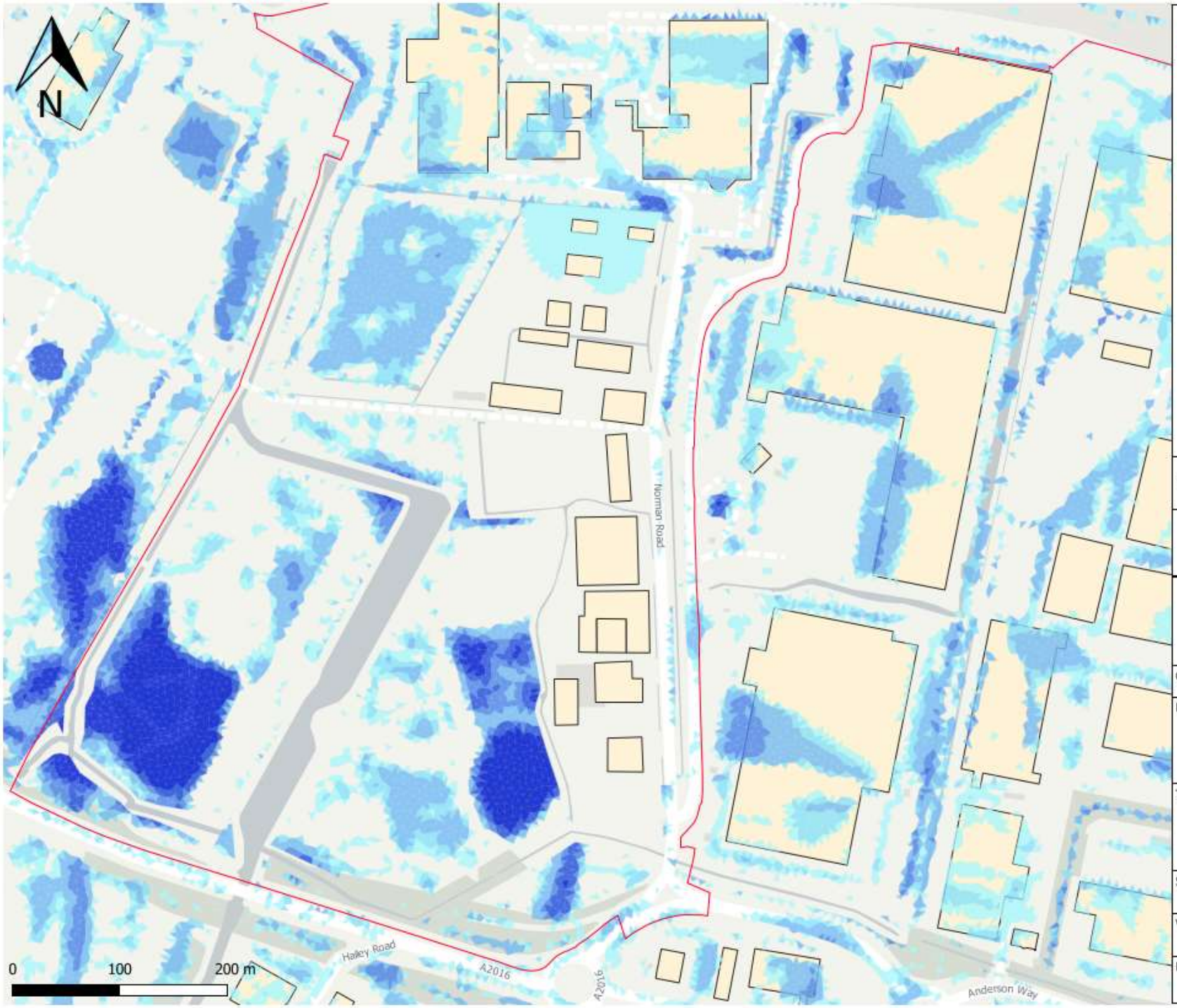
PROJECT: Cory Decarbonisation Project

TITLE: Cory Thames Estuary Breach Model
Depth Difference to Baseline
Breach Location 4 | Option 2
Platform Level 1.3mAOD North & 1.5mAOD South

SCALE @A3:	CHECKED:	APPROVED:
1:3250	BV	JG

VERSION:	DRAWN:	
1	09/01/25	

PROJECT No:	DRAWING No:	REV:
70090329	Figure 17	P01



LEGEND:

Site Boundary

Great Breach Pump Failure
1% AEP 40%CC SW70%CC
Depths (m)

- 0.01m - 0.05m
- 0.05m - 0.1m
- 0.1m - 0.3m
- 0.3m - 0.5m
- 0.5m - 1m
- >1m

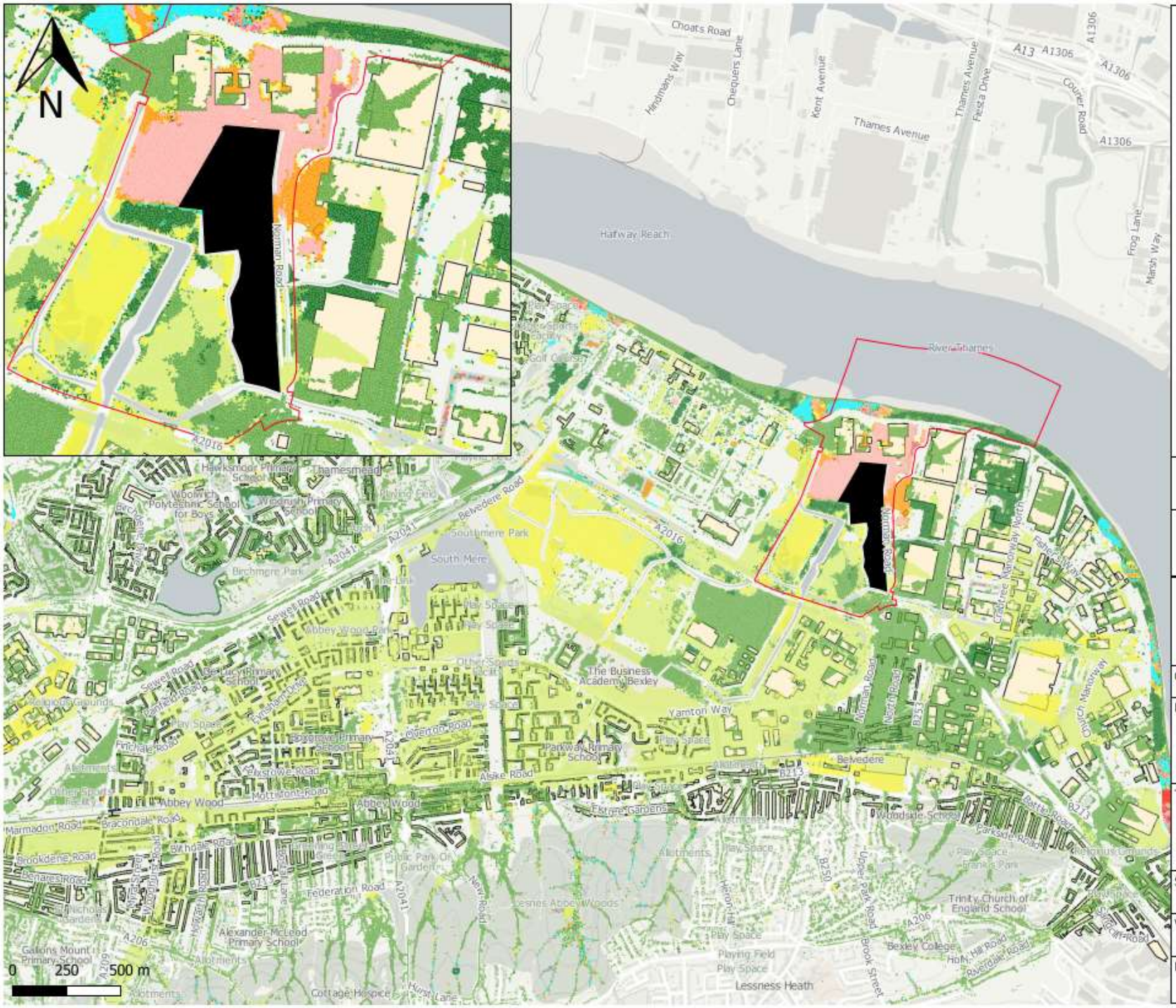
WSP, 6 Devonshire Square
London, EC2M 4YE
Tel: +44 (0) 20 7337 1700
www.wsp.com

CLIENT:	Cory Environmental Holdings Ltd
PROJECT:	Cory Decarbonisation Project
TITLE:	Cory Marsh Dykes ICM Model Great Breach Pump Failure Flood Depths Platform level 1.1mAOD north & 1.3mAOD south

SCALE @A3:	CHECKED:	APPROVED:
1:3250	BV	JG

VERSION:	DRAWN:	
1	09/01/25	

PROJECT No:	DRAWING No:	REV:
70090329	Figure 18	P01



LEGEND:

- Site Boundary
- Platforms

Great Breach Dyke Breach
1% AEP 40%CC SW70%CC
Level Difference (m)

- Below -0.10
- -0.1 - -0.05
- -0.05 - -0.01
- -0.01 - 0.0
- 0.0 - 0.01
- 0.01 - 0.05
- 0.05 - 0.15
- 0.15 - 0.3
- 0.3 - 0.5
- >0.5m

WSP, 6 Devonshire Square
London, EC2M 4YE
Tel: +44 (0) 20 7337 1700
www.wsp.com

CLIENT: Cory Environmental Holdings Ltd

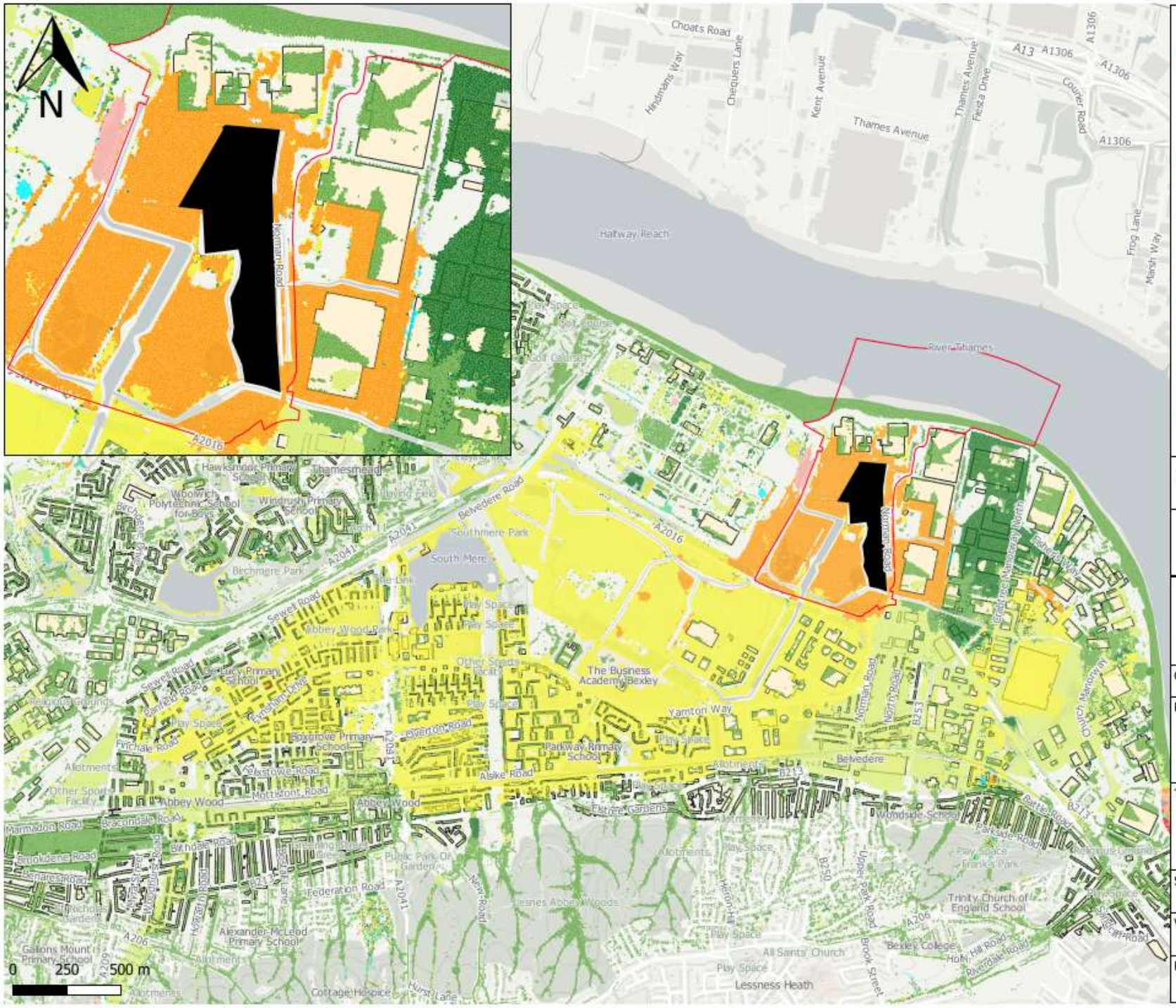
PROJECT: Cory Decarbonisation Project

TITLE: Cory Marsh Dykes ICM Breach Model
Level Difference to Baseline
Great Breach Pumping Station
Glass Wall Approach

SCALE @A3:	CHECKED:	APPROVED:
1:16000	BV	JG

VERSION:	DRAWN:	
1	09/01/25	

PROJECT No:	DRAWING No:	REV:
70090329	Figure 19	P01



LEGEND:

- Site Boundary
- Platforms

Green Level Breach
1% AEP 40%CC SW70%CC
Level Difference (m)

- Below -0.10
- -0.1 - -0.05
- -0.05 - -0.01
- -0.01 - 0.0
- 0.0 - 0.01
- 0.01 - 0.05
- 0.05 - 0.15
- 0.15 - 0.3
- 0.3 - 0.5
- >0.5m

WSP, 6 Devonshire Square
London, EC2M 4YE
Tel: +44 (0) 20 7337 1700
www.wsp.com

CLIENT: Cory Environmental Holdings Ltd

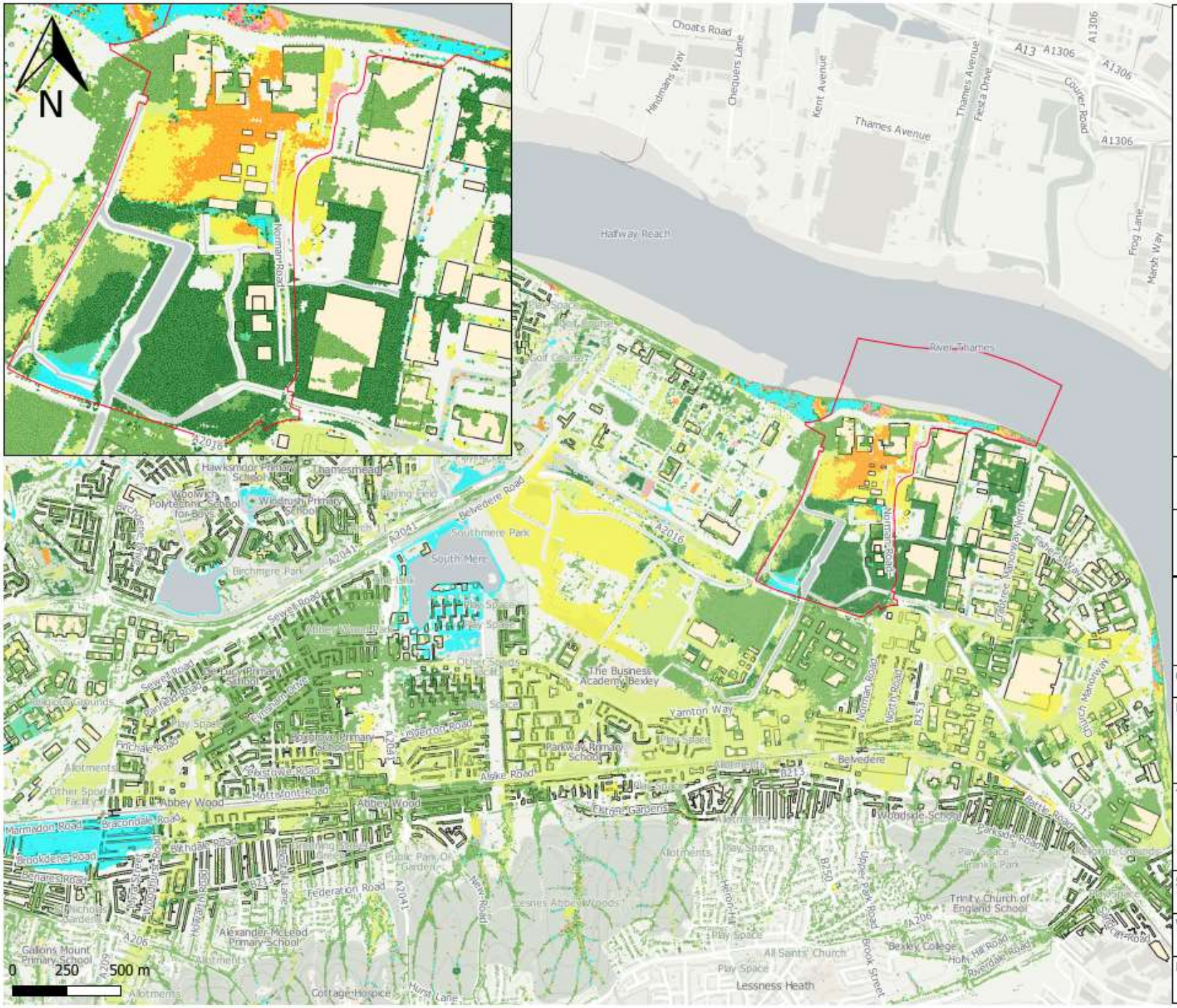
PROJECT: Cory Decarbonisation Project

TITLE: Cory Marsh Dykes ICM Breach Model
Level Difference to Baseline
Green Levels Pumping Station
Glass Wall Approach

SCALE @A3:	CHECKED:	APPROVED:
1:16000	BV	JG

VERSION:	DRAWN:	
1	09/01/25	

PROJECT No:	DRAWING No:	REV:
70090329	Figure 20	P01



LEGEND:

- Site Boundary

Great Breach Dyke Breach
1% AEP 40%CC SW70%CC
Level Difference (m)

- Below -0.10
- -0.1 - -0.05
- -0.05 - -0.01
- -0.01 - 0.0
- 0.0 - 0.01
- 0.01 - 0.05
- 0.05 - 0.15
- 0.15 - 0.3
- 0.3 - 0.5
- >0.5m
- Option 2 Buildings

WSP, 6 Devonshire Square
London, EC2M 4YE
Tel: +44 (0) 20 7337 1700
www.wsp.com

CLIENT: Cory Environmental Holdings Ltd

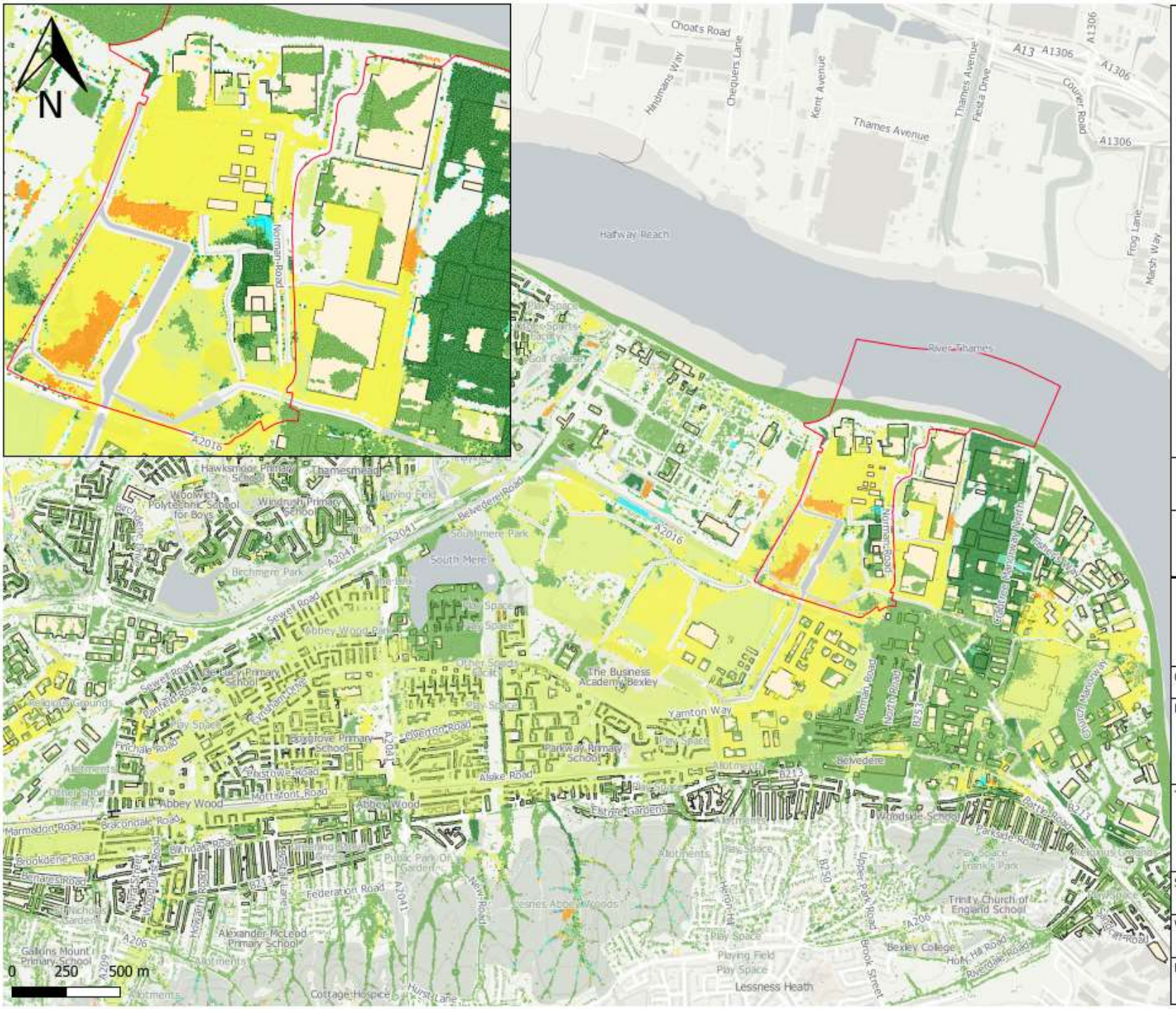
PROJECT: Cory Decarbonisation Project

TITLE: Cory Marsh Dykes ICM Breach Model
Level Difference to Baseline
Great Breach Pumping Station
Option 2 Layout
Platform level 1.1mAOD north & 1.3mAOD south

SCALE @A3:	CHECKED:	APPROVED:
1:16000	BV	JG

VERSION:	DRAWN:	
1	09/01/25	

PROJECT No:	DRAWING No:	REV:
70090329	Figure 21	P01



LEGEND:

- Site Boundary

Green Level Breach
1% AEP 40%CC SW70%CC
Level Difference (m)

- Below -0.10
- -0.1 - -0.05
- -0.05 - -0.01
- -0.01 - 0.0
- 0.0 - 0.01
- 0.01 - 0.05
- 0.05 - 0.15
- 0.15 - 0.3
- 0.3 - 0.5
- >0.5m
- Option 2 Buildings

WSP, 6 Devonshire Square
London, EC2M 4YE
Tel: +44 (0) 20 7337 1700
www.wsp.com

CLIENT: Cory Environmental Holdings Ltd

PROJECT: Cory Decarbonisation Project

TITLE: Cory Marsh Dykes ICM Breach Model
Level Difference to Baseline
Green Levels Pumping Station
Option 2 Layout
Platform level 1.1mAOD north & 1.3mAOD south

SCALE @A3:	CHECKED:	APPROVED:
1:16000	BV	JG
VERSION: 1	DRAWN: 09/01/25	
PROJECT No: 70090329	DRAWING No: Figure 22	REV: P01

ANNEX C: SUMMARY OF UPDATED DRAINAGE STRATEGY

INTRODUCTION

Lowering the platform level to reduce changes to residual flood risk will alter aspects currently presented in the **Outline Drainage Strategy (AS-027)**. This annex provides a summary of a preliminary assessment of the implications on the surface water and foul drainage proposals. The key design principles as set out within the **Outline Drainage Strategy (AS-027)** will however not change. In particular, this annex demonstrates how proposed discharge rates, attenuation volumes and outfall to the adjacent ditch network / Thames Water sewerage network (as appropriate) can be maintained as presented in the **Outline Drainage Strategy (AS-027)**.

As set out in the main body of this Technical Note, the Applicant has brought forward the review of the Development Platform in terms of its layout and level to present results that are more reflective of the developing design of the Proposed Scheme. The current approach as assessed in the **Outline Drainage Strategy (AS-027)** considered a minimum platform level of 2.8m AOD which was selected to present a worst-case scenario to the potential impacts of the Proposed Scheme on flood risk in the event of breach of the Thames tidal flood defences. The alternative development scenarios that have been considered for the Proposed Scheme instead identify only those items of equipment that are most sensitive and therefore require protection. To this end, the Development Platform would be lowered to a level more commensurate with adjacent ground levels, and only individual items of equipment would be raised or protected.

Two scenarios for the revised platform levels have been assessed in the main body of this Appendix:

- Platform Scenario 1: with a level of 1.1m AOD to the north of the Thames Water Access Road, and a level of 1.3m AOD to the south of the Thames Water Access Road.
- Platform Scenario 2: with a level of 1.3m AOD to the north of the Thames Water Access Road, and a level of 1.5m AOD to the south of the Thames Water Access Road.

These levels have been informed by a review of the existing Site topography and adjacent ground levels, maintaining a platform level that is generally slightly above adjacent ground levels. **Figure 1** and **Figure 2** in **Annex B** illustrate the difference in proposed platform level compared to existing ground levels within the footprint of the Development Platform. These platform levels have been used to evaluate the implications for the proposed **Outline Drainage Strategy (AS-027)** and how the strategy could be adapted to achieve the same design principles.

This annex should be read in conjunction with the following documents:

- **Outline Drainage Strategy (AS-027)**.

- Updated Drainage Strategy sketches included within this annex, referenced:
  - EN010128-01-XX-DG-DR-0006-P01
  - EN010128-01-XX-DG-DR-0007-P01
  - EN010128-01-XX-DG-DR-0008-P01

The implications of the two scenarios for the alternative level of the Development Platform on indicative pipe cover and invert levels are highlighted in these sketches using black (Platform Scenario 1) and red (Platform Scenario 2) text.

SURFACE WATER DRAINAGE STRATEGY

The current surface water drainage network as set out in **Outline Drainage Strategy (AS-027)** is proposed as a gravity-fed system designed to drain all operational areas and access roads, discharging runoff into the adjacent ditch network via twelve outfall points at a total greenfield Qbar runoff rate of 22.8l/s, requiring a total attenuation volume of up to 3807m^3.

GREENFIELD RUNOFF RATE, QBAR

A summary of the discharge rates relevant to the outfall locations as presented in **Outline Drainage Strategy (AS-027)** is included in **Table C1** below:

Table C3 - Summary of Discharge Rates

Area Drained & Outfall Reference*	Qbar Discharge Rate (l/s)
Total North (Outfall 1-5)	12.0
Total Central (Outfall 6-10)	7.5
Total South (Outfall 11-12)	3.3
Total	**22.8**

*With reference to **Outline Drainage Strategy (AS-027)**.

EXISTING RECEIVING WATERCOURSE NETWORK

The existing open watercourses surrounding the Development Platform consist of an interconnected ditch system. Water levels within these ditches are controlled by the existing Environment Agency operated surface water pumping stations (Great Breach Pumping Station located to the north-west of the Site and Green Level Pumping Station located approximately 1.6km to the east of the Site).

The alternative platform level scenarios that are being considered in this Annex will limit the ability to deliver flows to the ditches by gravity due to the shallow existing bed levels of the receiving ditches (ranging between -0.15m AOD and -0.3m AOD in the north; -0.35m AOD and -0.76m AOD in the centre; and 0.0m AOD in the south of the Site). The reassessment of invert levels has confirmed that a combination of gravity-fed systems and pumping stations will be required to drain the Development Platform to the same receiving ditches.

PROPOSED UPDATES TO THE SURFACE WATER DRAINAGE STRATEGY

An alternative approach to the current surface water drainage strategy has been considered to facilitate the intended lowering of the Development Platform whilst maintaining the key design principles proposed in **Outline Drainage Strategy (AS-027)**. The alternative approach proposes two separate pumped surface water networks (referred to as the North and South catchments) that will discharge to the adjacent ditch network. A preliminary layout is provided in the following sketches included within this Annex:

- EN010128-01-XX-DG-DR-0006-P01
- EN010128-01-XX-DG-DR-0007-P01
- EN010128-01-XX-DG-DR-0008-P01

As per the **Outline Drainage Strategy (AS-027)**, a more detailed assessment of surface water drainage catchments and sub-catchments will be undertaken to inform the detailed design stage. This will confirm the number and most suitable locations of pumping stations and outfalls required into the existing ditch network.

FLOW CONTROLS

Surace water discharge rates from the Development Platform will be maintained to the existing greenfield runoff rates either by the use of proprietary gravity-based flow controls (e.g. vortex flow systems like Hydrobrakes) or mechanically operated flow control systems (pumping stations), calibrated to maintain the greenfield Qbar discharge rate as previously proposed for each catchment in **Outline Drainage Strategy (AS-027)**. The choice between the flow control systems or a combination of both (vortex flow control systems or calibrated pumps) to discharge to the greenfield runoff rates will be confirmed at the detailed design stage.

The total greenfield runoff rate will remain consistent with the total rate proposed within the **Outline Drainage Strategy (AS-027)** as presented in **Table C1** above.

ATTENUATION VOLUMES

Total attenuation volumes will remain consistent with those proposed within the **Outline Drainage Strategy (AS-027)** to maintain discharge to existing greenfield runoff rates, provided the proposed impermeable areas remain unchanged.

Attenuation storage requirements for the revised North and South catchments required to support the proposed lowering of the Development Platform are presented in **Table C2** below. The attenuation volumes from the previously agreed **Outline Drainage Strategy (AS-027)** have been presented in **Table C3** for comparison. Overall, there is no change anticipated in the total discharge rate and storage requirements for the Proposed Development.

Table C4 – Summary of Attenuation Storage Requirements for the Updated Development Platform Levels

Revised Catchment and Outfall Reference	Total Area (Ha)	Total Impermeable Area (Ha)	Discharge Rate Qbar (l/s)	Total Attenuation Storage Requirement (1 in 100yr + 40% cc) (m^3)	Details of Storage Provision Location				
					Storage In Piped Network (m^3)	10% Storage on Plot (m^3)	Additional On Plot Storage (m^3)	Modular Crates (m^3)	Pond (m^3)
North (Outfall 1)	3.04	1.8	12.0	2048	*102*	*205*	*0*	*1590*	*220*
South (Outfall 2)	2.43	1.54	10.8	1759	*88*	*176*	*200*	*667*	*660*
Total	**5.47**	**3.34**	**22.8**	**3807**	***190***	***381***	***200***	***2257***	***880***

Table C5 – Summary of Previous Attenuation Storage Requirements for the 2.8m AOD Development Platform Level

Revised Catchment and Outfall Reference	Total Area (Ha)	Total Impermeable Area (Ha)	Discharge Rate Qbar (l/s)	Total Attenuation Storage Requirement (1 in 100yr + 40% cc) (m^3)	Details of Storage Provision Location				
					Storage In Piped Network (m^3)	10% Storage on Plot (m^3)	Additional On Plot Storage (m^3)	Modular Crates (m^3)	Pond (m^3)
Total North (Outfall 1-5)	3.04	1.8	12.0	2048	*102*	*205*	*0*	*1590*	*220*
Total Central (Outfall 6-10)	1.78	0.89	7.5	983	*49*	*98*	*200*	*667*	*0*
Total South (Outfall 11-12)	0.65	0.65	3.3	776	*39*	*78*	*0*	*0*	*660*
Total	**5.47**	**3.34**	**22.8**	**3807**	***190***	***381***	***200***	***2257***	***880***

WATER QUALITY AND POLLUTION PREVENTION

The previously proposed treatment train as summarised in **Outline Drainage Strategy (AS-027)** will be maintained to ensure no adverse impacts on water quality in the receiving waterbodies. This will include the following:

- SuDS features, such as filter drains and ponds;
- proprietary systems like oil separators / downstream defenders upstream of each pond and outfall into the ditch;
- additional mitigation measures, including bunding around highly contaminated infrastructure, as well as monitoring and emergency shutdown measures;
- additional mitigation measures including inspection for oil leakage, drip trays or similar under pumps and leakage detection systems used for high-risk areas; and
- fire water pollution prevention measures, including profiling roads towards attenuation features that will offer containment.

NEW HEADWALLS AND EROSION PREVENTION

New bespoke headwalls will be incorporated at the alternative outfall locations to prevent scour and erosion, including measures such as concrete aprons and channel bed and bank reinforcements. Given that the discharge rates will be controlled at greenfield levels (Qbar), this will reduce scour and erosion risks along the ditches.

The new headwalls on these ditches will be designed to meet the relevant design standards for scour and erosion prevention as well as smooth operation and maintenance access.

EXCEEDANCE FLOWS

The surface water drainage system can be designed with a gravity overflow system in case of pump failure to manage exceedance flows as a temporary measure to prevent flooding on Site. The exceedance flows will be directed towards the Site features e.g. the attenuation ponds and ditches which provide additional attenuation capacity.

FOUL AND WASTEWATER DRAINAGE

The foul drainage system proposed in **Outline Drainage Strategy (AS-027)** may require updating to reflect the proposed lowering of the Development Platform. If a gravity-fed system is not considered feasible due to insufficient fall between the Site and receiving Thames Water sewerage network, separate pumping stations will be incorporated to drain the new foul and wastewater networks from the Proposed Scheme. The need for pumping will be refined at detail design stage.

OPERATION AND MAINTENANCE CONSIDERATIONS

PUMP OPERATION AND MANAGEMENT

Package pumping stations, if used, provide easy access to pumps, controls and other critical components, facilitating regular inspections and swift repairs. The modular nature allows for easy replacement or upgrading of individual parts without affecting the entire system.

Bespoke pumping stations provide added resilience and storage capacity within their wet wells and to manage changes in peak flows.

The choice of the pumping stations will be confirmed during the detail design stage.

The pumps can be installed as “duty and standby” configuration with telemetry and alarm systems to notify operators of issues such as blockages or failures.

A reliable power supply will be provided to prevent pumping station disruptions due to power failure. Options include sustainable energy sources (e.g. solar power for self-sustainability) and/or standby generators for the provision of backup power.

Regular inspections and maintenance will be critical to ensure optimal performance and will be outlined in the Operation and Maintenance Manual and/or Health and Safety File for the Proposed Scheme.

PUMPING STATION ACCESS

The pumping station as proposed will be carefully sited to ensure clear and safe access for maintenance personnel and vehicles at all times. This will facilitate emergency access in case of system failure or urgent repair requirements.

COMPLIANCE AND STANDARDS

The surface water and foul pumping stations will be designed to comply with local environmental and safety regulations. In particular, the foul pumping station will be required to provide adequate emergency storage within its wet well and design consideration to prevent septicity and odour management.

SUMMARY

This Annex and alternative drainage strategy sketches have provided a summary of the findings of an assessment undertaken to demonstrate how the key principles of the **Outline Drainage Strategy (AS-027)** will be maintained to serve alternative scenarios for the level of the Development Platform. The following were noted:

- Drainage of surface water and foul drainage systems will likely require pumping stations.
- The choice between package or bespoke pumping stations will be determined at the detail design stage; both systems have their benefits.
- For surface water drainage systems, the previous design criteria involving pollution control, total discharge rate and total attenuation volumes can be

maintained using the pumping stations, without any adverse impacts on surface water quality or flood risk.

- Foul drainage will be able to discharge to the previously identified Thames Water sewers without any impacts on flood risk.

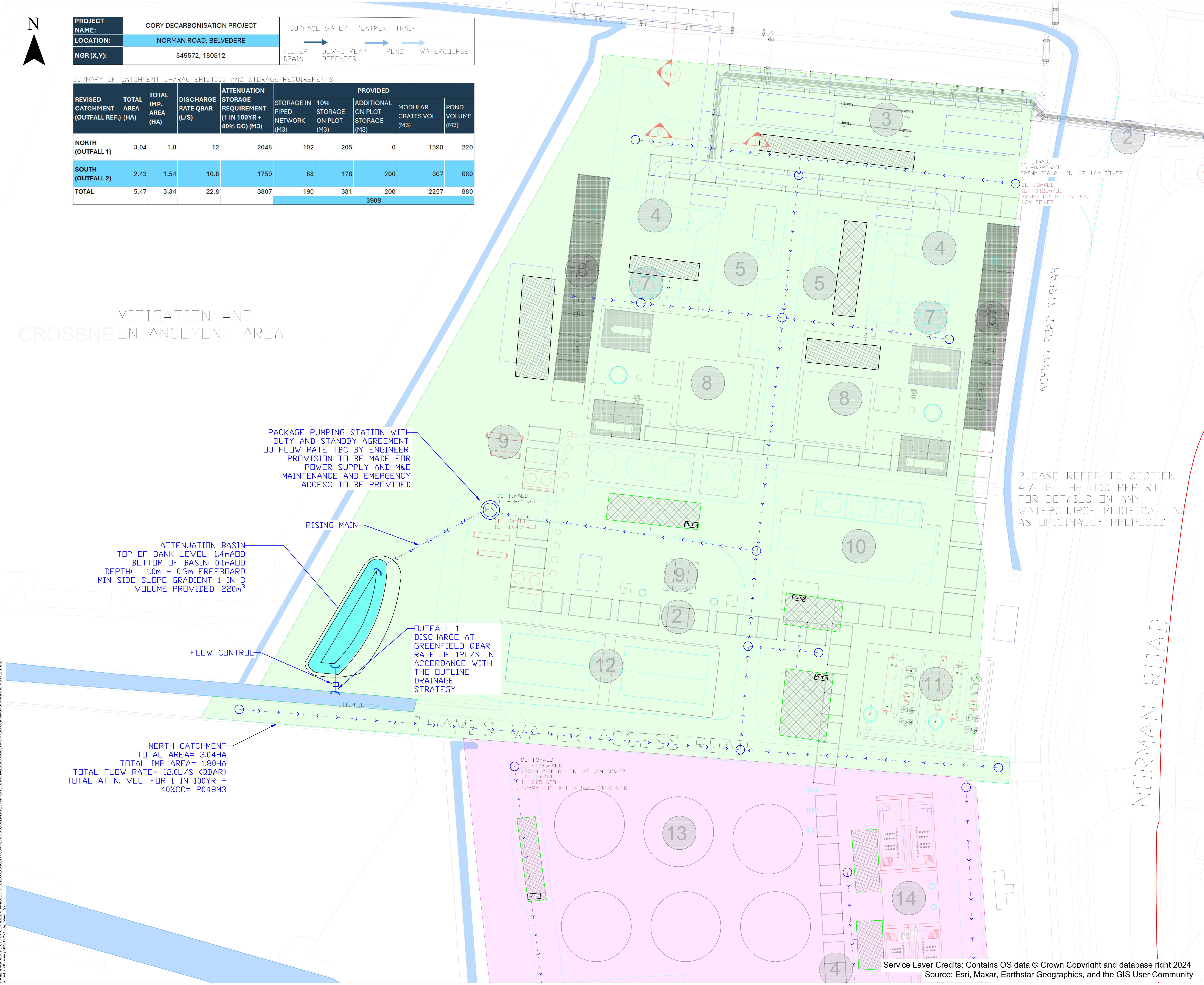
PROJECT NAME:	CORY DECARBONISATION PROJECT
LOCATION:	NORMAN ROAD, BELVEDERE
NGR (X,Y):	549572, 180512

SURFACE WATER TREATMENT TRAIN

FILTER DRAIN → DOWNSTREAM DEFENDER → POND → WATERCOURSE

SUMMARY OF CATCHMENT CHARACTERISTICS AND STORAGE REQUIREMENTS

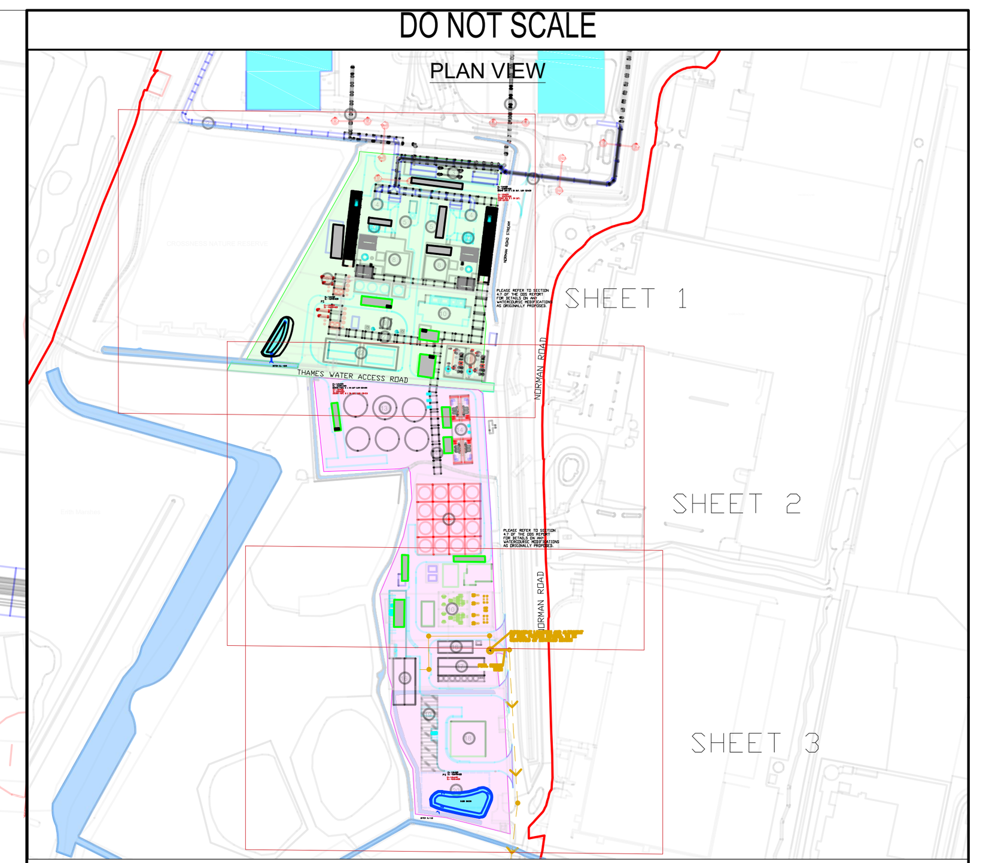
REVISED CATCHMENT (OUTFALL REF.)	TOTAL AREA (HA)	TOTAL IMP. AREA (HA)	DISCHARGE RATE QBAR (L/S)	ATTENUATION STORAGE REQUIREMENT (1 IN 100YR + 40% CC) (M3)	PROVIDED				
					STORAGE IN PIPED NETWORK (M3)	10% STORAGE ON PLOT (M3)	ADDITIONAL ON PLOT STORAGE (M3)	MODULAR CRATES VOL (M3)	POND VOLUME (M3)
NORTH (OUTFALL 1)	3.04	1.8	12	2048	102	205	0	1590	220
SOUTH (OUTFALL 2)	2.43	1.54	10.8	1759	88	176	200	667	660
TOTAL	5.47	3.34	22.8	3807	190	381	200	2257	880
					3908				



N
MITIGATION AND ENHANCEMENT AREA
CROSSNESS
PACKAGE PUMPING STATION WITH DUTY AND STANDBY AGREEMENT. OUTFLOW RATE TBC BY ENGINEER. PROVISION TO BE MADE FOR POWER SUPPLY AND M&E MAINTENANCE AND EMERGENCY ACCESS TO BE PROVIDED
RISING MAIN
ATTENUATION BASIN
TOP OF BANK LEVEL: 1.4mAOD
BOTTOM OF BASIN: 0.1mAOD
DEPTH: 1.0m + 0.3m FREEBOARD
MIN SIDE SLOPE GRADIENT 1 IN 3
VOLUME PROVIDED: 220m3
FLOW CONTROL
OUTFALL 1 DISCHARGE AT GREENFIELD QBAR RATE OF 12L/S IN ACCORDANCE WITH THE OUTLINE DRAINAGE STRATEGY
NORTH CATCHMENT
TOTAL AREA= 3.04HA
TOTAL IMP AREA= 1.80HA
TOTAL FLOW RATE= 12.0L/S (QBAR)
TOTAL ATTN. VOL. FOR 1 IN 100YR + 40%CC= 2048M3
THAMES WATER ACCESS ROAD
NORMAN ROAD STREAM
NORMAN ROAD
PLEASE REFER TO SECTION 4.7 OF THE ODS REPORT FOR DETAILS ON ANY WATERCOURSE MODIFICATIONS AS ORIGINALLY PROPOSED.
Pump
PS

Service Layer Credits: Contains OS data © Crown Copyright and database right 2024
Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

DO NOT SCALE



NOTES:
1. THIS DRAWING IS FOR INFORMATION ONLY AND SHALL NOT BE USED FOR ANY OTHER PURPOSE
2. LOCATION OF PROPOSED INFRASTRUCTURE SHOWN INDICATIVELY
3. ENGINEERING SECTIONS/ELEVATIONS AND PLANS ARE INDICATIVE ONLY AND WILL BE SUBJECT TO DETAILED DESIGN DEVELOPMENT
4. DETAILS AND LOCATION OF EXISTING INFRASTRUCTURE SHOWN INDICATIVELY
5. ALL LEVELS ARE IN METERS IN METERS ABOVE ORDANCE DATUM (MAOD) UNLESS STATED OTHERWISE

THIS DRAWING NEEDS TO BE READ IN CONJUNCTION WITH THE FOLLOWING DRAWINGS INCLUDED IN THE ODS (DOCUMENT REFERENCE 7.2):

1. EN010128-01-XX-DG-DR-0001 P01 OUTLINE SW DRAINAGE STRATEGY - NORTH
2. EN010128-01-XX-DG-DR-0002 P01 OUTLINE SW DRAINAGE STRATEGY - CENTRAL
3. EN010128-01-XX-DG-DR-0003 P03 OUTLINE SW DRAINAGE STRATEGY - SOUTH
4. EN010128-01-XX-DG-DR-0004 P01 EXISTING DRAINAGE CATCHMENT PLAN
5. EN010128-01-XX-DG-DR-0005 P01 OUTLINE SW DRAINAGE STRATEGY - CONCEPT
6. EN010128-01-XX-DG-UT-0001 P01 UTILITIES - WATER AND WASTEWATER

KEY

- RED LINE BOUNDARY
- PROPOSED SURFACE WATER DRAINAGE
- PROPOSED FOUL WATER DRAINAGE
- NORTHERN CATCHMENT
- SOUTHERN CATCHMENT
- PROPOSED SUDS STORAGE BASIN
- ATTENUATION TANK
- POTENTIAL RAINWATER HARVESTING STORAGE PUMPED TO COOLING TOWERS
- PROPOSED OUTLET TO A DITCH
- PUMPING STATION (SURFACE/FOUL)
- EXISTING REMAINING WATERCOURSES
- 1.5 CURRENTLY PROPOSED GROUND LEVELS
- 1.2 ALTERNATIVE GROUND LEVELS

REVISION	DRAWN	CHECKED	APPROVED	DATE
P01	RP	AM	VM	08/01/2025

DESCRIPTION: FIRST DRAFT ISSUE

wsp
8 First Street, Manchester, M15 4GU, UK
T+ 44 (0) 161 200 5000
wsp.com

PROJECT TITLE:
CORY DECARBONISATION PROJECT

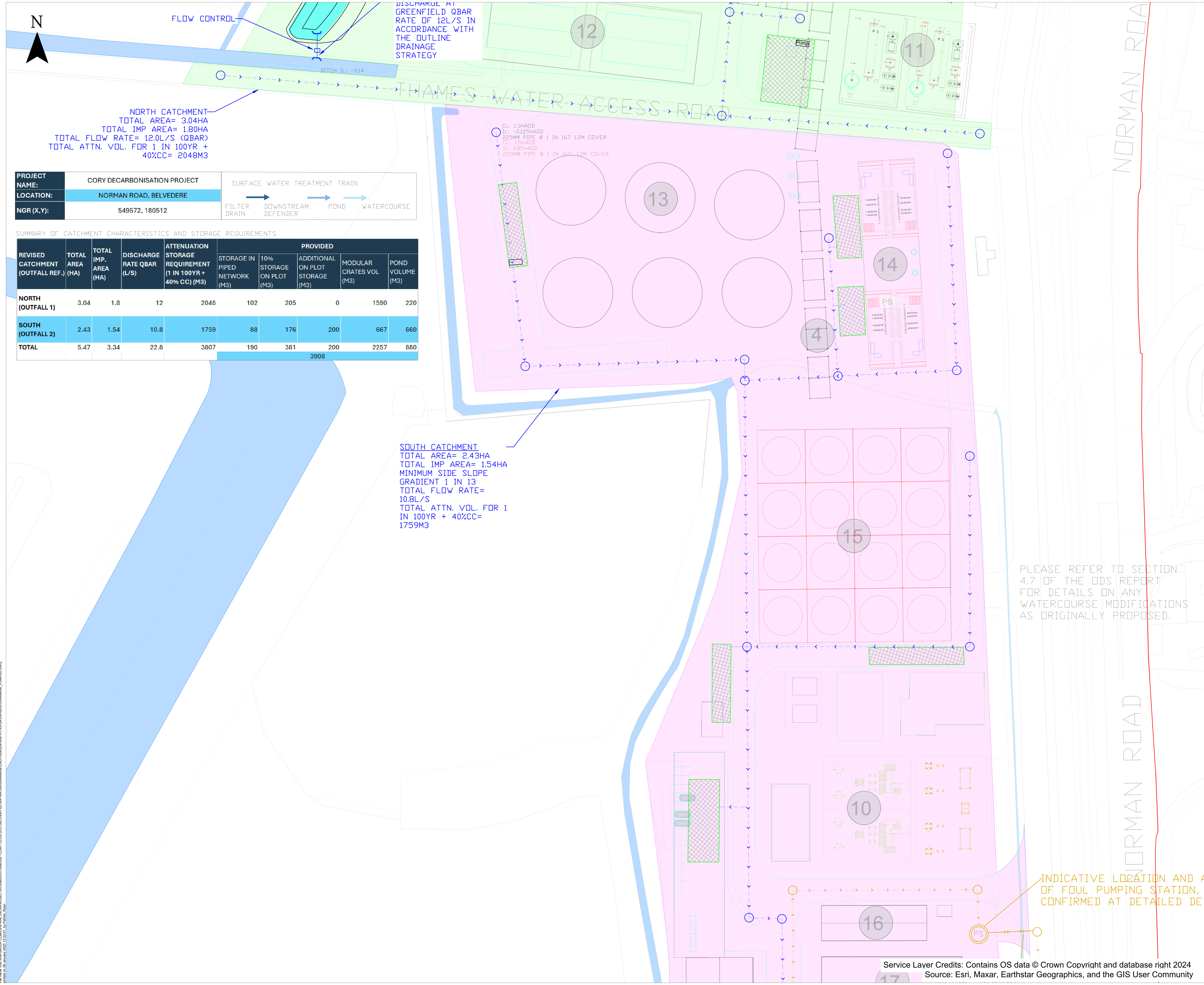
DRAWING TITLE:
OUTLINE DRAINAGE PUMPED NETWORK PLAN (SHEET 1 OF 3)

CONFIDENTIALITY: CONFIDENTIAL

DRAWN:	CHECKED:	APPROVED:	AUTHORISED:
RP	AM	VM	VM

SCALE @ A1 SIZE:	DATE:	REVISION:
1:500	08/01/2025	P01

DRAWING NUMBER:
EN010128-01-XX-DG-DR-0006



PROJECT NAME:	CORY DECARBONISATION PROJECT
LOCATION:	NORMAN ROAD, BELVEDERE
NGR (X,Y):	549572, 180512

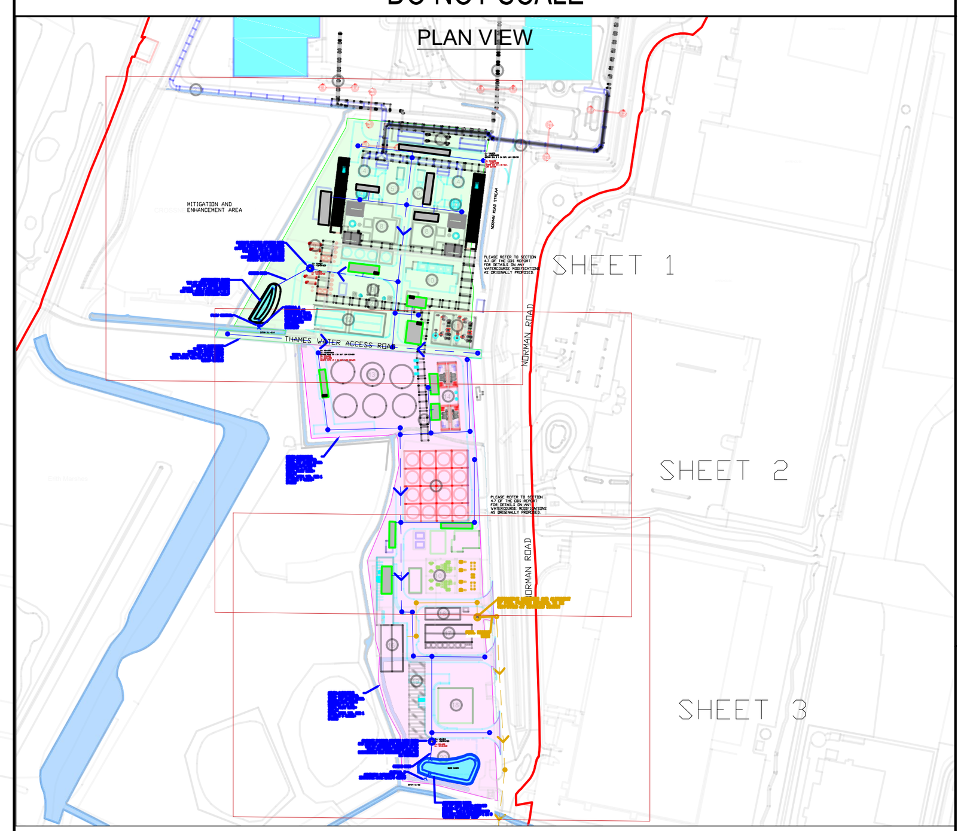
SURFACE WATER TREATMENT TRAIN

FILTER DRAIN → DOWNSTREAM DEFENDER → POND → WATERCOURSE

SUMMARY OF CATCHMENT CHARACTERISTICS AND STORAGE REQUIREMENTS

REVISED CATCHMENT (OUTFALL REF.)	TOTAL AREA (HA)	TOTAL IMP. AREA (HA)	DISCHARGE RATE QBAR (L/S)	ATTENUATION STORAGE REQUIREMENT (1 IN 100YR + 40% CC) (M3)	PROVIDED				
					STORAGE IN PIPED NETWORK (M3)	10% STORAGE ON PLOT (M3)	ADDITIONAL ON PLOT STORAGE (M3)	MODULAR CRATES VOL (M3)	POND VOLUME (M3)
NORTH (OUTFALL 1)	3.04	1.8	12	2048	102	205	0	1590	220
SOUTH (OUTFALL 2)	2.43	1.54	10.8	1759	88	176	200	667	660
TOTAL	5.47	3.34	22.8	3807	190	381	200	2257	880
					3908				

DO NOT SCALE



NOTES:

1. THIS DRAWING IS FOR INFORMATION ONLY AND SHALL NOT BE USED FOR ANY OTHER PURPOSE
2. LOCATION OF PROPOSED INFRASTRUCTURE SHOWN INDICATIVELY
3. ENGINEERING SECTIONS/ELEVATIONS AND PLANS ARE INDICATIVE ONLY AND WILL BE SUBJECT TO DETAILED DESIGN DEVELOPMENT
4. DETAILS AND LOCATION OF EXISTING INFRASTRUCTURE SHOWN INDICATIVELY
5. ALL LEVELS ARE IN METERS IN METERS ABOVE ORDANCE DATUM (MAOD) UNLESS STATED OTHERWISE

THIS DRAWING NEEDS TO BE READ IN CONJUNCTION WITH THE FOLLOWING DRAWINGS INCLUDED IN THE ODS (DOCUMENT REFERENCE 7.2):

1. EN010128-01-XX-DG-DR-0001 P01 OUTLINE SW DRAINAGE STRATEGY - NORTH
2. EN010128-01-XX-DG-DR-0002 P01 OUTLINE SW DRAINAGE STRATEGY - CENTRAL
3. EN010128-01-XX-DG-DR-0003 P03 OUTLINE SW DRAINAGE STRATEGY - SOUTH
4. EN010128-01-XX-DG-DR-0004 P01 EXISTING DRAINAGE CATCHMENT PLAN
5. EN010128-01-XX-DG-DR-0005 P01 OUTLINE SW DRAINAGE STRATEGY - CONCEPT
6. EN010128-01-XX-DG-UT-0001 P01 UTILITIES - WATER AND WASTEWATER

KEY

- RED LINE BOUNDARY
- PROPOSED SURFACE WATER DRAINAGE
- PROPOSED FOUL WATER DRAINAGE
- NORTHERN CATCHMENT
- SOUTHERN CATCHMENT
- PROPOSED SUDS STORAGE BASIN
- ATTENUATION TANK
- POTENTIAL RAINWATER HARVESTING STORAGE PUMPED TO COOLING TOWERS
- PROPOSED OUTLET TO A DITCH
- PUMPING STATION (SURFACE/FOUL)
- EXISTING REMAINING WATERCOURSES
- 1.5 CURRENTLY PROPOSED GROUND LEVELS
- 1.2 ALTERNATIVE GROUND LEVELS

REVISION	DRAWN	CHECKED	APPROVED	DATE
P01	RP	AM	VM	08/01/2025
FIRST DRAFT ISSUE				

DESCRIPTION

wsp

8 First Street, Manchester, M15 4GU, UK
T+ 44 (0) 161 200 5000
wsp.com

PROJECT TITLE:

CORY DECARBONISATION PROJECT

DRAWING TITLE:

OUTLINE DRAINAGE PUMPED NETWORK PLAN (SHEET 2 OF 3)

CONFIDENTIALITY: CONFIDENTIAL

DRAWN:	CHECKED:	APPROVED:	AUTHORISED:
RP	AM	VM	VM

SCALE @ A1 SIZE:	DATE:	REVISION:
1:500	08/01/2025	P01

DRAWING NUMBER:

EN010128-01-XX-DG-DR-0007

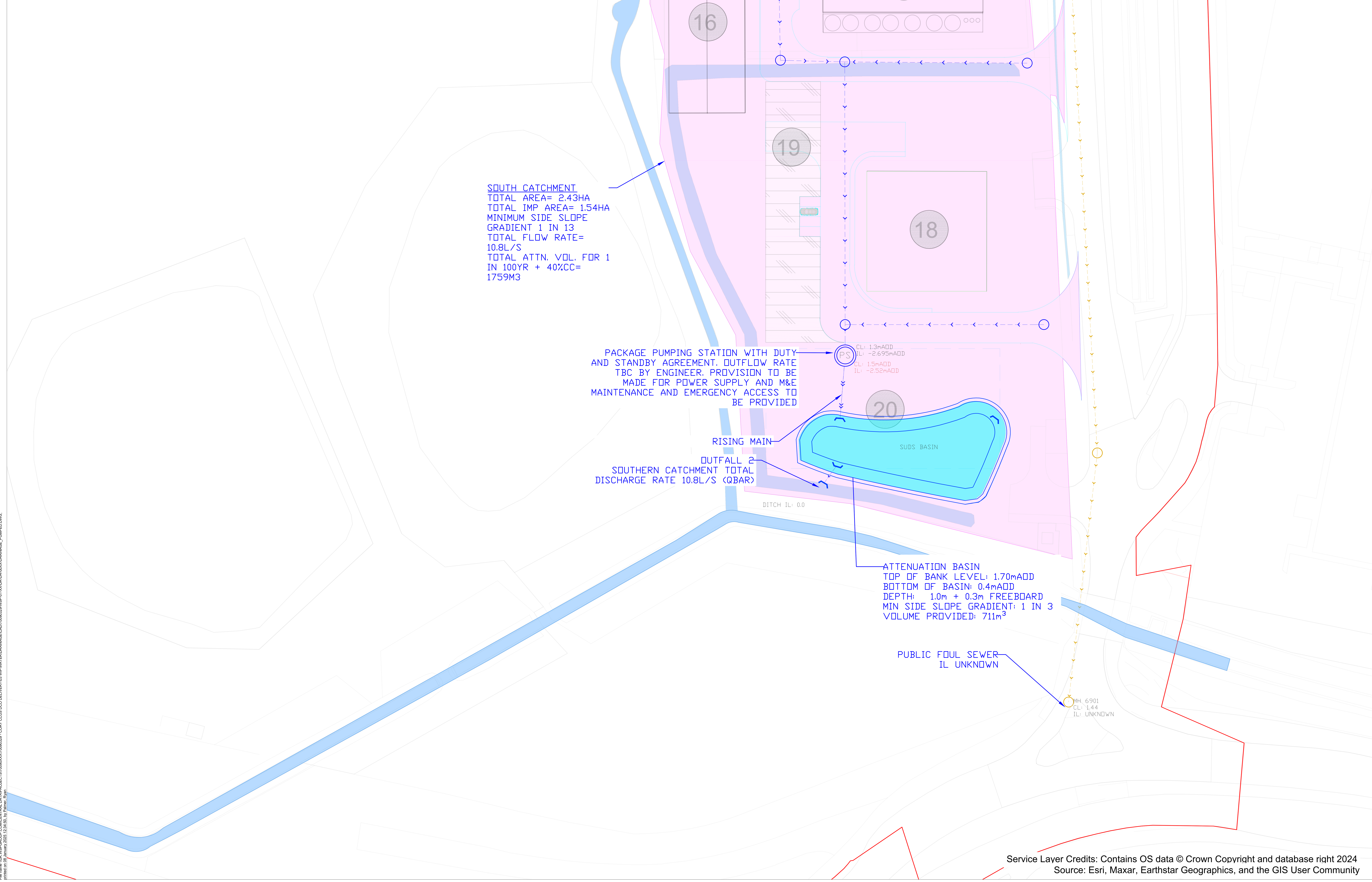
PROJECT NAME:	CORY DECARBONISATION PROJECT
LOCATION:	NORMAN ROAD, BELVEDERE
NGR (X,Y):	549572, 180512

SURFACE WATER TREATMENT TRAIN

FILTER DRAIN → DOWNSTREAM DEFENDER → POND → WATERCOURSE

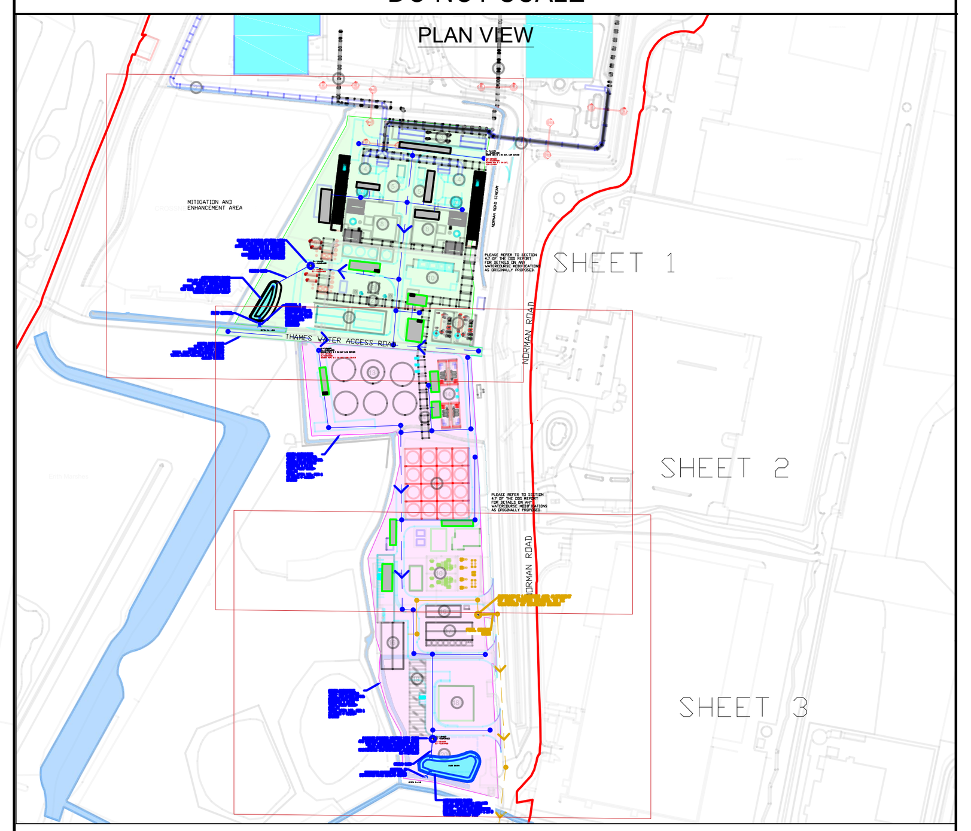
SUMMARY OF CATCHMENT CHARACTERISTICS AND STORAGE REQUIREMENTS

REVISED CATCHMENT (OUTFALL REF.)	TOTAL AREA (HA)	TOTAL IMP. AREA (HA)	DISCHARGE RATE QBAR (L/S)	ATTENUATION STORAGE REQUIREMENT (1 IN 100YR + 40% CC) (M3)	PROVIDED				
					STORAGE IN PIPED NETWORK (M3)	10% STORAGE ON PLOT (M3)	ADDITIONAL ON PLOT STORAGE (M3)	MODULAR CRATES VOL (M3)	POND VOLUME (M3)
NORTH (OUTFALL 1)	3.04	1.8	12	2048	102	205	0	1590	220
SOUTH (OUTFALL 2)	2.43	1.54	10.8	1759	88	176	200	667	660
TOTAL	5.47	3.34	22.8	3807	190	381	200	2257	880
					3908				



Service Layer Credits: Contains OS data © Crown Copyright and database right 2024
Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

DO NOT SCALE



NOTES:

1. THIS DRAWING IS FOR INFORMATION ONLY AND SHALL NOT BE USED FOR ANY OTHER PURPOSE
2. LOCATION OF PROPOSED INFRASTRUCTURE SHOWN INDICATIVELY
3. ENGINEERING SECTIONS/ELEVATIONS AND PLANS ARE INDICATIVE ONLY AND WILL BE SUBJECT TO DETAILED DESIGN DEVELOPMENT
4. DETAILS AND LOCATION OF EXISTING INFRASTRUCTURE SHOWN INDICATIVELY
5. ALL LEVELS ARE IN METERS IN METERS ABOVE ORDANCE DATUM (MAOD) UNLESS STATED OTHERWISE

THIS DRAWING NEEDS TO BE READ IN CONJUNCTION WITH THE FOLLOWING DRAWINGS INCLUDED IN THE ODS (DOCUMENT REFERENCE 7.2):

1. EN010128-01-XX-DG-DR-0001 P01 OUTLINE SW DRAINAGE STRATEGY - NORTH
2. EN010128-01-XX-DG-DR-0002 P01 OUTLINE SW DRAINAGE STRATEGY - CENTRAL
3. EN010128-01-XX-DG-DR-0003 P03 OUTLINE SW DRAINAGE STRATEGY - SOUTH
4. EN010128-01-XX-DG-DR-0004 P01 EXISTING DRAINAGE CATCHMENT PLAN
5. EN010128-01-XX-DG-DR-0005 P01 OUTLINE SW DRAINAGE STRATEGY - CONCEPT
6. EN010128-01-XX-DG-UT-0001 P01 UTILITIES - WATER AND WASTEWATER

KEY

- RED LINE BOUNDARY
- PROPOSED SURFACE WATER DRAINAGE
- PROPOSED FOUL WATER DRAINAGE
- NORTHERN CATCHMENT
- SOUTHERN CATCHMENT
- PROPOSED SUDS STORAGE BASIN
- ATTENUATION TANK
- POTENTIAL RAINWATER HARVESTING STORAGE PUMPED TO COOLING TOWERS
- PROPOSED OUTLET TO A DITCH
- PUMPING STATION (SURFACE/FOUL)
- EXISTING REMAINING WATERCOURSES
- 1.5 CURRENTLY PROPOSED GROUND LEVELS
- 1.2 ALTERNATIVE GROUND LEVELS

REVISION	DRAWN	CHECKED	APPROVED	DATE
P01	RP	AM	VM	08/01/2025
FIRST DRAFT ISSUE				

DESCRIPTION

wsp

8 First Street, Manchester, M15 4GU, UK
T+ 44 (0) 161 200 5000
wsp.com

PROJECT TITLE:

CORY DECARBONISATION PROJECT

DRAWING TITLE:

OUTLINE DRAINAGE PUMPED NETWORK PLAN (SHEET 3 OF 3)

CONFIDENTIALITY: CONFIDENTIAL

DRAWN:	CHECKED:	APPROVED:	AUTHORISED:
RP	AM	VM	VM

SCALE @ A1 SIZE:	DATE:	REVISION:
1:500	08/01/2025	P01

DRAWING NUMBER: EN010128-01-XX-DG-DR-0008

DECARBONISATION

10 Dominion Street
Floor 5
Moorgate, London
EC2M 2EF
Contact Tel: 020 7417 5200
Email: enquiries@corygroup.co.uk
corygroup.co.uk