

**Residential Development at
Lehaunstown Land, Cherrywood**

**Engineering Planning Report
232250-PUNCH-01-XX-RP-C-0003**

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1 Introduction

This report was prepared to accompany a Part 8 planning application for the proposed development on the site located at Lehaunstown Land, Cherrywood, Co. Dublin. This report has been prepared in compliance with the “*Greater Dublin Regional Code of Practice for Drainage Works*”, “*Greater Dublin Strategic Drainage Study*”, the “*Irish Water Code of Practice for Wastewater Infrastructure*” and the “*Cherrywood SDZ Planning Scheme*”.

The proposed development is located within the Cherrywood Planning Scheme (CPS). The subject site is currently a greenfield site, with low intensity agricultural use. The Cabinteely River runs north to south along the eastern boundary of the site. The site is currently bound by greenfield sites to the south, west and northeast. The north-western corner of the site shares a boundary with a private residence. There is also an ESB overhead line crossing the north-western corner of the site.

The site within the Client’s ownership has an area of approximately 3.58 hectares in total. The proposed development covers an area of 2.16 hectares in the western portion of this site. The remaining eastern portion of the site is allocated to landscape infrastructure and a proposed swale via a headwall, allowing for future construction of Pond 2A, which has planning permission. The design allows for the absence of Pond 2A works, however the development could be connected to the Pond 2A works once complete, subject to coordination. Refer to Section 2.2.5 for more information.

The proposed works are outlined in a series of architectural drawings prepared by ABK Architects and engineering drawings prepared by PUNCH Consulting Engineers - supplied as part of the planning documentation.

Figure 1-1 and Figure 1-2 below indicates the location of the proposed development at Lehaunstown Land.

1.1 Proposed Development

The proposed development is a residential development of terraced houses, duplex apartments, and multi storey apartments. On grade and basement parking, communal space and public open space is also included. Buildings range in height from 2 to 4 storeys. Vehicular and pedestrian access will be provided from the proposed Lehaunstown Neighbourhood Road to the west of the site, as designed by Systra as part of a separate DLRCC development.

The proposed works are outlined in a series of architectural drawings prepared by ABK Architects, landscape architecture drawings provided by Murphy Sheanon, and engineering drawings prepared by PUNCH Consulting Engineers and supplied as part of the planning documentation.

Please refer to Architectural Documents for proposed site layout.

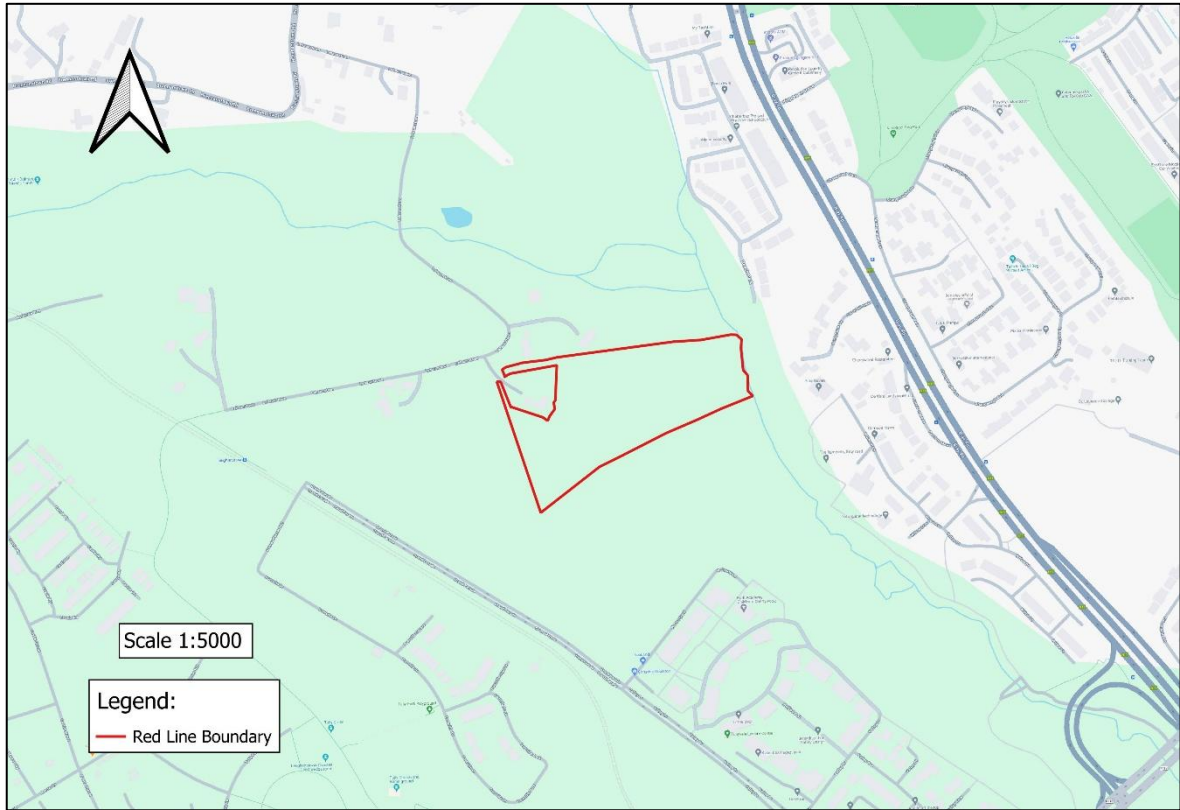


Figure 1-1: Site Location



Figure 1-2: Satellite Imagery of Site (© 2024 Google)

2 Surface Water Drainage Design

2.1 Existing Surface Water Drainage

As the site is a greenfield site, there is no existing surface water drainage system within the site boundary. Record drawings provided by Dún Laoghaire-Rathdown County Council indicate that there is no existing surface water drainage in the vicinity of the site. Please refer to Appendix A for County Council and Uisce Éireann Record Drawings, as supplied by Dún Laoghaire-Rathdown County Council.

A new regional pond is proposed adjacent to the site, with associated surface water drainage. The attenuation pond will form part of the Cherrywood Strategic Development (SDZ) Storm Water Infrastructure, as identified in Chapter 4 of the Cherrywood Planning Scheme (CPS). Please refer to Appendix B For available drawings as produced by Roughan & O'Donovan.

At the time of reporting, Pond 2A works are not expected to commence in advance of the development construction. This is subject to change and the development application can proceed with or without Pond 2A being installed.

2.2 Proposed Surface Water Drainage

The proposed surface water drainage system has been designed using Causeway Flow Software, with reference to the following documents:

- a) DLRCC Cherrywood Planning Scheme Chapter 4: Physical Infrastructure
- b) DLRCC Cherrywood Planning Scheme Chapter 6: Development Areas
- c) CIRIA SuDS Manual 2015 C753 - The SuDS Manual
- d) CIRIA Publications C644 - Building Greener
- e) Greater Dublin Strategic Drainage Study (GSDSDS)
- f) Greater Dublin Regional Code of Practice for Drainage Works
- g) Recommendations for Site Development Works for Housing Areas - Department of the Environment and Local Government
- h) Dún Laoghaire-Rathdown County Council Development Plan 2022-2028

A new surface water sewer network shall be provided for the proposed development which will be entirely separated from the foul water sewer network. All surface water run-off from roof areas and hardstanding areas are designed to be collected by a gravity pipe network.

All proposed finished floor levels are 500mm above drainage water levels for a 100-year return period plus 20% climate change, plus 10% urban creep.

2.2.1 Stormwater Drainage Modelling

The surface water drainage network has been designed using Causeway Flow software. A return period of 100 years (1% AEP) was used throughout for pipeline design, with a 20% allowance for climate change, and 10% allowance for urban creep as per section 7.1 within Appendix 7 of the Dún Laoghaire-Rathdown County Council Development Plan 2022-2028.

The proposed development has been modelled with the FSR method, using Causeway Flow software. This software does not enable different runoff roughness values to be attributed to different areas. This software assumes all areas are impervious and have the same runoff characteristics.

Depths of water in the network model (including pipework, manholes, the infiltration tanks) have been assessed for surcharging and flood risk. The model is established such that a flood risk is identified in the model results if the water rises to within 500mm of the cover level. If the water level rises to a level below this, it is identified as a surcharge within the model results. It is important to note that this warning is given related to proposed ground level at the node (not adjacent floor level).

Causeway Flow includes a design setting called “additional storage”. This is included in the software to account for storage volume in the network provided by secondary drainage including access junctions, inspection chambers, service connections etc. This provides additional storage in the network above the storage provided within the infiltration tank and primary drainage network. 20 m³/ha is the standard allowance provided for in Causeway Flow and was utilised for this design.

With reference to the drainage modelling calculation report, the following should be noted:

- The design is initially based on a 5 year storm. This is identified as Design Settings
- The drainage model is modelled for the 100 year storm (1% AEP) with 20% climate change, 10% Urban Creep, relevant M5-60, Ratio ‘R’ values, winter Cv and Summer Cv. This is identified as simulation settings.

Please refer to Appendix D for surface water design calculation report.

2.2.2 Causeway Flow - Area Contribution

Causeway flow does not allow for different surfaces to contribute to the drainage network at different runoff rates. Allowance has been made in the design for contribution to drainage from impervious areas only.

For the drainage storms modelled: 1% AEP (plus 20% climate change, plus 10% Urban Creep) the design assumes on a conservative basis that all SuDS measures are flooded and provide limited water storage volumes.

Based on this and taking a conservative approach to drainage modelling the model allows for all pervious pavement, green roofs and impervious pavement to be impervious. Landscape areas to the rear of the residential units/ apartment blocks are taken to not contribute to drainage infiltration requirements.

2.2.3 Causeway Flow - Rainfall

Rainfall data for inclusion in the drainage model has been obtained from MET Eireann.

The M5-60 value is 15.70, and the ratio R value is 0.278. Please refer to rainfall runoff table included in Appendix C.

A value for the SAAR for the site has been obtained from the Met Eireann Website. This value is 839mm.

2.2.4 Discharge Rate Calculation and Location

The Cherrywood SDZ specific objective “PI 8” nominates that discharge from developments is to be limited to a discharge rate of 1l/s/Ha. On the basis of this, the following values have been used to calculate discharge rate for the proposed development site:

Total Impervious area = 1.225 Ha

Discharge Rate = 1 litre per second per hectare runoff rates

In line with the specific objective “PI 8” within the Cherrywood SDZ Planning Scheme requirement of a discharge rate of 1 l/s/ha, the discharge from the proposed development has been limited to 1.2 l/s due to the contributing area of 1.225 ha. Outflow from the development site will be restricted to 1.2 l/s. Table 2-1 describes the stormwater drainage design parameters used and detailed calculations are enclosed in Appendix D.

2.2.5 Proposed Discharge Location

For the proposed development site 1 No. outfall is proposed. A hydrobrake is proposed downstream of the attenuation tank and will limit the flow to the calculated discharge rate (1.2 l/s). The following paragraph outlines two possible discharge scenarios depending on the construction timeline of Pond 2A works. Irrespective of which scenario is adopted, the development stormwater will discharge through Pond 2A.

If Pond 2A works are not completed in time to allow for the Lehaunstown Development:

The surface water will discharge from the attenuation tank to a proposed swale at the northeast of the site via a headwall. This swale will discharge to Cabinteely River. When pond 2A is constructed, the discharge from the site will be connected to the Pond 2A inlet and the interim drainage connecting to the swale will be abandoned.

If Pond 2A works are completed in time to allow for the Lehaunstown Development works:

The manhole downstream from the Lehaunstown Development attenuation tank will connect drainage to Pond 2A inlet. This is to be implemented when Pond 2A becomes operational. The drainage will connect at this location if Pond 2A is adequately operational by completion of the residential development. There will not be a requirement for a swale in this scenario.

Both scenarios above are accounted for in the design. Regardless of the above scenarios, temporary surface water discharge to Cabinteely River is expected during construction, which forms part of this planning application. It is not possible at this stage to determine the timeline for each project. The exact scenario to be adopted will be determined in advance of construction.

Please refer Section 2.1 and Appendix B for further information regarding Pond 2A works, and Appendix H for correspondence between PUNCH and Dún Laoghaire Rathdown Planning Department on this matter.

Refer to drainage drawing 232250-PUNCH-01-XX-DR-C-0201 for proposed arrangement and commentary on specific works to facilitate the absence of Pond 2A works.

2.2.6 Attenuation Storage

The proposed attenuation tank, in conjunction with the proposed hydrobrake flow restriction device is sized to reduce the runoff from the site to 1.2 l/s for the 1% AEP (1:100-year storm return period) storm, with 20% additional rainfall to allow for climate change, and 10% additional area to allow for urban creep.

The result of this analysis requires an attenuation tank of 1,426 m³ total volume. The attenuation tank is to be located in the ground, and the outlet is to be controlled by a hydrobrake with the flow set to discharge at a rate of 1.2 l/s.

The attenuation tank is proposed to be a geocellular style system. All surface water from the surface water network will enter and exit the geocellular tank system via a perforated distribution pipe through the system. This arrangement ensures that all debris and silt will not enter the geocellular system and will be restricted to the distribution pipe. If maintenance is ever required to remove silt or debris, a pressure jetting system will be able to clean any debris from this distribution pipe.

Please refer to PUNCH drawing 232250-PUNCH-01-XX-DR-C-0502 for details of the proposed attenuation tank.

2.2.8 Storm Water Drainage Summary

The proposed stormwater sewers have been designed using Causeway Flow software. Table 2-1 describes the stormwater drainage design parameters used and detailed calculations are enclosed in Appendix D.

Table 2-1: Stormwater Drainage Design Parameters.

Description	Value
Total Site area (Development Area)	3.58 ha
Total Drained Impervious Site Area	1.225 ha
Return period target	Pipe Design 1 in 5 year (20% AEP) Network Design 1 in 30 year (3.3% AEP). Check there is no flooding at 1 in 100 year storm (1% AEP)
Climate Change	20%
Urban Creep	10%
M5-60	15.70
Ratio R	0.278
SAAR	839mm
Flow reduction parameter	1 l/s/Ha (Specific Objective "PI 8" within Cherrywood SDZ Planning Scheme)
Controlled Outflow	1.2 l/s
Flow restriction method	Hydrobrake
Attenuation Storage Volume	1,426 m ³
Tank Porosity	0.95 (Geocellular Tank)

2.2.9 Response to Stage 1 Stormwater Audit Commentary

A Stage 1 (Pre-Planning) Stormwater Audit of the development was carried by Downes Associates. The Stage 1 audit was carried out in accordance with DLRCC’s Stormwater Audit Procedure as set out in Section 7.1.5 of Appendix 7 of the County Development Plan 2022-2028. The audit comprised an examination of the reports, drawings and calculations relating to the stormwater drainage scheme prepared by Punch Consulting Engineers.

The below table outlines PUNCH’s response to comments made by the auditor in their report.

Table 2-2: Response to comments by Stormwater Auditor

Item No.	Auditor Comment	PUNCH Response (Accepted by auditor)
5.1	Infiltration-type SuDS measures are not included in the proposals. There is no reference in the report to the nature of the subsoils on site and their potential suitability for infiltration-type SuDS measures. There is no reference to any site-specific geotechnical site investigation having been carried out as part of the site appraisal.	A Site investigation has been completed including soakaway testing and confirmation of soil types. Soakaway testing indicated a lack of infiltration capacity in the ground. Design is provided without infiltration on this basis Refer below document by Ground Investigation Ireland included as part of the planning application: GII-FM-26 Lehaunstown Cabinteely_Housing_Site_Factual_Report17.11.23_Rev A
5.2	Bioretention in the form of rain gardens is proposed to the front and rear of the individual buildings and adjacent to parking bays. Typical section details have been provided for the proposed rain gardens, including rainwater downpipe and dropped kerbs. The rain garden includes a “geotextile membrane” liner, which suggests that infiltration will not be permitted. The rain garden detail includes a low-level collector pipe, but no details are provided as to how these individual collector pipes are connected to the main surface water conveyance system and detention system.	Please refer below PUNCH drawing for indication of the different membrane types and the proposed gully overflow detail: 232250-PUNCH-01-XX-DR-C-0501

Item No.	Auditor Comment	PUNCH Response (Accepted by auditor)
5.3	The adoption of permeable paving for parking bays is described in Section 2.3.3 of the report. However, no details have been provided on the drawings for permeable paving as having been adopted, and, if so, whether these pavements are designed for infiltration or exfiltration.	Permeable paving not proposed. Engineering Planning Report amended to reflect.
5.4	The adoption of a rainwater harvesting system is mentioned in Section 2.3.1 of the report. However, no details/specification are provided on the drawings as to whether a rainwater harvesting system (for the apartment blocks) and/or water butts (for the terraced house units) have been considered/adopted.	Rainwater harvesting not proposed. Engineering Planning Report amended to reflect.
5.5	An underground detention system is proposed for the development to cater for excess runoff. Alternative above-ground detention systems may be feasible which would promote greater amenity and biodiversity within the development and encourage infiltration of detained water to the subsoils (if feasible).	SUDS treatment is provided for the entire site by a combination of green roofs and bioretention areas. Underground attenuation is required to align with the proposed development including the landscape scheme and the topography of the site.
5.6	The calculations for the underground storage system do not appear to include time of emptying.	Drainage modelling amended to include for time of emptying. Please refer Appendix D of this report.
5.7	The report does not include any analysis of the effectiveness of the chosen SuDS components to achieve water quality criteria.	An assessment of the treatment capability of the SUDS measures in relation to the first 15mm of runoff has been provided in compliance with the DLRCC Development Plan 2022-2028 assessment requirements, and formulae provided in the UK SUDS Manual. This assessment is summarised in section 2.3.8 of this report (Interception / treatment calculation).
5.8	There is no commentary in the report as to whether a utility clash check has been undertaken.	In principle, all drainage is proposed in roads, and all watermains and M+E services are proposed in footpaths. Adjustments to planning design are not expected.

Item No.	Auditor Comment	PUNCH Response (Accepted by auditor)
5.9	It is noted that the extent of green roof proposed does not comply with DLRCC's Green Roof Policy, i.e. the percentage of extensive green roof proposed (for non-exempt buildings) is less than the minimum 70% coverage required. The Applicant is seeking an exemption on the basis that alternative nature-based SuDS are proposed in lieu of green roofs.	Refer to Section 2.3.6 for a summary of green roof compliance with DLRCC's Green Roof Policy. 83% of flat roofs in the development will be green roofs. This is above the 70% coverage required by DLRCC.
5.10	There is an opportunity to incorporate other SuDS features within the development, particularly with regard to enhanced water features (rills, open conveyance channels, etc.) for the conveyance of water from the building RWPs' to the bioretention areas that would improve the amenity aspects of the drainage system.	The entire site is treated by SUDS measures - bioretention and green roofs. There is no apparent benefit to using different types of treatments.

2.2.10 Document Reference

Please refer to below PUNCH surface water design drawings drawing:

- 232250-PUNCH-01-XX-DR-C-0201 Proposed Drainage Layout
- 232250-PUNCH-01-XX-DR-C-0151 Proposed SUDS Layout
- 232250-PUNCH-01-XX-DR-C-0501 Proposed Drainage Details - Sheet 1
- 232250-PUNCH-01-XX-DR-C-0502 Proposed Drainage Details - Sheet 2

Please refer correspondence with DLRCC included at Appendix F.

2.3 Sustainable Urban Drainage Systems Proposals

2.3.1 Overview

The proposed development has been assessed in relation to Sustainable Urban Drainage Systems (SuDS). A variety of SuDS measures may be adopted to comply with Council recommendations. All SuDS measures are to be implemented with reference to the UK Suds Manual and Dún Laoghaire-Rathdown County Council drainage requirements.

Relatively small volumes of rainwater collected on the respective SuDS devices will enter the public sewer network during typical low intensity storms. This is because the proposed SuDS measures will retain rainwater until it is either used via evapotranspiration in the green areas or reused within the development via the rainwater harvesting system.

The SuDS processes decrease the impact of the development on the receiving environment by providing amenity and biodiversity in many cases. Regular maintenance of the SuDS proposals is required to ensure they are operating to their optimal level throughout their design life.

Sustainable urban drainage systems (SUDS) are proposed to treat all areas within the site the site. Either treatment volume or interception storage is to be provided within SUDS measures. Treatment volume is a treatment for 10-15 mm of runoff where interception is non discharge of the first 5mm of runoff.

Bioretention areas are proposed to treat ground and impervious roof areas.

Extensive green roofs are proposed for flat roofs. The interception storage is provided via the voids within the planting medium.

2.3.2 Green Roofs

2.3.2.1 General

Green roofs have been designed taking guidance from CIRIA Publications C644 - “*Building Greener*” and C697 - “*The SUDS Manual*”. Research in the UK (Kellagher and Lauchlan, 2005, CIRIA, 2007) indicates that green roofs are effective in providing both attenuation and volume reduction in runoff for small rainfall events but suggests that these advantages are reduced (but not completely lost) for larger rainfall events.

Green roofs are areas of living vegetation, installed on the top of buildings, for a range of reasons including visual benefit, ecological value, enhanced building performance and the reduction of surface water runoff.

Green Roofs shall be provided at roof level in the form of sedum green roofs. Green roofs are widely recognised as an effective SuDS solution and an important tool in mitigating the adverse effects of development on rainfall run-off and for managing urban flood risk.

2.3.2.2 Green Roof Proposals

The build-up for all proposed green roofs shall primarily comprise the following (in accordance with architectural design detail):

- Grass/mulch with planting
- A topsoil substrate (depth dependent on the green roof type) on
- 100mm depth drainage mat.

It is proposed to use Extensive green roofs which are defined as follows:

- Extensive Green Roof: These are typically areas containing vegetation such as sedums and small grasses, which require less maintenance than other green roof types, and no permanent irrigation system.
- Topsoil Substrate Depth: 100mm

2.3.3 Bio Retention Areas/Modified Planters

The bio-retention areas/modified planters will incorporate drainage stone/subsoil and will provide a level of additional attenuation within the bio-retention areas/modified planters. Bioretention systems allow the stormwater to filter downwards through a filter medium removing finer contaminants along the way. Depending on the particle size of the filter media different qualities can be achieved from the bioretention system. The base and sides of the system will be lined and a gully overflow to the drainage network within the build-up will accommodate removal of water in scenarios where the flow capacity of the system is exceeded.

2.3.4 Attenuation Tank

The proposed attenuation tank, in conjunction with the proposed hydrobrake flow restriction device, is sized to address pluvial flood risk for the site, and to reduce the runoff from the site to 1.1 l/s for the 1% AEP (1:100-year storm return period) storm, with 20% additional rainfall to allow for climate change, and 10% additional area to allow for urban creep. Please refer to Section 2.2.6 of this report for further information on attenuation tank storage/ design.

2.3.5 Petrol Interceptor

It is proposed that all surface water run-off from car park areas will outfall via a Bypass Separator in accordance with EN858-1 located upstream of the proposed attenuation tank and downstream of all car park and road areas. This device will remove hydrocarbons and fine sediment particles from the site runoff and lower the risk of downstream contamination following an oil spillage on site.

Bypass separators fully treat all flows generated by rainfall rates of up to 6.5mm/hr. This covers over 99% of all rainfall events. Flows above this rate are allowed to bypass the separator. These separators are used when it is considered an acceptable risk not to provide full treatment for high flows, for example where the risk of a large spillage and heavy rainfall occurring at the same time is small.

Bypass separators are designed to achieve a concentration of less than 5mg/l of oil under standard test conditions.

2.3.6 Compliance with DLRCC County Development Plan 2022-2028 SUDS Policies

2.3.6.1 Interception and Treatment

SUDS Interception / treatment is to be provided for the entire site. Please refer 2.3.7 for interception storage calculation. It is proposed to provide a significant extent of green roofs within the development, as per the DLRCC County Development Plan, Appendix 7, Section 3.0 ‘Sustainable Drainage Systems Measures.’

2.3.6.2 Attenuation

Attenuation is provided via a below ground geocellular attenuation tank in the proposed open space, for the 1% AEP storm with allowance for 20% climate change and 10 % urban creep. Please refer sections 2.2 above.

2.3.6.3 Stormwater Audit

A stage 1 stormwater audit has been undertaken for the development and comments are incorporated as part of the design.

2.3.6.4 Green roofs - Overview

There are a number of elements to consider in relation to compliance with this policy, including:

- Applicable Development Types
- Percent Green Roof to be provided
- Exemptions and Amplifications

2.3.6.5 Green Roof - Applicable Development Types

It is noted that the DLRCC County Development Plan 2022-2028, Appendix 7, Section 3.0 ‘Green and Blue Roof Policy Standards’ identifies that green and blue roof policy apply to the below developments:

- Apartment Developments
- Employment Developments
- Retail and Ancillary Shopping
- Leisure Developments
- Education Facilities

On this basis, the green roofs are only applicable to the apartment development portion of the development and not on the terraced housing.

2.3.6.6 Green roof - Types

Green roofs may be provided as intensive or extensive.

The applicable percentage green roof noted in the Green Roof Policy is noted as either 70% extensive or 50% intensive.

2.3.6.7 Green Roofs - Exemptions and Amplifications

An exemption is permitted to the green roof policy percentage if it can be demonstrated that an alternative suitable nature-based SUDS treatment measure can be provided to treat the areas, i.e. not solely by pervious pavements.

Refer below specific exemption text as extracted from Standard GR2 of Appendix 7.2 of DLRCC County Development Plan 2022-2028.

“Unless exempted or partially exempted by DLRCC’s Municipal Services Section following consideration of the suite of complementary or alternative nature-based SuDS features including ponds, bio retention areas, basins, wetlands, swales, rain garden. A proposal that relies solely on attenuation storage systems and/or permeable paving as an alternative to the provision of a green roof will not be acceptable”

Based on the above, it is proposed that some roofs are to be treated by bioretention areas. Please refer to section 2.3.7 for interception storage calculation.

2.3.6.8 Green Roofs - Proposed Percentages

The calculation of green roof percentage is taken on the basis of the apartment buildings only, excluding terraced houses.

Refer Figure 2-2 below for an indicative site isometric.

Please refer Table 2-3 below for proposed roof types and associated green roof areas. 100% of all flat roofs proposed will be green roofs.

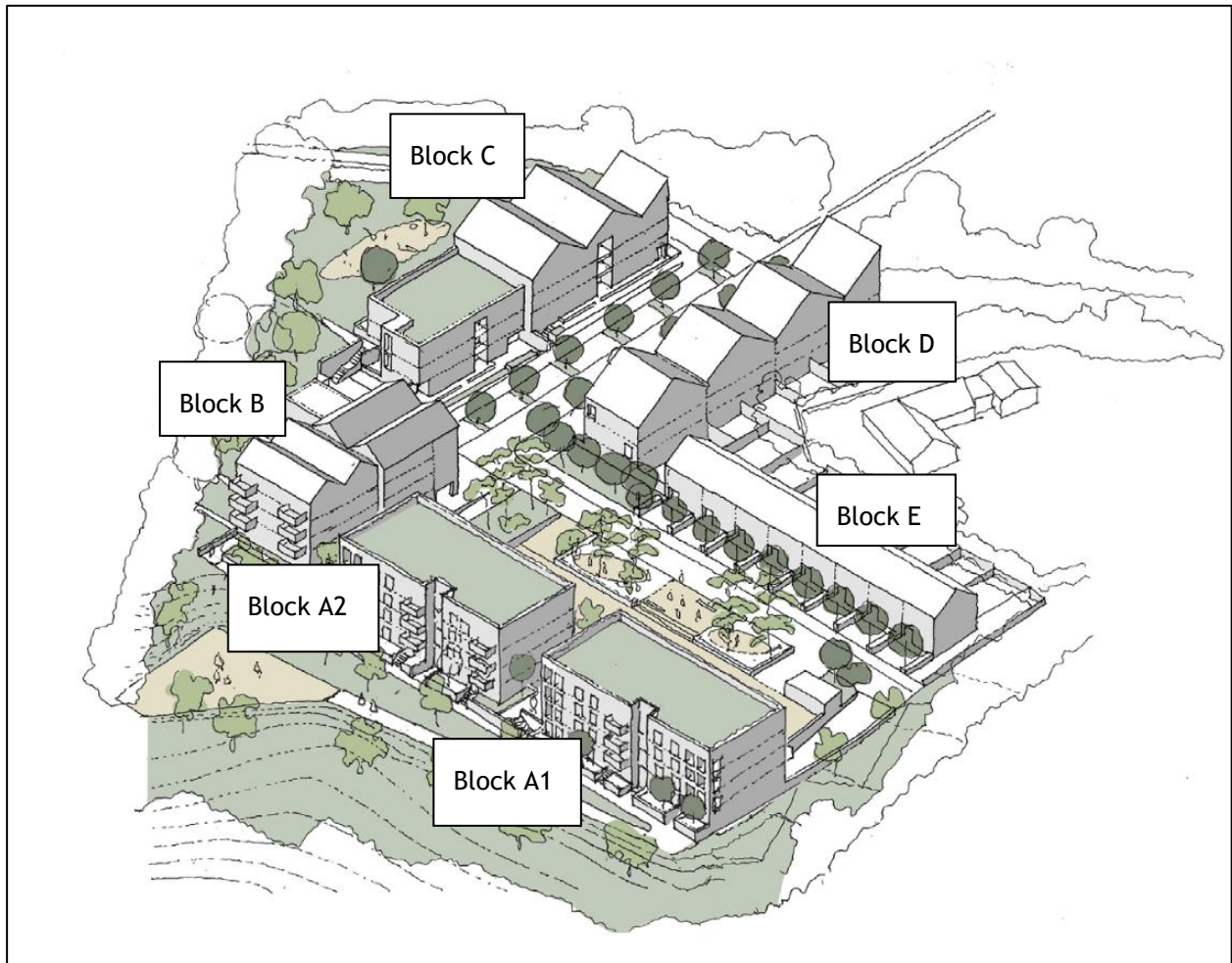


Figure 2-2 - Site Reference Diagram

Table 2-3 - Green Roof Areas

Building	Building Use	Roof type	Impermeable Roof Area	Green Roof Area	Total Roof Area
Block A1	Apartments	Flat	0	548	548
Block A2	Apartments	Flat	0	530	530
Block B	Apartments	Part flat and Part Pitched	526	102	654
Block C	Apartments	Part flat and Part Pitched	493	294	829
Block D	Duplexes	Pitched	635	0	635
Block E	Terraced Houses	Pitched	582	0	582
Total			2,236	1,778	3,778

Table 2-4 Green Roof Percentages

Building Use	Flat Roof Area	Extensive Green Roof Area	Percent Green Roof
Terraced Houses	0	0	N/A
Apartments / Duplexes	1,474	1,474	100%

Refer section 2.3.6.7 above for discussion regarding proposed green roof percentages.

2.3.7 Interception / Treatment Calculation

2.3.7.1 Overview and Calculation Basis

Reference is made to the UK SUDS Manual, Ciria 753 for interception storage assessment. It is proposed to provide interception / treatment as below:

1. Interception is proposed for all green roofs based on Table 14.6 of UK SUDS Manual, Ciria 753.
2. Treatment is proposed for the first 15mm of rain fall for other areas based on the bioretention equation 18.1 as extracted from the UK SUDS Manual, Ciria 753:

$$A_f = \frac{V_t L}{k(h + L)t}$$

A_f = Filter Area (m^2)

V_t = Volume requiring treatment (m^3)

L = Depth of bioretention (m)

k = coefficient of permeability of filter media (m/s)

h = depth of water above filter media (m)

t = time for treatment (48 hours)(s)

The site has been broken up into Zones, and each zone is assessed separately. Please refer to the below tables and figures:

- Figure 2-3 shows the proposed zone being assessed within the development site.
- Table 2-5 provides a summary explanation of how each zone has been provided with interception storage treatment.
- Interception storage is to be provided within the green roof and bioretention zones at ground level. Table 2-6,
- Table 2-7 and Table 2-8 demonstrate the level of interception storage provided.
- Table 2-6 provides a calculation for the required 15mm runoff treatment volume for each area assessed.
- Table 2-7 provides a calculation of the filter area required in bioretention trenches for each area assessed.
- Table 2-8 provides a calculation to demonstrate that the required bioretention filter area is provided for each area assessed.

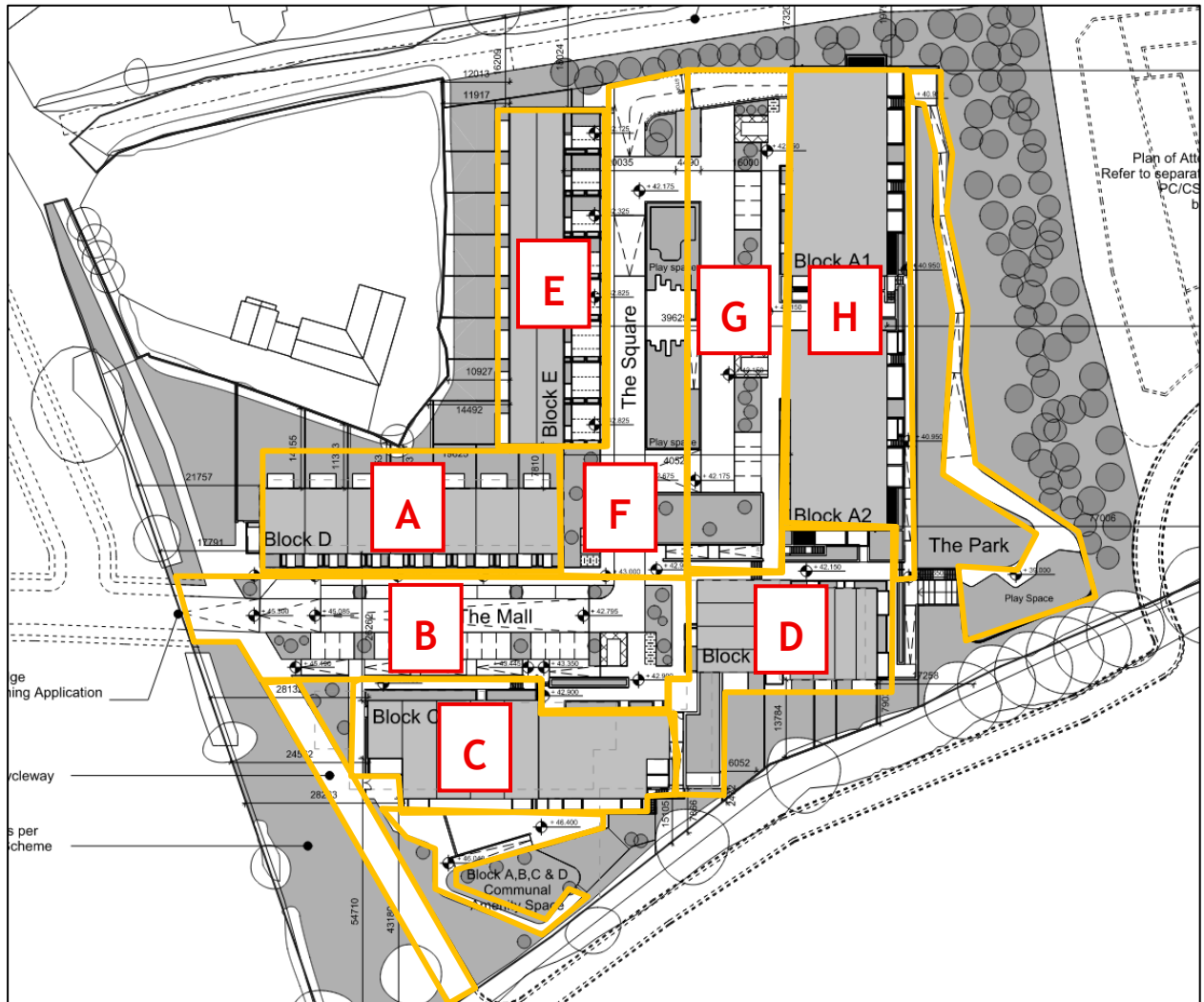


Figure 2-3: Proposed zones for SuDS Interception Storage Calculation.

Table 2-5: Explanation of Treatment Provision.

Zone	Description and Location	Explanation of Interception Storage Treatment Provision
A	Housing units along entrance road (Opposite Block C)	Roofs treated by bioretention. Car parks treated by bioretention.
B	“The Mall” Roadway	Roads treated by bioretention.
C	Block C	Roofs treated by bioretention and green roofs. Pavement treated by bioretention
D	Block B	Roofs treated by bioretention and green roofs. Pavement treated by bioretention
E	Housing units opposite Block A1/A2	Roofs treated by bioretention. Car parks and roads treated by bioretention.
F	“The Square” Roadway	Roads treated by bioretention.
G	Roadway/ pavement area adjacent to Block A1/A2	Car parks treated by bioretention.
H	Block A1/A2	Roofs treated by bioretention. Car parks treated by bioretention Pavement treated by bioretention

2.3.7.2 Treatment Volume Calculation Tables

Please refer below tables for treatment volume assessment for all areas not treated by green roofs.

Table 2-6: Catchment Impervious Areas and 15mm Runoff Volume.

Catchment	Impermeable Roof Area (m ²)	Pavement Area (m ²)	Total Non-Green Roof Area (m ²)	Volume from 15mm of rainfall (m ³)
A	635	186	821	12.32
B	0	1,910	1,910	28.65
C	493	736	1,229	18.44
D	526	165	691	10.37
E	582	413	995	14.93
F	0	952	952	14.28
G	0	882	882	13.23
H	0	794	794	11.91

Table 2-7: Bioretention Calculation

Catchment	Total Non-Green Roof Area (m ²)	Volume from 15mm of rainfall (m ³)	Percent Runoff	Coefficient of Permeability of filter Bed (m/s)	Height of Water above Filter Bed (m)	Depth of filter bed (m)	Time required to Filter (s)	Filter Area Required (m ²)
A	821	12.32	0.9	2.78×10^{-5}	0.05	0.6	172,800	2.37
B	1,910	28.65	0.9	2.78×10^{-5}	0.05	0.6	172,800	5.51
C	1,229	18.44	0.9	2.78×10^{-5}	0.05	0.6	172,800	3.54
D	691	10.37	0.9	2.78×10^{-5}	0.05	0.6	172,800	1.99
E	995	14.93	0.9	2.78×10^{-5}	0.05	0.6	172,800	2.87
F	952	14.28	0.9	2.78×10^{-5}	0.05	0.6	172,800	2.74
G	882	13.23	0.9	2.78×10^{-5}	0.05	0.6	172,800	2.54
H	794	11.91	0.9	2.78×10^{-5}	0.05	0.6	172,800	2.29

Table 2-8: Catchment Bioretention Comparison

<i>Catchment</i>	<i>Bioretention area Provided (m²)</i>	<i>Bioretention Filter Area Required (m²)</i>
A	36	2.41
B	114	5.61
C	154	3.61
D	62	2.03
E	79	2.93
F	325	2.80
G	195	2.59
H	220	2.33

In addition to the required bioretention area to treat impervious areas, additional large areas of bioretention are provided at ground level to improve the amenity and biodiversity provision for the site.

Please refer drawing 232250-PUNCH-01-XX-DR-C-0151 for SUDS areas including extent of bioretention and green roofs.

2.3.8 Summary and overview of SUDS effectiveness

The combination of the above noted elements shall allow the proposed development to adhere to the principles of sustainable drainage practices while enhancing overall storm water quality.

There are several benefits from the promotion of these SuDS elements within the development, below is a list of such benefits:

- **Biodiversity and Ecology:** Habitats are maintained, created & linked to support existing & new wildlife. This increases biodiversity & improves the quality of ecosystems in urban environments.
- **Amenity and Economy:** Access to open, green spaces allows for activities such as walking, cycling & organised sports. This improves the physical & mental health & wellbeing of communities.
- **Water Quality:** SuDS filter sediment & contaminants from runoff which improves quality. They intercept rainfall & reduce the volume entering sewers & drains, reducing combined sewer overflow and the amount that needs treating.
- **Flood Risk Management:** SuDS mimic natural drainage patterns & reduce the volume of runoff reaching drains & watercourses. They provide areas to store water & slow the flow of water to reduce flood risk in urban areas. SUDS proposed as part of this development provide limited flood mitigation. The primary surface water volume control is the proposed below ground surface water attenuation tank.
- **Climate Resilience:** Vegetation and plants used, e.g. landscaped open spaces, can capture & store carbon and greenhouse gases to improve air quality. They can also regulate building temperatures and reduce air & water pollution.

2.3.9 Amenity & Biodiversity

The proposed SuDS will provide improvement for amenity and biodiversity. The sedum in the extensive roofs/ swales provide opportunity for biodiversity. The provision of soft landscaping associated with the landscape design provides amenity for the residents also.

Please refer to the Landscape drawings and reports for further details in relation to amenity and biodiversity provision through proposed landscaping throughout the development.

2.3.10 Operation and Maintenance

Typical key SuDS components outlined in Section 2.3 will be operated and maintained in accordance with Chapter 32 of the CIRIA C753 (The SuDS Manual). A detailed operation and maintenance plan will be prepared for the Client at detailed design stage.

Regular maintenance is to be carried out typically every 1 to 3 months. Occasional maintenance is to be carried out every 6months to 1 year. Remedial maintenance is to be carried out as required.

Please refer to Table 2-9 for typical key SuDS components operation and maintenance activities.

Table 2-9: Typical key SuDS components operation and maintenance activities.

Operation and maintenance activity	SuDS component					
	Green roofs	Permeable Paving	Bioretention Areas	Swales	Attenuation Tanks	Bypass Separator
Regular maintenance						
Inspection	✓	✓	✓	✓	✓	✓
Litter and debris removal		✓	✓	✓	✓	✓
Grass cutting			✓	✓		
Weed and invasive plant control	✓	✓	✓	✓		
Shrub management (including pruning)			✓	✓		
Occasional maintenance						
Sediment management		✓	✓	✓	✓	✓
Vegetation replacement	✓		✓	✓		
Vacuum sweeping and brushing		✓				
Remedial maintenance						
Structure rehabilitation /repair	✓	✓	✓	✓	✓	✓

2.3.11 Document Reference

Please refer below drawings for SuDS layouts and details.

- 232250-PUNCH-01-XX-DR-C-0151 Proposed SUDS Layout
- 232250-PUNCH-01-XX-DR-C-0501 Proposed Drainage Details - Sheet 1
- 232250-PUNCH-01-XX-DR-C-0502 Proposed Drainage Details - Sheet 2

Please refer correspondence with DLRCC included at Appendix F.

3 Foul Water Drainage Design

3.1 Existing Foul Water Drainage

Based on available records, the following public surface water drainage exists adjacent to the development site:

1. 750/ 600mm diameter concrete public combined sewer flowing west-east along the northern boundary of the site.
2. The combined sewer as mentioned in point no. 1 upsizes to a 900mm diameter concrete public combined sewer which then flowing north-south parallel to Cabinteely River.

Please refer to Appendix A for Uisce Eireann Record Drawings illustrating the existing foul water drainage arrangement. An extract is shown in Figure 3-1 below.

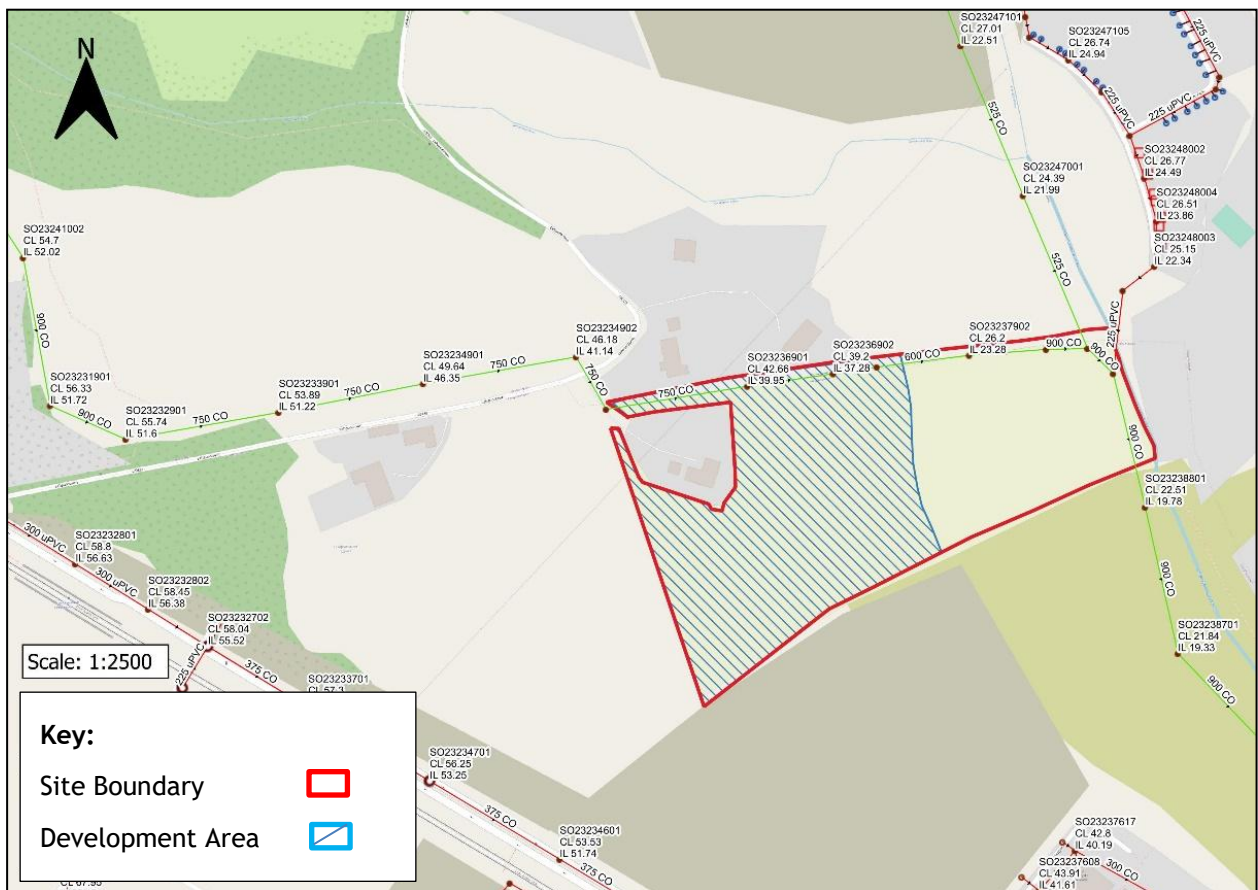


Figure 3-1: Existing foul drainage surrounding the site (Extract from Irish Water records)

3.2 Proposed Foul Water Drainage

3.2.1 General

The proposed foul water sewers have been designed using Causeway Flow software in accordance with the DOE's "*Recommendations for Site Development Works for Housing Areas*". The foul loading has been calculated in accordance with "Code of Practice for Wastewater Infrastructure" (particularly Appendix C and Appendix D) published by Uisce Éireann.

Drainage within the basement is in accordance with "Design Recommendations for Multi-storey and Underground Car Parks" published by the Institution of Structural Engineers and is to discharge to wastewater.

3.2.2 Wastewater Design Calculations - Development

It is proposed that the foul sewer will discharge by gravity to the existing 600mm combined sewer to the north of the site, as shown in 232250-PUNCH-01-XX-DR-C-0201. Drainage capacity for proposed sewerage is to be provided in accordance with section 3.6 of Code of Practice for Wastewater Infrastructure. The pipes are designed to carry a wastewater volume of between 4.5 and 6 times the dry weather flow subject to the number of dwellings serviced. The proportional velocity is designed to provide the minimum self-cleansing velocity.

Table 3-1 describes the foul water drainage design parameters used and detailed calculations are enclosed in Appendix E.

Table 3-1: Foul Water Drainage Design Parameters.

Description	Value
Residential Flow Rate	150 l/person/day
Persons per Dwelling	2.7
Infiltration	10%
Peaking Factor	6 DWF (Residential)
Minimum Self Cleansing Velocity	0.75m/s
Minimum Pipe Diameter	150mm

Table 3-2 below summarises the wastewater flows for the development.

Table 3-2: Foul Water Drainage Design Calculations.

Quantity	Quantity of Persons	Flow Rate (l/person/day)	Daily Flow (l/day)	Daily Flow + 10% Infiltration (l/day)	DWF (l/s)	Design Flow (6DWF) (l/s)
109 Residential units	109 x 2.7 = 295 persons	150	44,145	48,560	0.562	3.372
Total			44,145	48,560	0.562	3.372

3.2.3 Foul Sewer Layout Design - Development

The proposed building foul water drainage system will have the following components:

1. Foul water from the residential/ apartment units will discharge at ground level via gravity to the development's dedicated gravity foul network. The foul sewers associated with the residential/ apartment units will discharge via gravity along the development roadways and a subsequent foul sewer connection extension to the the existing 600mm combined sewer to the north of the site (at the existing manhole CL 36.17, IL 32.93), as discussed in Section 3.1 of this report and shown in .
2. Contaminated surface water run-off from basement level will be collected via a gravity network. This will be treated by a full bypass petrol interceptor before being collected at the respective pumping station. From the pumping station below the basement level the wastewater will discharge by rising main to a rising main discharge manhole externally before discharge by gravity to the development wastewater network.

3.2.4 Wastewater Drainage Servicing Neighbouring House

There is an existing septic tank within the Lehaunstown development site boundary that is servicing the neighbouring house. It is proposed to remove this septic tank and provide the neighbouring house with a new 150mm foul connection to the existing 750/600 mm combined sewer along the northern boundary of the site. Please note these works are indicative only for this application and are part of a separate design by others.

A Pre-Connection Enquiry was issued to Uisce Éireann requesting to remove the septic tank and provide a new foul connection. In response, Uisce Éireann issued a Confirmation of Feasibility letter for the proposals. Refer to the below figures and to Appendix G for the Confirmation of Feasibility.

3.2.5 Uisce Éireann Servicing - Wastewater

A Pre-Connection Enquiry Form has been issued to Uisce Éireann (Irish Water) in relation to the proposed development and a Confirmation of Feasibility Letter has been received. The relevant CDS number is CDS23009206. Uisce Éireann have confirmed that the development wastewater connection is feasible without infrastructure upgrades by Uisce Éireann.

Please refer to Appendix F for Uisce Éireann correspondence and Confirmation of Feasibility.

A Pre-Connection Enquiry Form has been issued to Uisce Éireann (Irish Water) in relation to the indicative removal of the septic tank servicing the neighbouring house and a Confirmation of Feasibility Letter has been received. The relevant CDS number is CDS25006343.

Please refer to G for Uisce Éireann correspondence and Confirmation of Feasibility.

3.2.6 Provision for Additional Future Wastewater Connection

The drainage design has allowed for a future wastewater connection to serve developments to the south and west of site. The SDZ zoning of neighbouring sites is as outlined in Figure 3-2 below.

- The area to be served by the connection is assumed based on the current wastewater infrastructure and the topography of the surrounding area.
- Res 2 and Res 3 zoning denote residential development of 45-70 units/ha and 65-100 units/ha respectively.

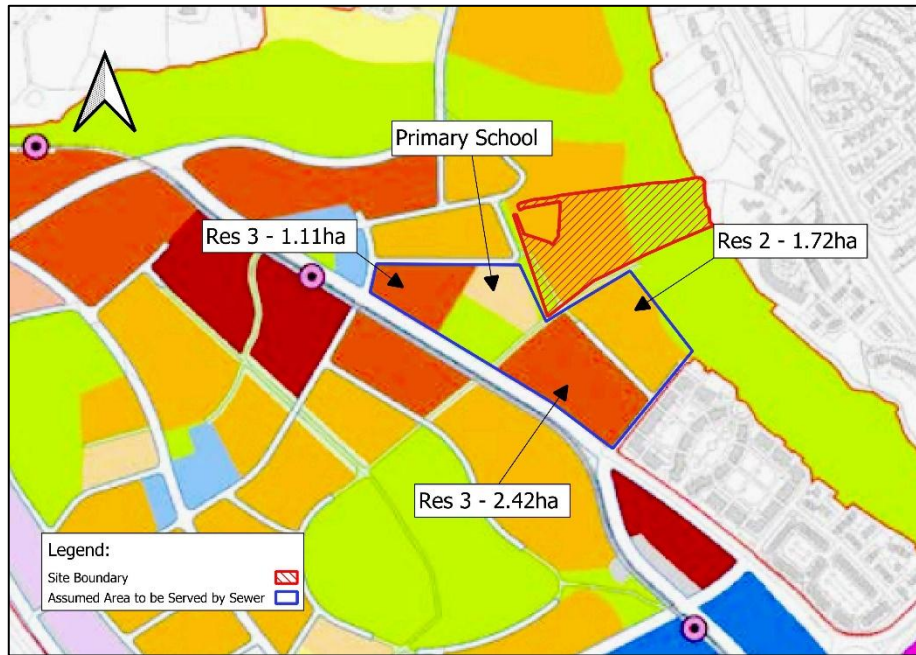


Figure 3-2: SDZ Zoning of Area to be served by Proposed Wastewater Sewer

Based on the above zoning and the land areas associated with the different sites the proposed sewer would serve a maximum of 474 no. residential units in addition to a primary school. Based on Uisce Éireann Code of Practice for Wastewater Infrastructure a sewer diameter of 300mm would be required to serve these developments.

3.2.7 Documents Reference

Please refer below drainage layout.

- 232250-PUNCH-01-XX-DR-C-0201 Proposed Drainage Layout

Please refer to Irish Water Documentation.

- Uisce Éireann (Irish Water) Confirmation of Feasibility Letter for the proposed development: CDS23009206. Refer to Appendix F.
- Uisce Éireann (Irish Water) Confirmation of Feasibility Letter for the neighbouring drainage: CDS25006343. Refer to Appendix G.

4 Watermain Design

4.1 Existing Watermain

On the basis of available records, the following public watermain infrastructure exists adjacent to the development site:

1. 315mm HDPE watermain running parallel to Grand Parade to the southeast of site.

Please refer to Appendix A for Uisce Éireann Record Drawings illustrating the existing watermain arrangement in the area. An extract is shown in Figure 4-1 below.

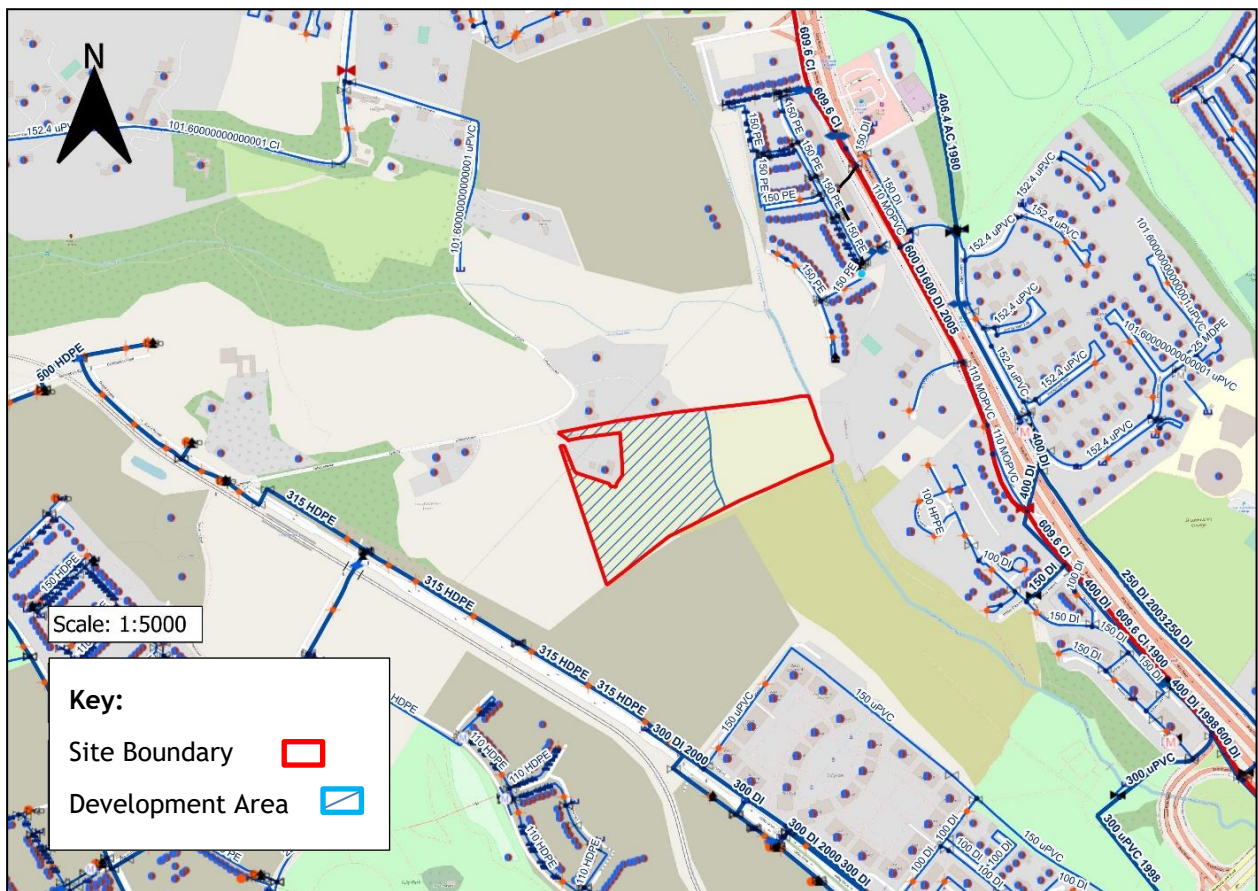


Figure 4-1: Existing watermain surrounding the site (Extract from Irish Water records)

4.2 Proposed Watermain

4.2.1 Watermain Demands

It is generally accepted that the design loading for foul drainage can be used to evaluate an approximation of the water demand on the site. With reference to Irish Water’s Code of Practice for Water Infrastructure, the average daily flow is calculated as the number of persons multiplied by the flow rate per person. The average day peak week flow is taken to be 1.25 x the average flow, and the peak demand is taken to be the average day peak week flow multiplied by a peaking factor of 5.

Table 4-1 describes the watermain design parameters used.

Table 4-1: Watermain Design Parameters.

Description	Value
Residential Flow Rate	150 l/per/day
Persons per Dwelling	2.7
Average Demand	1.25 DWF
Peak Demand	5 DWF

Table 4-2 below summarises the water supply flows for the development.

Table 4-2: Watermain Design Calculation.

Quantity	Quantity of persons	Flow Rate (l/person/day)	Daily Flow (l/day)	DWF (l/s)	Average Demand (1.25DWF) (l/s)	Peak Demand (5DWF) (l/s)
109 Residential units	109 x 2.7 =295 persons	150	44,145	0.511	0.639	3.193
Total			44,145	0.511	0.639	3.193

4.2.2 Proposed Watermain Layout

Based on the above calculated demand, it is proposed to construct a new watermain connection to service the proposed development which will connect into the proposed 225mm watermain along the Lehaunstown Neighbourhood Road. The proposed watermain to service the development will consist of a 180mm and a 110mm watermain. Refer drawing 232250-PUNCH-01-XX-DR-C-0301.

The proposed development watermain will connect to a new 200mm internal diameter watermain being constructed as part of a Lehaunstown neighbourhood road as designed by Systra, as part of a separate DLRCC development. This separately designed watermain is proposed to connect to an existing 315mm diameter HDPE watermain located on Grand Parade.

This feed will provide potable and firefighting water to the proposed development. A bulk water meter shall be provided at the site boundary at the location of the proposed connection to the existing watermain. The watermain layout has been designed in accordance with “Irish Water Code of Practice for Water Infrastructure”. All watermains are to be constructed in accordance with Irish Water Code of Practice and the Local Authority’s requirements. Fire coverage is to be reviewed and certified by the fire consultant.

To reduce the water demand on Local Authority water supplies and to reduce the foul discharge from the development, water conservation measures will be incorporated in the sanitary facilities throughout the development, e.g. dual flush toilets, monobloc low volume push taps and waterless urinals.

4.2.3 Uisce Éireann Servicing - Watermain

A Pre-Connection Enquiry Form has been issued to Uisce Éireann (Irish Water) in relation to the proposed development and a Confirmation of Feasibility Letter has been received. The relevant CDS number is CDS23009206. Uisce Éireann have confirmed that the development water connection is feasible subject to upgrades.

Please refer to Appendix F for Uisce Éireann correspondence.

4.2.4 Documents Reference

Please refer to PUNCH drawings for the proposed watermain layout.

- 232250-PUNCH-01-XX-DR-C-0301 Proposed Watermain Layout

Please refer to Irish Water Documentation, included in Appendix F.

- Uisce Éireann (Irish Water) Confirmation of Feasibility Letter: CDS23009206.

5 Cherrywood CPSS SDZ Consistency

This Section indicates the Specific Objectives as outline in Section 4.1 - Environmental Infrastructure - water and drainage. A response to how the proposed development site at Lehaunstown Land, Cherrywood, Co. Dublin addresses each of these specific objectives has also been given, as appropriate. Refer to Table 5-1 below.

Table 5-1: Specific Objectives set out in Chapter 4 Section 4.1 of the CPS

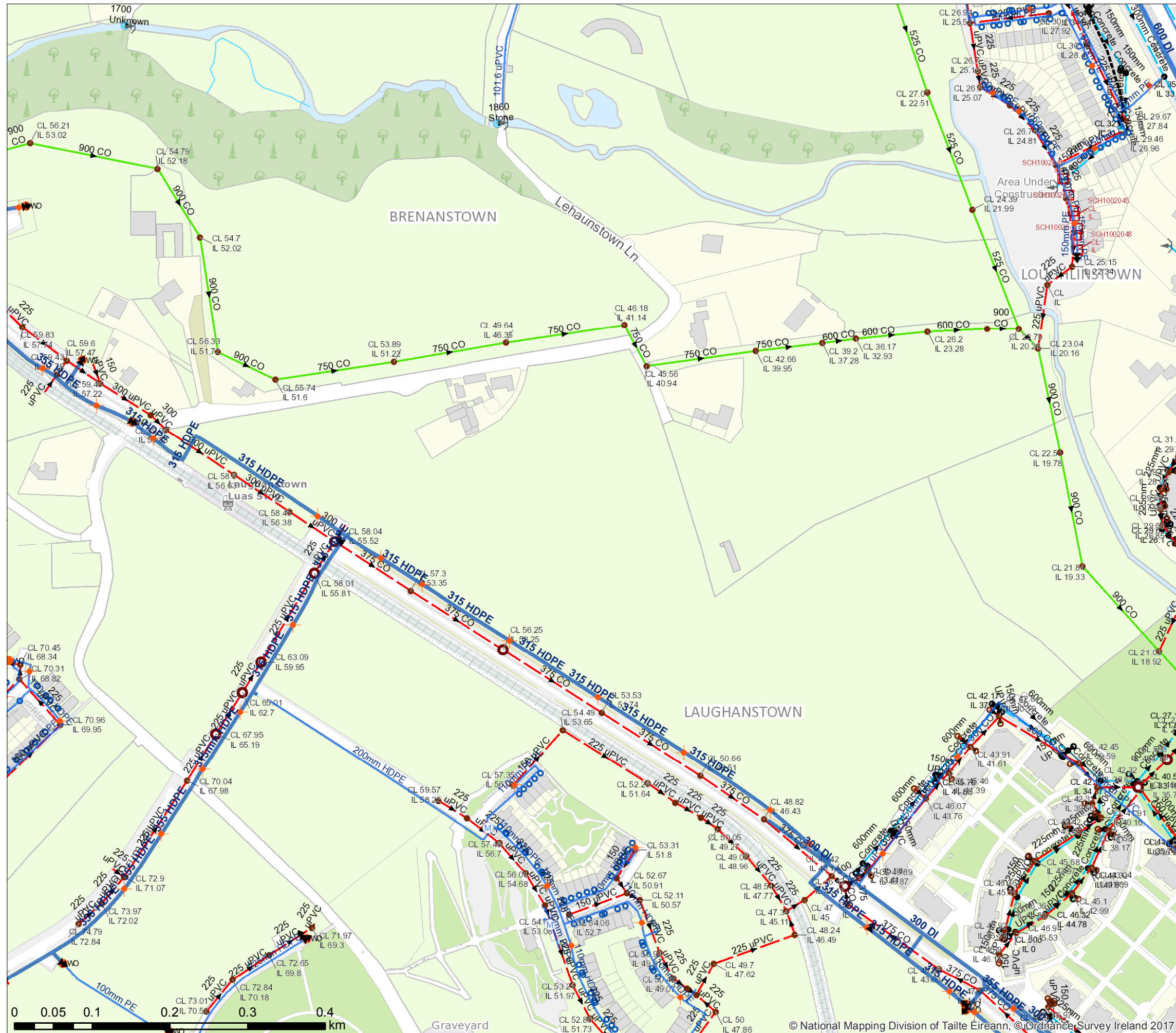
Specific Objective	Response
<i>PI 1 In common with all development in the Dublin region, development in the county is dependent on an adequate supply of water for the Dublin region. It is an objective to liaise with the Department of Environment Community and Local Government (DECLG) and Dublin City Council on regional water supply availability.</i>	An Uisce Eireann Confirmation of feasibility has been obtained with regard to water supply for the development
<i>PI 2 It is an objective to reach agreement with Dublin City Council on measures to reprioritise water allocation to Rathmichael reservoir. This may also involve installation of a new strategic watermain to Shankill to reduce over-reliance on Roundwood Water Treatment Works.</i>	An Uisce Eireann Confirmation of feasibility has been obtained with regard to water supply for the development
<i>PI 3 Development beyond 4ml/day capacity in the Planning Scheme and other new developments in the supply area (including Shankill, Shanganagh and Woodbrook) will require construction of the Old Connaught Woodbrook Water Supply Scheme. It is an objective to progress this scheme which is currently awaiting approval of the DECLG.</i>	An Uisce Eireann Confirmation of feasibility has been obtained with regard to water supply for the development
<i>PI 4 It is an objective to ensure a planned approach is taken to the local distribution network within the zone to facilitate co-ordinated development. To support the use of water saving systems and landscaping. Where national standards are adopted, under the Water Services Act 2007 or otherwise, for rainwater harvesting and/or greywater recycling for use within buildings, these will be incorporated to the maximum practicable extent.</i>	An Uisce Eireann Confirmation of feasibility has been obtained with regard to water supply for the development. Rainwater harvesting is not proposed for the development. Alternative SUDS measures are proposed.

Specific Objective	Response
<p><i>PI 5 It is an objective to replace a short portion of critical trunk main from Bride's Glen Road at an early stage to secure supply.</i></p>	<p>Not applicable to the proposed development.</p> <p>An Uisce Eireann Confirmation of feasibility has been obtained with regard to water supply for the development</p>
<p><i>PI 6 It is an objective to promote Sustainable Urban Drainage Systems (SuDS) to manage surface and groundwater regimes sustainably.</i></p>	<p>The following SuDS measures are proposed within Private Development Site Boundaries:</p> <ol style="list-style-type: none"> 1. Green Roofs 2. Bioretention areas <p>The runoff from the development will be restricted to 1l/s/ha and the final outfall pipe from the site will be 225mm in diameter. Drainage pipework is modelled to accommodate this runoff and discharge control upstream of an attenuation tank at 1 in 100 year storm (1% AEP).</p>
<p><i>PI 7 It is an objective to ensure that stormwater management, flood attenuation and Sustainable (Urban) Drainage Measures (SuDS), including a requirement to undertake Stormwater Audits, shall form part of the pre-planning, planning and post construction stages of any application.</i></p>	<p>A stormwater management strategy has been developed for the site, which includes a SuDS management train. A Stormwater Audit for this development is provided and addressed.</p> <p>The runoff from the development will be restricted to 1l/s/ha and the final outfall pipe from the site will be 225mm in diameter. Drainage pipework is modelled to accommodate this runoff and discharge control upstream of an attenuation tank at 1 in 100 year storm (1% AEP).</p>
<p><i>PI 8 It is an objective to ensure that SuDS measures shall be fully implemented on all sites to 1 litre per second per hectare runoff rates, unless otherwise agreed with Dún Laoghaire Rathdown County Council. In this regard solutions other than tanking systems shall be required for all developments. For larger applications Green Roofs shall be used in accordance with Dún Laoghaire- Rathdown County Council's Green Roofs Guidance Document.</i></p>	<p>The runoff from the development will be restricted to 1l/s/ha and the final outfall pipe from the site will be 225mm in diameter. Drainage pipework is modelled to accommodate this runoff and discharge control downstream of an attenuation tank at 1 in 100 year storm (1% AEP).</p> <p>Green roofs have been included in the development and justification is provided with regard to compliance with DLRCC Green Roof Policy.</p>

Specific Objective	Response
<p><i>PI 9 It is an objective to ensure urban areas are designed to accommodate surface water flood flow at times of extreme events through the dual use of roads and pathways as flood conveyance channels and low value areas (parkland, car parks, large paved areas etc) used as temporary flood ponding areas.</i></p>	<p>Entrances to all buildings are above the adjacent road levels. The site generally slopes from west to east towards a low point where the proposed attenuation tank is located. Therefore, surface water flood flow at times of extreme events will be running water and will not have the depth to enter buildings.</p> <p>Overland flow paths are considered and indicated for the development for scenarios where drainage is above design capacity or if blockage occurs.</p> <p>The runoff from the development will be restricted to 1l/s/ha and the final outfall pipe from the site will be 225mm in diameter. Drainage pipework is modelled to accommodate this runoff and discharge control upstream of an attenuation tank at 1 in 100 year storm (1% AEP).</p>
<p><i>PI 10 It is an objective to ensure that all trees planted in/adjacent to hard paved areas (footpaths, parking areas etc) incorporate tree root structural cell systems.</i></p>	<p>Tree root structural cell systems planted in or adjacent to hard paved areas incorporate tree root structural cell systems in accordance with landscape architect design.</p>
<p><i>PI 11 It is an objective to ensure that predicted flooding in the Priorsland area does not pose an unacceptable risk to persons or property. In this regard a flood containment zone shall be constructed in the Priorsland area by raising adjacent ground levels approx 500mm and by incorporating a large diameter (1650mm) bypass culvert.</i></p>	<p>Culvert works are not applicable to the development.</p> <p>Development drainage is designed to provide water levels at 500mm level below floor levels at 1% AEP storm with allowance for 20% climate change.</p>
<p><i>PI 12 It is an objective that significant foul trunk sewer infrastructure is provided within the Planning Scheme area.</i></p>	<p>The development facilitates space for future wastewater sewerage to service adjacent lands and connect to the existing 600mm diameter combined sewer that is located to the north of the development.</p>

Appendix A Existing Record Drawings

Lehaunstown



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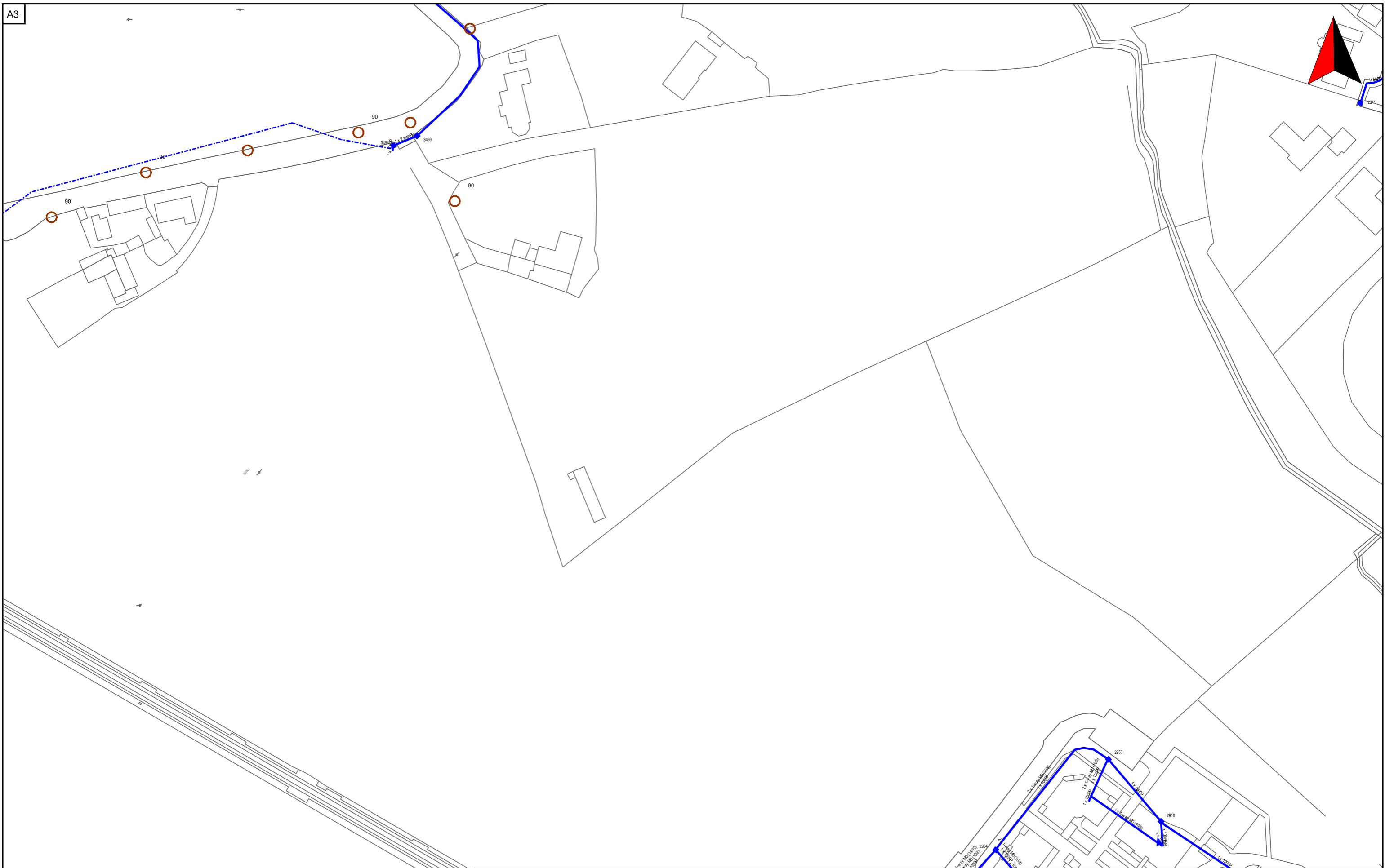
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Water Distribution Network	Sewer Foul Combined Network	Storm Water Network
Water Treatment Plant	Waste Water Treatment Plant	Surface Water Mains
Water Pump Station	Waste Water Pump station	Surface Gravity Mains
Storage Cell/Tower		Surface Gravity Mains Private
Dosing Point		Surface Water Pressurised Mains
Meter Station		Surface Water Pressurised Mains Private
Meter Station		
Abstraction Point		Inlet Type
Telemetry Kiosk		Gully
Reservoir		Standard
Potable		Other; Unknown
Raw Water		Storm Manholes
Water Distribution Mains		Standard
Irish Water		Backdrop
Private		Cascade
Trunk Water Mains		Bifurcation
Irish Water		Hatchbox
Private		Lampole
Water Lateral Lines		Hydrobrake
Irish Water		Other; Unknown
Non IW		Storm Culverts
Water Casings		Storm Clean Outs
Water Abandoned Lines		Stormwater Chambers
Boundary Meter		Discharge Type
Bulk/Check Meter		Outfall
Group Scheme		Overflow
Source Meter		Standard
Unknown Meter; Other Meter		Soakaway
Non-Return		Other; Unknown
PRV		Gas Networks Ireland
PSV		Transmission High Pressure Gasline
Sluice Line Valve Open/Closed		Distribution Medium Pressure Gasline
Butterfly Line Valve Open/Closed		Distribution Low Pressure Gasline
Sluice Boundary Valve Open/Closed		ESB Networks
Butterfly Boundary Valve Open/Closed		ESB HV Lines
Scour Valves		HV Underground
Single Air Control Valve		HV Overhead
Double Air Control Valve		HV Abandoned
Water Stop Valves		ESB MVLV Lines
Water Service Connections		MV Overhead Three Phase
Water Distribution Chambers		MV Overhead Single Phase
Water Network Junctions		LV Overhead Three Phase
Pressure Monitoring Point		LV Overhead Single Phase
Fire Hydrant		MVLV Underground
Fire Hydrant/Washout		Abandoned
Water Fittings		Non Service Categories
Cap		Proposed
Reducer		Under Construction
Tap		Out of Service
Other Fittings		Decommissioned
		Water Non Service Assets
		Water Point Feature
		Water Pipe
		Water Structure
		Waste Non Service Assets
		Waste Point Feature
		Waste Pipe
		Waste Structure
		Waste Structure



open eir Civil Engineering Infrastructure Service

Scale: 1:1500	Irish National Grid Co-Ordinates Centre XY: 323633 m, 223780 m
Date 06/11/2023	Smallworld Powered by GE



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TITLE:
20231110-025_A0

COLOUR CODE:	
BLACK	- 38KV & HIGHER VOLTAGE OVERHEAD LINES
GREEN	- MV(10KV/20KV) OVERHEAD LINES
BLUE	- LV (400V/230V) OVERHEAD LINES
CYAN	- 38KV & HIGHER VOLTAGE UNDERGROUND CABLE ROUTES
RED	- MV/LV (10KV/20KV/400V/230V) UNDERGROUND CABLE ROUTES

DATE: 10-Nov-2023

** SCALE: 1:2500

** SCALE WHEN PRINTED ON AN A0 PAGE
XY COORDINATES DISPLAYED IN IRISH GRID COORDINATE SYSTEM

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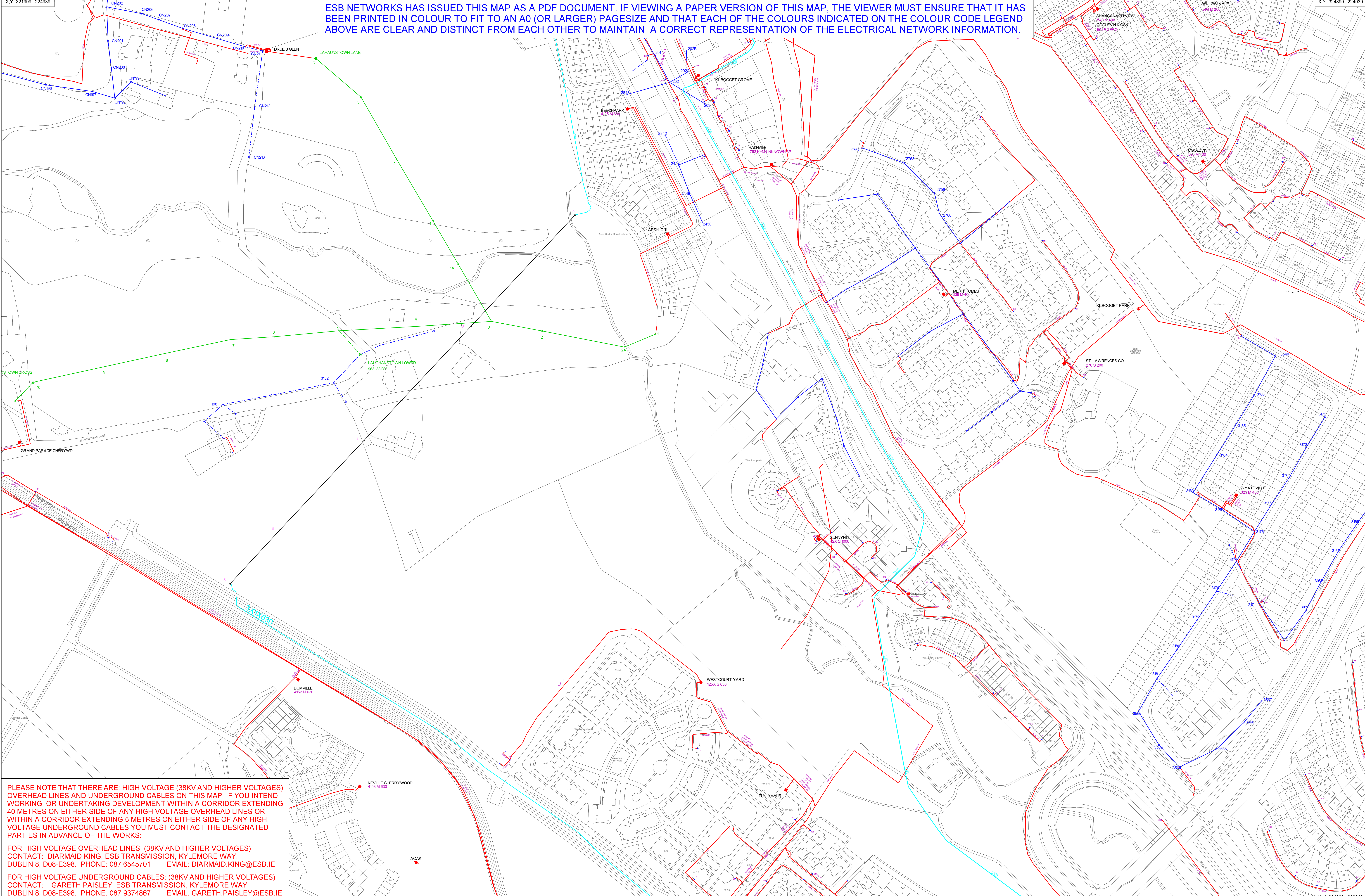
WARNING

THIS MAP INDICATES THE APPROXIMATE LOCATION OF ESB TRANSMISSION (400KV, 220KV, 110KV, 38KV) AND DISTRIBUTION (20KV, 10KV, 230V/400V) UNDERGROUND CABLES AND OVERHEAD LINES IN THE GENERAL AREA OF THE PROPOSED WORKS. ESB NETWORKS TAKES NO RESPONSIBILITY FOR THE ACCURACY OR COMPLETENESS OF THE MAP. IT IS THE USER'S RESPONSIBILITY TO INDEPENDENTLY VERIFY THE INFORMATION AND THE LOCATION OF UNDERGROUND CABLES AND OVERHEAD LINES. LOW VOLTAGE (230V/400V) SERVICE CABLES (E.G. HOUSE SERVICES, FACTORY/SHOP SERVICES, PUBLIC LIGHTING LAMP SERVICES, ETC) ARE NOT INCLUDED BUT THEIR PRESENCE SHOULD BE ANTICIPATED. THE DEPTHS OF UNDERGROUND CABLES MUST NEVER BE ASSUMED. ADDITIONAL MORE DETAILED INFORMATION IS AVAILABLE FOR HIGH VOLTAGE TRANSMISSION UNDERGROUND CABLES (38KV, 110KV, 220KV, 400KV) FROM THE LOCAL ESB NETWORKS TRANSMISSION REPRESENTATIVE. SEE ATTACHED LIST FOR CONTACT DETAILS OR CALL 1800 372 757. NO WORK SHOULD BE CARRIED OUT IN THE VICINITY OF 38KV OR HIGHER VOLTAGE UNDERGROUND CABLES WITHOUT PRIOR CONSULTATION WITH ESB NETWORKS. BEFORE ANY MECHANICAL EXCAVATION IS UNDERTAKEN, THE ACTUAL LOCATION OF ALL UNDERGROUND ELECTRICITY CABLES MUST BE ESTABLISHED AND VERIFIED ON THE SITE USING (A) UP-TO-DATE MAP RECORDS; (B) CABLE LOCATOR EQUIPMENT OPERATED IN BOTH POWER AND RADIO MODES; (C) CAREFUL HAND DIGGING OF TRIAL HOLES USING 'SAFE DIGGING PRACTICE'. REFER ALSO TO HSA CODE OF PRACTICE FOR AVOIDING DANGER FROM UNDERGROUND SERVICES'. ESB TAKES NO RESPONSIBILITY FOR AND SHALL BEAR NO LIABILITY, HOWSOEVER ARISING, IN RELATION TO ANY DAMAGE, INJURY/DEATH OR LOSS OF SUPPLY AS A RESULT OF DAMAGE OR INTERFERENCE WITH ITS NETWORKS.

X.Y: 321999, 224939

X.Y: 324899, 224939

ESB NETWORKS HAS ISSUED THIS MAP AS A PDF DOCUMENT. IF VIEWING A PAPER VERSION OF THIS MAP, THE VIEWER MUST ENSURE THAT IT HAS BEEN PRINTED IN COLOUR TO FIT TO AN A0 (OR LARGER) PAGESIZE AND THAT EACH OF THE COLOURS INDICATED ON THE COLOUR CODE LEGEND ABOVE ARE CLEAR AND DISTINCT FROM EACH OTHER TO MAINTAIN A CORRECT REPRESENTATION OF THE ELECTRICAL NETWORK INFORMATION.

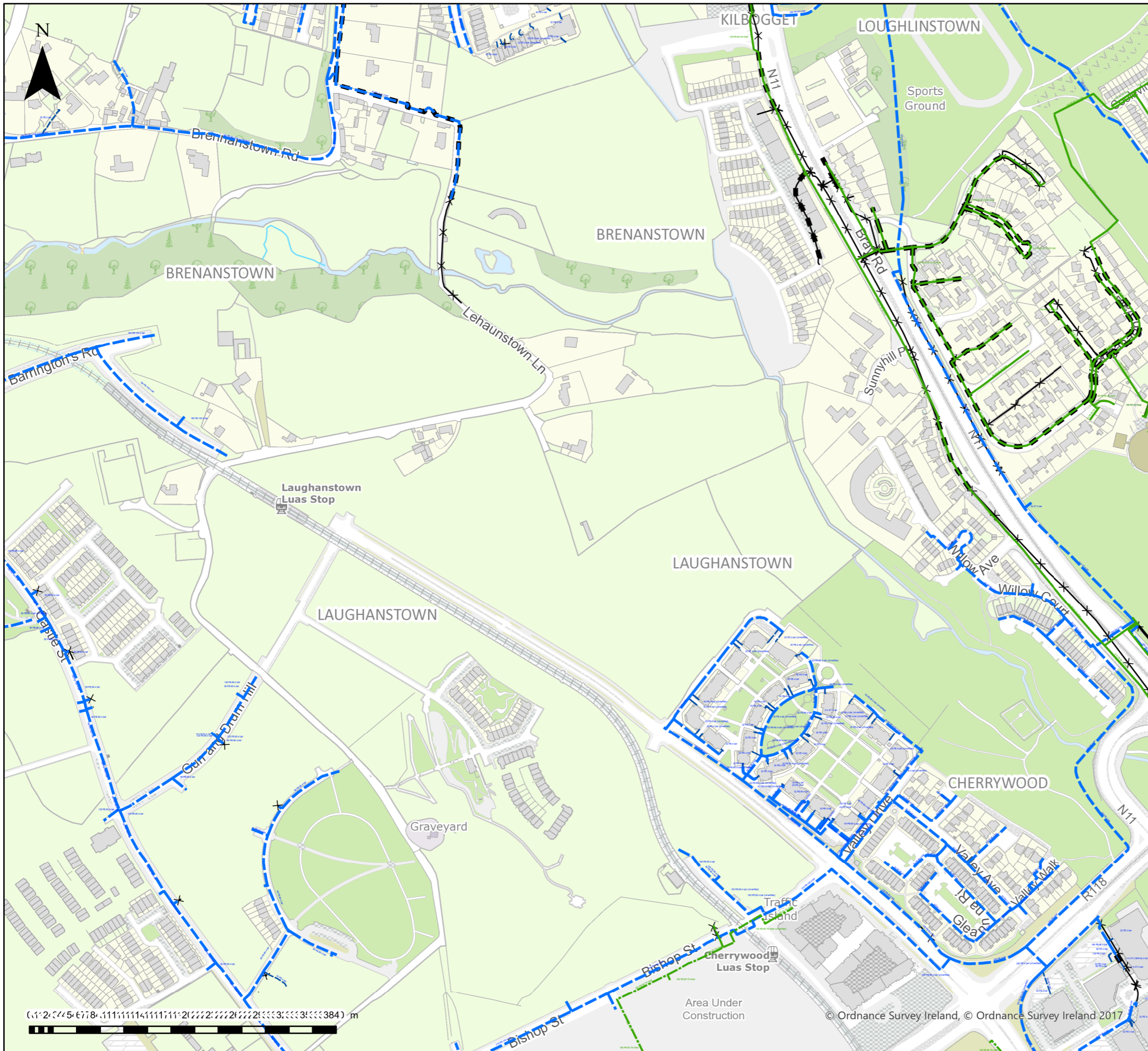


PLEASE NOTE THAT THERE ARE: HIGH VOLTAGE (38KV AND HIGHER VOLTAGES) OVERHEAD LINES AND UNDERGROUND CABLES ON THIS MAP. IF YOU INTEND WORKING, OR UNDERTAKING DEVELOPMENT WITHIN A CORRIDOR EXTENDING 40 METRES ON EITHER SIDE OF ANY HIGH VOLTAGE OVERHEAD LINES OR WITHIN A CORRIDOR EXTENDING 5 METRES ON EITHER SIDE OF ANY HIGH VOLTAGE UNDERGROUND CABLES YOU MUST CONTACT THE DESIGNATED PARTIES IN ADVANCE OF THE WORKS:

FOR HIGH VOLTAGE OVERHEAD LINES: (38KV AND HIGHER VOLTAGES)
CONTACT: DIARMAID KING, ESB TRANSMISSION, KYLEMORE WAY,
DUBLIN 8, D08-E398. PHONE: 087 6545701 EMAIL: DIARMAID.KING@ESB.IE

FOR HIGH VOLTAGE UNDERGROUND CABLES: (38KV AND HIGHER VOLTAGES)
CONTACT: GARETH PAISLEY, ESB TRANSMISSION, KYLEMORE WAY,
DUBLIN 8, D08-E398. PHONE: 087 9374867 EMAIL: GARETH.PAISLEY@ESB.IE

X.Y: 324899, 223016



Important Safety Notice: Damage to gas pipelines can result in serious injury or death. Gas network information is provided as a general guide. The exact location and depth of medium or low pressure distribution gas pipes must be verified on site by carrying out necessary investigations, including, for example, hand digging trial holes along the route of the pipe. Service pipes are not generally shown but their presence should always be anticipated.


High pressure transmission pipelines are shown in red. If a transmission pipeline is identified within 10m of any intended excavations then work must not proceed before GNI has been consulted. The true location and depth of a transmission pipeline must be verified on site by a representative of GNI. Contact can be made through 1800 427 747.

All work in the vicinity of the gas network must be completed in accordance with the current edition of the Health and Safety Authority publication, 'Code of Practice For Avoiding Danger From Underground Services' which is available from the Health and Safety Authority (0818 289 389) or can be downloaded at www.hsa.ie.

Legal Notice: Gas Networks Ireland (GNI) and its affiliates, accept no responsibility for the accuracy of any information contained in this document including data concerning location and technical designation of the gas distribution and transmission network (the 'Information'). The Information should not be relied on for accurate distance or depth of cover measurements.

Any representations and warranties, express or implied, are excluded to the fullest extent permitted by law. No liability shall be accepted for any loss or damage including, without limitation, direct, indirect or consequential loss, arising out of or in connection with the use or re-use of the Information.

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 Aurora Telecom Duct


 Aurora Telecom Sub Duct


 Aurora Telecom Inserted Gas Pipe


Aurora Telecom Queries - 01-8926166 (Office Hours)


 Aurora_Network_Queries@gasnetworks.ie


 Aurora Telecom Emergency Only 1800 427399 / 01 2030120


 Transmission Pipe (High Pressure)


 Transmission Pipe (Construction Issue)


 Distribution Pipe (Medium Pressure)


 Distribution Pipe (Low Pressure)


 Service Pipe (Medium Pressure)



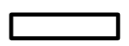

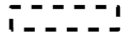








 Service Pipe (Low Pressure)

 Strategic Pipe (Medium Pressure)

 Strategic Pipe (Low Pressure)

 Inserted

 Abandoned Pipe

C=?	Cover (depth in metres)		Pressure Monitor
	CP Test Point		Protection (Slabbing)
	End Cap		Protection (Sleeve)
	Hot Tap		Reducer
	Installation		Service Terminator
	Valve		Tee
	Mains Verification**		Transition

** Please contact GNI on 1800-427747 for specific information




GAS NETWORK INFORMATION

Description: test	
Location: 723501,723809	
Plot Date: 06/11/2023 12:43	Scale: 5000 @ A3
Plotted By: 6818	Ref ID: 6818_06112023124357

Appendix B Relevant Third Party Designs:

Lehaunstown Neighbourhood Road - SYSTRA

Regional Attenuation Pond 2A Drawings -Roughan & O'Donovan

LEHAUNSTOWN NEIGHBOURHOOD ROAD

DRAWINGS

- IE01T23A67_PD_001 - SITE LOCATION PLAN
- IE01T23A67_PD_002 - GENERAL ARRANGEMENT
- IE01T23A67_PD_003 - UTILITIES
- IE01T23A67_PD_004 - DRAINAGE
- IE01T23A67_PD_005 - LONGSECTIONS

A	04/07/24	For Planning	PK	AM	AM
Rev	Date	Revision Details	Drawn	Checked	Approved

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Client
DÚN LAOGHAIRE-RATHDOWN
COUNTY COUNCIL

Project
LEHAUNSTOWN NEIGHBOURHOOD ROAD

Title
DRAWINGS
COVER SHEET

Drawn	PK	Checked	AM	Approved	AM
Original dwg. size	NTS	Date	July 2024	Scale	NTS
Drawing Status	For Planning	Drawing Number	IE01T23A67-PD-CS	Rev	A



Open Well

Pond

Legend

█ Proposed Scheme Extents

LOCATION OF SITE NOTICE No. 1

LEHAUNSTOWN LANE

LOCATION OF SITE NOTICE No. 2

ES
Platform Platform



C	04/07/24	For Planning	PK	AM	AM
B	25/06/24	For Planning	PK	AM	AM
A	05/01/24	For Planning	PK	AM	AM
Rev.	Date	Revision Details	Drawn	Checked	Approved

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COUNTY COUNCIL

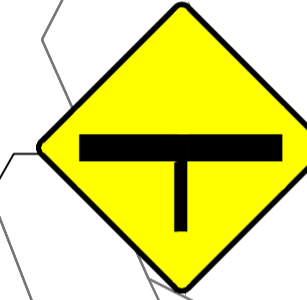
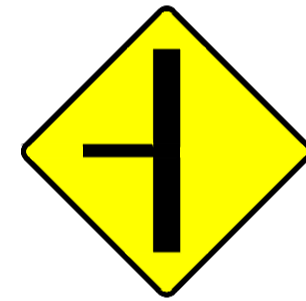
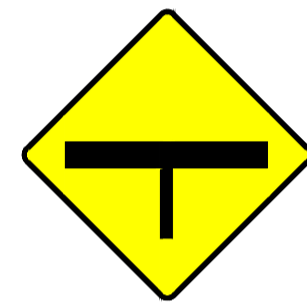
LEHAUNSTOWN NEIGHBOURHOOD ROAD

SITE LOCATION PLAN

Drawn	PK	Checked	AM	Approved	AM
Original dtp. size	A1	Date	July 2024	Scale	1:1000
Drawing Status	For Planning	Drawing Number	IE01T23A67-PD-001	Rev.	C



PROPOSED PRIORITY JUNCTION LEHAUNSTOWN LANE



LEHAUNSTOWN LANE

TIE INTO PROPOSED HOUSING
DEVELOPMENT ACCESS ROAD.

TIE INTO EXISTING GRAND PARADE
SIGNAL CONTROLLED JUNCTION



NOTES:

- STREET TREES TO BE PROVIDED IN ACCORDANCE WITH THE CHERRYWOOD PLANNING SCHEME.

Legend

- █ Proposed Scheme Extents
- █ Proposed Carriageway
- █ Proposed Footpath
- █ Proposed Swale
- Proposed Lighting Column
- Proposed Gully
- Proposed Signage
- Proposed Tactile Paving
- Proposed Tree in Tree Pit



C	20/06/24	Revised following Client comments	PK	AM	AM
B	28/02/24	Raised Crossings added	PK	AM	AM
A	05/01/24	For Planning	PK	AM	AM
Rev.	Date	Revised work	Drawn	Checked	Approved

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Client: DÚN LAOGHAIRE-RATHDOWN COUNTY COUNCIL

Project: LEHAUNSTOWN NEIGHBOURHOOD ROAD

Title: PROPOSED GENERAL ARRANGEMENT

Drawn	PK	Checked	AM	Approved	AM
Original dg. size	A1	Date	June 2024	Scale	1:500
Drawing Status	For Planning	Drawing Number	IE01T23A67-PD-002	Rev.	C



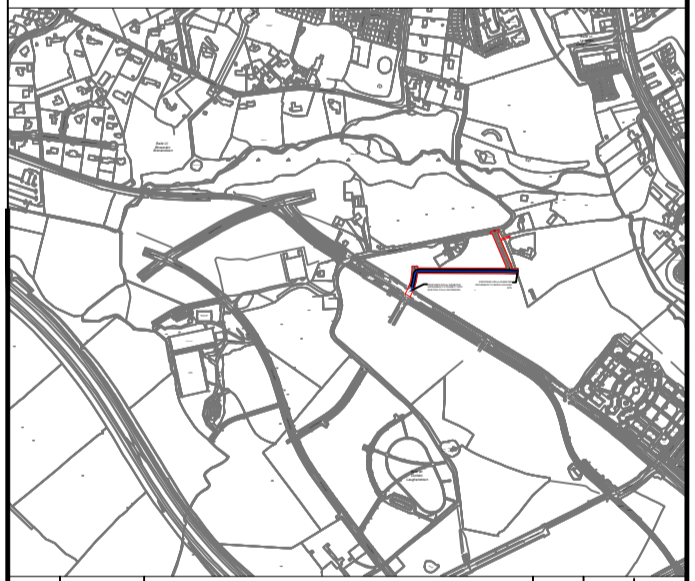
Legend

- Proposed Scheme Extents
- Proposed Watermain
- Proposed 5m Wide Utility Corridor to accommodate ESB, Telecoms, Gas, Foul Sewer, etc

LEHAUNSTOWN LANE

PROPOSED 200mm DIAMETER WATERMAIN TO CONNECT INTO EXISTING 315mm WATERMAIN

PROPOSED 200mm DIAMETER WATERMAIN TO SERVE HOUSING SITE



C	25/06/24	For Planning	PK	AM	AM
B	28/02/24	Raised Crossings Added	PK	AM	AM
A	05/01/24	For Planning	PK	AM	AM
Rev.	Date	Revised work	Drawn	Checked	Verified

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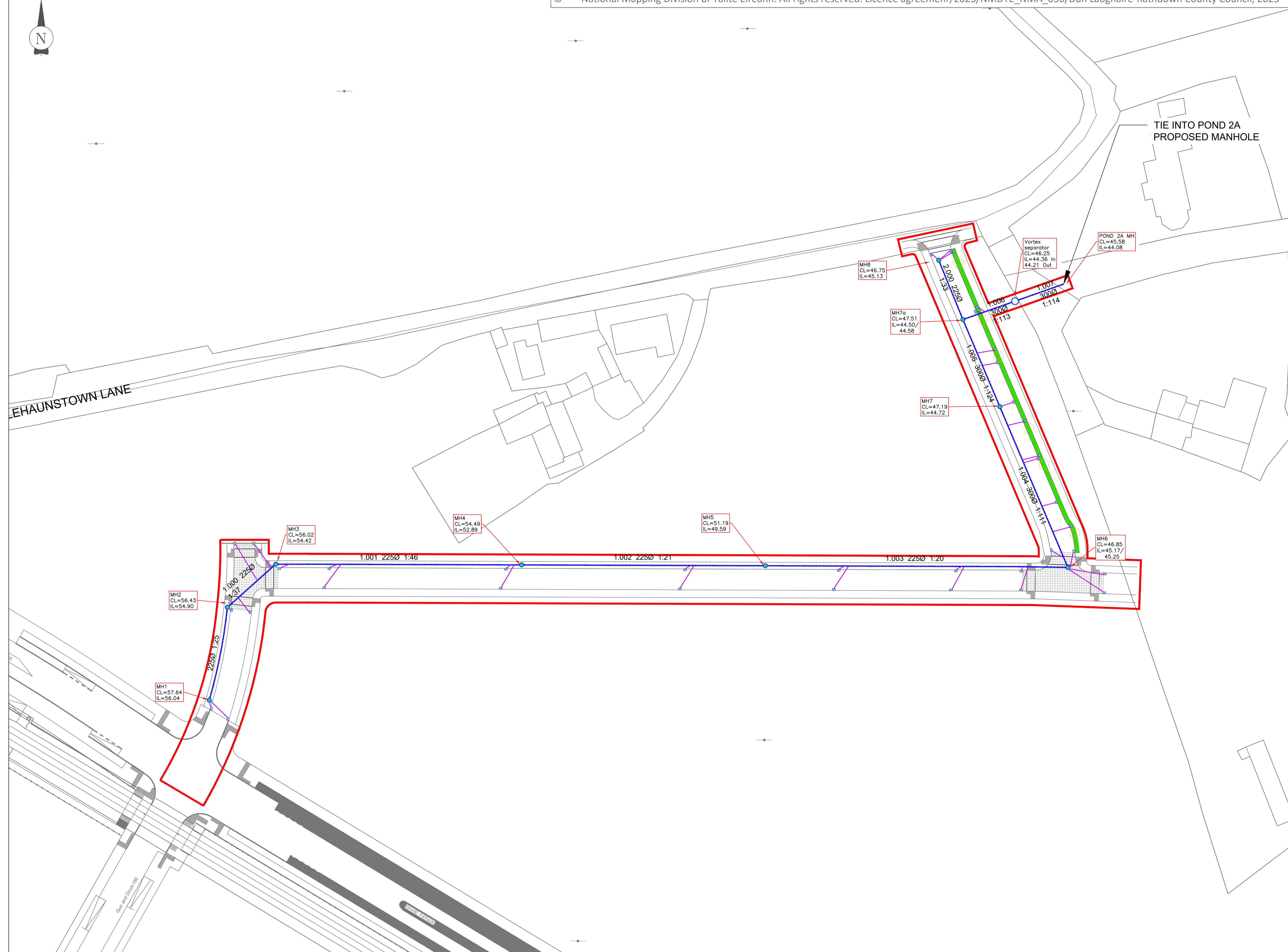
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Client
DÚN LAOGHAIRE-RATHDOWN COUNTY COUNCIL

Project
LEHAUNSTOWN NEIGHBOURHOOD ROAD

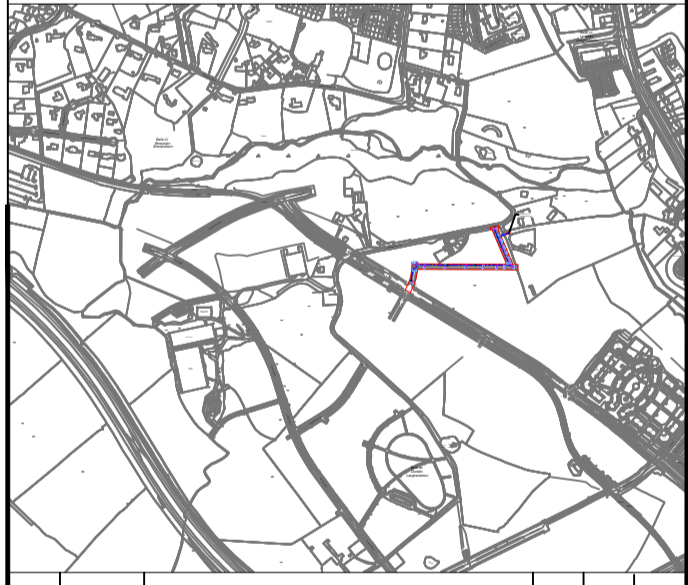
Title
PROPOSED UTILITIES

Drawn	PK	Checked	AM	Approved	AM
Original dwg size	A1	Date	June 2024	Scale	1:500
Drawing Status	For Planning	Drawing Number	IE01T23A67-PD-003	Rev.	C



Legend

- Proposed Scheme Extents
- Proposed Gully
- Proposed Manhole
- - - Proposed Surface Water Carrier
- Proposed Gully Connection
- Proposed Swale
- Proposed Tree in Tree Pit



Rev.	Date	Revised by	Drawn	Checked	Approved
B	20/06/24	For Review	PK	AM	AM
A	05/12/23	For Information	PK	AM	AM

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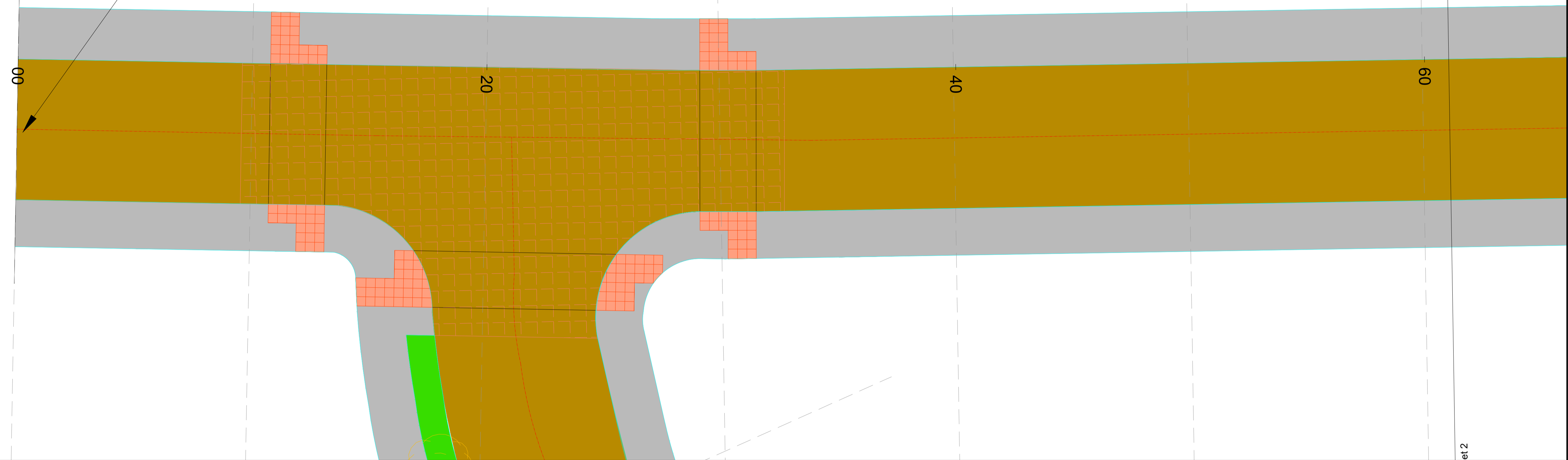
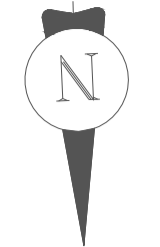
Client: DÚN LAOGHAIRE-RATHDOWN COUNTY COUNCIL

Project: LEHAUNSTOWN NEIGHBOURHOOD ROAD

Title: PROPOSED DRAINAGE

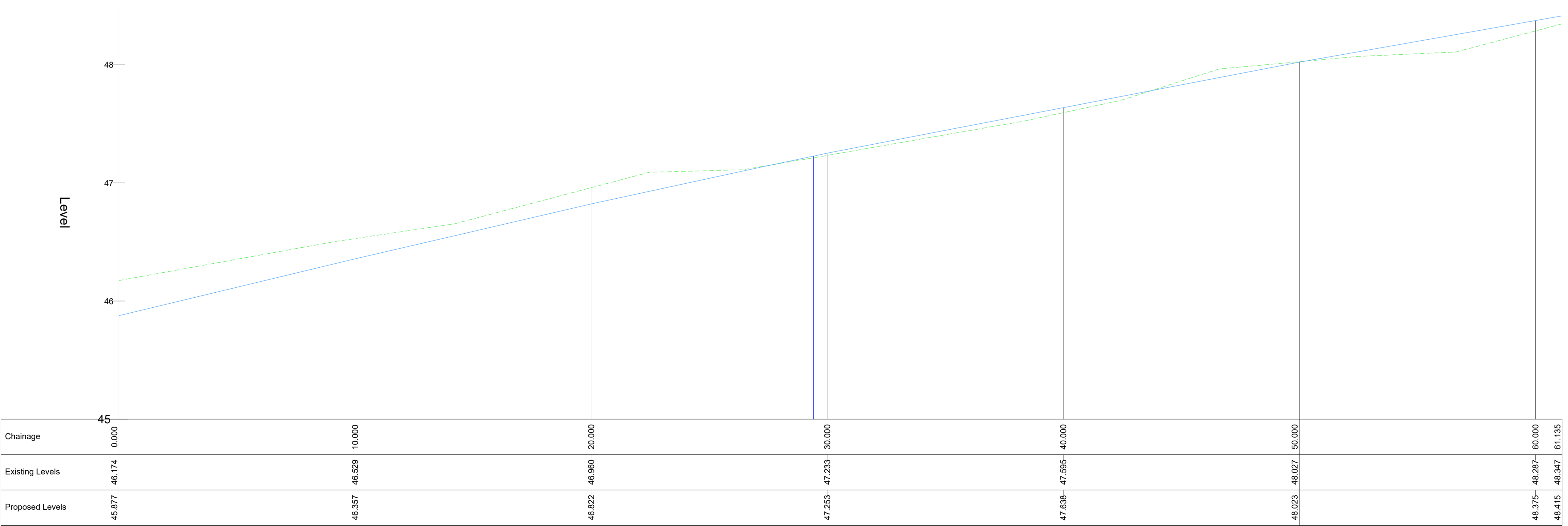
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PK	AM	AM
Original dwg. size	Date	Scale
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Drawing Status	Drawing Number	Rev.
For Review	IE01T23A67-PD-004	B

PROPOSED TIE IN TO PROPOSED RESIDENTIAL DEVELOPMENT



- Legend**
- █ Proposed Scheme Extents
 - █ Existing Levels
 - █ Proposed Levels

EAST-WEST LONGSECTION 1
SCALE: H1:100, V 1:20.



Rev.	Date	Revision details	Drawn	Checked	Approved
B	25/06/24	For Planning	CS	PK	AM
A	19/04/24	For Information	CS	PK	AM

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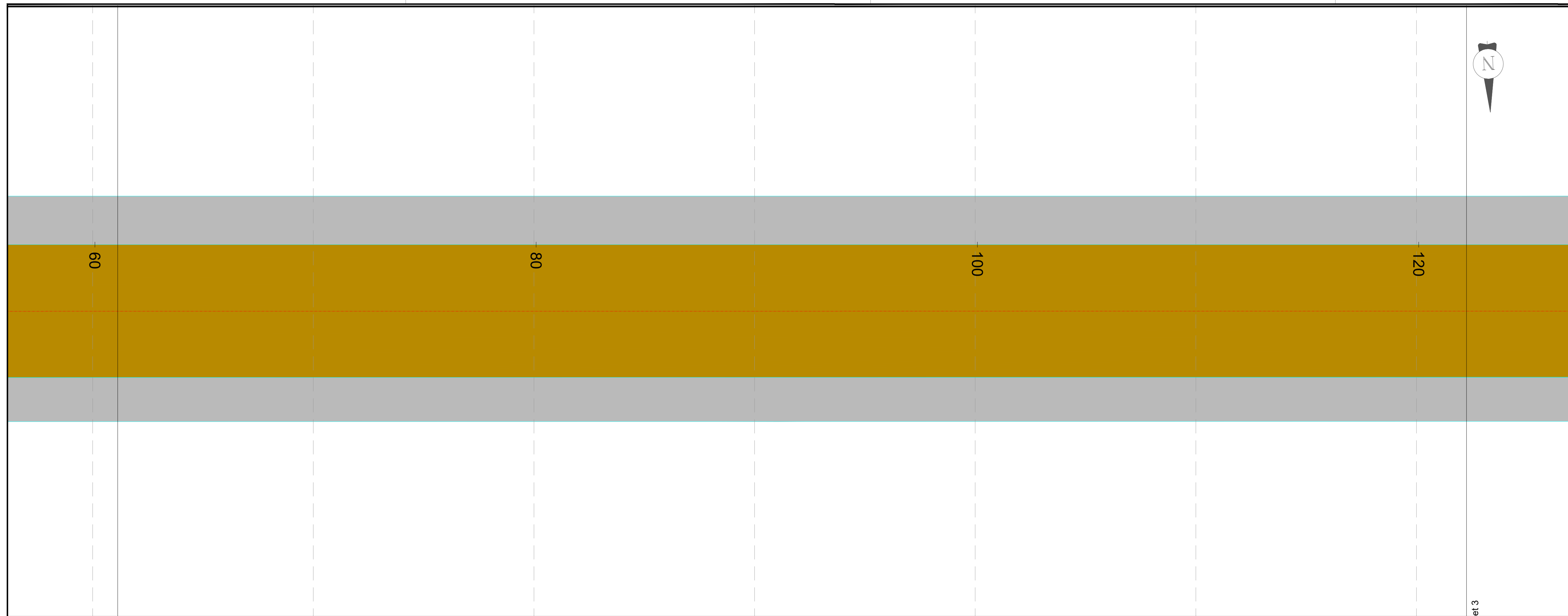
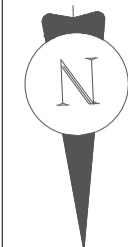
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Project: LEHAUNSTOWN NEIGHBOURHOOD ROAD

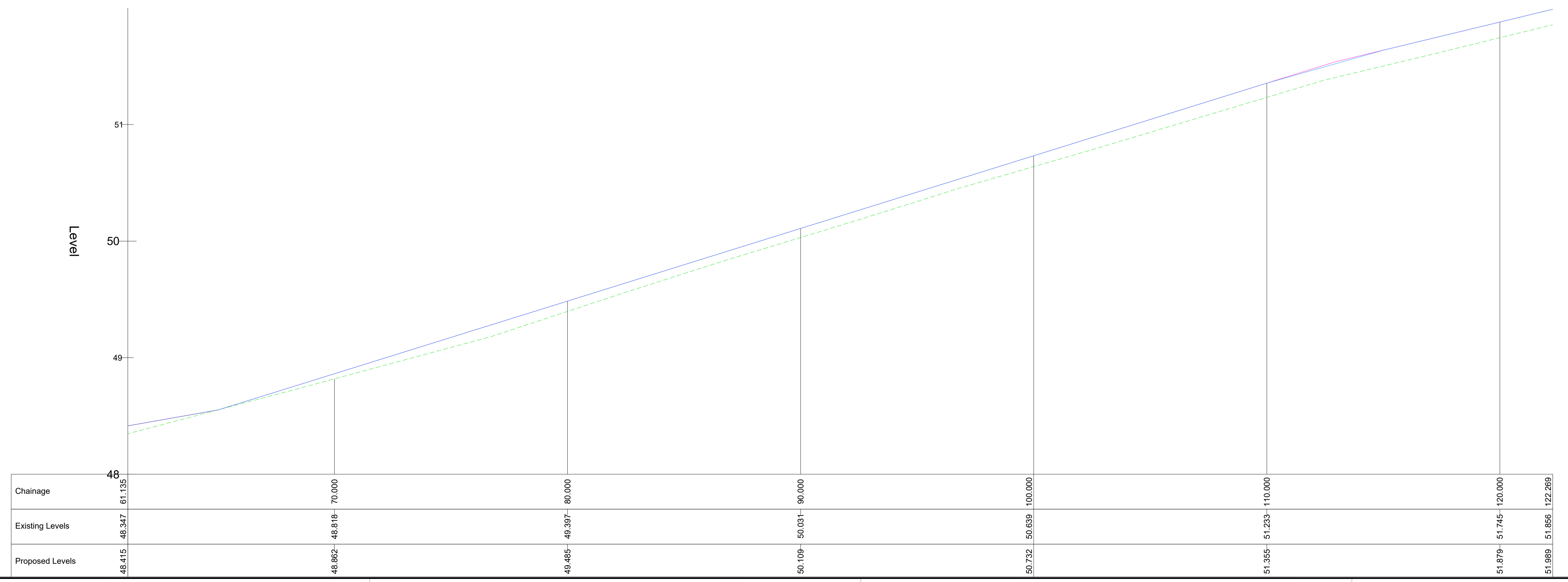
Title: PROPOSED LONGSECTIONS SHEET 1 OF 7

Drawn: CS	Checked: PK	Approved: AM
Original fig. size: A1	Date: June 2024	Scale: 1:100
Drawing Status: For Planning	Drawing Number: IE01T23A67-PD-005	Rev: B



- Legend**
- Proposed Scheme Extents
 - - - Existing Levels
 - Proposed Levels

EAST-WEST LONGSECTION 2
SCALE: H1:100, V 1:20.



Rev.	Date	Revision/Details	Drawn	Checked	Approved
B	25/06/24	For Planning	CS	PK	AM
A	19/04/24	For Information	CS	PK	AM

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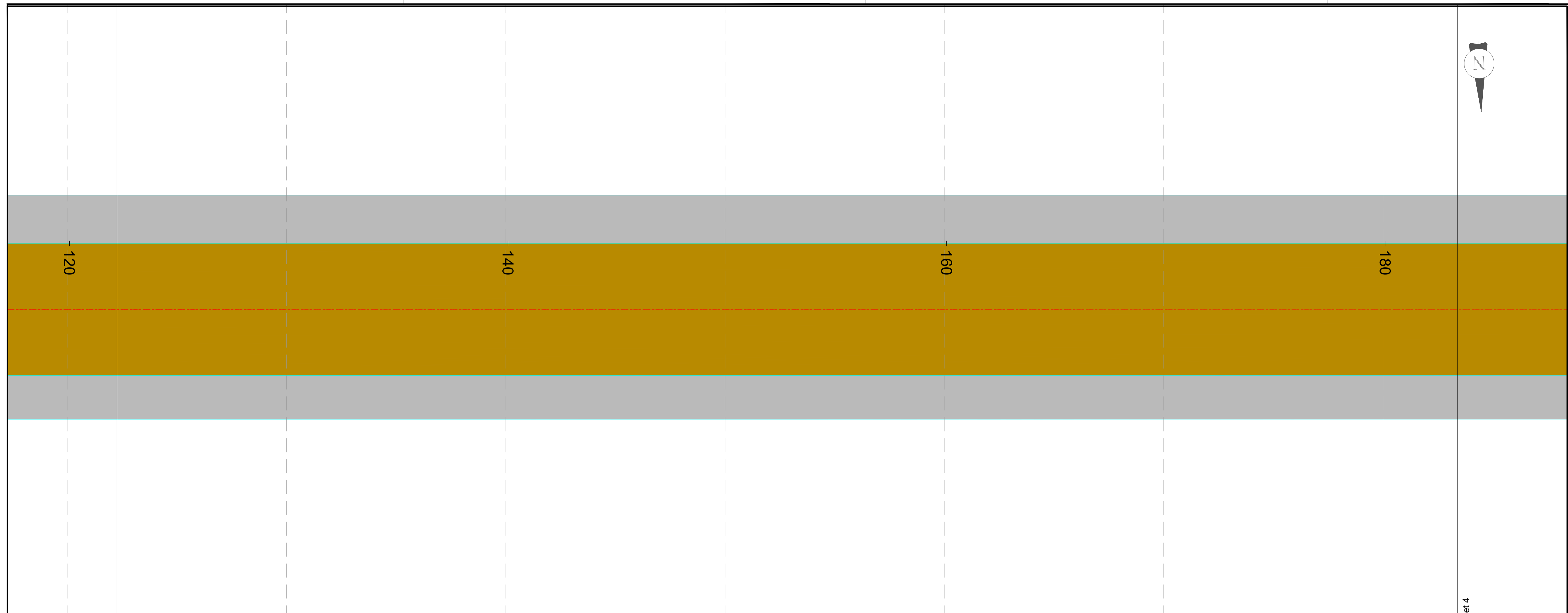
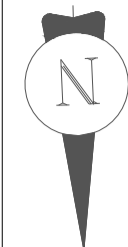
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Project: LEHAUNSTOWN NEIGHBOURHOOD ROAD

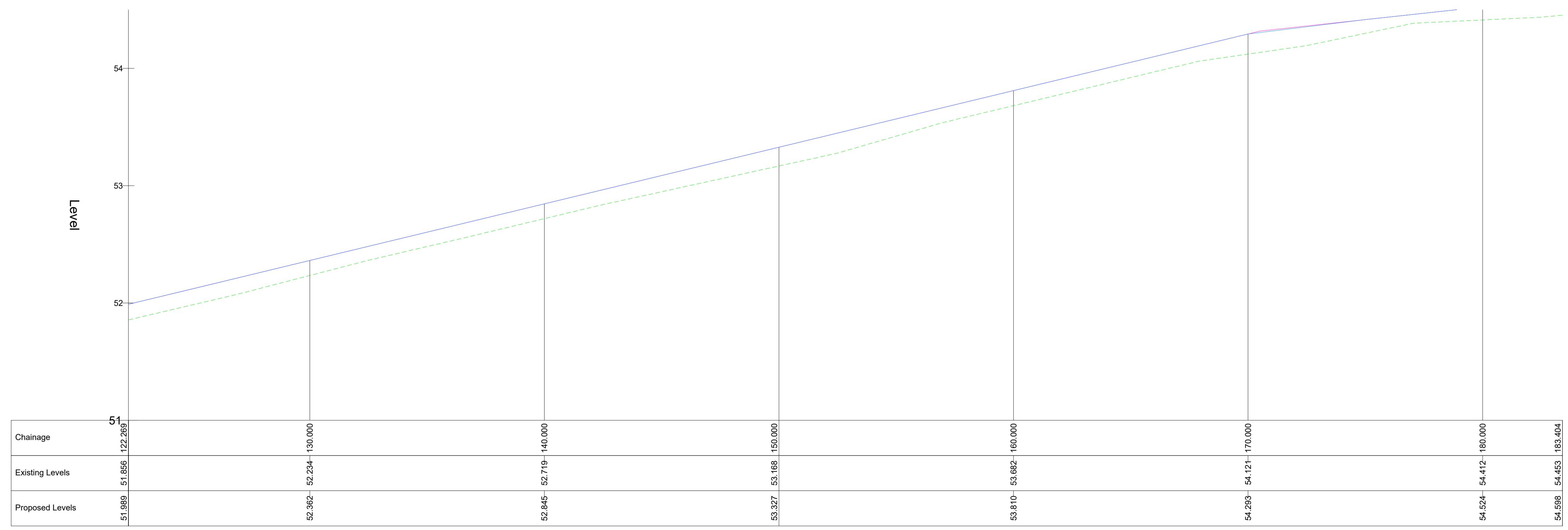
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Original dwg. size: A1	Date: June 2024	Scale: 1:100
Drawing Status: For Planning	Drawing Number: IE01T23A67-PD-005	Rev: B



- Legend**
- █ Proposed Scheme Extents
 - - - Existing Levels
 - Proposed Levels

EAST-WEST LONGSECTION 3
SCALE: H1:100, V 1:20.



Rev.	Date	Revision Details	Drawn	Checked	Approved
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A	19/04/24	For Information	CS	PK	AM

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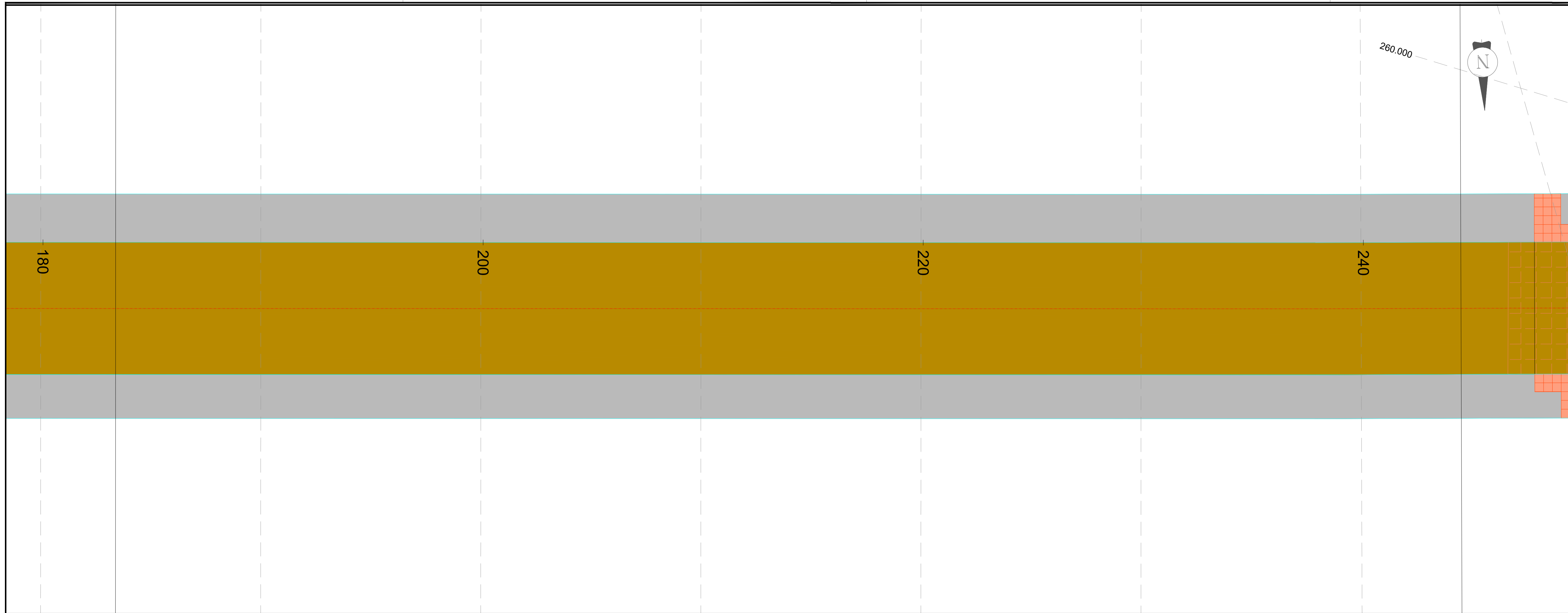
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Client: DÚN LAOGHAIRE-RATHDOWN COUNTY COUNCIL

Project: LEHAUNSTOWN NEIGHBOURHOOD ROAD

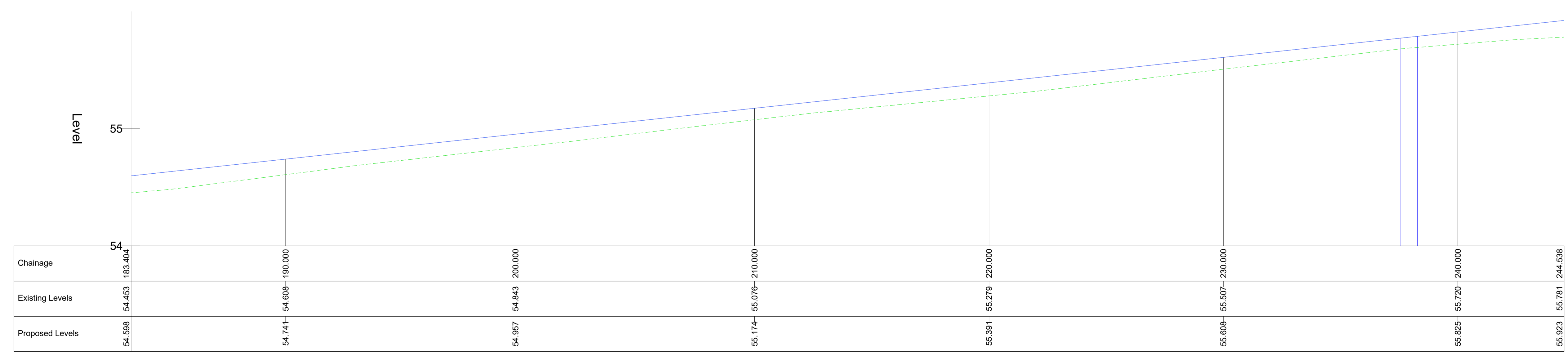
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Original dwg. size: A1	Date: June 2024	Scale: 1:100
Drawing Status: For Planning	Drawing Number: IE01T23A67-PD-005	Rev: B



- Legend**
- █ Proposed Scheme Extents
 - - - Existing Levels
 - Proposed Levels

EAST-WEST LONGSECTION 4
SCALE: H1:100, V 1:20.



Rev.	Date	Revision details	Drawn	Checked	Approved
B	25/06/24	For Planning	CS	PK	AM
A	19/04/24	For Information	CS	PK	AM

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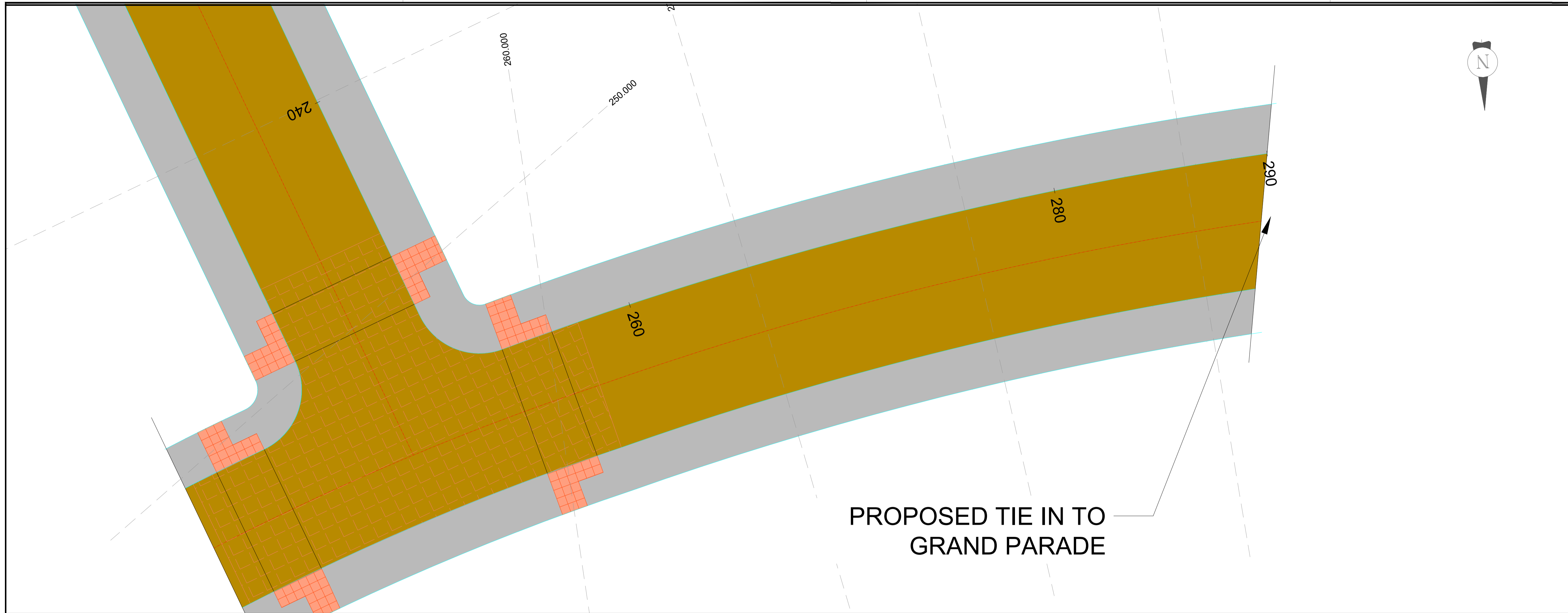
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Client
**DÚN LAOGHAIRE-RATHDOWN
COUNTY COUNCIL**

Project
LEHAUNSTOWN NEIGHBOURHOOD ROAD

Title
**PROPOSED LONGSECTIONS
SHEET 4 OF 7**

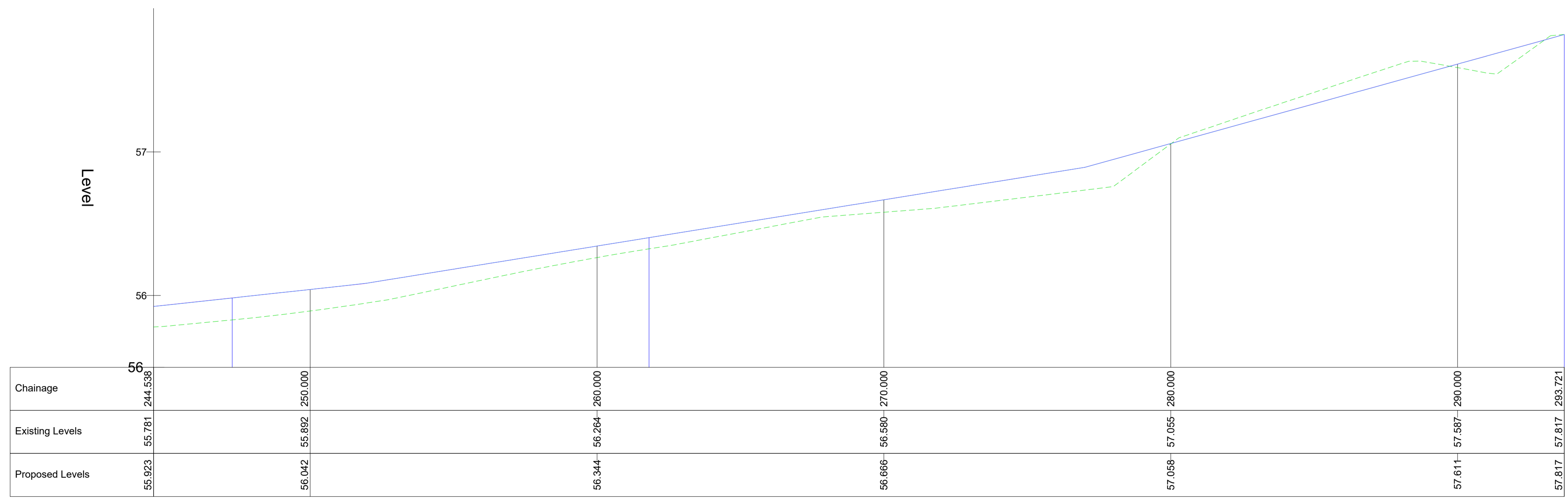
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Drawing Status	For Planning	Drawing Number	IE01T23A67-PD-005	Rev.	B



- Legend**
- Proposed Scheme Extents
 - - - Existing Levels
 - Proposed Levels

PROPOSED TIE IN TO
GRAND PARADE

EAST-WEST LONGSECTION 5
SCALE: H1:100, V 1:20.



Rev.	Date	Revision/Details	Drawn	Checked	Approved
B	25/06/24	For Planning	CS	PK	AM
A	19/04/24	For Information	CS	PK	AM

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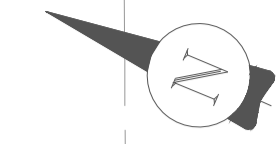
Client: DÚN LAOGHAIRE-RATHDOWN COUNTY COUNCIL

Project: LEHAUNSTOWN NEIGHBOURHOOD ROAD

Title: PROPOSED LONGSECTIONS SHEET 5 OF 7

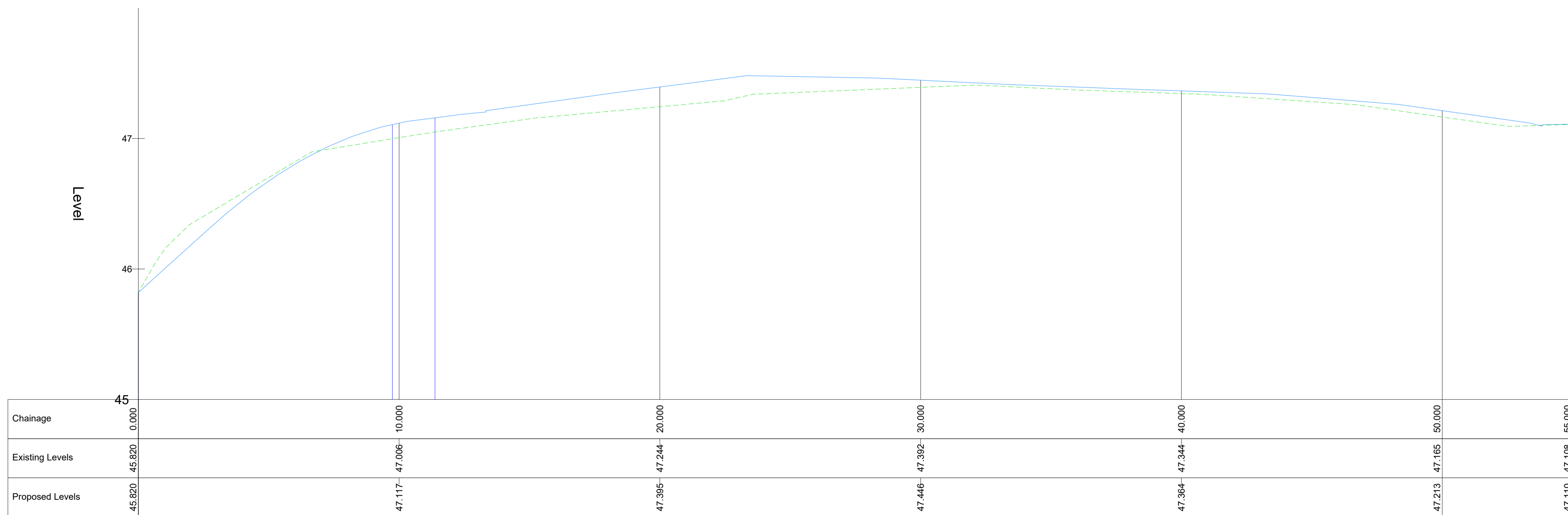
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Original dwg. size	A1	Date	June 2024	Scale	1:100
Drawing Status	For Planning	Drawing Number	IE01T23A67-PD-005	Rev.	B

PROPOSED TIE IN TO
LEHAUNSTOWN LANE



- Legend**
- Proposed Scheme Extents
 - Existing Levels
 - Proposed Levels

NORTH-SOUTH LONGSECTION 1
SCALE: H1:100, V 1:20.



Rev.	Date	Revision details	Drawn	Checked	Approved
B	25/06/24	For Planning	CS	PK	AM
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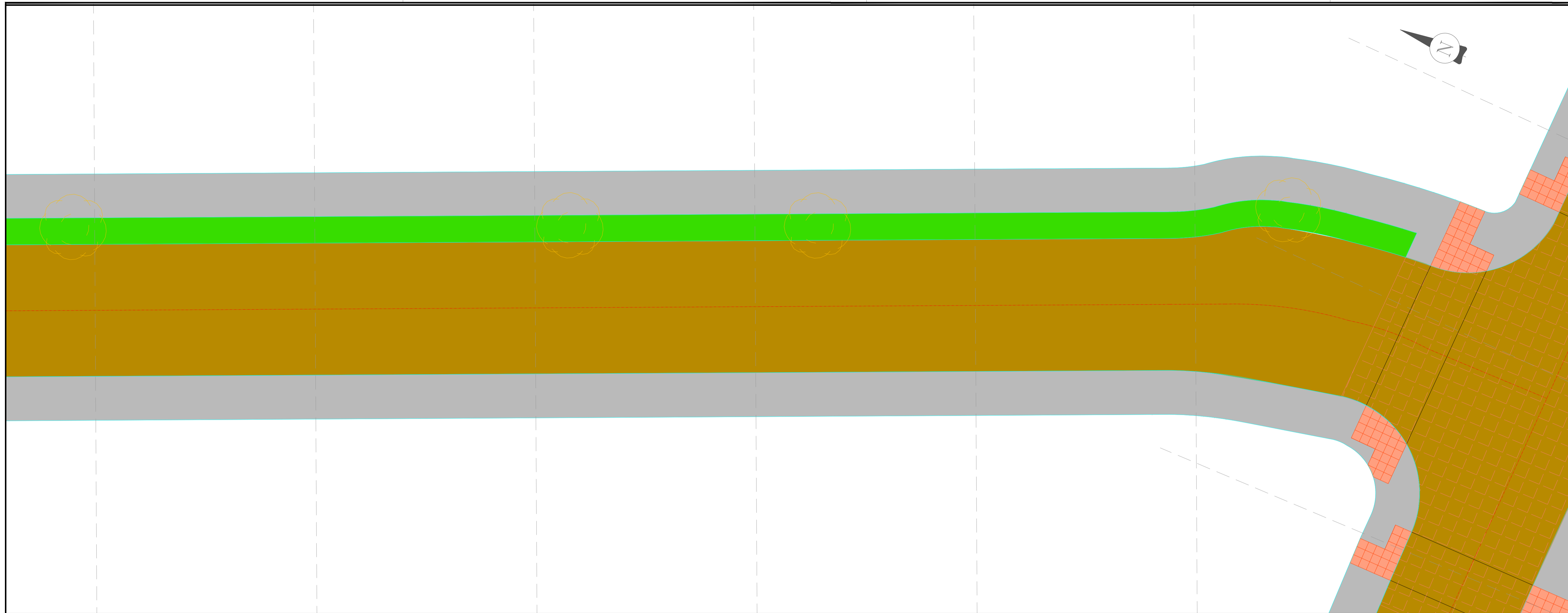
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Client
DÚN LAOGHAIRE-RATHDOWN
COUNTY COUNCIL

Project
LEHAUNSTOWN NEIGHBOURHOOD ROAD

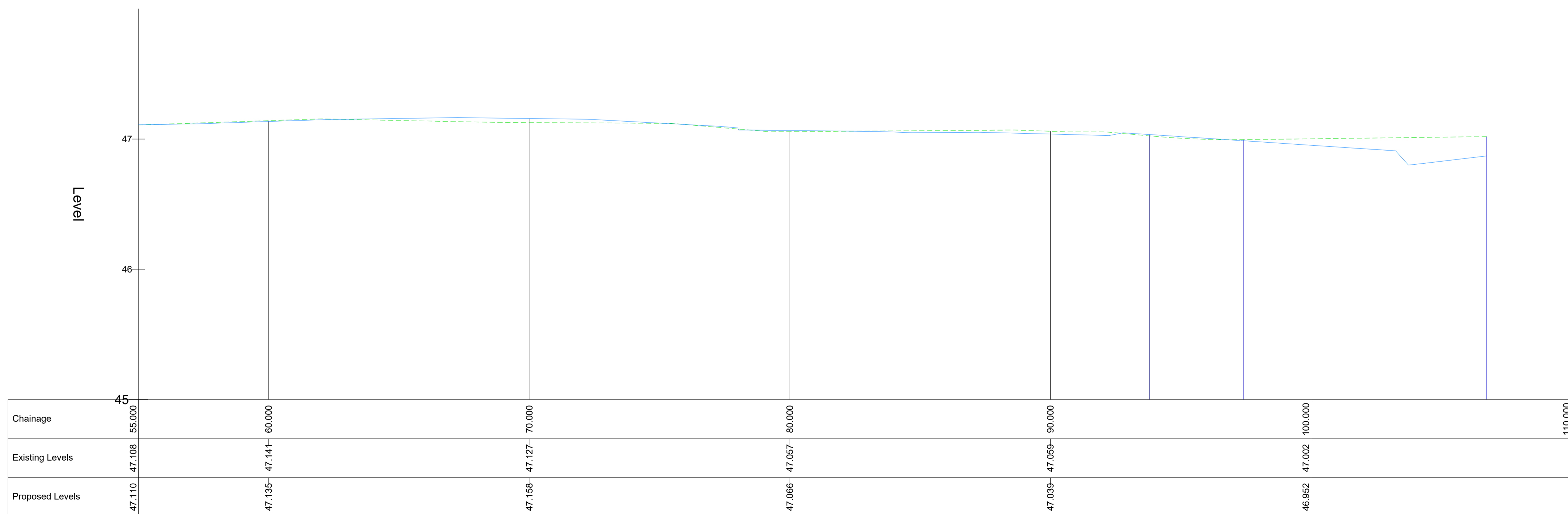
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PROPOSED LONGSECTIONS
SHEET 6 OF 7

Drawn	CS	Checked	PK	Approved	AM
Original dwg. size	A1	Date	June 2024	Scale	1:100
Drawing Status	For Planning	Drawing Number	IE01T23A67-PD-005	Rev.	B



- Legend**
- █ Proposed Scheme Extents
 - █ Existing Levels
 - █ Proposed Levels

NORTH-SOUTH LONGSECTION 2
SCALE: H1:100, V 1:20.



Rev.	Date	Revision details	Drawn	Checked	Approved
B	25/06/24	For Planning	CS	PK	AM
A	19/04/24	For Information	CS	PK	AM

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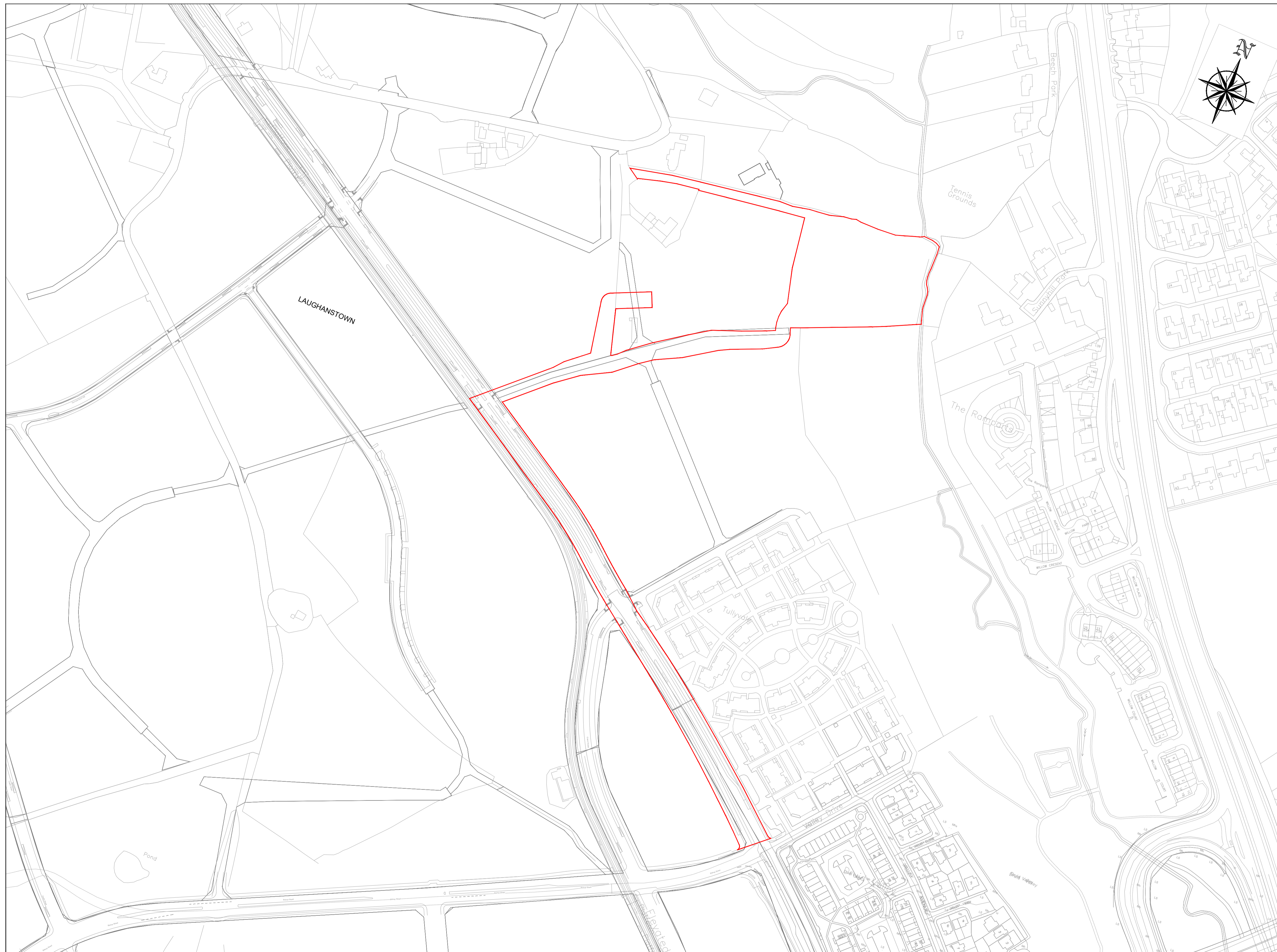
2nd Floor, Riverview House
21-23 City Quay, Dublin 2
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Client
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COUNTY COUNCIL

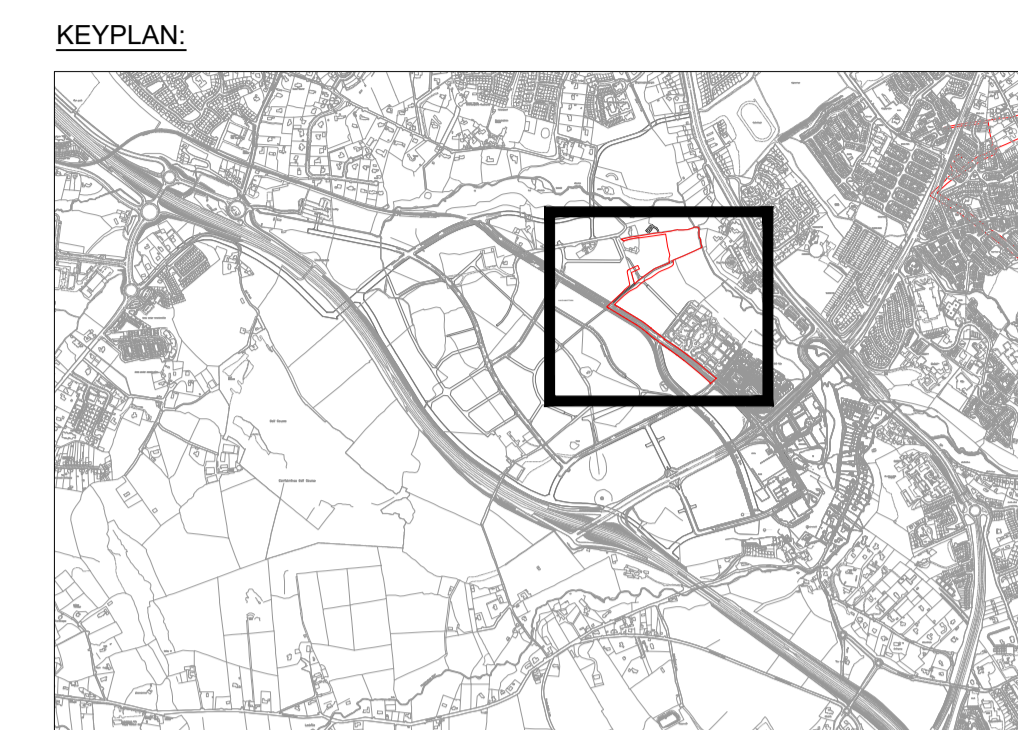
Project
LEHAUNSTOWN NEIGHBOURHOOD ROAD

Title
PROPOSED LONGSECTIONS
SHEET 7 OF 7

Drawn	CS	Checked	PK	Approved	AM
Original dwg. size	A1	Date	June 2024	Scale	1:100
Drawing Status	For Planning	Drawing Number	IE01T23A67-PD-005	Rev.	B



LEGEND:
 — PROPOSED WORKS BOUNDARY



- Drawing Notes**
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LOCATION MAP
 SCALE 1:2000@A1



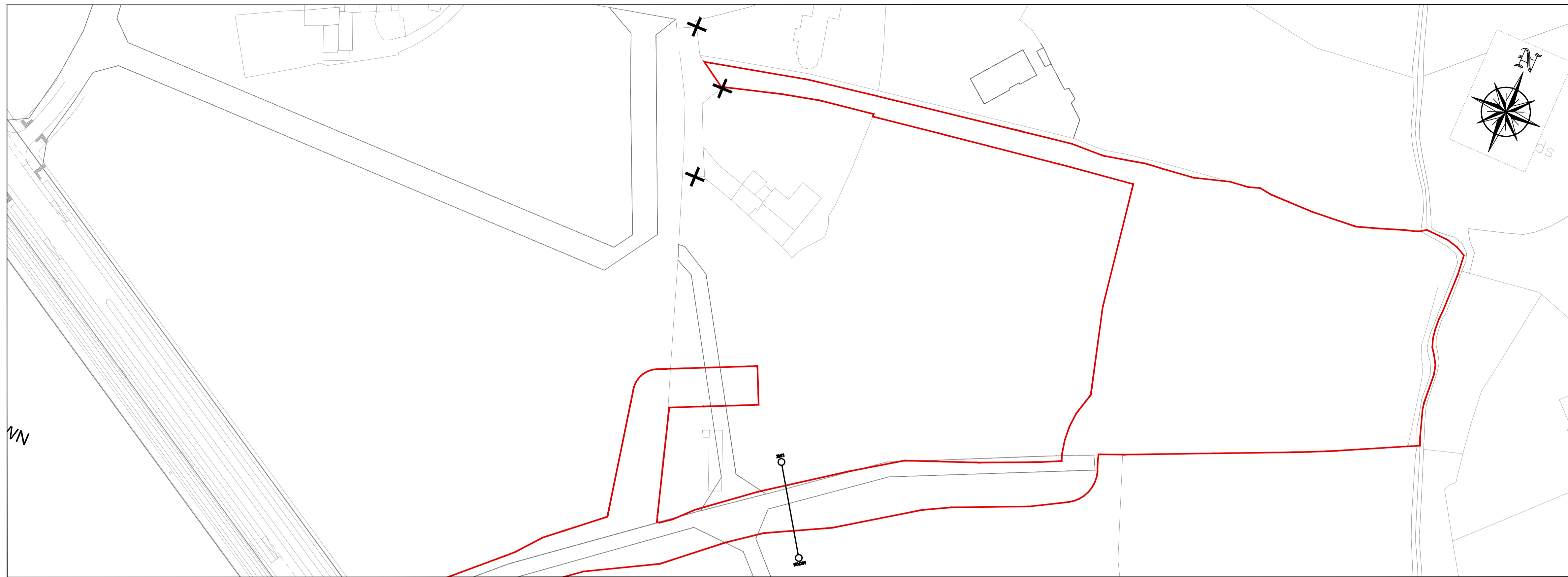
No.	Revision	Date	By	Chk'd	App'd
P01	ISSUED FOR PLANNING	09.03.21	CMG	JPR	JPR



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Drawn	Designed	Checked	Approved	Suitability Code - Description
MA	CMG	JPR	JPR	S4 - Stage Approval

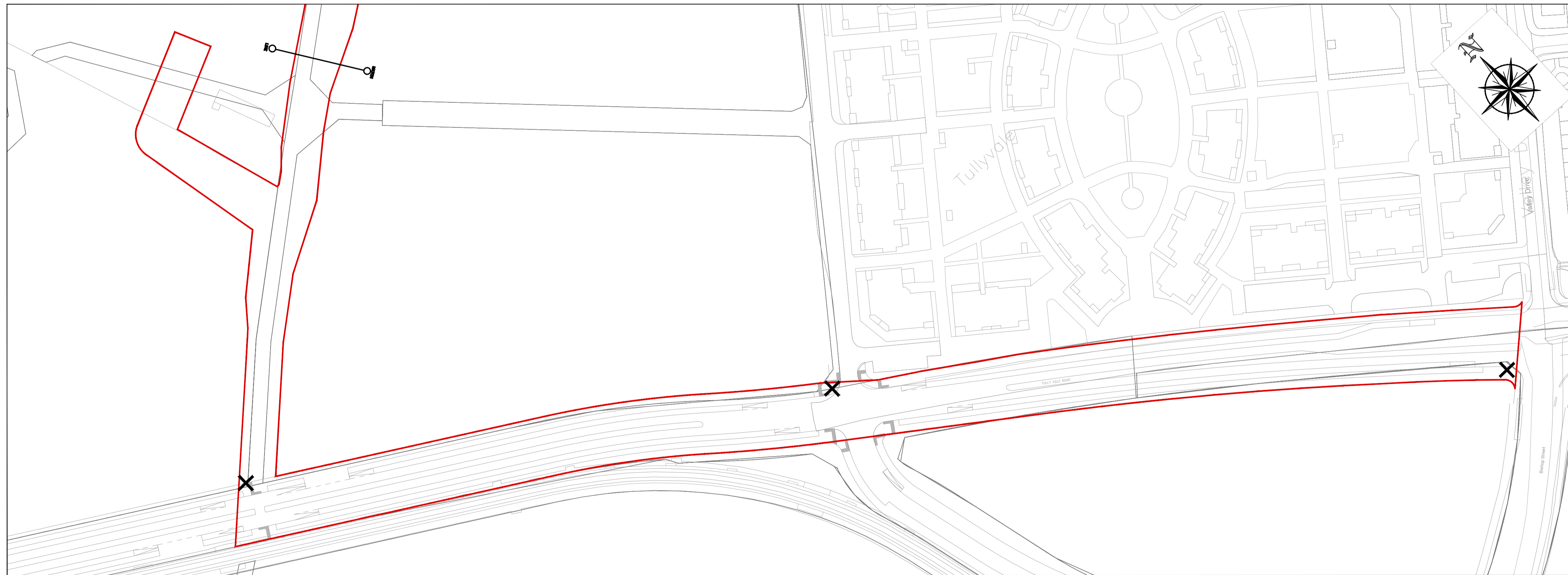
Project Stage	PLANNING				
Project Title	Regional Attenuation Pond 2A, Cherrywood				
Drawing Title	Site Location Extents				
Drawing Number	Project	Originator	Volume	Location	Type Role Number
	P2ACH	ROD	GEN	SW_AE	DR - CD - 30000
Scale (A1)	AS SHOWN	Date:	MARCH 2021	Job No:	20.106
				Rev:	P01



LEGEND:
 — PROPOSED WORKS BOUNDARY
 + SITE NOTICE LOCATION



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LOCATION MAP
 SCALE 1:1000@A1



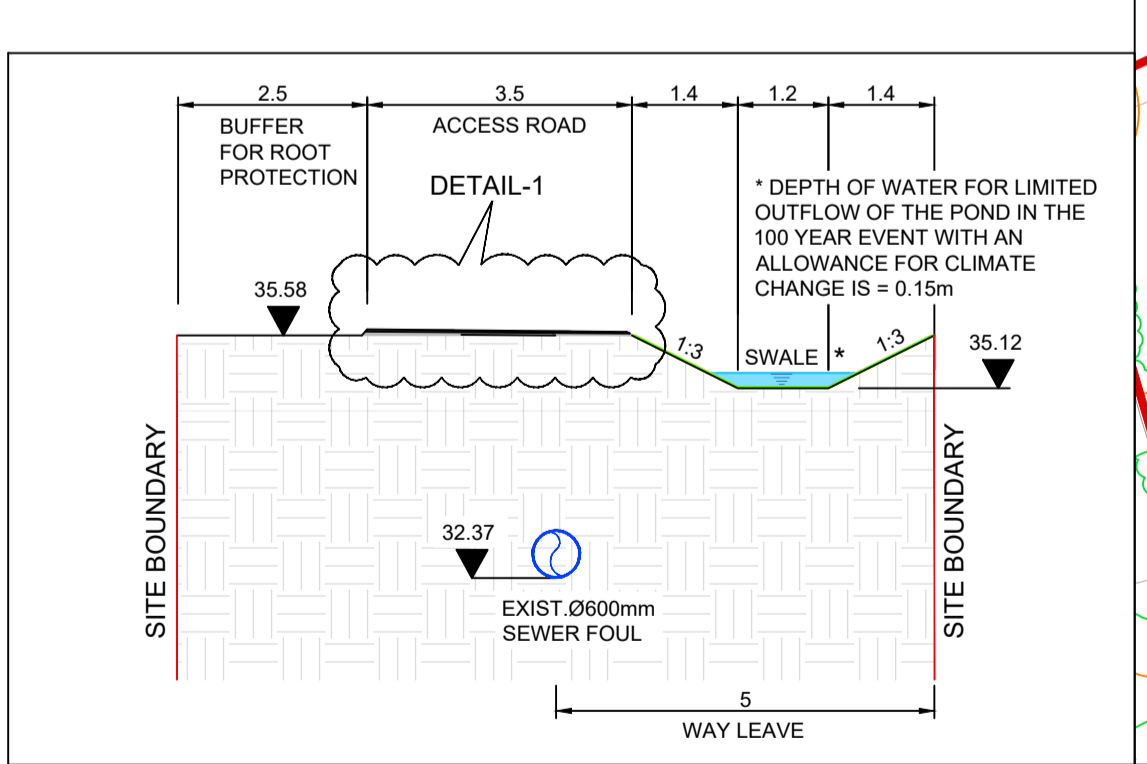
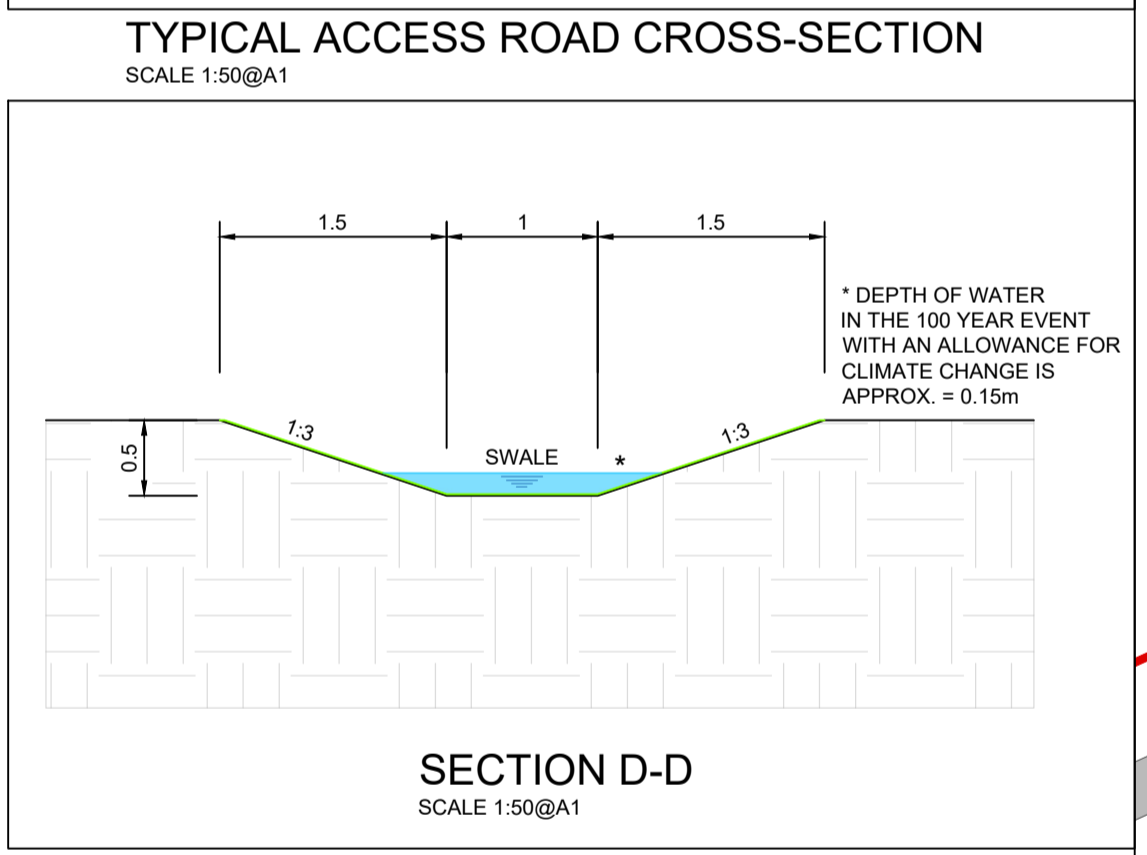
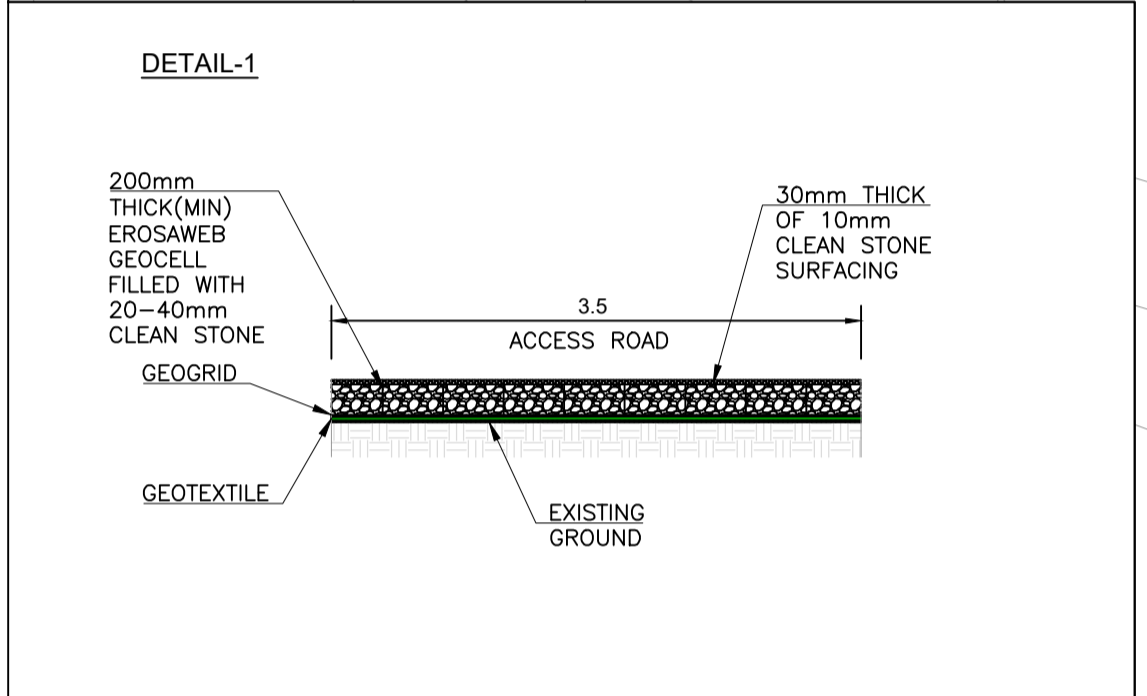
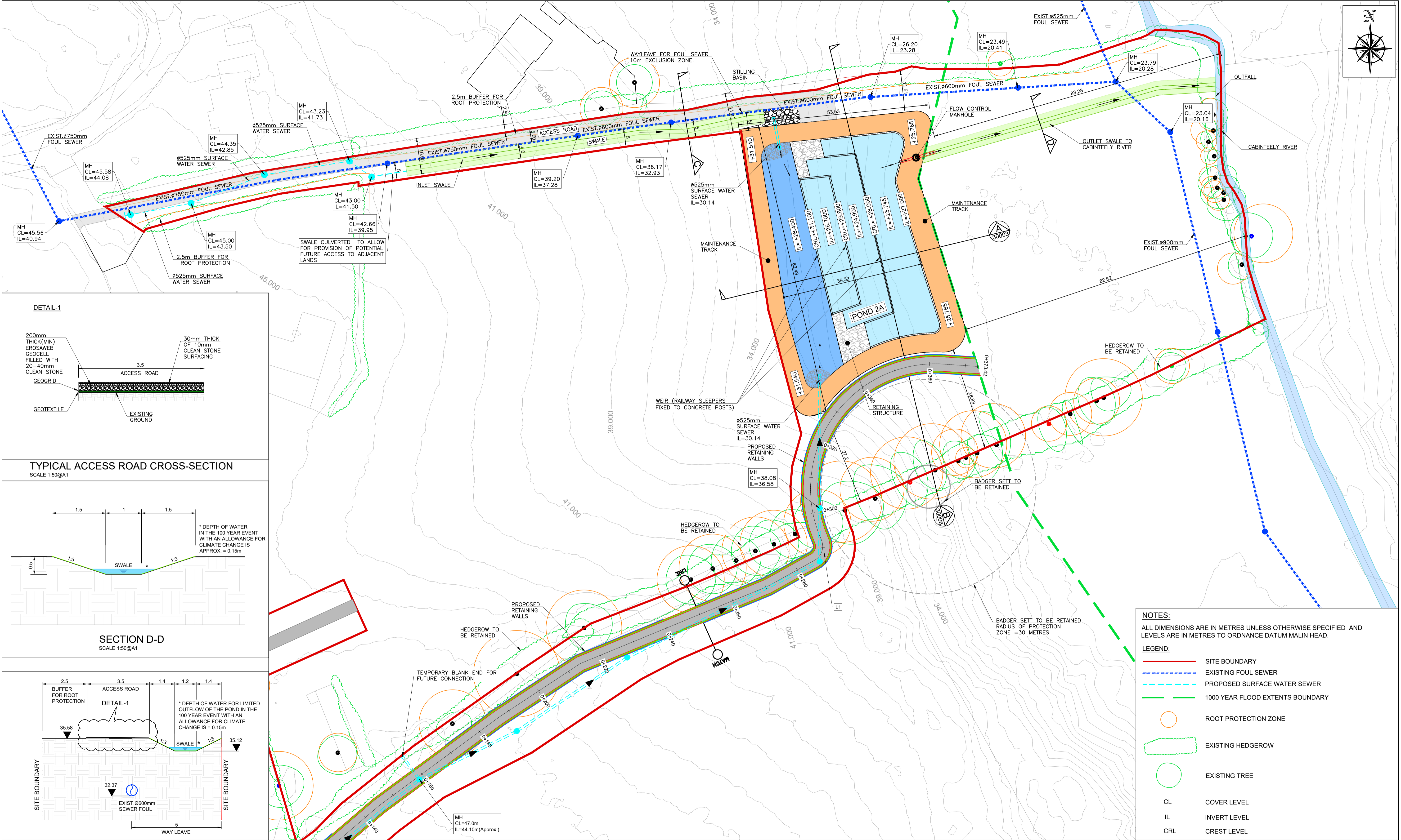
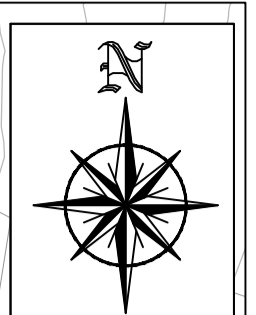
No.	Revision	Date	By	Chk'd	App'd
P01	ISSUED FOR REVIEW AND COMMENTS	05.06.20	LS	CMG	JPR
P02	ISSUED FOR PLANNING	08.12.20	MA	CMG	JPR
P03	ISSUED FOR PLANNING	08.03.20	MA	CMG	JPR



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Drawn	Designed	Checked	Approved	Suitability Code - Description
MA	CMG	CMG	JPR	S4 - Stage Approval

Project Stage	PLANNING				
Project Title	Regional Attenuation Pond 2A, Cherrywood				
Drawing Title	SITE LOCATION MAP				
Drawing Number	Project	Originator	Volume	Location	Type Role Number
	P2ACH	ROD	GEN	SW_AE	DR - CD - 30001
Scale (A1)	AS SHOWN	Date:	JUNE 2020	Job No:	20.106
				Rev:	P03



- NOTES:**
ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE SPECIFIED AND LEVELS ARE IN METRES TO ORDNANCE DATUM MALIN HEAD.
- LEGEND:**
- SITE BOUNDARY
 - - - EXISTING FOUL SEWER
 - - - PROPOSED SURFACE WATER SEWER
 - - - 1000 YEAR FLOOD EXTENTS BOUNDARY
 - ROOT PROTECTION ZONE
 - ⬭ EXISTING HEDGEROW
 - EXISTING TREE
 - CL COVER LEVEL
 - IL INVERT LEVEL
 - CRL CREST LEVEL

PLAN LAYOUT
SCALE 1:500@A1



No.	Revision	Date	By	Chkd	App'd
P01	ISSUED FOR REVIEW AND COMMENT	02.06.20	LS	ES	JPR
P02	ISSUED FOR REVIEW AND COMMENT	08.06.20	LS	ES	JPR
P03	ISSUED FOR REVIEW AND COMMENT	12.06.20	LS	ES	JPR
P04	ISSUED FOR REVIEW AND COMMENT	15.06.20	LS	ES	JPR
P05	WORK IN PROGRESS	04.09.20	MA	ES	JPR
P06	ISSUED FOR PLANNING	08.12.20	MA	CMG	JPR
P07	ISSUED FOR PLANNING	03.03.21	MA	CMG	JPR
P08	ISSUED FOR PLANNING (INVERT & CREST LEVELS AMENDED)	13.04.21	MA	CMG	JPR


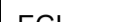



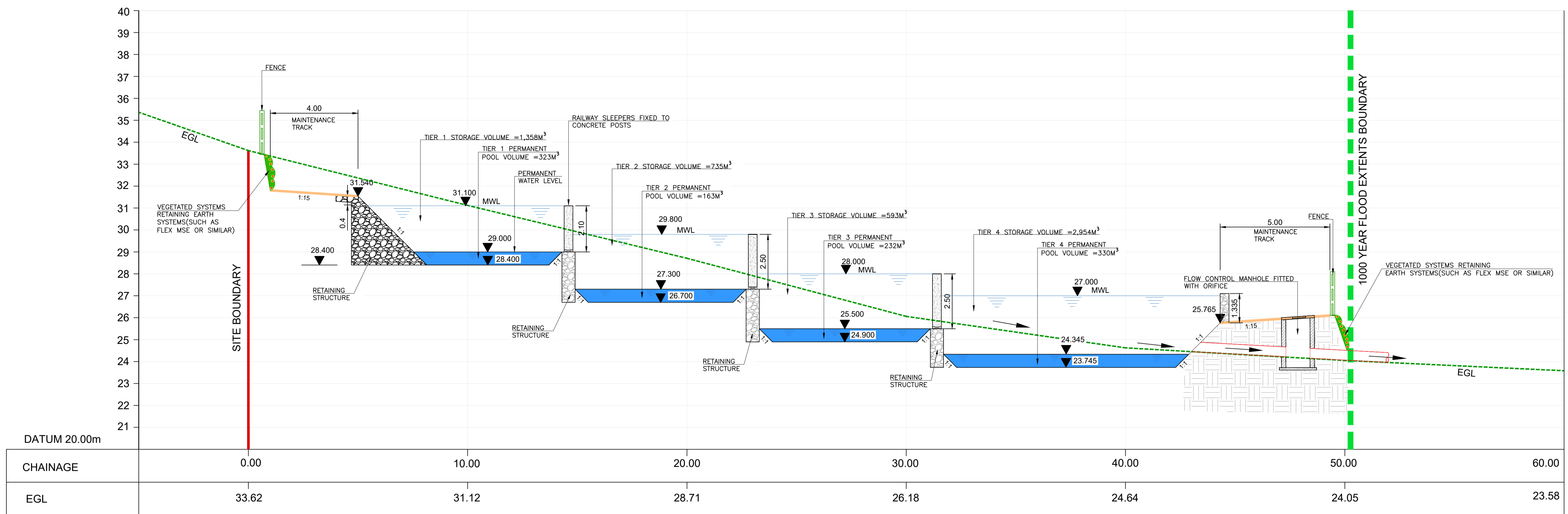
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Drawn	Designed	Checked	Approved	Suitability Code - Description
MA	ES	CMG	JPR	S4 - Stage Approval

Project Stage		PLANNING	
Project Title		Regional Attenuation Pond 2A, Cherrywood	
Drawing Title		PROPOSED POND PLAN LAYOUT AND SECTIONS C-C & D-D	
Project	Originator	Volume	Location
P2ACH	ROD	GEN	SW_AE
Type	Role	Number	
DR	CD	30002	
Scale (A1)	AS SHOWN	Date:	JUNE 2020
Job No:	20.106	Rev:	P08

NOTES:
ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE SPECIFIED AND LEVELS ARE IN METRES TO ORDNANCE DATUM MALIN HEAD.

LEGEND:	
	1000 YEAR FLOOD EXTENTS BOUNDARY
	EGL EXISTING GROUND LEVEL
	MWL MAXIMUM WATER LEVEL



SECTION A-A
A1 @ HORIZONTAL SCALE 1:100
A1 @ VERTICAL SCALE 1:100



No.	Revision	Date	By	Chkd	App'd
P01	ISSUED FOR REVIEW AND COMMENT	02.06.20	LS	ES	JPR
P02	ISSUED FOR REVIEW AND COMMENT	05.06.20	LS	ES	JPR
P03	ISSUED FOR REVIEW AND COMMENT	15.06.20	LS	ES	JPR
P04	ISSUED FOR PLANNING	08.12.20	MA	CMG	JPR
P05	ISSUED FOR PLANNING	03.03.21	MA	CMG	JPR
P06	ISSUED FOR PLANNING (INVERT & CREST LEVELS AMENDED)	13.04.21	MA	CMG	JPR
P07	ISSUED FOR PLANNING (MINOR AMENDMENTS)	26.04.21	MA	CMG	JPR



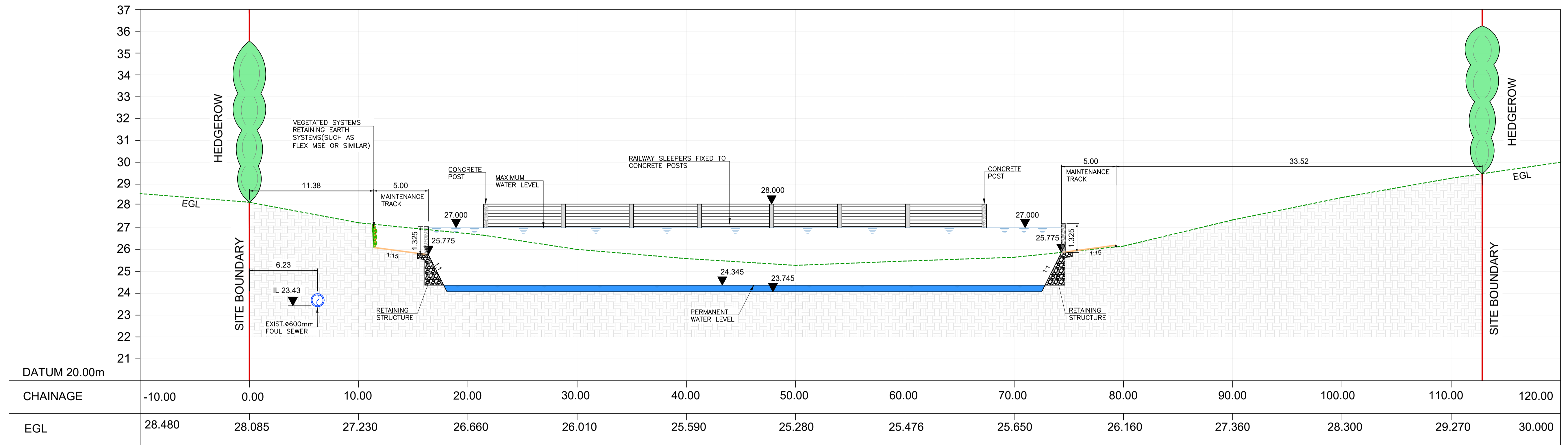
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Drawn	Designed	Checked	Approved	Suitability Code - Description
MA	LS	CMG	JPR	S4 - Stage Approval

Project Stage		PLANNING	
Project Title	Regional Attenuation Pond 2A, Cherrywood		
Drawing Title	PROPOSED POND SECTION A-A		
Drawing Number	P2ACH - ROD - GEN - SW_AE - DR - CD - 30003	Project	Originator
Scale (A1)	AS SHOWN	Date:	JUNE 2020
		Job No:	20.106
		Rev:	P07

NOTES:
 ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE SPECIFIED AND LEVELS ARE IN METRES TO ORDNANCE DATUM MALIN HEAD.

LEGEND:	
	1000 YEAR FLOOD EXTENTS BOUNDARY
	EXISTING GROUND LEVEL
	MAXIMUM WATER LEVEL



SECTION B-B
 A1 @ HORIZONTAL SCALE 1:200
 A1 @ VERTICAL SCALE 1:100



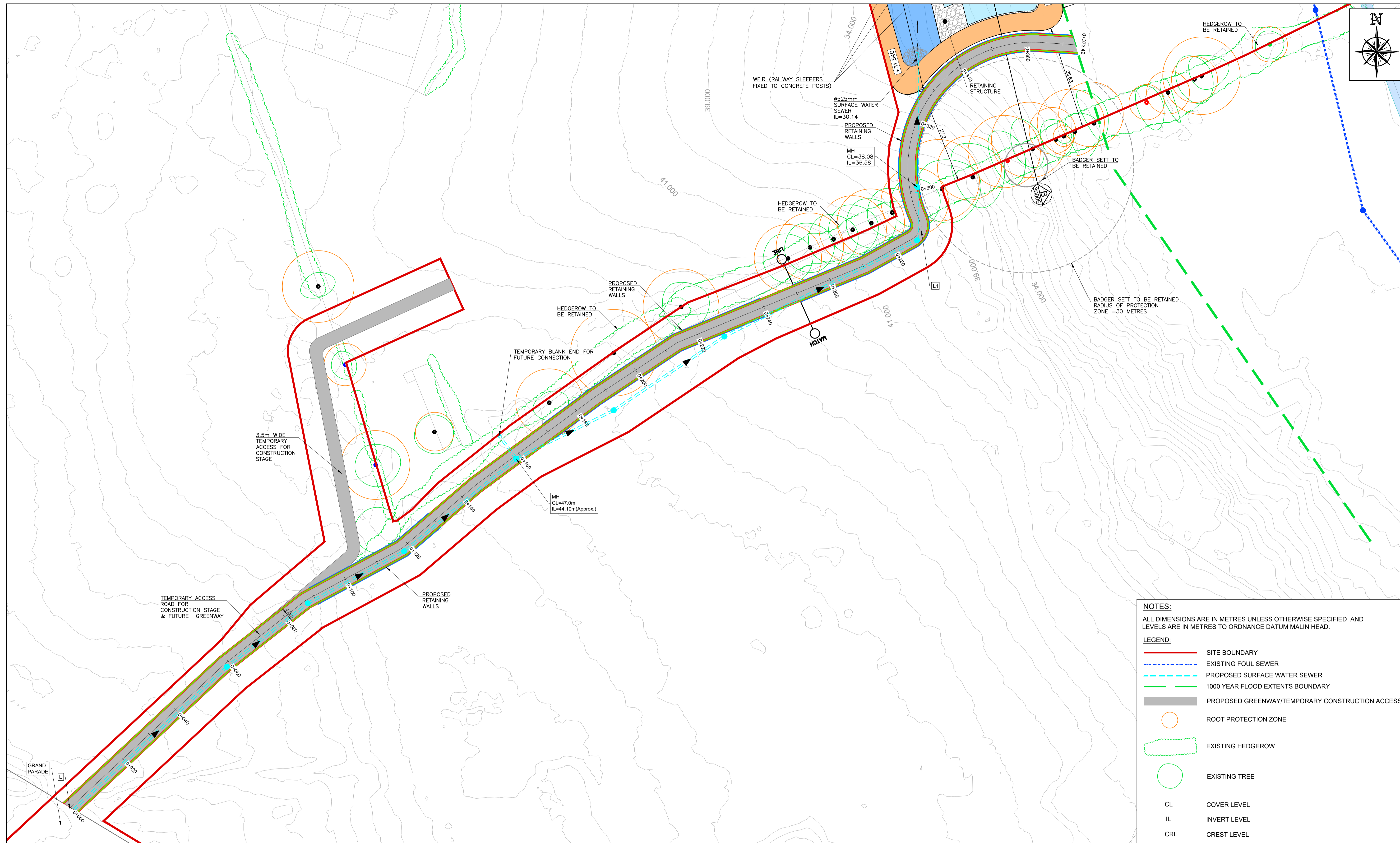
No.	Revision	Date	By	Chkd	App'd
P01	ISSUED FOR REVIEW AND COMMENT	05.06.20	LS	ES	JPR
P02	ISSUED FOR REVIEW AND COMMENT	15.06.20	LS	ES	JPR
P03	ISSUED FOR PLANNING	08.12.20	MA	CMG	JPR
P04	ISSUED FOR PLANNING	03.03.21	MA	CMG	JPR
P05	ISSUED FOR PLANNING(INVERT & CREST LEVELS AMENDED)	13.04.21	MA	CMG	JPR



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Drawn	Designed	Checked	Approved	Suitability Code - Description
MA	LS	CMG	JPR	S4 - Stage Approval

Project Stage		PLANNING
Project Title	Regional Attenuation Pond 2A, Cherrywood	
Drawing Title	PROPOSED POND SECTION B-B	
Drawing Number	P2ACH - ROD - GEN - SW_AE - DR - CD - 30006	
Scale (A1)	AS SHOWN	Date: JUNE 2020
		Job No: 20.106
		Rev: P05



NOTES:
ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE SPECIFIED AND LEVELS ARE IN METRES TO ORDNANCE DATUM MALIN HEAD.

LEGEND:

- SITE BOUNDARY
- EXISTING FOUL SEWER
- PROPOSED SURFACE WATER SEWER
- 1000 YEAR FLOOD EXTENTS BOUNDARY
- PROPOSED GREENWAY/TEMPORARY CONSTRUCTION ACCESS
- ROOT PROTECTION ZONE
- EXISTING HEDGEROW
- EXISTING TREE

CL COVER LEVEL
IL INVERT LEVEL
CRL CREST LEVEL

PLAN LAYOUT
SCALE 1:500@A1



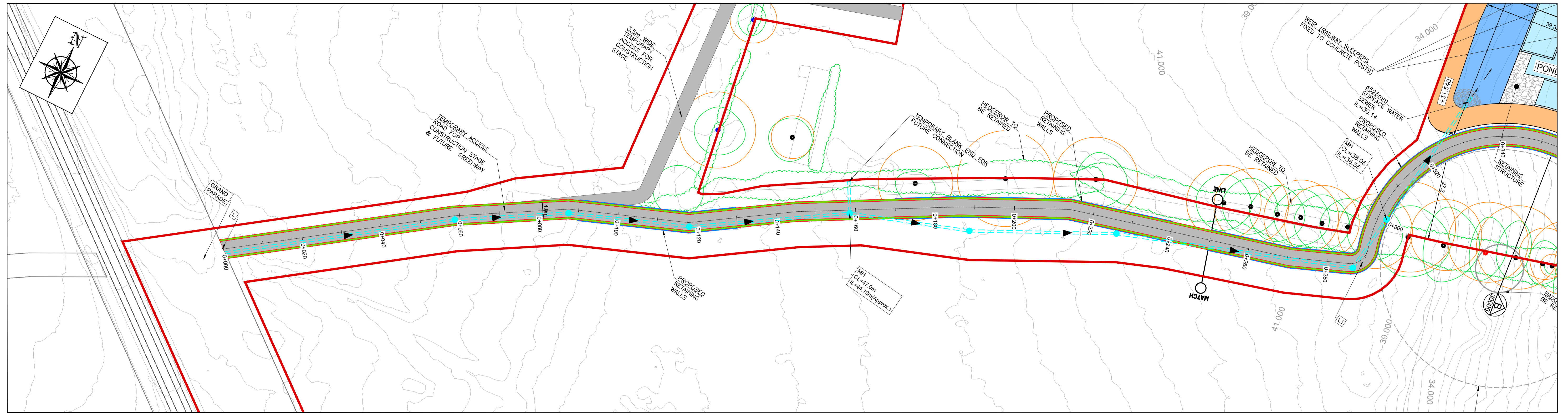
No.	Revision	Date	By	Chk'd	App'd
P01	WORK IN PROGRESS	10.09.20	ES	ES	JPR
P02	ISSUED FOR INFORMATION	29.10.20	ES	CMG	JPR
P03	ISSUED FOR PLANNING	08.12.20	MA	CMG	JPR
P04	ISSUED FOR PLANNING	03.03.21	MA	CMG	JPR



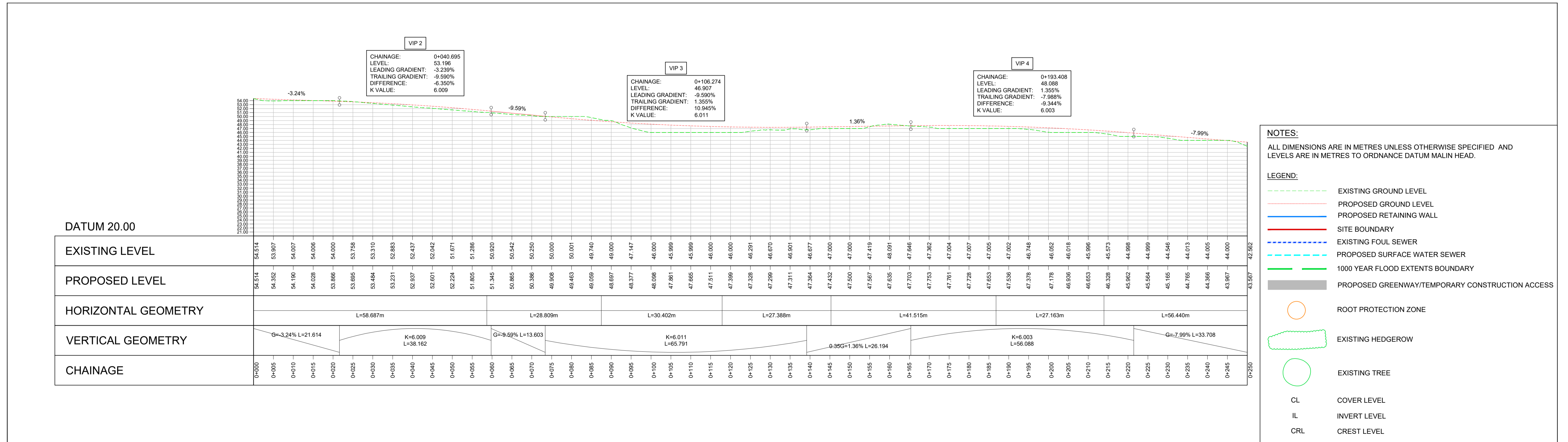
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Drawn	Designed	Checked	Approved	Suitability Code - Description
MA	ES	CMG	JPR	S4 - Stage Approval

Project Stage	PLANNING						
Project Title	Regional Attenuation Pond 2A, Cherrywood						
Drawing Title	PROPOSED GREENWAY/ TEMPORARY CONSTRUCTION ACCESS ROUTE						
Drawing Number	Project	Originator	Volume	Location	Type	Role	Number
	P2ACH	ROD	GEN	SW_AE	DR	CD	30007
Scale (A1)	AS SHOWN	Date:	SEPTEMBER 2020	Job No:	20.106	Rev:	P04



PROPOSED GREENWAY/TEMPORARY CONSTRUCTION ACCESS ROAD - LONGITUDINAL SECTION (CH. 0+000 - 0+250.000)
 A1 SCALE 1:500
 A3 SCALE 1:1000



NOTES:
 ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE SPECIFIED AND LEVELS ARE IN METRES TO ORDNANCE DATUM MALIN HEAD.

LEGEND:

- EXISTING GROUND LEVEL
- PROPOSED GROUND LEVEL
- PROPOSED RETAINING WALL
- SITE BOUNDARY
- EXISTING FOUL SEWER
- PROPOSED SURFACE WATER SEWER
- 1000 YEAR FLOOD EXTENTS BOUNDARY
- PROPOSED GREENWAY/TEMPORARY CONSTRUCTION ACCESS
- ROOT PROTECTION ZONE
- EXISTING HEDGEROW
- EXISTING TREE
- CL COVER LEVEL
- IL INVERT LEVEL
- CRL CREST LEVEL

PROPOSED GREENWAY/TEMPORARY CONSTRUCTION ACCESS ROAD - LONGITUDINAL SECTION (CH. 0+000 - 0+250.000)
 A1 @ HORIZONTAL SCALE 1:500
 A1 @ VERTICAL SCALE 1:500
 A3 @ HORIZONTAL SCALE 1:1000
 A3 @ VERTICAL SCALE 1:1000



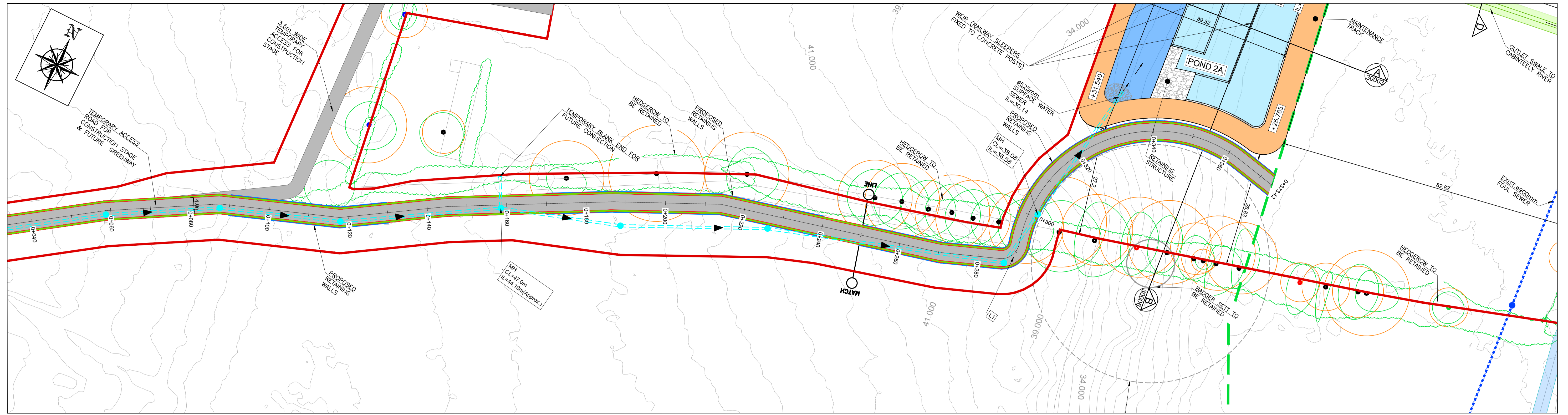
No.	Revision	Date	By	Chkd	App'd
P01	ISSUED AS DRAFT	30.10.20	ES	CMG	JPR
P02	ISSUED FOR PLANNING	08.12.20	MA	CMG	JPR
P03	ISSUED FOR PLANNING	03.03.21	MA	CMG	JPR



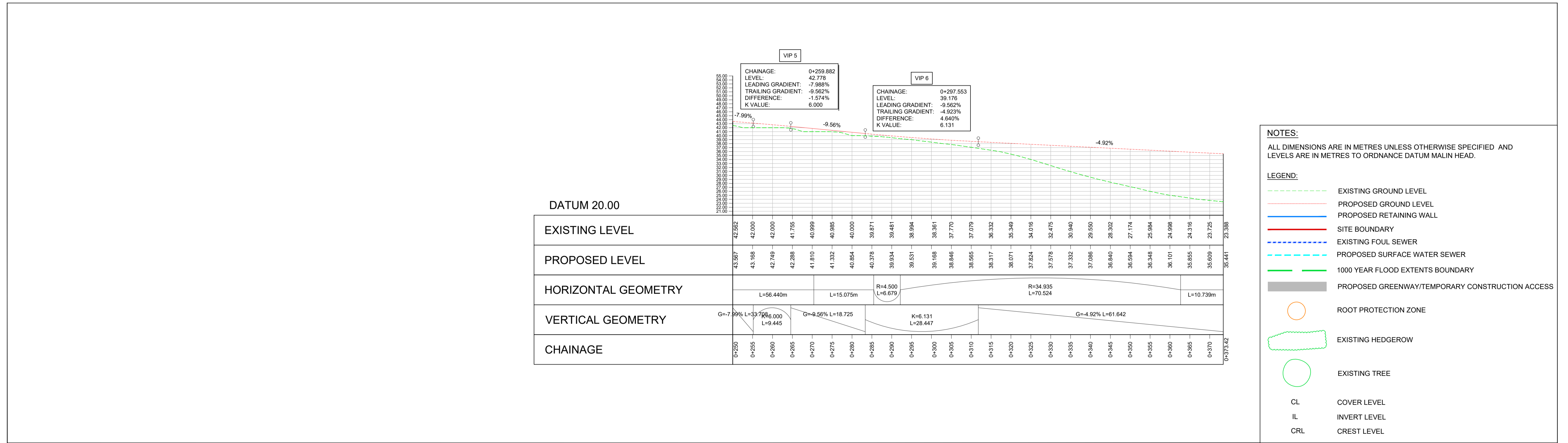
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Drawn	Designed	Checked	Approved	Suitability Code - Description
MA	CMG	CMG	JPR	S4 - Stage Approval

Project Stage	PLANNING				
Project Title	Regional Attenuation Pond 2A, Cherrywood				
Drawing Title	TEMPORARY ACCESS ROAD LONGITUDINAL PROFILE SHEET 1 OF 2				
Drawing Number	P2ACH	ROD	GEN	SW_AE	DR - CD - 30008
Scale (A1)	AS SHOWN	Date:	OCT 2020	Job No:	20.106
		Rev:	P03		



PROPOSED GREENWAY/TEMPORARY CONSTRUCTION ACCESS ROAD LAYOUT (CH. 0+250.000 - 0+373.420)
 A1 SCALE 1:500
 A3 SCALE 1:1000



NOTES:
 ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE SPECIFIED AND LEVELS ARE IN METRES TO ORDNANCE DATUM MALIN HEAD.

LEGEND:

- EXISTING GROUND LEVEL
- PROPOSED GROUND LEVEL
- PROPOSED RETAINING WALL
- SITE BOUNDARY
- EXISTING FOUL SEWER
- PROPOSED SURFACE WATER SEWER
- 1000 YEAR FLOOD EXTENTS BOUNDARY
- PROPOSED GREENWAY/TEMPORARY CONSTRUCTION ACCESS
- ROOT PROTECTION ZONE
- EXISTING HEDGEROW
- EXISTING TREE
- CL COVER LEVEL
- IL INVERT LEVEL
- CRL CREST LEVEL

PROPOSED GREENWAY/TEMPORARY CONSTRUCTION ACCESS ROAD - LONGITUDINAL SECTION (CH. 0+250.000 - 0+373.420)
 A1 @ HORIZONTAL SCALE 1:500
 A1 @ VERTICAL SCALE 1:500
 A3 @ HORIZONTAL SCALE 1:1000
 A3 @ VERTICAL SCALE 1:1000



No.	Revision	Date	By	Chk'd	App'd
P01	ISSUED AS DRAFT	30.10.20	ES	CMG	JPR
P02	ISSUED FOR PLANNING	08.12.20	MA	CMG	JPR
P03	ISSUED FOR PLANNING	03.03.21	MA	CMG	JPR



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Drawn	Designed	Checked	Approved	Suitability Code - Description
MA	CMG	CMG	JPR	S4 - Stage Approval

Project Stage	PLANNING
Project Title	Regional Attenuation Pond 2A, Cherrywood
Drawing Title	TEMPORARY ACCESS ROAD LONGITUDINAL PROFILE SHEET 2 OF 2
Drawing Number	P2ACH - ROD - GEN - SW_AE - DR - CD - 30009
Scale (A1)	AS SHOWN
Date	OCT 2020
Job No.	20.106
Rev.	P03

Appendix C Rainfall Supporting Data

Met Eireann
Return Period Rainfall Depths for sliding Durations
Irish Grid: Easting: 323667, Northing: 223898,

DURATION	Interval		Years											
	6months,	1year,	2,	3,	4,	5,	10,	20,	30,	50,	75,	100,	120,	
5 mins	2.4,	3.4,	4.0,	4.8,	5.4,	5.9,	7.4,	9.1,	10.2,	11.9,	13.3,	14.5,	15.2,	
10 mins	3.3,	4.7,	5.5,	6.7,	7.5,	8.2,	10.2,	12.7,	14.3,	16.5,	18.6,	20.2,	21.2,	
15 mins	3.9,	5.6,	6.5,	7.9,	8.8,	9.6,	12.1,	14.9,	16.8,	19.5,	21.9,	23.7,	25.0,	
30 mins	5.1,	7.3,	8.4,	10.2,	11.3,	12.3,	15.3,	18.7,	21.0,	24.2,	27.1,	29.3,	30.8,	
1 hours	6.8,	9.5,	10.9,	13.1,	14.5,	15.7,	19.4,	23.6,	26.3,	30.2,	33.6,	36.3,	38.1,	
2 hours	8.9,	12.3,	14.1,	16.8,	18.6,	20.0,	24.6,	29.6,	32.9,	37.6,	41.7,	44.8,	47.0,	
3 hours	10.5,	14.4,	16.5,	19.5,	21.6,	23.1,	28.2,	33.9,	37.6,	42.7,	47.3,	50.8,	53.1,	
4 hours	11.8,	16.1,	18.3,	21.7,	23.9,	25.6,	31.1,	37.3,	41.3,	46.8,	51.7,	55.4,	57.9,	
6 hours	13.9,	18.8,	21.4,	25.1,	27.6,	29.6,	35.8,	42.6,	47.1,	53.2,	58.6,	62.8,	65.5,	
9 hours	16.4,	21.9,	24.9,	29.1,	32.0,	34.1,	41.1,	48.7,	53.7,	60.5,	66.5,	71.1,	74.1,	
12 hours	18.4,	24.5,	27.7,	32.3,	35.4,	37.8,	45.3,	53.6,	58.9,	66.3,	72.7,	77.6,	80.9,	
18 hours	21.6,	28.6,	32.2,	37.5,	41.0,	43.6,	52.1,	61.3,	67.2,	75.4,	82.4,	87.8,	91.4,	
24 hours	24.3,	32.0,	35.9,	41.6,	45.4,	48.3,	57.4,	67.4,	73.8,	82.5,	90.1,	95.9,	99.8,	
2 days	30.1,	38.8,	43.1,	49.4,	53.4,	56.5,	66.2,	76.7,	83.3,	92.2,	100.0,	105.8,	109.7,	
3 days	35.1,	44.5,	49.3,	56.0,	60.3,	63.6,	73.9,	84.8,	91.7,	101.0,	109.0,	115.1,	119.0,	
4 days	39.6,	49.7,	54.8,	61.9,	66.5,	70.0,	80.8,	92.2,	99.4,	109.1,	117.3,	123.5,	127.6,	
6 days	47.7,	59.0,	64.6,	72.5,	77.6,	81.4,	93.1,	105.5,	113.1,	123.5,	132.2,	138.8,	143.1,	
8 days	55.0,	67.5,	73.6,	82.1,	87.6,	91.7,	104.2,	117.4,	125.5,	136.4,	145.6,	152.5,	157.0,	
10 days	61.9,	75.3,	81.9,	91.0,	96.8,	101.2,	114.5,	128.3,	136.9,	148.3,	158.0,	165.1,	169.8,	
12 days	68.4,	82.8,	89.7,	99.4,	105.6,	110.2,	124.2,	138.7,	147.6,	159.5,	169.6,	177.0,	181.9,	
16 days	80.9,	96.9,	104.5,	115.2,	122.0,	127.0,	142.3,	158.0,	167.6,	180.4,	191.1,	199.1,	204.3,	
20 days	92.6,	110.1,	118.5,	130.0,	137.3,	142.7,	159.1,	175.9,	186.2,	199.8,	211.1,	219.5,	225.0,	
25 days	106.7,	125.9,	135.0,	147.6,	155.5,	161.3,	179.0,	197.0,	208.0,	222.5,	234.6,	243.5,	249.3,	

NOTES:

These values are derived from a Depth Duration Frequency (DDF) Model update 2023

For details refer to:

'Mateus C., and Coonan, B. 2023. Estimation of point rainfall frequencies in Ireland. Technical Note No. 68. Met Eireann',

Available for download at:

<http://hdl.handle.net/2262/102417>

$$M5\ 60 = 15.7$$

$$r = M5\ 60/M5\ 2\ days$$

$$r = 15.7/56.5 = 0.278$$

Appendix D Causeway Flow Surface Water Drainage Calculations

Design Settings

Rainfall Methodology FSR Return Period (years) 5 Additional Flow (%) 0 FSR Region Scotland and Ireland M5-60 (mm) 15.700 Ratio-R 0.278 CV 0.750 Time of Entry (mins) 4.00	Maximum Time of Concentration (mins) 30.00 Maximum Rainfall (mm/hr) 50.0 Minimum Velocity (m/s) 1.00 Connection Type Level Soffits Minimum Backdrop Height (m) 0.200 Preferred Cover Depth (m) 1.200 Include Intermediate Ground ✓ Enforce best practice design rules x
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Nodes

Name	Area (ha)	T of E (mins)	Cover Level (m)	Diameter (mm)	Easting (m)	Northing (m)	Depth (m)
S2-0	0.037	4.00	45.913	1200	723518.727	723826.512	1.713
S2-1 (BD)	0.057	4.00	46.100	1200	723547.124	723826.516	4.100
S2-2			42.900	1200	723557.556	723832.265	1.496
S2-3			42.900	1200	723557.556	723864.393	1.657
S1-0	0.190	4.00	45.683	1200	723477.923	723864.393	2.683
S1-1 (BD)	0.208	4.00	42.985	1350	723547.923	723864.393	2.985
S1-2	0.114	4.00	42.692	1350	723547.923	723899.593	3.192
S3-0	0.237	4.00	42.105	1200	723563.423	723891.688	2.200
S4-0		4.00	42.098	1200	723563.423	723949.688	1.398
S3-1 (BD)	0.114	4.00	42.043	1200	723563.423	723937.688	2.898
S1-3			42.137	1350	723547.923	723937.688	3.437
S1-4 (PI)			41.600	1350	723547.923	723957.092	3.400
S1-5	0.093	4.00	41.600	1350	723547.923	723961.426	3.500
S1-6 (BD)	0.068	4.00	41.000	1350	723575.616	723965.423	5.700
S1-7			37.000	1350	723601.593	723966.511	1.800
S1-8			37.000	1350	723610.027	723958.692	1.850
S1-9	0.127	4.00	39.000	1350	723610.027	723886.034	5.050
S5-0		4.00	41.650	1200	723599.027	723870.101	5.650
S1-10			39.000	1350	723610.027	723870.101	6.500
S1-11			37.900	1200	723637.996	723870.101	5.750
S1-12 (BD)			35.200	1200	723644.816	723884.961	5.600
S1-14			27.500	1200	723664.151	723904.910	1.388
S1-16			24.000	1200	723681.062	723964.383	0.490
SWALE HEADWALL			24.000		723682.959	723965.674	0.500
S1-13 (BD)			31.250	1200	723650.778	723897.954	4.950
S1-15			25.000	1200	723687.561	723912.481	1.348

Links

Name	US Node	DS Node	Length (m)	ks (mm) / n	US IL (m)	DS IL (m)	Fall (m)	Slope (1:X)	Dia (mm)	T of C (mins)	Rain (mm/hr)
S2.000	S2-0	S2-1 (BD)	28.397	0.600	44.200	43.900	0.300	94.7	225	4.35	50.0
S2.001	S2-1 (BD)	S2-2	11.911	0.600	42.000	41.404	0.596	20.0	225	4.42	50.0
S2.002	S2-2	S2-3	32.128	0.600	41.404	41.243	0.161	199.6	225	5.00	50.0
S2.003	S2-3	S1-1 (BD)	9.633	0.600	41.243	41.195	0.048	200.7	225	5.18	50.0
S1.000	S1-0	S1-1 (BD)	70.000	0.600	43.000	41.300	1.700	41.2	225	4.57	50.0
S1.001	S1-1 (BD)	S1-2	35.200	0.600	40.000	39.500	0.500	70.4	375	5.45	50.0
S1.002	S1-2	S1-3	38.095	0.600	39.500	38.700	0.800	47.6	375	5.69	50.0
S3.000	S3-0	S3-1 (BD)	46.000	0.600	39.905	39.145	0.760	60.5	300	4.38	50.0
S4.000	S4-0	S3-1 (BD)	12.000	0.600	40.700	40.500	0.200	60.0	300	4.10	50.0
S3.001	S3-1 (BD)	S1-3	15.500	0.600	39.145	38.775	0.370	41.9	300	4.48	50.0
S1.003	S1-3	S1-4 (PI)	19.404	0.600	38.700	38.300	0.400	48.5	375	5.81	50.0
S1.004	S1-4 (PI)	S1-5	4.334	0.600	38.200	38.100	0.100	43.3	375	5.84	50.0
S1.005	S1-5	S1-6 (BD)	27.980	0.600	38.100	37.600	0.500	56.0	450	6.01	50.0
S1.006	S1-6 (BD)	S1-7	26.000	0.600	35.300	35.200	0.100	260.0	450	6.35	50.0
S1.007	S1-7	S1-8	11.501	0.600	35.200	35.150	0.050	230.0	450	6.50	50.0
S1.008	S1-8	S1-9	72.658	0.600	35.150	33.950	1.200	60.5	450	6.96	50.0
S1.009	S1-9	S1-10	15.933	0.600	33.950	33.750	0.200	79.7	450	7.08	50.0
S5.000	S5-0	S1-10	11.000	0.600	36.000	35.750	0.250	44.0	225	4.09	50.0
S1.010	S1-10	S1-11	27.969	0.600	32.500	32.150	0.350	80.0	225	7.40	50.0
S1.011	S1-11	S1-12 (BD)	16.350	0.600	32.150	31.946	0.204	80.0	225	7.58	50.0
S1.012	S1-12 (BD)	S1-13 (BD)	14.296	0.600	29.600	29.421	0.179	80.0	225	7.75	49.6
S1.013	S1-13 (BD)	S1-14	15.074	0.600	26.300	26.112	0.188	80.0	225	7.92	49.1
S1.014	S1-14	S1-15	24.604	0.600	26.112	23.652	2.460	10.0	225	8.02	48.8
S1.015	S1-15	S1-16	52.307	0.600	23.652	23.510	0.142	368.4	225	9.31	45.7

Name	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Σ Area (ha)	Σ Add Inflow (l/s)	Pro Depth (mm)	Pro Velocity (m/s)
S2.000	1.344	53.4	5.0	1.488	1.975	0.037	0.0	46	0.847
S2.001	2.940	116.9	12.7	3.875	1.271	0.094	0.0	50	1.939
S2.002	0.922	36.6	12.7	1.271	1.432	0.094	0.0	91	0.838
S2.003	0.919	36.5	12.7	1.432	1.565	0.094	0.0	92	0.840
S1.000	2.044	81.3	25.8	2.458	1.460	0.190	0.0	87	1.816
S1.001	2.162	238.7	66.7	2.610	2.817	0.492	0.0	135	1.864
S1.002	2.631	290.6	82.2	2.817	3.062	0.606	0.0	136	2.275
S3.000	2.024	143.1	32.2	1.900	2.598	0.237	0.0	96	1.645
S4.000	2.033	143.7	0.0	1.098	1.243	0.000	0.0	0	0.000
S3.001	2.436	172.2	47.7	2.598	3.062	0.352	0.0	108	2.093
S1.003	2.607	287.9	129.9	3.062	2.925	0.958	0.0	176	2.540
S1.004	2.758	304.7	129.9	3.025	3.125	0.958	0.0	171	2.654
S1.005	2.722	432.9	142.5	3.050	2.950	1.051	0.0	177	2.450
S1.006	1.256	199.7	151.7	5.250	1.350	1.119	0.0	294	1.375
S1.007	1.336	212.5	151.7	1.350	1.400	1.119	0.0	282	1.446
S1.008	2.616	416.1	151.7	1.400	4.600	1.119	0.0	188	2.419
S1.009	2.279	362.5	168.9	4.600	4.800	1.247	0.0	216	2.240
S5.000	1.977	78.6	0.0	5.425	3.025	0.000	0.0	0	0.000
S1.010	1.463	58.2	168.9	6.275	5.525	1.247	0.0	225	1.490
S1.011	1.463	58.2	168.9	5.525	3.029	1.247	0.0	225	1.490
S1.012	1.463	58.2	167.5	5.375	1.604	1.247	0.0	225	1.490
S1.013	1.463	58.2	165.9	4.725	1.163	1.247	0.0	225	1.490
S1.014	4.161	165.5	165.0	1.163	1.123	1.247	0.0	185	4.717
S1.015	0.675	26.8	154.4	1.123	0.265	1.247	0.0	225	0.688

Links

Name	US Node	DS Node	Length (m)	ks (mm) / n	US IL (m)	DS IL (m)	Fall (m)	Slope (1:X)	Dia (mm)	T of C (mins)	Rain (mm/hr)
S1.016	S1-16	SWALE HEADWALL	2.295	0.600	23.510	23.500	0.010	229.5	225	9.35	45.6
	Name	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Σ Area (ha)	Σ Add Inflow (l/s)	Pro Depth (mm)	Pro Velocity (m/s)	
	S1.016	0.859	34.1	154.0	0.265	0.275	1.247	0.0	225	0.875	

Pipeline Schedule

Link	Length (m)	Slope (1:X)	Dia (mm)	Link Type	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
S2.000	28.397	94.7	225	Circular	45.913	44.200	1.488	46.100	43.900	1.975
S2.001	11.911	20.0	225	Circular	46.100	42.000	3.875	42.900	41.404	1.271
S2.002	32.128	199.6	225	Circular	42.900	41.404	1.271	42.900	41.243	1.432
S2.003	9.633	200.7	225	Circular	42.900	41.243	1.432	42.985	41.195	1.565
S1.000	70.000	41.2	225	Circular	45.683	43.000	2.458	42.985	41.300	1.460
S1.001	35.200	70.4	375	Circular	42.985	40.000	2.610	42.692	39.500	2.817
S1.002	38.095	47.6	375	Circular	42.692	39.500	2.817	42.137	38.700	3.062
S3.000	46.000	60.5	300	Circular	42.105	39.905	1.900	42.043	39.145	2.598
S4.000	12.000	60.0	300	Circular	42.098	40.700	1.098	42.043	40.500	1.243
S3.001	15.500	41.9	300	Circular	42.043	39.145	2.598	42.137	38.775	3.062
S1.003	19.404	48.5	375	Circular	42.137	38.700	3.062	41.600	38.300	2.925
S1.004	4.334	43.3	375	Circular	41.600	38.200	3.025	41.600	38.100	3.125
S1.005	27.980	56.0	450	Circular	41.600	38.100	3.050	41.000	37.600	2.950
S1.006	26.000	260.0	450	Circular	41.000	35.300	5.250	37.000	35.200	1.350
S1.007	11.501	230.0	450	Circular	37.000	35.200	1.350	37.000	35.150	1.400
S1.008	72.658	60.5	450	Circular	37.000	35.150	1.400	39.000	33.950	4.600
S1.009	15.933	79.7	450	Circular	39.000	33.950	4.600	39.000	33.750	4.800
S5.000	11.000	44.0	225	Circular	41.650	36.000	5.425	39.000	35.750	3.025
S1.010	27.969	80.0	225	Circular	39.000	32.500	6.275	37.900	32.150	5.525


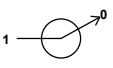



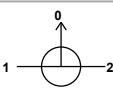


Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
S2.000	S2-0	1200	Manhole	Adoptable	S2-1 (BD)	1200	Manhole	Adoptable
S2.001	S2-1 (BD)	1200	Manhole	Adoptable	S2-2	1200	Manhole	Adoptable
S2.002	S2-2	1200	Manhole	Adoptable	S2-3	1200	Manhole	Adoptable
S2.003	S2-3	1200	Manhole	Adoptable	S1-1 (BD)	1350	Manhole	Adoptable
S1.000	S1-0	1200	Manhole	Adoptable	S1-1 (BD)	1350	Manhole	Adoptable
S1.001	S1-1 (BD)	1350	Manhole	Adoptable	S1-2	1350	Manhole	Adoptable
S1.002	S1-2	1350	Manhole	Adoptable	S1-3	1350	Manhole	Adoptable
S3.000	S3-0	1200	Manhole	Adoptable	S3-1 (BD)	1200	Manhole	Adoptable
S4.000	S4-0	1200	Manhole	Adoptable	S3-1 (BD)	1200	Manhole	Adoptable
S3.001	S3-1 (BD)	1200	Manhole	Adoptable	S1-3	1350	Manhole	Adoptable
S1.003	S1-3	1350	Manhole	Adoptable	S1-4 (PI)	1350	Manhole	Adoptable
S1.004	S1-4 (PI)	1350	Manhole	Adoptable	S1-5	1350	Manhole	Adoptable
S1.005	S1-5	1350	Manhole	Adoptable	S1-6 (BD)	1350	Manhole	Adoptable
S1.006	S1-6 (BD)	1350	Manhole	Adoptable	S1-7	1350	Manhole	Adoptable
S1.007	S1-7	1350	Manhole	Adoptable	S1-8	1350	Manhole	Adoptable
S1.008	S1-8	1350	Manhole	Adoptable	S1-9	1350	Manhole	Adoptable
S1.009	S1-9	1350	Manhole	Adoptable	S1-10	1350	Manhole	Adoptable
S5.000	S5-0	1200	Manhole	Adoptable	S1-10	1350	Manhole	Adoptable
S1.010	S1-10	1350	Manhole	Adoptable	S1-11	1200	Manhole	Adoptable

Pipeline Schedule


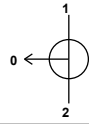
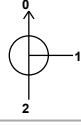



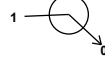
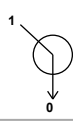


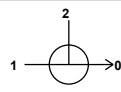


Link	Length (m)	Slope (1:X)	Dia (mm)	Link Type	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
S1.011	16.350	80.0	225	Circular	37.900	32.150	5.525	35.200	31.946	3.029
S1.012	14.296	80.0	225	Circular	35.200	29.600	5.375	31.250	29.421	1.604
S1.013	15.074	80.0	225	Circular	31.250	26.300	4.725	27.500	26.112	1.163
S1.014	24.604	10.0	225	Circular	27.500	26.112	1.163	25.000	23.652	1.123
S1.015	52.307	368.4	225	Circular	25.000	23.652	1.123	24.000	23.510	0.265
S1.016	2.295	229.5	225	Circular	24.000	23.510	0.265	24.000	23.500	0.275

Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
S1.011	S1-11	1200	Manhole	Adoptable	S1-12 (BD)	1200	Manhole	Adoptable
S1.012	S1-12 (BD)	1200	Manhole	Adoptable	S1-13 (BD)	1200	Manhole	Adoptable
S1.013	S1-13 (BD)	1200	Manhole	Adoptable	S1-14	1200	Manhole	Adoptable
S1.014	S1-14	1200	Manhole	Adoptable	S1-15	1200	Manhole	Adoptable
S1.015	S1-15	1200	Manhole	Adoptable	S1-16	1200	Manhole	Adoptable
S1.016	S1-16	1200	Manhole	Adoptable	SWALE HEADWALL		Junction	






Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)
S2-0	723518.727	723826.512	45.913	1.713	1200				
						0	S2.000	44.200	225
S2-1 (BD)	723547.124	723826.516	46.100	4.100	1200				
						0	S2.001	42.000	225
						1	S2.000	43.900	225
S2-2	723557.556	723832.265	42.900	1.496	1200				
						0	S2.002	41.404	225
						1	S2.001	41.404	225
S2-3	723557.556	723864.393	42.900	1.657	1200				
						0	S2.002	41.243	225
						1	S2.003	41.243	225
S1-0	723477.923	723864.393	45.683	2.683	1200				
						0	S1.000	43.000	225
S1-1 (BD)	723547.923	723864.393	42.985	2.985	1350				
						0	S1.000	41.300	225
						1	S2.003	41.195	225
						2	S1.001	40.000	375
S1-2	723547.923	723899.593	42.692	3.192	1350				
						0	S1.001	39.500	375
						1	S1.002	39.500	375
S3-0	723563.423	723891.688	42.105	2.200	1200				
						0	S3.000	39.905	300

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)	
S4-0	723563.423	723949.688	42.098	1.398	1200		0	S4.000	40.700	300
S3-1 (BD)	723563.423	723937.688	42.043	2.898	1200		1 2 0	S4.000 S3.000 S3.001	40.500 39.145 39.145	300 300 300
S1-3	723547.923	723937.688	42.137	3.437	1350		1 2 0	S3.001 S1.002 S1.003	38.775 38.700 38.700	300 375 375
S1-4 (PI)	723547.923	723957.092	41.600	3.400	1350		1 0	S1.003 S1.004	38.300 38.200	375 375
S1-5	723547.923	723961.426	41.600	3.500	1350		1 0	S1.004 S1.005	38.100 38.100	375 450
S1-6 (BD)	723575.616	723965.423	41.000	5.700	1350		1 0	S1.005 S1.006	37.600 35.300	450 450
S1-7	723601.593	723966.511	37.000	1.800	1350		1 0	S1.006 S1.007	35.200 35.200	450 450
S1-8	723610.027	723958.692	37.000	1.850	1350		1 0 0	S1.007 S1.008 S1.008	35.150 35.150 33.950	450 450 450
S1-9	723610.027	723886.034	39.000	5.050	1350		1 0	S1.008 S1.009	33.950 33.950	450 450
S5-0	723599.027	723870.101	41.650	5.650	1200		0	S5.000	36.000	225
S1-10	723610.027	723870.101	39.000	6.500	1350		2 1 0	S5.000 S1.009 S1.010	35.750 33.750 32.500	225 450 225
S1-11	723637.996	723870.101	37.900	5.750	1200		1 0	S1.010 S1.011	32.150 32.150	225 225
S1-12 (BD)	723644.816	723884.961	35.200	5.600	1200		1 0	S1.011 S1.012	31.946 29.600	225 225

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)
S1-14	723664.151	723904.910	27.500	1.388	1200		1 S1.013	26.112	225
S1-16	723681.062	723964.383	24.000	0.490	1200		0 S1.014 1 S1.015	26.112 23.510	225
SWALE HEADWALL	723682.959	723965.674	24.000	0.500			1 S1.016	23.500	225
S1-13 (BD)	723650.778	723897.954	31.250	4.950	1200		1 S1.012	29.421	225
S1-15	723687.561	723912.481	25.000	1.348	1200		0 S1.013 1 S1.014 0 S1.015	26.300 23.652 23.652	225

Simulation Settings

Rainfall Methodology	FSR	Analysis Speed	Normal
Rainfall Events	Singular	Skip Steady State	x
FSR Region	Scotland and Ireland	Drain Down Time (mins)	240
M5-60 (mm)	15.700	Additional Storage (m ³ /ha)	20.0
Ratio-R	0.278	Starting Level (m)	
Summer CV	0.750	Check Discharge Rate(s)	x
Winter CV	0.840	Check Discharge Volume	x

Storm Durations

15	60	180	360	600	960	2160	4320	7200	10080
30	120	240	480	720	1440	2880	5760	8640	

Return Period (years)	Climate Change (CC %)	Additional Area (A %)	Additional Flow (Q %)
100	20	10	0

Node S1-10 Online Hydro-Brake® Control

Flap Valve	x	Objective (HE)	Minimise upstream storage
Replaces Downstream Link	x	Sump Available	✓
Invert Level (m)	32.500	Product Number	CTL-SHE-0037-1200-3800-1200
Design Depth (m)	3.800	Min Outlet Diameter (m)	0.075
Design Flow (l/s)	1.2	Min Node Diameter (mm)	1200

Node S1-10 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	32.500
Side Inf Coefficient (m/hr)	0.00000	Porosity	0.95	Time to half empty (mins)	

Depth (m)	Area (m ²)	Inf Area (m ²)	Depth (m)	Area (m ²)	Inf Area (m ²)	Depth (m)	Area (m ²)	Inf Area (m ²)
0.000	385.0	0.0	3.900	385.0	0.0	3.901	0.0	0.0

Node SWALE HEADWALL Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	23.500
Side Inf Coefficient (m/hr)	0.00000	Porosity	1.00	Time to half empty (mins)	

Depth (m)	Area (m ²)	Inf Area (m ²)	Depth (m)	Area (m ²)	Inf Area (m ²)	Depth (m)	Area (m ²)	Inf Area (m ²)
0.000	82.0	0.0	0.500	314.0	0.0	0.501	0.0	0.0

Appendix E Causeway Flow Foul Water Drainage Calculations

Design Settings

Frequency of use (kDU)	1.00	Minimum Velocity (m/s)	1.00
Flow per dwelling per day (l/day)	4000	Connection Type	Level Soffits
Domestic Flow (l/s/ha)	1.0	Minimum Backdrop Height (m)	0.200
Industrial Flow (l/s/ha)	1.0	Preferred Cover Depth (m)	1.200
Additional Flow (%)	0	Include Intermediate Ground	✓

Nodes

Name	Dwellings	Cover Level (m)	Diameter (mm)	Easting (m)	Northing (m)	Depth (m)
F1-0	18	45.600	1200	723480.087	723861.893	3.900
F1-1	18	42.894	1200	723550.423	723861.893	2.464
F1-2	19	42.692	1200	723550.423	723887.693	2.562
F2-0	24	42.131	1200	723565.923	723887.693	1.631
F2-1	23	42.053	1200	723565.923	723939.593	2.253
F1-3	6	42.116	1200	723550.423	723939.593	2.516
F1-4 (BD)	2	41.000	1200	723550.423	723963.302	2.400
F1-5 (BD)		39.750	1200	723568.323	723966.131	3.453
BS1-0		38.625	1200	723585.474	723879.032	1.200
BS1-1		38.625	1200	723585.468	723919.734	1.725
BS1-2		38.625	1200	723585.456	723954.770	2.325
BS1-3 (PI)		38.625	1200	723585.456	723956.829	2.455
F1-6		38.250	1200	723585.497	723968.827	2.250
F1-7 (BD)		36.900	1200	723598.248	723970.861	3.500
F1-12 OUT		36.090	1200	723601.663	723976.225	2.785

Links

Name	US Node	DS Node	Length (m)	ks (mm) / n	US IL (m)	DS IL (m)	Fall (m)	Slope (1:X)	Dia (mm)
F1.000	F1-0	F1-1	70.336	1.500	41.700	40.430	1.270	55.4	225
F1.001	F1-1	F1-2	25.800	1.500	40.430	40.130	0.300	86.0	225
F1.002	F1-2	F1-3	51.900	1.500	40.130	39.600	0.530	97.9	225
F2.000	F2-0	F2-1	51.900	1.500	40.500	39.800	0.700	74.1	225
F2.001	F2-1	F1-3	15.500	1.500	39.800	39.600	0.200	77.5	225
F1.003	F1-3	F1-4 (BD)	23.709	1.500	39.600	39.300	0.300	79.0	225
F1.004	F1-4 (BD)	F1-5 (BD)	18.122	1.500	38.600	38.297	0.303	59.8	225
F1.005	F1-5 (BD)	F1-6	17.384	1.500	36.297	36.000	0.297	58.5	225
BS1.000	BS1-0	BS1-1	40.702	1.500	37.425	36.900	0.525	77.5	225
BS1.001	BS1-1	BS1-2	35.036	1.500	36.900	36.300	0.600	58.4	225

Name	Pro Vel @ 1/3 Q (m/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Σ Area (ha)	Σ Dwellings (ha)	Σ Units (ha)	Σ Add Inflow (ha)	Pro Depth (mm)	Pro Velocity (m/s)
F1.000	0.367	1.544	61.4	0.8	3.675	2.239	0.000		18	0.0	19	0.539
F1.001	0.403	1.238	49.2	1.7	2.239	2.337	0.000		36	0.0	29	0.569
F1.002	0.441	1.160	46.1	2.5	2.337	2.291	0.000		55	0.0	36	0.624
F2.000	0.370	1.334	53.0	1.1	1.406	2.028	0.000		24	0.0	22	0.522
F2.001	0.454	1.304	51.9	2.2	2.028	2.291	0.000		47	0.0	31	0.635
F1.003	0.582	1.292	51.4	5.0	2.291	1.475	0.000		108	0.0	48	0.822
F1.004	0.655	1.486	59.1	5.1	2.175	1.228	0.000		110	0.0	44	0.903
F1.005	0.648	1.502	59.7	5.1	3.228	2.025	0.000		110	0.0	44	0.913
BS1.000	0.000	1.304	51.9	0.0	0.975	1.500	0.000		0	0.0	0	0.000
BS1.001	0.000	1.504	59.8	0.0	1.500	2.100	0.000		0	0.0	0	0.000

Links

Name	US Node	DS Node	Length (m)	ks (mm) / n	US IL (m)	DS IL (m)	Fall (m)	Slope (1:X)	Dia (mm)
BS1.002	BS1-2	BS1-3 (PI)	2.059	1.500	36.300	36.270	0.030	68.6	225
BS1.003	BS1-3 (PI)	F1-6	11.998	1.500	36.170	36.000	0.170	70.6	225
F1.006	F1-6	F1-7 (BD)	12.912	1.500	36.000	35.700	0.300	43.0	225
F1.007	F1-7 (BD)	F1-12 OUT	6.359	1.500	33.400	33.305	0.095	66.9	225






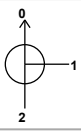






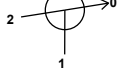
Name	Pro Vel @ 1/3 Q (m/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Σ Area (ha)	Σ Dwellings (ha)	Σ Units (ha)	Σ Add Inflow (ha)	Pro Depth (mm)	Pro Velocity (m/s)
BS1.002	0.000	1.386	55.1	0.0	2.100	2.130	0.000	0	0.0	0.0	0	0.000
BS1.003	0.000	1.367	54.4	0.0	2.230	2.025	0.000	0	0.0	0.0	0	0.000
F1.006	0.722	1.752	69.7	5.1	2.025	0.975	0.000	110	0.0	0.0	41	1.013
F1.007	0.619	1.404	55.8	5.1	3.275	2.560	0.000	110	0.0	0.0	46	0.874

Pipeline Schedule



Link	Length (m)	Slope (1:X)	Dia (mm)	Link Type	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
F1.000	70.336	55.4	225	Circular	45.600	41.700	3.675	42.894	40.430	2.239
F1.001	25.800	86.0	225	Circular	42.894	40.430	2.239	42.692	40.130	2.337
F1.002	51.900	97.9	225	Circular	42.692	40.130	2.337	42.116	39.600	2.291
F2.000	51.900	74.1	225	Circular	42.131	40.500	1.406	42.053	39.800	2.028
F2.001	15.500	77.5	225	Circular	42.053	39.800	2.028	42.116	39.600	2.291
F1.003	23.709	79.0	225	Circular	42.116	39.600	2.291	41.000	39.300	1.475
F1.004	18.122	59.8	225	Circular	41.000	38.600	2.175	39.750	38.297	1.228
F1.005	17.384	58.5	225	Circular	39.750	36.297	3.228	38.250	36.000	2.025
BS1.000	40.702	77.5	225	Circular	38.625	37.425	0.975	38.625	36.900	1.500
BS1.001	35.036	58.4	225	Circular	38.625	36.900	1.500	38.625	36.300	2.100
BS1.002	2.059	68.6	225	Circular	38.625	36.300	2.100	38.625	36.270	2.130
BS1.003	11.998	70.6	225	Circular	38.625	36.170	2.230	38.250	36.000	2.025
F1.006	12.912	43.0	225	Circular	38.250	36.000	2.025	36.900	35.700	0.975
F1.007	6.359	66.9	225	Circular	36.900	33.400	3.275	36.090	33.305	2.560

Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
F1.000	F1-0	1200	Manhole	Adoptable	F1-1	1200	Manhole	Adoptable
F1.001	F1-1	1200	Manhole	Adoptable	F1-2	1200	Manhole	Adoptable
F1.002	F1-2	1200	Manhole	Adoptable	F1-3	1200	Manhole	Adoptable
F2.000	F2-0	1200	Manhole	Adoptable	F2-1	1200	Manhole	Adoptable
F2.001	F2-1	1200	Manhole	Adoptable	F1-3	1200	Manhole	Adoptable
F1.003	F1-3	1200	Manhole	Adoptable	F1-4 (BD)	1200	Manhole	Adoptable
F1.004	F1-4 (BD)	1200	Manhole	Adoptable	F1-5 (BD)	1200	Manhole	Adoptable
F1.005	F1-5 (BD)	1200	Manhole	Adoptable	F1-6	1200	Manhole	Adoptable
BS1.000	BS1-0	1200	Manhole	Adoptable	BS1-1	1200	Manhole	Adoptable
BS1.001	BS1-1	1200	Manhole	Adoptable	BS1-2	1200	Manhole	Adoptable
BS1.002	BS1-2	1200	Manhole	Adoptable	BS1-3 (PI)	1200	Manhole	Adoptable
BS1.003	BS1-3 (PI)	1200	Manhole	Adoptable	F1-6	1200	Manhole	Adoptable
F1.006	F1-6	1200	Manhole	Adoptable	F1-7 (BD)	1200	Manhole	Adoptable
F1.007	F1-7 (BD)	1200	Manhole	Adoptable	F1-12 OUT	1200	Manhole	Adoptable

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)	
F1-0	723480.087	723861.893	45.600	3.900	1200					
							0	F1.000	41.700	225
F1-1	723550.423	723861.893	42.894	2.464	1200		1	F1.000	40.430	225
							0	F1.001	40.430	225
F1-2	723550.423	723887.693	42.692	2.562	1200		1	F1.001	40.130	225
							0	F1.002	40.130	225
F2-0	723565.923	723887.693	42.131	1.631	1200					
							0	F2.000	40.500	225
F2-1	723565.923	723939.593	42.053	2.253	1200		1	F2.000	39.800	225
							0	F2.001	39.800	225
F1-3	723550.423	723939.593	42.116	2.516	1200		1	F2.001	39.600	225
							2	F1.002	39.600	225
							0	F1.003	39.600	225
F1-4 (BD)	723550.423	723963.302	41.000	2.400	1200		1	F1.003	39.300	225
							0	F1.004	38.600	225
F1-5 (BD)	723568.323	723966.131	39.750	3.453	1200		1	F1.004	38.297	225
							0	F1.005	36.297	225
BS1-0	723585.474	723879.032	38.625	1.200	1200					
							0	BS1.000	37.425	225
BS1-1	723585.468	723919.734	38.625	1.725	1200		1	BS1.000	36.900	225
							0	BS1.001	36.900	225
BS1-2	723585.456	723954.770	38.625	2.325	1200		1	BS1.001	36.300	225
							0	BS1.002	36.300	225
BS1-3 (PI)	723585.456	723956.829	38.625	2.455	1200		1	BS1.002	36.270	225
							0	BS1.003	36.170	225
F1-6	723585.497	723968.827	38.250	2.250	1200		1	BS1.003	36.000	225
							2	F1.005	36.000	225
							0	F1.006	36.000	225

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)
F1-7 (BD)	723598.248	723970.861	36.900	3.500	1200	 1	F1.006	35.700	225
F1-12 OUT	723601.663	723976.225	36.090	2.785	1200	 1	0 F1.007 1 F1.007	33.400 33.305	225 225

Appendix F Uisce Éireann and DLRCC Correspondence

Philip McDowell | PUNCH

From: Philip McDowell | PUNCH
Sent: Friday 8 December 2023 17:11
To: newconnections@water.ie
Cc: Leonard Brennan | PUNCH; Mark Richardson | PUNCH
Subject: 232250 - Lehaunstown Land, Cherrywood - Pre-Connection Enquiry
Attachments: 232250-PUNCH-XX-XX-SK-C-0301-S3-P01_Proposed Mains Connection.pdf; 232250 - Pre-Connection - Enquiry Form.pdf; 232250 - Site Map - 1-5000.pdf; 232250-CDS23003291 CDS.pdf; 232250-PUNCH-XX-XX-CA-C-0001_Wastewater and Water Demand Calculations_Connection Application.pdf; 232250-PUNCH-XX-XX-SK-C-0101_Proposed Foul Connection.pdf

Dear Sir/Madam,

Please find attached a pre-connection enquiry form for a proposed development at Lehaunstown Land, Cherrywood, Dublin 18.

Note there was a previous pre-connection enquiry for the site, reference number: CDS23003291.

Our feasibility queries are set out on the attached sketches for Foul and Water.

Water

The CoF attached indicated a future UE network including a 200mm diam watermain along a future road (Lehaunstown Neighbourhood Road) taken from the ex 315mm watermain on Grand Parade

This 200mm water main will be constructed in a future LNR construction contract by others

Our development will be fed off this proposed 200mm main as per the sketch

Can you confirm this is an acceptable route subject to a future Connection Application and agreement?

Wastewater

The CoF attached indicated there is existing UE assets traversing the site and advise re required Build Over applications and clearances etc

It is proposed to discharge into the 600mm combined foul sewer as indicated in the attached sketch

Can you confirm this is an acceptable route subject to a future Connection Application and agreement?

The following are attached:

1. The Pre-Connection Enquiry Form for this proposed development
2. Calculations in support of this Connection Application
3. A site location map for this development
4. A Site layout drawing indicating the proposed water mains connection.
5. A Site layout drawing indicating the proposed wastewater network connection.
6. A CoF indicating the future UE network.

If you could please confirm receipt and supply a CDS reference number at your earliest convenience.

Kind regards,

Philip McDowell

	Philip McDowell BAI MAI Graduate Engineer
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Carnegie House, Library Road, Dun Laoghaire, Co Dublin, A96 C7W7, Ireland
t +353 1 271 2200 | m +353 85 777 1883 | e pmcdowell@punchconsulting.com
Dublin | Limerick | Cork | Galway | Glasgow

Philip McDowell | PUNCH

From: Philip McDowell | PUNCH
Sent: Wednesday 13 December 2023 14:15
To: newconnections
Cc: Mark Richardson | PUNCH; Leonard Brennan | PUNCH
Subject: RE: CDS23009206 - Site at, Lehanstown Land, Cherrywood SDZ, Dublin EMAIL:0656154
Attachments: 232250 - Revised Pre-Connection Enquiry 13.12.23.pdf; 232250-PUNCH-XX-XX-CA-C-0001-S3-P01.02_Wastewater and Water Demand Calculations.pdf

Hi Michael,

We now have the following schedule of apartments and houses:

101 Apartments
15 houses

116 units total.

Please find an updated application form and calculations sheet attached.

Kind regards,

Philip

	Philip McDowell BAI MAI Graduate Engineer
--	---

Carnegie House, Library Road, Dun Laoghaire, Co Dublin, A96 C7W7, Ireland
t +353 1 271 2200 | m +353 85 777 1883 | e pmcdowell@punchconsulting.com
Dublin | Limerick | Cork | Galway | Glasgow

From: newconnections <newconnections@water.ie>
Sent: Wednesday, December 13, 2023 11:35 AM
To: Philip McDowell | PUNCH <pmcdowell@punchconsulting.com>
Cc: Mark Richardson | PUNCH <mrichardson@punchconsulting.com>; Leonard Brennan | PUNCH <lbrennan@punchconsulting.com>; Mark Richardson | PUNCH <mrichardson@punchconsulting.com>; Leonard Brennan | PUNCH <lbrennan@punchconsulting.com>
Subject: RE: CDS23009206 - Site at, Lehanstown Land, Cherrywood SDZ, Dublin EMAIL:0656154

Hi Philip,

Can you please let me know as soon as you have confirmation of the exact number of houses vs apartments, as I won't be able to process your application until I receive this information. Your application will be kept on hold in the meantime.

Kind regards,

Michael Donnelly
Connection and Developer Services

Uisce Éireann

Bosca OP 860, Oifig Sheachadta na Cathrach Theas, Cathair Chorcaí, Éire

Uisce Éireann

PO Box 860, South City Delivery Office, Cork City, Ireland

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www.water.ie

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Is don duine amháin nó don eintiteas amháin ainmnithe ar an seoladh an fhaisnéis agus d'fhéadfadh ábhar faoi rún, faoi phribhléid nó ábhar atá íogair ó thaobh na tráchtála de a bheith mar chuid den fhaisnéis. Tá toirmeasc ar aon daoine nó aon eititis; nach dóibh siúd an fhaisnéis- aon athbhreithniú a dhéanamh, aon atarchur a dhéanamh nó aon athdháileadh a dhéanamh, nó aon úsáid eile a bhaint as an bhfaisnéis, nó aon ghníomh a bhraithfeadh ar an bhfaisnéis seo a dhéanamh agus d'fhéadfaí an dlí a shárú dá ndéanfaí sin. Séanann Uisce Éireann dliteanas as aon ghníomh agus as aon iarmhairt bunaithe ar úsáid neamhúdraithe na faisnéise seo. Séanann Uisce Éireann dliteanas maidir le seachadadh iomlán agus ceart na faisnéise sa chumarsáid seo agus séanann Uisce Éireann dliteanas maidir le haon mhoill a bhaineann leis an bhfaisnéis a fháil. Má tá an ríomh-phost seo faighte agat trí dhearmad, déan teagmháil leis an seoltóir más é do thoil é agus scríos an t-ábhar ó gach aon ríomhaire. D'fhéadfadh ríomhphost a bheith so-ghabhálach i leith truaillithe, idircheaptha agus i leith leasuithe neamhúdraithe. Séanann Uisce Éireann aon fhreagracht as athruithe nó as idircheapadh a rinneadh ar an ríomhphost seo nó as aon dochar do chórais na bhfaighteoirí déanta ag an teachtaireacht seo nó ag a ceangaltáin tar éis a sheolta. Tabhair faoi deara go bhféadfadh monatóireacht a bheith á dhéanamh ar theachtairreachtaí chuig Uisce Éireann agus ó Uisce Éireann d'fhonn ár ngnó a chosaint agus chun a chinntiú go bhfuiltear ag teacht le beartais agus le caighdeáin Uisce Éireann. Is cuideachta gníomhaíochta ainmnithe é Uisce Éireann atá faoi theorainn scaireanna, a bunaíodh de bhun fhorálacha na n-Achtanna um Sheirbhísí Uisce 2007-2022, a bhfuil a bpríomh-ionad gnó ag Teach Colvill, 24-26 Sráid na Talbóide, BÁC 1.

Go raibh maith agat as d'aird a thabhairt.

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Thank you for your attention.

----- Original Message -----

From: Philip McDowell <pmcdowell@punchconsulting.com>;

Received: Tue Dec 12 2023 16:34:44 GMT+0000 (Greenwich Mean Time)

To: newconnections <newconnections@water.ie>; New Connections Queue
newconnections@water.ie <newconnections@water.ie>;

Cc: Mark Richardson <mrichardson@punchconsulting.com>; Leonard Brennan <lbrennan@punchconsulting.com>; Mark Richardson <mrichardson@punchconsulting.com>; Leonard Brennan <lbrennan@punchconsulting.com>;
Subject: RE: CDS23009206 - Site at, Lehuanstown Land, Cherrywood SDZ, Dublin
EMAIL:0656154

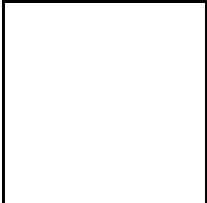
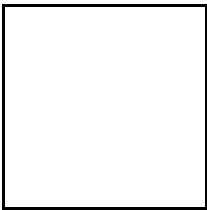
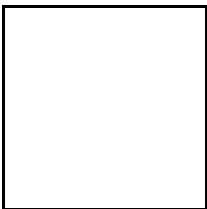
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Hi Michael,

Thanks for your quick responses, the exact number of houses vs. apartments in the development is still to be confirmed.

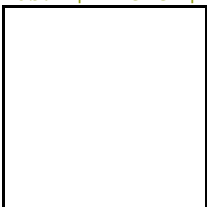
Kind regards,

Phillip



Philip McDowell
BAI MAI
Graduate Engineer

Carnegie House, Library Road, Dun Laoghaire, Co Dublin, A96 C7W7, Ireland
t +353 1 271 2200 | m +353 85 777 1883 | e pmcdowell@punchconsulting.com
Dublin | Limerick | Cork | Galway | Glasgow



From: newconnections <newconnections@water.ie>

Sent: Tuesday, December 12, 2023 1:39 PM

To: Philip McDowell | PUNCH <pmcdowell@punchconsulting.com>

Cc: Mark Richardson | PUNCH <mrichardson@punchconsulting.com>; Leonard Brennan | PUNCH <lbrennan@punchconsulting.com>; Mark Richardson | PUNCH <mrichardson@punchconsulting.com>; Leonard Brennan | PUNCH <lbrennan@punchconsulting.com>

Subject: RE: CDS23009206 - Site at, Lehuanstown Land, Cherrywood SDZ, Dublin EMAIL:0656154

Hi Philip,

Thanks for your email, can you please clarify how the 130 dwellings are split?

So the exact number of houses and the number of apartments which would total 130 combined.

Kind regards,

Michael Donnelly
Connection and Developer Services

Uisce Éireann
Bosca OP 860, Oifig Sheachadta na Cathrach Theas, Cathair Chorcaí, Éire
Uisce Éireann
PO Box 860, South City Delivery Office, Cork City, Ireland

T: 1800 278 278

www.water.ie

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Is don duine amháin nó don eintiteas amháin ainmnithe ar an seoladh an fhaisnéis agus d'fhéadfadh ábhar faoi rún, faoi phribhléid nó ábhar atá íogair ó thaobh na tráchtála de a bheith mar chuid den fhaisnéis. Tá toirmeasc ar aon daoine nó aon eititis; nach dóibh siúd an fhaisnéis- aon athbhreithniú a dhéanamh, aon atarchur a dhéanamh nó aon athdháileadh a dhéanamh, nó aon úsáid eile a bhaint as an bhfaisnéis, nó aon ghníomh a bhraithfeadh ar an bhfaisnéis seo a dhéanamh agus d'fhéadfaí an dlí a shárú dá ndéanfaí sin. Séanann Uisce Éireann dliteanas as aon ghníomh agus as aon iarmhairt bunaithe ar úsáid neamhúdraithe na faisnéise seo. Séanann Uisce Éireann dliteanas maidir le seachadadh iomlán agus ceart na faisnéise sa chumarsáid seo agus séanann Uisce Éireann dliteanas maidir le haon mhoill a bhaineann leis an bhfaisnéis a fháil. Má tá an ríomh-phost seo faighte agat trí dhearmad, déan teagmháil leis an seoltóir más é do thoil é agus scríos an t-ábhar ó gach aon ríomhaire. D'fhéadfadh ríomhphost a bheith so-ghabhálach i leith truaillithe, idircheaptha agus i leith leasuithe neamhúdraithe. Séanann Uisce Éireann aon fhreagracht as athruithe nó as idircheapadh a rinneadh ar an ríomhphost seo nó as aon dochar do chórais na bhfaighteoirí déanta ag an teachtaireacht seo nó ag a ceangaltáin tar éis a sheolta. Tabhair faoi deara go bhféadfadh monatóireacht a bheith á dhéanamh ar theachtairreachtaí chuig Uisce Éireann agus ó Uisce Éireann d'fhonn ár ngnó a chosaint agus chun a chinntiú go bhfuiltear ag teacht le beartais agus le caighdeáin Uisce Éireann. Is cuideachta gníomhaíochta ainmnithe é Uisce Éireann atá faoi theorainn scaireanna, a bunaíodh de bhun fhorálacha na n-Achtanna um Sheirbhísí Uisce 2007-2022, a bhfuil a bpríomh-ionad gnó ag Teach Colvill, 24-26 Sráid na Talbóide, BÁC 1.

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Thank you for your attention.

----- Original Message -----

From: Philip McDowell <pmcdowell@punchconsulting.com>;
Received: Tue Dec 12 2023 12:49:56 GMT+0000 (Greenwich Mean Time)
To: newconnections <newconnections@water.ie>; New Connections Queue
newconnections@water.ie <newconnections@water.ie>;
Cc: Mark Richardson <mrichardson@punchconsulting.com>; Leonard Brennan
<lbrennan@punchconsulting.com>; Mark Richardson <mrichardson@punchconsulting.com>;
Leonard Brennan <lbrennan@punchconsulting.com>;
Subject: RE: CDS23009206 - Site at, Lehuanstown Land, Cherrywood SDZ, Dublin
EMAIL:0656154

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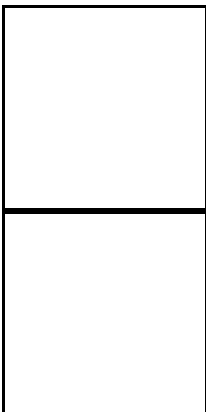
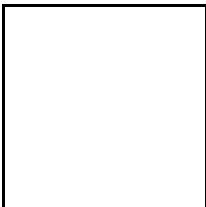
Dear Michael,

To clarify, the development consists of 130 dwellings split between houses and apartments.

Please find an updated application form attached.

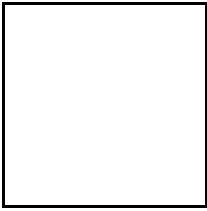
Kind regards,

Philip



Philip McDowell
BAI MAI
Graduate Engineer

Carnegie House, Library Road, Dun Laoghaire, Co Dublin, A96 C7W7, Ireland
t +353 1 271 2200 | m +353 85 777 1883 | e pmcdowell@punchconsulting.com
Dublin | Limerick | Cork | Galway | Glasgow



From: newconnections <newconnections@water.ie>
Sent: Tuesday, December 12, 2023 11:46 AM
To: Philip McDowell | PUNCH <pmcdowell@punchconsulting.com>
Subject: CDS23009206 - Site at, Lehuanstown Land, Cherrywood SDZ, Dublin EMAIL:0656154

Dear Philip,

In relation to your application, reference **CDS23009206**, your application cannot be processed at the moment as the application form provided is missing development details.

Can you please provide an updated application form with the development details added, once we receive this we can progress your application to the next stage.

Kind regards,

Michael Donnelly
Connection and Developer Services

Uisce Éireann
Bosca OP 860, Oifig Sheachadta na Cathrach Theas, Cathair Chorcaí, Éire
Uisce Éireann
PO Box 860, South City Delivery Office, Cork City, Ireland

T: 1800 278 278

www.water.ie

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Thank you for your attention.

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CONFIRMATION OF FEASIBILITY

Philip McDowell

Carnegie House
Library Road
Dun Laoghaire
Dublin
A96C7W7

17 January 2024

Uisce Éireann
Bosca OP 448
Oifig Sheachadta na
Cathrach Theas
Cathair Chorcaí

Uisce Éireann
PO Box 448
South City
Delivery Office
Cork City

www.water.ie

**Our Ref: CDS23009206 Pre-Connection Enquiry
Site at, Lehaunstown Land, Cherrywood SDZ, Dublin**

Dear Applicant/Agent,

We have completed the review of the Pre-Connection Enquiry.

Uisce Éireann has reviewed the pre-connection enquiry in relation to a Water & Wastewater connection for a Housing Development of 116 unit(s) at Site at, Lehaunstown Land, Cherrywood SDZ, Dublin, (the **Development**).

Based upon the details provided we can advise the following regarding connecting to the networks;

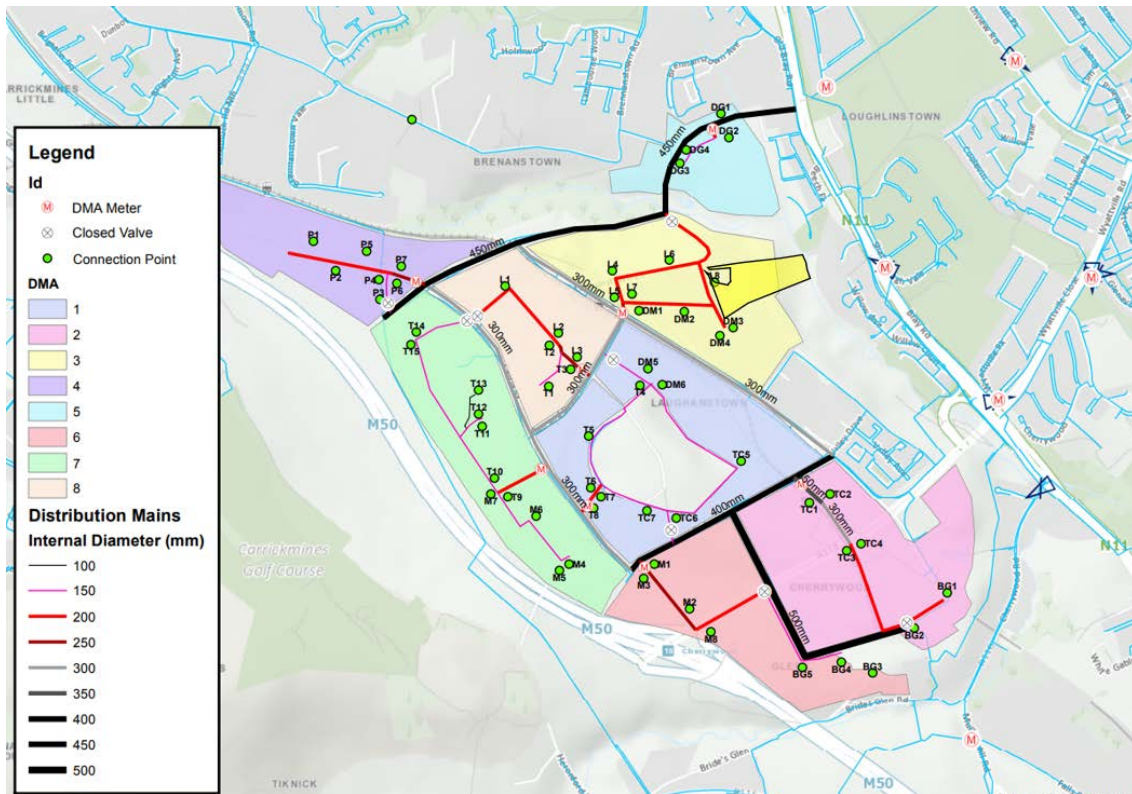
Water Connection

- Feasible subject to upgrades
- The Development is a part of Cherrywood Strategic Development Zone and prior to agreeing to the proposed connection, all relevant core water mains within the Zone have to be completed, of adequate capacity and integrity, connected to the Uisce Éireann networks and in operation.

Stiúirtheoirí / Directors: Tony Keohane (Cathaoirleach / Chairman), Niall Gleeson (POF / CEO), Christopher Banks, Fred Barry, Gerard Britchfield, Liz Joyce, Patricia King, Eileen Maher, Cathy Mannion, Michael Walsh.

Oifig Chláraithe / Registered Office: Teach Colvill, 24-26 Sráid Thalbóid, Baile Átha Cliath 1, D01 NP86 / Colvill House, 24-26 Talbot Street, Dublin, Ireland D01NP86

Is cuideachta ghníomhaíochta ainmnithe atá faoi theorainn scaireanna é Uisce Éireann / Uisce Éireann is a design activity company, limited by shares. Cláraithe in Éirinn Uimh.: 530363 / Registered in Ireland No.: 530363.



Wastewater Connection

- Feasible without infrastructure upgrade by Uisce Éireann
- The proposed Development indicates that Uisce Éireann assets are present on the site. The Developer has to demonstrate that proposed structures and works will not inhibit access for maintenance or endanger structural or functional integrity of the assets during and after the works. Drawings (showing clearance distances, changing to ground levels) and Method Statements should be included in the Detailed Design of the Development. A wayleave in favour of Uisce Éireann will be required over the assets that are not located within the Public Space. For design submissions and queries related to diversion/build near or over, please contact UÉ Diversion Team via email address diversions@water.ie.

This letter does not constitute an offer, in whole or in part, to provide a connection to any Uisce Éireann infrastructure. Before the Development can be connected to our network(s) you must submit a connection application and be granted and sign a connection agreement with Uisce Éireann.

As the network capacity changes constantly, this review is only valid at the time of its completion. As soon as planning permission has been granted for the Development, a completed connection application should be submitted. The connection application is available at www.water.ie/connections/get-connected/

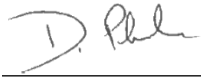
Where can you find more information?

- **Section A** - What is important to know?
- **Section B** - Details of Uisce Éireann's Network(s)

This letter is issued to provide information about the current feasibility of the proposed connection(s) to Uisce Éireann's network(s). This is not a connection offer and capacity in Uisce Éireann's network(s) may only be secured by entering into a connection agreement with Uisce Éireann.

For any further information, visit www.water.ie/connections, email newconnections@water.ie or contact 1800 278 278.

Yours sincerely,



Dermot Phelan
Connections Delivery Manager

Section A - What is important to know?

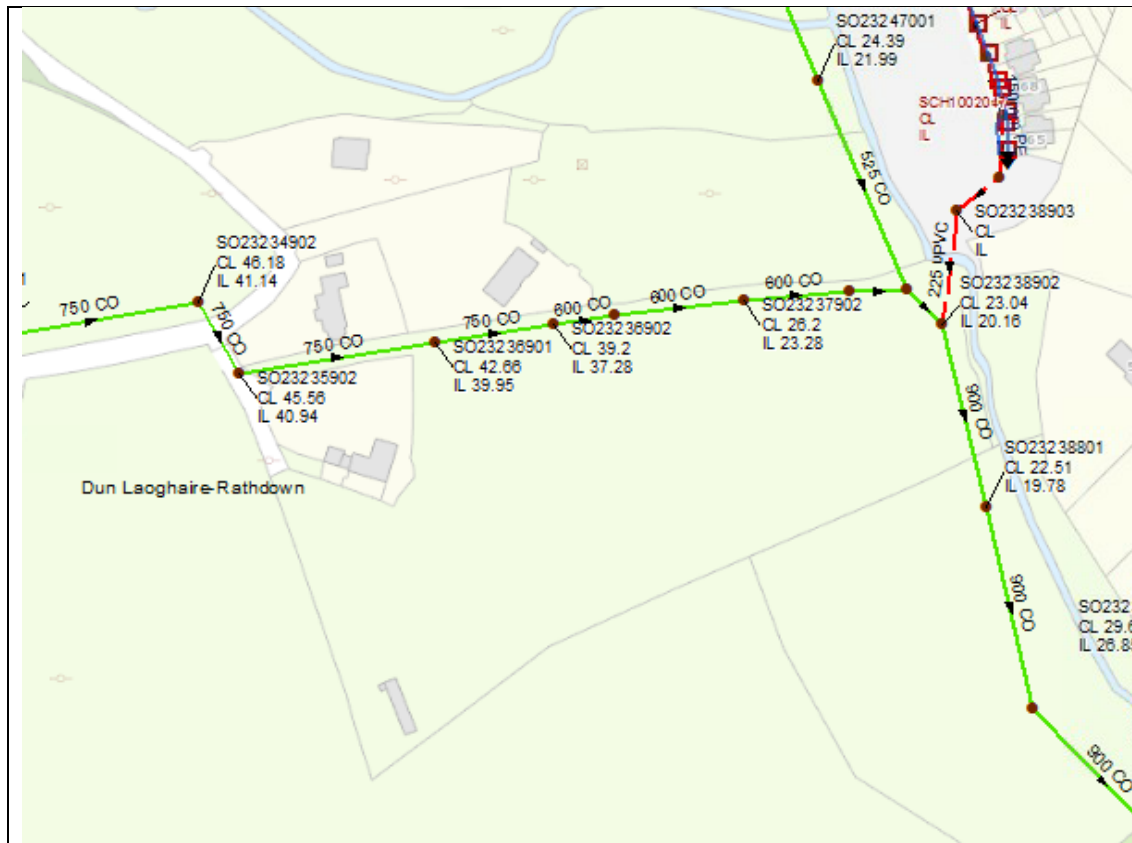
What is important to know?	Why is this important?
Do you need a contract to connect?	<ul style="list-style-type: none"> • Yes, a contract is required to connect. This letter does not constitute a contract or an offer in whole or in part to provide a connection to Uisce Éireann's network(s). • Before the Development can connect to Uisce Éireann's network(s), you must submit a connection application <u>and be granted and sign</u> a connection agreement with Uisce Éireann.
When should I submit a Connection Application?	<ul style="list-style-type: none"> • A connection application should only be submitted after planning permission has been granted.
Where can I find information on connection charges?	<ul style="list-style-type: none"> • Uisce Éireann connection charges can be found at: https://www.water.ie/connections/information/charges/
Who will carry out the connection work?	<ul style="list-style-type: none"> • All works to Uisce Éireann's network(s), including works in the public space, must be carried out by Uisce Éireann*. <p>*Where a Developer has been granted specific permission and has been issued a connection offer for Self-Lay in the Public Road/Area, they may complete the relevant connection works</p>
Fire flow Requirements	<ul style="list-style-type: none"> • The Confirmation of Feasibility does not extend to fire flow requirements for the Development. Fire flow requirements are a matter for the Developer to determine. • What to do? - Contact the relevant Local Fire Authority
Plan for disposal of storm water	<ul style="list-style-type: none"> • The Confirmation of Feasibility does not extend to the management or disposal of storm water or ground waters. • What to do? - Contact the relevant Local Authority to discuss the management or disposal of proposed storm water or ground water discharges.
Where do I find details of Uisce Éireann's network(s)?	<ul style="list-style-type: none"> • Requests for maps showing Uisce Éireann's network(s) can be submitted to: datarequests@water.ie

<p>What are the design requirements for the connection(s)?</p>	<ul style="list-style-type: none"> The design and construction of the Water & Wastewater pipes and related infrastructure to be installed in this Development shall comply with <i>the Uisce Éireann Connections and Developer Services Standard Details and Codes of Practice</i>, available at www.water.ie/connections
<p>Trade Effluent Licensing</p>	<ul style="list-style-type: none"> Any person discharging trade effluent** to a sewer, must have a Trade Effluent Licence issued pursuant to section 16 of the Local Government (Water Pollution) Act, 1977 (as amended). More information and an application form for a Trade Effluent License can be found at the following link: https://www.water.ie/business/trade-effluent/about/ <p>**trade effluent is defined in the Local Government (Water Pollution) Act, 1977 (as amended)</p>

Section B – Details of Uisce Éireann’s Network(s)

The map included below outlines the current Uisce Éireann infrastructure adjacent the Development: To access Uisce Éireann Maps email

datarequests@water.ie



Reproduced from the Ordnance Survey of Ireland by Permission of the Government. License No. 3-3-34

Note: The information provided on the included maps as to the position of Uisce Éireann’s underground network(s) is provided as a general guide only. The information is based on the best available information provided by each Local Authority in Ireland to Uisce Éireann.

Whilst every care has been taken in respect of the information on Uisce Éireann’s network(s), Uisce Éireann assumes no responsibility for and gives no guarantees, undertakings or warranties concerning the accuracy, completeness or up to date nature of the information provided, nor does it accept any liability whatsoever arising from or out of any errors or omissions. This information should not be solely relied upon in the event of excavations or any other works being carried out in the vicinity of Uisce Éireann’s underground network(s). The onus is on the parties carrying out excavations or any other works to ensure the exact location of Uisce Éireann’s underground network(s) is identified prior to excavations or any other works being carried out. Service connection pipes are not generally shown but their presence should be anticipated.

Mark Richardson | PUNCH

From: Stephen O'Beirne(C) <sobeirne@water.ie>
Sent: Thursday 14 March 2024 10:59
To: Philip McDowell | PUNCH
Cc: Leonard Brennan | PUNCH; Mark Richardson | PUNCH; PJ Mulcahy | PUNCH; Diversions
Subject: RE: 232250 - Lehaunstown Land, Cherrywood - Diversion Application DIV23320

Hi Philip,

Apologies for the delay in updating you on the status of this case. Uisce Éireann has reviewed the submission and has the following comments to make. On drawing 232250-PUNCH-XX-XX-DR-C-0201 the wayleave required on the to be 5 metres either side of the outside of the pipe in this instance a wayleave of 10.75m (for the 750mm pipe) and 10.6m (for the 600mm pipe).

In addition, we would request that the pond inlet swale be position at least 1 linear metre away from the edge of the combined sewer.

Feel free to contact me to discuss if required.

Regards,

Stephen O'Beirne
Diversions, Connections and Developer Services

Uisce Éireann
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From: Philip McDowell | PUNCH <pmcdowell@punchconsulting.com>
Sent: Wednesday, March 6, 2024 11:34 AM
To: Stephen O'Beirne(C) <sobeirne@water.ie>
Cc: Leonard Brennan | PUNCH <lbrennan@punchconsulting.com>; Mark Richardson | PUNCH <mrichardson@punchconsulting.com>; PJ Mulcahy | PUNCH <pjmulcahy@punchconsulting.com>; Diversions <Diversions@water.ie>
Subject: RE: 232250 - Lehaunstown Land, Cherrywood - Diversion Application DIV23320

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Hi Stephen,

Thanks for taking my call.

We look forward to receiving your feedback Friday afternoon, following your meeting with the wayleaves department at 12:00pm.

Kind regards,
Philip McDowell
BAI MAI
Graduate Engineer



Carnegie House, Library Road, Dun Laoghaire, Co Dublin, A96 C7W7, Ireland
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From: Philip McDowell | PUNCH
Sent: Monday, March 4, 2024 3:08 PM
To: Stephen Obeirne (C) <sobeirne@water.ie>
Cc: Leonard Brennan | PUNCH <lbrennan@punchconsulting.com>; Mark Richardson | PUNCH <mrichardson@punchconsulting.com>; PJ Mulcahy | PUNCH <pjmulcahy@punchconsulting.com>; Diversions <Diversions@water.ie>
Subject: R#: 232250 - Lehaunstown Land, Cherrywood - Diversion Application DIV23320 [Filed 04 Mar 2024 15:08]

Hi Stephen,

Have you received a response from your wayleaves department?

We would appreciate it if you could follow up with them again if not.

Kind regards,
Philip McDowell
BAI MAI
Graduate Engineer



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From: Philip McDowell | PUNCH <pmcdowell@punchconsulting.com>
Sent: Thursday, February 15, 2024 3:47 PM
To: Stephen Obeirne (C) <sobeirne@water.ie>
Cc: Leonard Brennan | PUNCH <lbrennan@punchconsulting.com>; Mark Richardson | PUNCH <mrichardson@punchconsulting.com>; PJ Mulcahy | PUNCH <pjmulcahy@punchconsulting.com>; Diversions <Diversions@water.ie>
Subject: R#: 232250 DIV23320 R#: 232250 - Lehaunstown Land, Cherrywood - Diversion Application DIV23320

Hi Stephen,

Thanks again for taking my call earlier.

Thanks also for following up again with your wayleaves department, we look forward to receiving their feedback shortly.

Kind regards,

Philip McDowell
BAI MAI
Graduate Engineer



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From: Leonard Brennan | PUNCH <lbrennan@punchconsulting.com>
Sent: Tuesday, February 6, 2024 9:45 AM
To: Stephen Obeirne (C) <sobeirne@water.ie>
Cc: Mark Richardson | PUNCH <mrichardson@punchconsulting.com>; Diversions <Diversions@water.ie>; Philip McDowell | PUNCH <pmcdowell@punchconsulting.com>; PJ Mulcahy | PUNCH <pjmulcahy@punchconsulting.com>
Subject: 232250 DIV23320 R#: 232250 - Lehaunstown Land, Cherrywood - Diversion Application DIV23320

Hi Stephen

My colleague Philip is on leave this week

Please find attached drawing indicating the proposed development – 110 units of apartments/houses

The application is for a build over/near – we have indicated a 10m wayleave for

Note the POND 2A works including the swale adjacent to the 600mm sewer is part of a separate DLRCC Pond 2A contract led by Roughan O' Donovan

Regards

Leonard

Leonard Brennan
BE Dip Hy&Geo Eng PGDipHSC CEng MIEI MIOSH
Technical Director



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From: Stephen Obeirne (C) <sobeirne@water.ie>
Sent: Friday, February 2, 2024 5:00 PM
To: Philip McDowell | PUNCH <pmcdowell@punchconsulting.com>
Cc: Leonard Brennan | PUNCH <lbrennan@punchconsulting.com>; Mark Richardson | PUNCH <mrichardson@punchconsulting.com>; Diversions <Diversions@water.ie>
Subject: DIV23320 R#: 232250 - Lehaunstown Land, Cherrywood - Diversion Application DIV23320

Hi Philip,

I am still waiting on feedback from our wayleave section, I will follow up with them. In the interim do you have a layout of what development is proposed for this area? Are you looking to divert the sewer or apply for a build over/near? In either case we would need a layout of what is proposed at the site.

Happy to discuss if you require clarification.

Stephen O'Beirne

Diversions, Connections and Developer Services

Uisce Éireann

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From: Philip McDowell | PUNCH <pmcdowell@punchconsulting.com>

Sent: Friday, February 2, 2024 3:08 PM

To: Stephen Obeirne (C) <sobeirne@water.ie>

Cc: Leonard Brennan | PUNCH <lbrennan@punchconsulting.com>; Mark Richardson | PUNCH <mrichardson@punchconsulting.com>; Diversions <Diversions@water.ie>

Subject: R: 232250 - Lehaunstown Land, Cherrywood - Diversion Application DIV23320

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Hi Stephen,

Would you be able to provide an update with regard to our diversion application: DIV23320?

Kind regards,

Philip McDowell

BAI MAI

Graduate Engineer



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From: Stephen Obeirne (C) <sobeirne@water.ie>

Sent: Monday, January 8, 2024 11:54 AM

To: Philip McDowell | PUNCH <pmcdowell@punchconsulting.com>; Diversions <Diversions@water.ie>

Cc: Mark Richardson | PUNCH <mrichardson@punchconsulting.com>; Leonard Brennan | PUNCH <lbrennan@punchconsulting.com>; Diversions <Diversions@water.ie>

Subject: R: 232250 - Lehaunstown Land, Cherrywood - Diversion Application DIV23320

Hi Philip,

I have been assigned to this case, I will get feedback to you before the end of this week.

Regards,

Stephen O'Beirne

Diversions, Connections and Developer Services

Uisce Éireann

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From: Philip McDowell | PUNCH <pmcdowell@punchconsulting.com>

Sent: Monday 8 January 2024 11:51

To: Diversions <Diversions@water.ie>

Cc: Mark Richardson | PUNCH <mrichardson@punchconsulting.com>; Leonard Brennan | PUNCH <lbrennan@punchconsulting.com>

Subject: R: 232250 - Lehaunstown Land, Cherrywood - Diversion Application DIV23320

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Dear Sir/Madam,

Happy New Year to you!

I am emailing to ask whether there has been a design engineer assigned to the query (DIV23320).

Given that the query is only a question on required clearance to an existing line, we hope that it should be a straightforward query to provide feedback on.

Your help in this matter is much appreciated, if you have any capacity to provide feedback on the query this week it would be a great help to us.

Kind regards,

Philip

Philip McDowell
BAI MAI
Graduate Engineer

Carnegie House, Library Road, Dun Laoghaire, Co Dublin, A96 C7W7, Ireland
t +353 1 271 2200 | m +353 85 777 1883 | e pmcdowell@punchconsulting.com
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From: Diversions <Diversions@water.ie>
Sent: Monday, December 18, 2023 1:03 PM
To: Philip McDowell | PUNCH <pmcdowell@punchconsulting.com>
Subject: R: 232250 - Lehaunstown Land, Cherrywood - Diversion Application

Hi Philip,

Thank you for contacting Irish Water.

Your query has been registered with the diversions team within the Connections and Developer Services department and assigned reference DIV23320. Please quote this in all future correspondence.

A design engineer will be in contact with you in order to progress query.

Kind regards,

Connections & Developer Services

Uisce Éireann

Teach Colvill, 24-26 Sráid Thalbóid, Baile Átha Cliath 1, Éire
Irish Water
Colvill House, 24-26 Talbot Street, Dublin 1, Ireland

From: Philip McDowell | PUNCH <pmcdowell@punchconsulting.com>
Sent: Friday 8 December 2023 17:04
To: Diversions <Diversions@water.ie>
Cc: Leonard Brennan | PUNCH <lbrennan@punchconsulting.com>; Mark Richardson | PUNCH <mrichardson@punchconsulting.com>
Subject: 232250 - Lehaunstown Land, Cherrywood - Diversion Application

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Dear Sir/Madam,

Please find attached a diversion application form with a query on the clearance required for a combined sewer at Lehaunstown Land, Cherrywood, Dublin 18.

The following are attached:

1. The Diversion Application Form.
2. A site location map for this proposed development.
3. Site layout drawings indicating the existing combined sewer in question.

If you require any further information, please don't hesitate to contact me.

Kind regards,

Philip McDowell

Philip McDowell
BAI MAI
Graduate Engineer

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Thank you for your attention.

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dlí a shárú dá ndéanfaí sin. Séanann Uisce Éireann dliteanas as aon ghníomh agus as aon iarmhairt bunaithe ar úsáid neamhúdraithe na faisnéise seo. Séanann Uisce Éireann dliteanas maidir le seachadadh iomlán agus ceart na faisnéise sa chumarsáid seo agus séanann Uisce Éireann dliteanas maidir le haon mhoill a bhaineann leis an bhfaisnéis a fháil. Má tá an ríomh-phost seo faighte agat trí dhearmad, déan teagmháil leis an seoltóir más é do thoil é agus scrios an t-ábhar ó gach aon ríomhaire. D'fhéadfadh ríomhphost a bheith so-ghabhálach i leith truaillithe, idircheaptha agus i leith leasuithe neamhúdraithe. Séanann Uisce Éireann aon fhreagracht as athruithe nó as idircheapadh a rinneadh ar an ríomhphost seo nó as aon dochar do chórais na bhfaighteoirí déanta ag an teachtaireacht seo nó ag a ceangaltáin tar éis a sheolta. Tabhair faoi deara go bhféadfadh monatóireacht a bheith á dhéanamh ar theachtairreachtaí chuig Uisce Éireann agus ó Uisce Éireann d'fhonn ár ngnó a chosaint agus chun a chinntiú go bhfuiltear ag teacht le beartais agus le caighdeáin Uisce Éireann. Is cuideachta gníomhaíochta ainmnithe é Uisce Éireann atá faoi theorainn scaireanna, a bunaíodh de bhun fhorálacha na n-Achtanna um Sheirbhísí Uisce 2007-2022, a bhfuil a bpríomh-ionad gnó ag Teach Colvill, 24-26 Sráid na Talbóide, BÁC 1.

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Thank you for your attention.

Mark Richardson | PUNCH

From: Otero Daniel <dotoero@DLRCOCO.IE>
Sent: Thursday 4 December 2025 10:29
To: Mark Richardson | PUNCH; Codd Johanne
Cc: Patrick White; Leonard Brennan | PUNCH; O'Lonargain Natalie; John Parker
Subject: RE: 232250 DLR Cherrywood housing site - DLRCC Drainage Planning Feedback

Hi Mark,

Thanks for your call providing clarification. Here some comments:

- Based on your latest comment in blue, I would like to remind that the flow shall be kept to 1l/s/Ha and not 2l/s/Ha, I refer to PI8 Specific Objective of the Planning Scheme.
- We discussed this on the call and mentioned in the latest response, but please highlight in the future submission how the flow leaving Plot L8 will be controlled to be under the 1l/s/Ha limit in this temporary solution. The detailed solutions attached refer to the permanent plan, which is welcome. Such detail shall be provided as well for the temporary solution in the Site Storm Discharge drawing.
- As mentioned above, the plan that you propose shall be temporary. This means that a submission proving that the temporary solution can be converted to a permanent connection to Pond 2A is required.

I hope the above clarifies all aspects, if not feel free to call me again.

Kind regards

Daniel Martinez Otero – BEng(Hons) PhDEng MIEI

Acting Senior Executive Engineer – Planning – Forward Planning Infrastructure

Block 1, Harbour Square, Crofton Road, A96 ETN5
Dún Laoghaire-Rathdown County Council |
dotoero@dlrcoco.ie | www.dlrcoco.ie



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From: Mark Richardson | PUNCH <mrichardson@punchconsulting.com>
Sent: Wednesday 3 December 2025 16:39
To: Codd Johanne <jcodd@DLRCOCO.IE>; Otero Daniel <dotoero@DLRCOCO.IE>
Cc: Patrick White <p.white@abkdublin.com>; Leonard Brennan | PUNCH <lbrennan@punchconsulting.com>; O'Lonargain Natalie <nolonargain@DLRCOCO.IE>; John Parker <j.parker@abkdublin.com>
Subject: RE: 232250 DLR Cherrywood housing site - DLRCC Drainage Planning Feedback

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Hi Daniel

Thank you for the comments provided and thank you for your time just now.

Please see below comments, in blue.

- Provide the surface water calculations confirming that the capacity of the swale is sufficient to service Lehaunstown.

Please note the swale is intended as an interim measure for this site only. Calculations could be provided indicating a capacity of swale. It is noted that the swale proposed could be utilised as the outlet from Pond 2A (if endorsed). The section is duplicated from historical ROD drawings and the ROD drawings were taken to be correct. Clarify the expectation in this regard.

DAPT understands that this is an interim measure. What we would expect in the calculations is that the swale has enough capacity to guarantee a runoff of 1l/s/ha and that it can store the necessary volume of water to guarantee this runoff.

Please note that the swale proposed is as provided by ROD in their Pond 2A design (section D-D in attached ROD drawing P2ACH-ROD-GEN-SW_AE-DR-CD-30002 -S4_P08)

A separate SUDS design and attenuation tank is provided for the development to reduce the flow to a rate of 2l/s/Ha (1.1l/s for this development impervious space). Refer attached PUNCH drawing C-0201 and C-0151.

Please confirm.

Thanks

Mark Richardson
Chartered Engineer
BA BAI CEng

Associate



Carnegie House, Library Road, Dun Laoghaire, Co Dublin, A96 C7W7, Ireland

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m: +353 87 190 1262

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From: Codd Johanne <jcodd@DLRCOCO.IE>

Sent: Monday 17 November 2025 11:53

To: Otero Daniel <dotero@DLRCOCO.IE>; Mark Richardson | PUNCH <mrichardson@punchconsulting.com>

Cc: Leonard Brennan | PUNCH <lbrennan@punchconsulting.com>; O'Lonargain Natalie <nolonargain@DLRCOCO.IE>

Subject: RE: 232250 DLR Cherrywood housing site - DLRCC Drainage Planning Feedback

Hi Daniel/Mark,

Just to add to this, this was referred over to me on the green roof issue.

The proposal was to provide 62% green roof of the total roof area, and additional bioretention areas were added to the scheme to compensate for the shortfall in green roof.

Regards,

Johanne Codd BA BAI CEng MIEI
A/Senior Executive Engineer
Drainage Planning, Municipal Services ,
Dún Laoghaire-Rathdown County Council, County Hall, Marine Road, Dún Laoghaire.

S/Innealtóir Sinsearach Feidhmiúcháin
Pleanáil Draenála, An Roinn Gnóthai Bardasacha
Comhairle Contae Dhún Laoghaire-Ráth an Dúin, Halla an Chontae, Bóthar na Mara, Dún Laoghaire.

From: Otero Daniel <dotero@DLRCOCO.IE>
Sent: Monday 17 November 2025 10:23
To: Mark Richardson | PUNCH <mrichardson@punchconsulting.com>
Cc: Leonard Brennan | PUNCH <lbrennan@punchconsulting.com>; Codd Johanne <jcodd@DLRCOCO.IE>; O'Lonargain Natalie <nolonargain@DLRCOCO.IE>
Subject: RE: 232250 DLR Cherrywood housing site - DLRCC Drainage Planning Feedback

Hi Mark,

Thank you for your message. I will comment on the two first points, as they are the ones affecting to your concerns:

- Specify how the surface water will be filtered before reaching the swale. If the swale will be acting as a pond, the quality of water shall be as if discharging to the pond.

Surface water would be treated by SUDS measures within the site as documented, including bioretention areas and green roofs.

Could you confirm if the petrol interceptor would be as well working for the temporary solution? If that is the case, the quality issues should be solved just by that.

- Provide the surface water calculations confirming that the capacity of the swale is sufficient to service Lehaunstown.

Please note the swale is intended as an interim measure for this site only. Calculations could be provided indicating a capacity of swale.

It is noted that the swale proposed could be utilised as the outlet from Pond 2A (if endorsed). The section is duplicated from historical ROD drawings and the ROD drawings were taken to be correct. Clarify the expectation in this regard.

DAPT understands that this is an interim measure. What we would expect in the calculations is that the swale has enough capacity to guarantee a runoff of 1l/s/ha and that it can store the necessary volume of water to guarantee this runoff.

Regarding the very last point, both Natalie and I are part of the Cherrywood team. The County Development Plan allows for a 50% cover area for intensive green roofs or a 70% for extensive green roofs. The clarification we request is if the green roofs proposed are intensive or extensive, for a 62% cover area proposed only the intensive area would be acceptable. A mix that at least would work as per the allowances previously mentioned could also be valid. If the 62% proposed is extensive, we would need a document that states that 62% is acceptable.

If further indications are needed, please let us know.

Kind regards

Daniel Martinez Otero – BEng(Hons) PhDEng MIEI

Acting Senior Executive Engineer – Planning – Forward Planning Infrastructure

Block 1, Harbour Square, Crofton Road, A96 ETN5
Dún Laoghaire-Rathdown County Council |
dotero@dlrcoco.ie | www.dlrcoco.ie



Please note that although I may read or send emails outside of normal working hours, this does not mean that I expect a response outside of your own working hours.

From: Mark Richardson | PUNCH <mrichardson@punchconsulting.com>
Sent: Wednesday 12 November 2025 15:42
To: Otero Daniel <dotero@DLRCOCO.IE>
Cc: Leonard Brennan | PUNCH <lbrennan@punchconsulting.com>; Codd Johanne <jcodd@DLRCOCO.IE>; O'Lonargain Natalie <nolonargain@DLRCOCO.IE>
Subject: RE: 232250 DLR Cherrywood housing site - DLRCC Drainage Planning Feedback

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Hi Daniel

Thank you for the email.

We take it from the comments provided that the proposal is endorsed in principle. Can you please clarify?

Much of the comments would seem to relate to a development of design for the purposes of planning. Can this be commented on / confirmed.

Please see below responses to comments:

- Specify how the surface water will be filtered before reaching the swale. If the swale will be acting as a pond, the quality of water shall be as if discharging to the pond.

Surface water would be treated by SUDS measures within the site as documented, including bioretention areas and green roofs.

- Provide the surface water calculations confirming that the capacity of the swale is sufficient to service Lehaunstown.

Please note the swale is intended as an interim measure for this site only. Calculations could be provided indicating a capacity of swale.

It is noted that the swale proposed could be utilised as the outlet from Pond 2A (if endorsed). The section is duplicated from historical ROD drawings and the ROD drawings were taken to be correct. Clarify the expectation in this regard.

Apart from that, there were some comments from Eoghan and Rob that could as well apply here:

- Is a petrol interceptor proposed in the design? Would be preferable given proximity to Pond 2A.

A petrol interceptor is provided at S1-4 downstream of all external roads areas. Please refer drawing C-0201

- Calculations for surface water network and attenuation volume to be provided in application to confirm proposed pipe sizing and tank design capacity of 1200m³ is sufficient.

This can be developed further. A planning report was provided previously that included Causeway Flow exports as assessment of the attenuation tank provision. This can be amended assuming the proposed discharge is accepted.

- Confirm if a factor of 10% for Urban Creep has been included in calculations as per requirements of the CDP.

This is allowed for in the design. A planning report was provided previously documenting this, and the report can be amended assuming the proposed discharge is accepted.

- TWL of surface water structures (MHs, tanks etc) should be detailed along with FFLs of adjacent buildings on a drawing to confirm 500mm freeboard as required under GDSDS.

This can be developed further. A planning report was provided previously documenting this, and the report can be amended assuming the proposed discharge is accepted.

- Confirm that the water limit flow equates to 1l/s/ha or less.

Correct A planning report was provided previously documenting this, and the report can be amended assuming the proposed discharge is accepted.

- An independent Stage 1 SW Audit should form part of the application.

This was previously provided for the site and can be included in any final application, assuming the proposed discharge is accepted in principle.

- Proposals that demonstrate how exceedance flows will be managed within the development site boundary in the event of blockage or exceedance.

This can be developed further. A planning report was provided previously documenting this, and the report can be amended assuming the proposed discharge is accepted. Overflow provided to landscape area west of river and subsequently to river.

- Connections from bio retention areas/ Green roofs to the proposed SW network should be detailed on Proposed Drainage Layout 0201.

This can be developed, preferably as standard detail for planning. Please note that filter drains are indicated that service bioretention areas .

- Noted that a 62% intensive green roof coverage is proposed, but at some places extensive green roof it is mentioned. If the proposed green roof is extensive, evidence that DLR Water Services have agreed to this 8% shortfall is required.

Please clarify further. Johanne Codd has commented that works in the SDZ must be approved by the SDZ team.

Thanks

Mark Richardson
Chartered Engineer
BA BAI CEng

Associate



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From: Otero Daniel <dotero@DLRCOCO.IE>

Sent: Tuesday 11 November 2025 16:34

To: Mark Richardson | PUNCH <mrichardson@punchconsulting.com>

Cc: Leonard Brennan | PUNCH <lbrennan@punchconsulting.com>; Codd Johanne <jcodd@DLRCOCO.IE>;

O'Lonargain Natalie <nolonargain@DLRCOCO.IE>

Subject: RE: 232250 DLR Cherrywood housing site - DLRC Drainage Planning Feedback

You don't often get email from dotero@dlrcoco.ie. [Learn why this is important](#)

Hi Mark,

Thank you for your patience on this matter. The comments from Rob and Eoghan below shall be addressed, but specifically related to the swale the following shall be covered:

- Specify how the surface water will be filtered before reaching the swale. If the swale will be acting as a pond, the quality of water shall be as if discharging to the pond.
- Provide the surface water calculations confirming that the capacity of the swale is sufficient to service Lehaunstown.

Apart from that, there were some comments from Eoghan and Rob that could as well apply here:

- Is a petrol interceptor proposed in the design? Would be preferable given proximity to Pond 2A.
- Calculations for surface water network and attenuation volume to be provided in application to confirm proposed pipe sizing and tank design capacity of 1200m³ is sufficient.
- Confirm if a factor of 10% for Urban Creep has been included in calculations as per requirements of the CDP.
- TWL of surface water structures (MHs, tanks etc) should be detailed along with FFLs of adjacent buildings on a drawing to confirm 500mm freeboard as required under GDSDS.
- Confirm that the water limit flow equates to 1l/s/ha or less.
- An independent Stage 1 SW Audit should form part of the application.
- Proposals that demonstrate how exceedance flows will be managed within the development site boundary in the event of blockage or exceedance.
- Connections from bio retention areas/ Green roofs to the proposed SW network should be detailed on Proposed Drainage Layout 0201.

- Noted that a 62% intensive green roof coverage is proposed, but at some places extensive green roof it is mentioned. If the proposed green roof is extensive, evidence that DLR Water Services have agreed to this 8% shortfall is required.

If I can be of further help, please do not hesitate to contact me.

Kind regards

Daniel Martinez Otero – BEng(Hons) PhDEng MIEI

Acting Senior Executive Engineer – Planning – Forward Planning Infrastructure

**Block 1, Harbour Square, Crofton Road, A96 ETN5
Dún Laoghaire-Rathdown County Council |
dotero@dlrcoco.ie | www.dlrcoco.ie**



Please note that although I may read or send emails outside of normal working hours, this does not mean that I expect a response outside of your own working hours.

From: Otero Daniel

Sent: Tuesday 4 November 2025 11:55

To: Mark Richardson | PUNCH <mrichardson@punchconsulting.com>

Cc: Leonard Brennan | PUNCH <lbrennan@punchconsulting.com>; Codd Johanne <jcodd@DLRCOCO.IE>

Subject: RE: 232250 DLR Cherrywood housing site - DLRCC Drainage Planning Feedback

Hi Mark,

Apologies for the delay in the response. I will review when I have some capacity and I will let you know.

Kind regards

Daniel Martinez Otero – BEng(Hons) PhDEng MIEI

Acting Senior Executive Engineer – Planning – Forward Planning Infrastructure

**Block 1, Harbour Square, Crofton Road, A96 ETN5
Dún Laoghaire-Rathdown County Council |
dotero@dlrcoco.ie | www.dlrcoco.ie**



Please note that although I may read or send emails outside of normal working hours, this does not mean that I expect a response outside of your own working hours.

From: Mark Richardson | PUNCH <mrichardson@punchconsulting.com>

Sent: Thursday 30 October 2025 16:31

To: Otero Daniel <dotero@DLRCOCO.IE>

Cc: Leonard Brennan | PUNCH <lbrennan@punchconsulting.com>; Codd Johanne <jcodd@DLRCOCO.IE>

Subject: RE: 232250 DLR Cherrywood housing site - DLRCC Drainage Planning Feedback

Hi Daniel

I refer below correspondence

Johanne had provided drainage division feedback on the original drainage design. We trust this is current advice.

Please can you provide feedback at this stage in relation to stormwater design.

This development was intended to discharge to Pond 2A as part of the Cherrywood overall development, and planning was submitted through the 179A process.

As you may be aware, Pond 2A works have stalled and we wish to present a scheme that does not rely on pond 2A however does allow for it.

Please see attached sketch of this proposal as listed below

- 232250-PUNCH-XX-XX-SK-C-008

For your reference I attach the planning drawings for the development (SUDS and drainage) as listed below:

- 232250-PUNCH-XX-XX-DR-C-0151
- 232250-PUNCH-XX-XX-DR-C-0201

Consultation history is included in the below email chain for reference.

We can discuss if you are free.

Thanks

Mark Richardson
Chartered Engineer
BA BAI CEng

Associate



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From: Codd Johanne <jcodd@DLRCOCO.IE>
Sent: Friday 24 October 2025 12:36
To: Mark Richardson | PUNCH <mrichardson@punchconsulting.com>
Cc: Leonard Brennan | PUNCH <lbrennan@punchconsulting.com>
Subject: RE: 232250 DLR Cherrywood housing site - DLRCC Drainage Planning Feedback

Hi Mark,

Please contact Daniel Otero in the DAPT Planning team. dotero@dlrcoco.ie
This area of the county does not fall within my responsibilities.

Regards,

Johanne Codd BA BAI CEng MIEI
A/Senior Executive Engineer
Drainage Planning, Municipal Services ,
Dún Laoghaire-Rathdown County Council, County Hall, Marine Road, Dún Laoghaire.

S/Innealtóir Sinsearach Feidhmiúcháin
Pleanáil Draenála, An Roinn Gnóthai Bardasacha
Comhairle Contae Dhún Laoghaire-Ráth an Dúin, Halla an Chontae, Bóthar na Mara, Dún Laoghaire.

From: Mark Richardson | PUNCH <mrichardson@punchconsulting.com>
Sent: Friday 24 October 2025 11:25
To: Codd Johanne <jcodd@DLRCOCO.IE>
Cc: Leonard Brennan | PUNCH <lbrennan@punchconsulting.com>
Subject: RE: 232250 DLR Cherrywood housing site - DLRCC Drainage Planning Feedback

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Hi Johanne,

Please advise status. If possible, please include me in relevant correspondence.

Thanks,

Mark Richardson
Chartered Engineer
BA BAI CEng

Associate

PUNCH |
consulting engineers

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From: Codd Johanne <jcodd@DLRCOCO.IE>
Sent: Monday 29 September 2025 12:04
To: Mark Richardson | PUNCH <mrichardson@punchconsulting.com>
Cc: Leonard Brennan | PUNCH <lbrennan@punchconsulting.com>
Subject: RE: 232250 DLR Cherrywood housing site - DLRCC Drainage Planning Feedback

Hi Mark,

I have passed your query on to the Cherrywood team, as technically I don't comment on works within the SDZ.

I am awaiting a response.

Regards,

Johanne Codd BA BAI CEng MIEI
A/Senior Executive Engineer
Drainage Planning, Municipal Services ,
Dún Laoghaire-Rathdown County Council, County Hall, Marine Road, Dún Laoghaire.

S/Innealtóir Sinsearach Feidhmiúcháin
Pleanáil Draenála, An Roinn Gnóthai Bardasacha
Comhairle Contae Dhún Laoghaire-Ráth an Dúin, Halla an Chontae, Bóthar na Mara, Dún Laoghaire.

From: Mark Richardson | PUNCH <mrichardson@punchconsulting.com>
Sent: Wednesday 24 September 2025 11:02
To: Codd Johanne <jcodd@DLRCOCO.IE>
Cc: Leonard Brennan | PUNCH <lbrennan@punchconsulting.com>
Subject: RE: 232250 DLR Cherrywood housing site - DLRCC Drainage Planning Feedback

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Hi Johanne

Please can you provide feedback regarding the below.

Thanks

Mark Richardson
Chartered Engineer
BA BAI CEng

Associate

PUNCH |
consulting engineers

Carnegie House, Library Road, Dun Laoghaire, Co Dublin, A96 C7W7, Ireland
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m: +353 87 190 1262



From: Mark Richardson | PUNCH
Sent: Thursday 28 August 2025 11:02
To: 'Codd Johanne' <jcodd@DLRCOCO.IE>
Cc: Leonard Brennan | PUNCH <lbrennan@punchconsulting.com>
Subject: RE: 232250 DLR Cherrywood housing site - DLRCC Drainage Planning Feedback [Filed 28 Aug 2025 11:02]

Hi Johanne

I am hoping to gain some feedback from you with regard to this development

This development was intended to discharge to Pond 2A as part of the Cherrywood overall development and planning was submitted through the 179A process.

As you may be aware, Pond 2A works have stalled and we wish to present a scheme that does not rely on pond 2A however does allow for it.

Please see attached sketch of this proposal as listed below

- 232250-PUNCH-XX-XX-SK-C-008

For your reference I attach the planning drawings for the development (SUDS and drainage) as listed below:

- 232250-PUNCH-XX-XX-DR-C-0151
- 232250-PUNCH-XX-XX-DR-C-0201

Consultation history is included in the below email chain for reference.

Thank you

Mark Richardson
Chartered Engineer
BA BAI CEng

Associate



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From: Codd Johanne <jcodd@DLRCOCO.IE>
Sent: Friday 21 June 2024 10:04
To: Mark Richardson | PUNCH <mrichardson@punchconsulting.com>
Cc: John Parker <j.parker@abkdublin.com>; Patrick White (p.white@abkdublin.com) <p.white@abkdublin.com>; Leonard Brennan | PUNCH <lbrennan@punchconsulting.com>; Danciu Marin <mdanciu@DLRCOCO.IE>; Fahy Robert <rfahy@DLRCOCO.IE>; O'Sullivan Gerard <gerardosullivan@DLRCOCO.IE>; Thomas McPhillips <t.mcphillips@abkdublin.com>
Subject: RE: 232250 DLR Cherrywood housing site - DLRC Drainage Planning Feedback

Mark,

Thank you for the comments. Drainage Planning has no further comment.

Regards,

Johanne Codd BA BAI CEng MIEI
A/Senior Executive Engineer
Drainage Planning, Municipal Services ,
Dún Laoghaire-Rathdown County Council, County Hall, Marine Road, Dún Laoghaire.

S/Innealtóir Sinsearach Feidhmiúcháin
Pleanáil Draenála, An Roinn Gnóthai Bardasacha
Comhairle Contae Dhún Laoghaire-Ráth an Dúin, Halla an Chontae, Bóthar na Mara, Dún Laoghaire.

From: Mark Richardson | PUNCH <mrichardson@punchconsulting.com>
Sent: Thursday, June 20, 2024 5:12 PM
To: Codd Johanne <jcodd@DLRCOCO.IE>
Cc: John Parker <j.parker@abkdublin.com>; Patrick White (p.white@abkdublin.com) <p.white@abkdublin.com>; Leonard Brennan | PUNCH <lbrennan@punchconsulting.com>; Danciu Marin <mdanciu@DLRCOCO.IE>; Fahy Robert <rfahy@DLRCOCO.IE>; O'Sullivan Gerard <gerardosullivan@DLRCOCO.IE>; Thomas McPhillips <t.mcphillips@abkdublin.com>
Subject: RE: 232250 DLR Cherrywood housing site - DLRC Drainage Planning Feedback

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Hi Johanne

Thank you for your feedback.

Please see below comments in green.

- Can you confirm if you are going for Part 8 or Section 179(a)? (Mail below suggest Part 8, Marin mentioned Section 179(a), I need it for my records)

We are proceeding with a Section 179(a) planning application.

- Does the bioretention area need to be lined?

In general, the bioretention areas are proposed adjacent to houses and roads above soils with limited permeability. Given that infiltration would be limited in any event, lining is proposed to limit swell and possible undermining.

- The application shows a discharge to a regional pond which is not in place and may be some time off being provided. The applicant should consider the location of discharge should the pond be unavailable until after the construction of the housing development.

A comment can be included in the application to ensure that the development works are aligned to the pond 2A works completion and/or an alternate discharge is provided to the river if pond 2a is not completed.

Thanks

Mark Richardson
BA BAI CEng
Associate



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From: Codd Johanne <jcodd@DLRCOCO.IE>

Sent: Wednesday, June 12, 2024 4:23 PM

To: Danciu Marin <mdanciu@DLRCOCO.IE>; Mark Richardson | PUNCH <mrichardson@punchconsulting.com>

Cc: John Parker <j.parker@abkdublin.com>; Patrick White (p.white@abkdublin.com) <p.white@abkdublin.com>;

Leonard Brennan | PUNCH <lbrennan@punchconsulting.com>; O'Sullivan Gerard <gerardosullivan@DLRCOCO.IE>;

Thomas McPhillips <t.mcphillips@abkdublin.com>

Subject: RE: 232250 DLR Cherrywood housing site - DLRCO Drainage Planning Feedback

Hi Mark,

Drainage Planning has no objection in principle to the proposed development but requests that they be consulted throughout the detailed design process and prior to the commencement of construction.

Drainage Planning have the following further comments:

- Can you confirm if you are going for Part 8 or Section 179(a)? (Mail below suggest Part 8, Marin mentioned Section 179(a), I need it for my records)
- Does the bioretention area need to be lined?
- The application shows a discharge to a regional pond which is not in place and may be some time off being provided. The applicant should consider the location of discharge should the pond be unavailable until after the construction of the housing development.

Regards,

Johanne Codd BA BAI CEng MIEI
A/Senior Executive Engineer
Drainage Planning, Municipal Services ,

Dún Laoghaire-Rathdown County Council, County Hall, Marine Road, Dún Laoghaire.

S/Innealtóir Sinsearach Feidhmiúcháin

Pleanáil Draenála, An Roinn Gnóthai Bardasacha

Comhairle Contae Dhún Laoghaire-Ráth an Dúin, Halla an Chontae, Bóthar na Mara, Dún Laoghaire.

From: Danciu Marin <mdanciu@DLRCOCO.IE>

Sent: Wednesday, June 12, 2024 12:37 PM

To: Mark Richardson | PUNCH <mrichardson@punchconsulting.com>; Codd Johanne <jcodd@DLRCOCO.IE>

Cc: John Parker <j.parker@abkdublin.com>; Patrick White (p.white@abkdublin.com) <p.white@abkdublin.com>; Leonard Brennan | PUNCH <lbrennan@punchconsulting.com>; O'Sullivan Gerard <gerardosullivan@DLRCOCO.IE>; Thomas McPhillips <t.mcphillips@abkdublin.com>

Subject: RE: 232250 DLR Cherrywood housing site - DLRCC Drainage Planning Feedback

Hi all

I have just spoken to Johanne.

She will respond later today.

Regards

Marin

From: Mark Richardson | PUNCH <mrichardson@punchconsulting.com>

Sent: Wednesday, June 12, 2024 12:24 PM

To: Codd Johanne <jcodd@DLRCOCO.IE>

Cc: Danciu Marin <mdanciu@DLRCOCO.IE>; John Parker <j.parker@abkdublin.com>; Patrick White (p.white@abkdublin.com) <p.white@abkdublin.com>; Leonard Brennan | PUNCH <lbrennan@punchconsulting.com>; O'Sullivan Gerard <gerardosullivan@DLRCOCO.IE>; Thomas McPhillips <t.mcphillips@abkdublin.com>

Subject: RE: 232250 DLR Cherrywood housing site - DLRCC Drainage Planning Feedback

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Hi Johanne

Please could you provide feedback.

Thanks

Mark Richardson

BA BAI CEng

Associate



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From: Mark Richardson | PUNCH

Sent: Tuesday, June 4, 2024 1:07 PM

To: Codd Johanne <jcodd@DLRCOCO.IE>

Cc: John Parker <j.parker@abkdublin.com>; Patrick White (p.white@abkdublin.com) <p.white@abkdublin.com>; Leonard Brennan | PUNCH <brennan@punchconsulting.com>

Subject: RE: 232250 DLR Cherrywood housing site - DLRCC Drainage Planning Feedback [Filed 04 Jun 2024 13:06]

Hi Johanne

I thank you for your feedback provided to date.

To submit the final part 8 planning application for DLRCC by the end of June, we have been asked to obtain support from DLRCC Drainage department.

Would it be possible for you to review and provide support. I would be happy to discuss with you if you would like.

I would like to share current draft planning documentation with you. Since many of the documents are quite large, they are added to the below link. Please note that this folder has already been shared with DAPT.

<https://www.dropbox.com/scl/fo/ldmuf9n8g3dcaxo0l2mpe/AOzzPntd2rs2TWx7KUPMYng?rlkey=1ryl8ty7a7s53n363hmmhcy&dl=0>

Thanks,

Mark Richardson
BA BAI CEng
Associate



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From: Mark Richardson | PUNCH

Sent: Tuesday, April 2, 2024 12:59 PM

To: Codd Johanne <jcodd@DLRCOCO.IE>

Cc: John Parker <j.parker@abkdublin.com>; Patrick White (p.white@abkdublin.com) <p.white@abkdublin.com>;

Leonard Brennan | PUNCH <brennan@punchconsulting.com>; Fahy Robert <rfahy@DLRCOCO.IE>; O'Sullivan

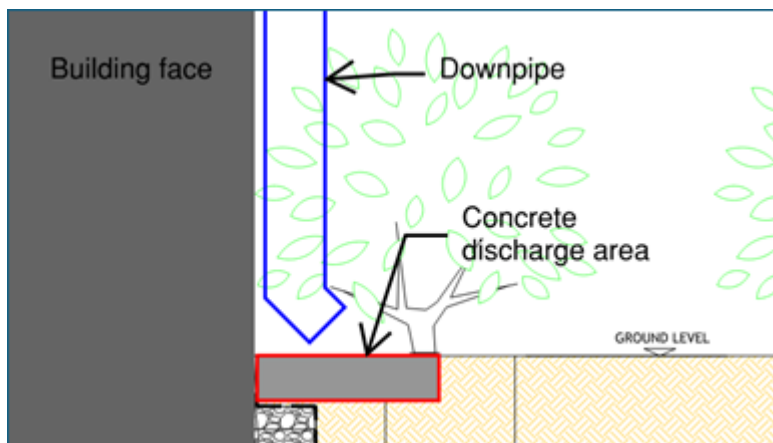
Gerard <gerardosullivan@DLRCOCO.IE>; Danciu Marin <mdanciu@DLRCOCO.IE>

Subject: RE: 232250 DLR Cherrywood housing site - DLRCC Drainage Planning Feedback [Filed 02 Apr 2024 12:59]

Hi Johanne,

Thank you for the email.

For areas where roofs discharge directly to bioretention, there will be a downpipe direct connection detail similar to the below.



To confirm - all non-green roof areas are to discharge to bioretention areas as per the drawing and report explanation.

Please can you confirm the responses below address your queries.

Thanks,

Mark Richardson
BA BAI CEng
Associate



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w: www.punchconsulting.com
Dublin | Limerick | Cork | Galway | Glasgow

From: Codd Johanne <jcodd@DLRCOCO.IE>
Sent: Thursday, March 28, 2024 10:18 AM
To: Mark Richardson | PUNCH <mrichardson@punchconsulting.com>
Cc: John Parker <j.parker@abkdublin.com>; Patrick White (p.white@abkdublin.com) <p.white@abkdublin.com>; Leonard Brennan | PUNCH <brennan@punchconsulting.com>; Fahy Robert <rfahy@DLRCOCO.IE>; O'Sullivan Gerard <gerardosullivan@DLRCOCO.IE>; Danciu Marin <mdanciu@DLRCOCO.IE>
Subject: RE: 232250 DLR Cherrywood housing site - DLRCC Drainage Planning Feedback

Hi Mark,

Thanks for sending that detail through. It appears to only show the road detail though. Can you confirm that all of the non - green roof areas are directed to these bioretention area? If you can provide that detail, that would be great.

Regards,

Johanne Codd BA BAI CEng MIEI
A/Senior Executive Engineer
Drainage Planning, Municipal Services ,
Dún Laoghaire-Rathdown County Council, County Hall, Marine Road, Dún Laoghaire.

S/Innealtóir Sinsearach Feidhmiúcháin
Pleanáil Draenála, An Roinn Gnóthai Bardasacha
Comhairle Contae Dhún Laoghaire-Ráth an Dúin, Halla an Chontae, Bóthar na Mara, Dún Laoghaire.

From: Mark Richardson | PUNCH <mrichardson@punchconsulting.com>
Sent: Friday, March 22, 2024 2:32 PM
To: Codd Johanne <jcodd@DLRCOCO.IE>
Cc: John Parker <j.parker@abkdublin.com>; Patrick White (p.white@abkdublin.com) <p.white@abkdublin.com>; Leonard Brennan | PUNCH <lbrennan@punchconsulting.com>; Fahy Robert <rfahy@DLRCOCO.IE>; O'Sullivan Gerard <gerardosullivan@DLRCOCO.IE>; Danciu Marin <mdanciu@DLRCOCO.IE>
Subject: RE: 232250 DLR Cherrywood housing site - DLRCC Drainage Planning Feedback

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Hi Johanne,

Please could you provide feedback.

We are under pressure to submit for planning for this DLRCC scheme by 5 April.

Is it possible to gain final DLRCC Drainage comments by Wednesday 27 March?

I would be happy to discuss with you if it helps?

Thanks,

Mark Richardson
BA BAI CEng
Associate



Carnegie House, Library Road, Dun Laoghaire, Co Dublin, A96 C7W7, Ireland
t: +353 1 271 2200 M: +353 87 190 1262

w: www.punchconsulting.com

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From: Mark Richardson | PUNCH
Sent: Friday, March 15, 2024 10:25 AM
To: Codd Johanne <jcodd@DLRCOCO.IE>
Cc: John Parker <j.parker@abkdublin.com>; Patrick White (p.white@abkdublin.com) <p.white@abkdublin.com>; Leonard Brennan | PUNCH <lbrennan@punchconsulting.com>; Fahy Robert <rfahy@DLRCOCO.IE>; O'Sullivan Gerard <gerardosullivan@DLRCOCO.IE>
Subject: RE: 232250 DLR Cherrywood housing site - DLRCC Drainage Planning Feedback [Filed 15 Mar 2024 10:25]

Hi Joanne

Please see below comments in green against your comments in blue.

DLRCC Comment: [Can I get some more details on the bioretention areas? Plans and cross sections?](#)

PUNCH Comment: Please see attached sketch C-0003.

DLRCC Comment: It appears many of the areas are narrow (less than 1m wide) strips between parking spaces, or locations where tree pits are located.

PUNCH Comment: This is correct. The trees will be provided within the bioretention areas. We will advise the landscape architect to ensure that suitable planting is provided.

DLRCC Comment: While the use of these strips is welcomed in schemes, and do offer storage and infiltration benefits, the biodiversity benefits large areas of green roof provide are not replicated in these strips. Would there be any way larger blocks of green space could be given to bioretention areas? Such as the green to the west of Block A2, the play area outside Block A, or the area to the rear of Block C?

PUNCH Comment:

Can you please clarify the request.

Are you asking for a bioretention area at ground level to be provided of the same area as the green roof below 70%, and that this is to be provided in addition to the 15mm bioretention treatment volume provided for the roofs provided at ground level?

DLRCC Comment: Also if you can confirm if the duplex units are to centrally managed with a continuous roof? If so, these areas should be included in the green roof requirements.

PUNCH Comment: The duplexes are apartments so can be considered a shared roof.

Thanks

Mark Richardson
BA BAI CEng
Associate



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From: Codd Johanne <jcodd@DLRCOCO.IE>

Sent: Thursday, March 14, 2024 12:34 PM

To: Mark Richardson | PUNCH <mrichardson@punchconsulting.com>

Cc: John Parker <j.parker@abkdublin.com>; Patrick White (p.white@abkdublin.com) <p.white@abkdublin.com>;

Leonard Brennan | PUNCH <lbrennan@punchconsulting.com>; Fahy Robert <rfahy@DLRCOCO.IE>; O'Sullivan

Gerard <gerardosullivan@DLRCOCO.IE>

Subject: RE: 232250 DLR Cherrywood housing site - DLRCC Drainage Planning Feedback

Hi Mark,

Can I get some more details on the bioretention areas? Plans and cross sections?

It appears many of the areas are narrow (less than 1m wide) strips between parking spaces, or locations where tree pits are located.

While the use of these strips is welcomed in schemes, and do offer storage and infiltration benefits, the biodiversity benefits large areas of green roof provide are not replicated in these strips. Would there be any way larger blocks of green space could be given to bioretention areas? Such as the green to the west of Block A2, the play area outside Block A, or the area to the rear of Block C?

Also if you can confirm if the duplex units are to centrally managed with a continuous roof? If so, these areas should be included in the green roof requirements.

Regards,

Johanne Codd BA BAI CEng MIEI
A/Senior Executive Engineer
Drainage Planning, Municipal Services ,
Dún Laoghaire-Rathdown County Council, County Hall, Marine Road, Dún Laoghaire.

S/Innealtóir Sinsearach Feidhmiúcháin
Pleanáil Draenála, An Roinn Gnóthai Bardasacha
Comhairle Contae Dhún Laoghaire-Ráth an Dúin, Halla an Chontae, Bóthar na Mara, Dún Laoghaire.

From: Mark Richardson | PUNCH <mrichardson@punchconsulting.com>
Sent: Wednesday, March 13, 2024 5:15 PM
To: Codd Johanne <jcodd@DLRCOCO.IE>
Cc: John Parker <j.parker@abkdublin.com>; Patrick White (p.white@abkdublin.com) <p.white@abkdublin.com>; Leonard Brennan | PUNCH <lbrennan@punchconsulting.com>; Fahy Robert <rfahy@DLRCOCO.IE>; O'Sullivan Gerard <gerardosullivan@DLRCOCO.IE>
Subject: RE: 232250 DLR Cherrywood housing site - DLRCO Drainage Planning Feedback

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Hi Joanne

Please see below response.

1. We understand that the current development plan permits DLRCO to consider the exemption of green roof if alternative treatment is provided by bioretention or other similar SUDS measures.
2. For the proposed development, all non-green roofs and paved areas are proposed to be treated by bioretention areas for the first 15mm of runoff, in accordance with the development plan Appendix 7.1, section 7.1.2. On this basis it is proposed that there is no shortfall in SUDS treatment / interception provision. Calculations are provided in the report to explain and demonstrate. An explanation of this is provided in the report and is illustrated on the drawings. Please see below extract summary from section 2.3.8.

2.3.8 Interception / Treatment Calculation

2.3.8.1 Overview and Calculation Basis

Reference is made to the UK SUDS Manual, Ciria 753 for interception storage assessment. It is proposed to provide interception / treatment as below:

1. Interception is proposed for all green roofs on the basis of Table 14.6 of UK SUDS Manual, Ciria 753.
2. Treatment is proposed for the first 15mm of rain fall for other areas based on the bioretention equation 18.1 as extracted from the UK SUDS Manual, Ciria 753:

$$A_f = \frac{V_t L}{k(h + L)t}$$

A_f = Filter Area (m²)

V_t = Volume requiring treatment (m³)

L = Depth of bioretention (m)

k = coefficient of permeability of filter media (m/s)

h = depth of water above filter media (m)

t = time for treatment (48 hours)(s)

3. Roof area percentage is also calculated based on the apartment roofs and excludes house roofs. If the duplexes are taken to be not applicable green roof development, then the percent green roof is closer to 60%.
4. Please refer relevant extracts from Development Plan 2022-2028 Appendix 7 below:

Section 7.1.2 SUDS interception and treatment extract:

Interception and Treatment

The applicant must demonstrate that required interception and/or treatment of surface water run-off is achieved in accordance with GDS policy. To be in compliance with GDS Volume 2 Section 6.3.3 Table Criterion 1, interception of the first 5-10mm is required. If interception of first 5-10mm can't be achieved treatment of first 15mm is required. The SuDS Manual (C753) Chapter 24, and specifically Table 24.6, give guidance regarding suitable interception mechanisms.

The applicant should note that interception/treatment must be provided for the entire site area as according to HR Wallingford (UKSuDS website):

"A high level of Interception provided for some parts of the site is not to be considered as adequate compensation for a low degree of interception provision for other locations. Compliance is required for the whole site, or at least paved areas, for it to be considered effective."

Appendix 7.2 section 3.0, standard GR1 extract

Standard GR1 – Applicable development types

Planning applications which include roof areas of greater than 300 square metres for the following development types must make provision for a green and / or blue roof (which includes a green component) as part of development proposals.

- ◆ Apartment Developments
- ◆ Employment Developments
- ◆ Retail and Ancillary Shopping
- ◆ Leisure Developments
- ◆ Education Facilities

Appendix 7.2 section 3.0, standard GR2 extract

“ ...Unless exempted or partially exempted by DLRCC’s Municipal Services Section following consideration of the suite of complementary or alternative nature based SuDS features including ponds, bio retention areas, basins, wetlands, swales, rain garden. A proposal that relies solely on attenuation storage systems and/or permeable paving as an alternative to the provision of a green roof will not be acceptable. ”

Thanks

Mark Richardson
BA BAI CEng
Associate



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From: Codd Johanne <jcodd@DLRCOCO.IE>

Sent: Wednesday, March 13, 2024 2:26 PM

To: Mark Richardson | PUNCH <mrichardson@punchconsulting.com>; Fahy Robert <rfahy@DLRCOCO.IE>; O'Sullivan Gerard <gerardosullivan@DLRCOCO.IE>

Cc: John Parker <j.parker@abkdublin.com>; Patrick White (p.white@abkdublin.com) <p.white@abkdublin.com>; Leonard Brennan | PUNCH <brennan@punchconsulting.com>

Subject: RE: 232250 DLR Cherrywood housing site - DLRCC Drainage Planning Feedback (email 1 of 4)

Hi Mark,

It appears from the report that rather than the 8% shortfall Rob mentioned below, there is actually a 20% shortfall on the green roof provision.

With limited bioretention areas proposed, this would not be an acceptable shortfall.

Please confirm if I have the percentages correct, or if Rob's 62% is correct.
(He has referenced the Architects note, while I didn't get that information)

Regards,

Johanne Codd BA BAI CEng MIEI

A/Senior Executive Engineer

Drainage Planning, Municipal Services ,

Dún Laoghaire-Rathdown County Council, County Hall, Marine Road, Dún Laoghaire.

S/Innealtóir Sinsearach Feidhmiúcháin

Pleanáil Draenála, An Roinn Gnóthai Bardasacha

From: Mark Richardson | PUNCH <mrichardson@punchconsulting.com>
Sent: Friday, March 8, 2024 4:57 PM
To: Codd Johanne <jcodd@DLRCOCO.IE>
Cc: John Parker <j.parker@abkdublin.com>; Patrick White (p.white@abkdublin.com) <p.white@abkdublin.com>; Leonard Brennan | PUNCH <lbrennan@punchconsulting.com>
Subject: RE: 232250 DLR Cherrywood housing site - DLRCC Drainage Planning Feedback (email 1 of 4)

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Hi Joanne

I refer to commentary from Robert Fahy below.

Please see attached drainage drawing and engineering planning report for your review and feedback.

To keep email size to 10MB I have split this into 4 emails.

Thanks

Mark Richardson
BA BAI CEng
Associate



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From: Danciu Marin <mdanciu@DLRCOCO.IE>
Sent: Tuesday, March 5, 2024 11:32 AM
To: Leonard Brennan | PUNCH <lbrennan@punchconsulting.com>; O'Sullivan Gerard <gerardosullivan@DLRCOCO.IE>
Cc: John Parker <j.parker@abkdublin.com>; Patrick White (p.white@abkdublin.com) <p.white@abkdublin.com>; Mark Richardson | PUNCH <mrichardson@punchconsulting.com>; Codd Johanne <jcodd@DLRCOCO.IE>
Subject: Re: 232250 DLR Cherrywood housing site - Placeholder

You don't often get email from mdanciu@dlrcoco.ie. [Learn why this is important](#)

Hi Leonard

Yes, currently the Drainage Planning of DLR is lead by Johanne Codd. I put her in the Cc.

Regards

Marin

Sent from [Outlook for Android](#)

From: Leonard Brennan | PUNCH <lbrennan@punchconsulting.com>
Sent: Tuesday, March 5, 2024 11:23:03 AM
To: O'Sullivan Gerard <gerardosullivan@DLRCOCO.IE>; Danciu Marin <mdanciu@DLRCOCO.IE>
Cc: John Parker <j.parker@abkdublin.com>; Patrick White (p.white@abkdublin.com) <p.white@abkdublin.com>; Mark Richardson | PUNCH <mrichardson@punchconsulting.com>
Subject: 232250 DLR Cherrywood housing site - Placeholder

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Hi Ger/Marin

We are in receipt of Roby Fahy commentary re the Cherrywood scheme. Rob has raised some items to seek confirmation from DLRCC Water Services on

Who is the relevant DLRCC Drainage Planning contact we should issue our draft proposals to

Is it Johanne Codd? Do you have the email details

SW design

- Connections from bio retention areas/ Green roofs to the proposed SW network should be detailed on Proposed Drainage Layout 0201.
- Noted Architects statement S3.13 identifies 62% extensive green roof coverage. Evidence that DLR Water Services have agreed to this 8% shortfall is required.
- S1.7 MH – hydrobrake proposed to limit flow to 1.1 l/s – confirm this equates to PS max discharge of 1 l/s/ha or less.
- Is a petrol interceptor proposed in the design? Would be preferable given proximity to Pond 2A.
- Make up of proposed attenuation tank should be detailed. Modular tank? Note PS requirement to avoid use of concrete attenuation tanks.
- Calculations for SW network and attenuation volume to be provided in application to confirm proposed pipe sizing and tank design capacity of 1,200m³ is sufficient.
- From the Punch memo it doesn't appear that a factor of 10% for Urban Creep has been included in calculations as per requirements of the CDP.
- TWL of surface water structures (MHs, tanks etc) should be detailed along with FFLs of adjacent buildings on a drawing to confirm 500mm freeboard as required under GDSDS.
- An independent Stage 1 SW Audit should form part of the application.
- Proposals that demonstrate how exceedance flows will be managed within the development site boundary in the event of blockage or exceedance, as per the requirements of GDSDS Table 6.3, Criterion 3, sub-criterion 3.4, should form part of the application.

Leonard Brennan
BE Dip Hy&Geo Eng PGDipHSC CEng MIEI MIOSH
Technical Director



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From: John Parker <j.parker@abkdublin.com>
Sent: Thursday, February 29, 2024 4:30 PM

To: Leonard Brennan | PUNCH <lbrennan@punchconsulting.com>
Cc: p.white@abkdublin.com; Smith, Mark <Mark.Smith2@aecom.com>; Hallinan, Mark <Mark.Hallinan@aecom.com>; Brian Homan <brian.homan@homanobrien.ie>; Marcella Moura <marcella.moura@homanobrien.ie>; Mark Richardson | PUNCH <mrichardson@punchconsulting.com>
Subject: FW: 232250 DLR Cherrywood housing site - Placeholder

Leonard,

Please see below feedback from DLR DAPT team in respect of Civils matters. Can you review and address

Units numbers are still settling down and we will be in a position to confirm these by COB tomorrow Friday which in turn will settle car parking numbers

You might give me a call to update me on progress when you have a moment

Kind regards,

John Parker
Director

on behalf of



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M: +353 87 245 4577
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W: www.abkdublin.com



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From: O'Sullivan Gerard [<mailto:gerardosullivan@DLRCOCO.IE>]
Sent: Thursday 29 February 2024 15:18
To: John Parker (j.parker@abkdublin.com) <j.parker@abkdublin.com>; Patrick White <p.white@abkdublin.com>
Subject: FW: 232250 DLR Cherrywood housing site - Placeholder

FYI

From: Fahy Robert <rfahy@DLRCOCO.IE>
Sent: Thursday, February 29, 2024 3:17 PM
To: O'Sullivan Gerard <gerardosullivan@DLRCOCO.IE>
Cc: Byrne Vivienne <vbyrne@DLRCOCO.IE>; Flanagan Tracey <tflanagan@DLRCOCO.IE>; Collins Fionnuala <fcollins@DLRCOCO.IE>; FPIadmin <FPIadmin@DLRCOCO.IE>
Subject: RE: 232250 DLR Cherrywood housing site - Placeholder

Apologies Ger, I forgot one thing from my notes on SW design re: exceedance flows. Updated below.

Regards,

Rob

Robert Fahy



From: Fahy Robert

Sent: Thursday, February 29, 2024 3:01 PM

To: O'Sullivan Gerard <gerardosullivan@DLRCOCO.IE>

Cc: Byrne Vivienne <vbyrne@DLRCOCO.IE>; Flanagan Tracey <tflanagan@DLRCOCO.IE>; Collins Fionnuala <fcollins@DLRCOCO.IE>; FPIadmin <FPIadmin@DLRCOCO.IE>

Subject: RE: 232250 DLR Cherrywood housing site - Placeholder

Hi Ger.

I have reviewed the draft documents submitted, please find my comments below.

SW design

- Connections from bio retention areas/ Green roofs to the proposed SW network should be detailed on Proposed Drainage Layout 0201.
- Noted Architects statement S3.13 identifies 62% extensive green roof coverage. Evidence that DLR Water Services have agreed to this 8% shortfall is required.
- S1.7 MH – hydrobrake proposed to limit flow to 1.1 l/s – confirm this equates to PS max discharge of 1 l/s/ha or less.
- Is a petrol interceptor proposed in the design? Would be preferable given proximity to Pond 2A.
- Make up of proposed attenuation tank should be detailed. Modular tank? Note PS requirement to avoid use of concrete attenuation tanks.
- Calculations for SW network and attenuation volume to be provided in application to confirm proposed pipe sizing and tank design capacity of 1,200m³ is sufficient.
- From the Punch memo it doesn't appear that a factor of 10% for Urban Creep has been included in calculations as per requirements of the CDP.
- TWL of surface water structures (MHs, tanks etc) should be detailed along with FFLs of adjacent buildings on a drawing to confirm 500mm freeboard as required under GSDSDS.
- An independent Stage 1 SW Audit should form part of the application.
- Proposals that demonstrate how exceedance flows will be managed within the development site boundary in the event of blockage or exceedance, as per the requirements of GSDSDS Table 6.3, Criterion 3, sub-criterion 3.4, should form part of the application.

Water Supply and Wastewater

- COF from Uisce Eireann should be appended to application.
- Has it been confirmed with Uisce Eireann that the Proposed foul sewer (450mm – 1100mm) identified as running through the subject site, as identified on Planning Scheme Map 4.4, is not required? This confirmation should form part of the application.

Transportation

Ped & Cycle movement

- It is recommended that a raised pedestrian crossing is provided on the access road at the entrance to the development to prioritise pedestrian movement at this location and to account for the pedestrian/cycle desire line from the Greenway. Removal/Relocation of car parking spaces at this location may be necessary in this regard.
- How is it proposed for cyclists to safely access the cycle stores in blocks A1 and A2 without dismounting, especially if all the car parking to the front of these blocks is occupied?
- With reference to dwg. ref 790_PA044, where are residents of Block C to park their bikes with no long-term cycle store proposed for this block?
- An independent Stage 1 Quality Audit (which shall include a Road Safety Audit, Access Audit, Cycle Audit and Walking Audit) should form part of the application.

Car Parking

- Perpendicular Car parking appears overly dominant on the access road to the development (“The Mall”). Note DMURS guidance in this regard, redesign may be required. Undercroft /basement car parking should be considered for Block C.
- Regarding Car Parking Table 1 in Punch memo, total car parking provision is not detailed and there are discrepancies with the quantum of units outlined in the table, see below. Consistency across all documents is required.

Punch	ABK Architects
1 bed – 29 units	1 bed – 30 units
2 bed – 59 units	2 bed – 58 units
3 bed – 12 units	3 bed – 14 units
3+ bed house – 8 units	3+ bed house – 8 units

- Car parking provision as calculated by ABK Architects of 132 no. spaces + 1 no. car sharing space is considered to accord with the current Planning Scheme Car parking Standards.
- 4 no. accessible spaces proposed for the development. 4% of 132 no. spaces equates to 5 no. accessible spaces. This should be addressed.

Cycle Parking

- Regarding Cycle Parking Table 2 in Punch memo, total cycle parking provision is not detailed and there are the same discrepancies with the quantum of units outlined in the table as there are in Table 1.
- Proposed provision of 22 no. short term spaces and 110 long term spaces as calculated by ABK meets the minimum requirements. However, these minimum requirements should be exceeded to cater for future demand as per DLR Cycle Standards requirements.
- Noted Sheffield stands are proposed for the front of housing units as per Punch memo. Recommend alternative solution, wall mounted anchors, storage units etc.

Utilities

- No utilities/ducting drawing provided to date. Should form part of the application proposals.

Regards,

Rob

Robert Fahy

**Senior Executive Engineer | Development Agency Project Team
Forward Planning Infrastructure Department**

Innealtóir Sinsearach Feidhmiúcháin | An Roinn um Phleanáil Chun Cinn agus Bonneagar

DLR County Council, County Hall, Dún Laoghaire, Co. Dublin

Telephone: 01-2054700 | Ext: 4488 | Mobile: 0868589414 | Email: rfahy@dlrcoco.ie

From: O'Sullivan Gerard <gerardosullivan@DLRCOCO.IE>
Sent: Friday, February 16, 2024 12:59 PM
To: Fahy Robert <rfahy@DLRCOCO.IE>
Subject: FW: 232250 DLR Cherrywood housing site - Placeholder

Hi Rob,
Please see attached.
I was in meetings all morning.
Regards,
Ger

From: Leonard Brennan | PUNCH <lbrennan@punchconsulting.com>
Sent: Thursday, February 15, 2024 7:31 PM
To: John Parker <j.parker@abkdublin.com>
Cc: Patrick White <p.white@abkdublin.com>; O'Sullivan Gerard <gerardosullivan@DLRCOCO.IE>
Subject: 232250 DLR Cherrywood housing site - Placeholder

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All

Yes I can attend the 12PM meeting tomorrow – please issue teams invite

Engineering draft drawings and memo attached

See link below for additional information including Architect drawings, Uisce Eireann Certificate of Feasibility, DLRC Flood Risk Assessment

<https://we.tl/t-OLiN3rsB2N>

Regards

Leonard

Leonard Brennan
BE Dip Hy&Geo Eng PGDipHSC CEng MIEI MIOSH
Technical Director



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Dublin | Limerick | Cork | Galway | Glasgow



From: John Parker <j.parker@abkdublin.com>
Sent: Tuesday, February 13, 2024 5:57 PM
To: Leonard Brennan | PUNCH <lbrennan@punchconsulting.com>

Cc: Patrick White <p.white@abkdublin.com>; O'Sullivan Gerard <gerardosullivan@DLRCOCO.IE>
Subject: RE: DLR Cherrywood housing site - Placeholder

Hi Leonard
Can you attend this meeting to address any questions that Robert Fahy may have? Friday 16th 12pm

Kind regards,

John Parker
Director

on behalf of



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From: O'Sullivan Gerard [<mailto:gerardosullivan@DLRCOCO.IE>]
Sent: Tuesday 13 February 2024 17:37
To: John Parker <j.parker@abkdublin.com>; Patrick White <p.white@abkdublin.com>
Subject: RE: DLR Cherrywood housing site - Placeholder

Hi Patrick,
They can attend if it would help with Rob Fahy info.
The more they send in advance, the better feedback they will get even if it is draft.
Regards,
Gerard

From: John Parker <j.parker@abkdublin.com>
Sent: Tuesday, February 13, 2024 5:20 PM
To: O'Sullivan Gerard <gerardosullivan@DLRCOCO.IE>; Patrick White <p.white@abkdublin.com>
Subject: RE: DLR Cherrywood housing site - Placeholder

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Hi Gerard
Do you require PCE to be in attendance at this meeting?

Kind regards,

John Parker
Director

on behalf of



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From: O'Sullivan Gerard [<mailto:gerardosullivan@DLRCOCO.IE>]
Sent: Tuesday 13 February 2024 16:52
To: John Parker (j.parker@abkdublin.com) <j.parker@abkdublin.com>; Patrick White <p.white@abkdublin.com>
Subject: FW: DLR Cherrywood housing site - Placeholder

Hi John,
Can you send any draft Engineering proposals to Rob in advance of Friday.
Thanks,
Gerard

From: Fahy Robert <rfahy@DLRCOCO.IE>
Sent: Tuesday, February 13, 2024 3:55 PM
To: O'Sullivan Gerard <gerardosullivan@DLRCOCO.IE>
Cc: FPladmin <FPladmin@DLRCOCO.IE>; Byrne Vivienne <vbyrne@DLRCOCO.IE>; Flanagan Tracey <tflanagan@DLRCOCO.IE>; Collins Fionnuala <fcollins@DLRCOCO.IE>
Subject: RE: DLR Cherrywood housing site - Placeholder

Hi Gerard,

In advance of this meeting do you have any draft Engineering proposals (Punch Consulting) that you can share so that I familiarise myself with them ?

Thanks,

Rob

Robert Fahy

Senior Executive Engineer | Development Agency Project Team
Forward Planning Infrastructure Department

Innealtóir Sinsearach Feidhmiúcháin | An Roinn um Phleanáil Chun Cinn agus Bonneagar

DLR County Council, County Hall, Dún Laoghaire, Co. Dublin

Telephone: 01-2054700 | Ext: 4488 | Mobile: 0868589414 | Email: rfahy@dlrcoco.ie



-----Original Appointment-----

From: FPladmin <FPladmin@DLRCOCO.IE>

Sent: Thursday, February 1, 2024 3:36 PM

To: FPladmin; Byrne Vivienne; Flanagan Tracey; Fahy Robert; Collins Fionnuala; O'Sullivan Gerard

Cc: j.parker@abkdublin.com; p.white@abkdublin.com

Subject: DLR Cherrywood housing site - Placeholder

When: Friday 16 February 2024 12:00-13:00 (UTC+00:00) Dublin, Edinburgh, Lisbon, London.

Where: Microsoft Teams Meeting

Hello all

At the request of Housing, this is move back to 12pm due to their availability. It appears to still suit the DAPT calendards.

Kind regards
Mary

Microsoft Teams meeting

Join on your computer, mobile app or room device

[Click here to join the meeting](#)

Meeting ID: 344 069 580 053

Passcode: YqtHAq

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Mark Richardson | PUNCH

From: Mark Richardson | PUNCH
Sent: Tuesday 17 February 2026 11:03
To: 'Wrafter Eoghan'
Cc: John Parker; Patrick White; Karen Duddy | PUNCH; Leonard Brennan | PUNCH; FPladmin
Subject: [Filed on 2026-02-17] RE: 232250 Lehaunstown Cherrywood Residential Development and Pond 2A
Categories: Filed to CloudFiler

Hi Eoghan

Thanks for the feedback.

Presuming Pond 2A works allows for the housing development drainage, we can indicate that the development is to connect to Pond2A inlet such that the Pond 2A design has limited impact.

If Pond 2A is built after the housing development, a connection will need to be provided as part of Pond 2A works at the pond 2A inlet.

If Pond 2A is built before the housing development, the housing development will connect to Pond 2A inlet

Thank you

Mark Richardson
Chartered Engineer
BA BAI CEng

Associate



Carnegie House, Library Road, Dun Laoghaire, Co Dublin, A96 C7W7, Ireland

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m: +353 87 190 1262

w: www.punchconsulting.com

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From: Wrafter Eoghan <ewrafter@DLRCOCO.IE>

Sent: Monday 16 February 2026 12:19

To: Mark Richardson | PUNCH <mrichardson@punchconsulting.com>

Cc: John Parker <j.parker@abkdublin.com>; Patrick White <p.white@abkdublin.com>; Karen Duddy | PUNCH <kduddy@punchconsulting.com>; Leonard Brennan | PUNCH <lbrennan@punchconsulting.com>; FPladmin

<FPladmin@DLRCOCO.IE>

Subject: Re: 232250 Lehaunstown Cherrywood Residential Development and Pond 2A

Mark,

That is a planning question you should clear up with DAPT, i understood that the surface water sewer to the swale is a temporary arrangement in case the development advances prior to the completion of pond 2A?

Kind regards,

Eoghan Wrafter

**A/Senior Executive Engineer | Forward Planning Infrastructure Department
A/ Innealtóir Sinsearach Feidhmiúcháin | An Roinn um Phleanáil Chun Cinn agus Bonneagar**

DLR County Council, 3rd Floor, 1 Harbour Square, Crofton Road, Dún Laoghaire, Co. Dublin

Telephone: 01-2054700 | Mobile: 087 362 1924 | Email: ewrafter@dlrcoco.ie



From: Mark Richardson | PUNCH <mrichardson@punchconsulting.com>

Sent: Monday, February 16, 2026 12:03 PM

To: Wrafter Eoghan <ewrafter@DLRCOCO.IE>

Cc: John Parker <j.parker@abkdublin.com>; Patrick White <p.white@abkdublin.com>; Karen Duddy | PUNCH <kduddy@punchconsulting.com>; Leonard Brennan | PUNCH <lbrennan@punchconsulting.com>; FPladmin <FPladmin@DLRCOCO.IE>

Subject: RE: 232250 Lehaunstown Cherrywood Residential Development and Pond 2A

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Hi Eoghan

Thank you for the support and feedback.

Presumably if our development discharges to the swale downstream of pond 2a, then the discharge from pond 2A will be reduced to allow for this, providing a final total discharge to match the actual area drained by Pond 2A and in accordance with the Cherrywood SDZ Plan

Thanks

Mark Richardson
Chartered Engineer
BA BAI CEng

Associate



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m: +353 87 190 1262

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From: Wrafter Eoghan <ewrafter@DLRCOCO.IE>

Sent: Monday 16 February 2026 11:55

To: Mark Richardson | PUNCH <mrichardson@punchconsulting.com>

Cc: John Parker <j.parker@abkdublin.com>; Patrick White <p.white@abkdublin.com>; Karen Duddy | PUNCH <kduddy@punchconsulting.com>; Leonard Brennan | PUNCH <lbrennan@punchconsulting.com>; FPladmin <FPladmin@DLRCOCO.IE>

Subject: Re: 232250 Lehaunstown Cherrywood Residential Development and Pond 2A

Mark,

Yes ok, please include a note to that effect along with co-ordinating the detailed location/design of the surface water sewer from the hydrobrake to the swale.

Kind regards,

Eoghan Wrafter

A/Senior Executive Engineer | Forward Planning Infrastructure Department

A/Innealtóir Sinsearach Feidhmiúcháin | An Roinn um Phleanáil Chun Cinn agus Bonneagar

DLR County Council, 3rd Floor, 1 Harbour Square, Crofton Road, Dún Laoghaire, Co. Dublin

Telephone: 01-2054700 | Mobile: 087 362 1924 | Email: ewrafter@dlrcoco.ie



From: Mark Richardson | PUNCH <mrichardson@punchconsulting.com>

Sent: Monday, February 16, 2026 11:34 AM

To: Wrafter Eoghan <ewrafter@DLRCOCO.IE>

Cc: John Parker <j.parker@abkdublin.com>; Patrick White <p.white@abkdublin.com>; Karen Duddy | PUNCH <kduddy@punchconsulting.com>; Leonard Brennan | PUNCH <lbrennan@punchconsulting.com>; FPladmin <FPladmin@DLRCOCO.IE>

Subject: RE: 232250 Lehaunstown Cherrywood Residential Development and Pond 2A

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Hi Eoghan,

We wish to submit for planning imminently.

Is it possible for you to endorse the design we have provided, and/or provide relevant commentary for inclusion.

Possibly a comment could be added to our drawing/reports, similar to the below

In advance of construction, the detail location and arrangement of the swale is to be coordinated with the available design for Pond 2A to ensure that the works allow for Pond 2A outlet in the permanent condition.

If you provide relevant feedback, we can include the correspondence in our planning application documentation.

Thank you,

Mark Richardson

Chartered Engineer

BA BAI CEng

Associate



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From: Wrafter Eoghan <ewrafter@DLRCOCO.IE>

Sent: Monday 16 February 2026 11:15

To: Mark Richardson | PUNCH <mrichardson@punchconsulting.com>

Cc: John Parker <j.parker@abkdublin.com>; Patrick White <p.white@abkdublin.com>; Karen Duddy | PUNCH <kduddy@punchconsulting.com>; Leonard Brennan | PUNCH <lbrennan@punchconsulting.com>; FPladmin <FPladmin@DLRCOCO.IE>

Subject: Re: 232250 Lehaunstown Cherrywood Residential Development and ond 2A

Mark,

Thanks for your email, noting the proposed temporary discharge arrangement from the development to the swale. We are currently at the start of the design review and then the detailed design stage for the pond will commence. I will share the latest design proposals with our consultant for review and we will look to engage if we have any queries or comments in the coming weeks.

Kind regards,

Eoghan Wrafter

A/Senior Executive Engineer | Forward Planning Infrastructure Department

A/Innealtóir Sinsearach Feidhmiúcháin | An Roinn um Phleanáil Chun Cinn agus Bonneagar

DLR County Council, 3rd Floor, 1 Harbour Square, Crofton Road, Dún Laoghaire, Co. Dublin

Telephone: 01-2054700 | Mobile: 087 362 1924 | Email: ewrafter@dlrcoco.ie

From: Mark Richardson | PUNCH <mrichardson@punchconsulting.com>
Sent: Wednesday, February 11, 2026 3:36 PM
To: Wrafter Eoghan <ewrafter@DLRCOCO.IE>
Cc: John Parker <j.parker@abkdublin.com>; Patrick White <p.white@abkdublin.com>; Karen Duddy | PUNCH <kduddy@punchconsulting.com>; Leonard Brennan | PUNCH <brennan@punchconsulting.com>
Subject: 232250 Lehaunstown Cherrywood Residential Development and ond 2A

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Hi Eoghan

We are advised to liaise with you in regard to the Pond 2A design interface with our proposed DLRCC residential development in Lehaunstown, Cherrywood.

Please note the intent is to provide a swale that provides for our development independently and also allows for the pond 2A future works

As you know we cannot guarantee which project will proceed first so it should be possible for each to stand alone.

I attach our recent issue drawing as well as the record design we have of Pond 2A works.

I would be obliged if you could provide feedback in regard to the proposals to ensure relevant interface.

Thank you

Mark Richardson

Chartered Engineer

BA BAI CEng

Associate



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Mark Richardson | PUNCH

From: Mark Richardson | PUNCH
Sent: Thursday 19 February 2026 14:49
To: 'Otero Daniel'
Cc: O'Lonargain Natalie; John Parker
Subject: [Filed on 2026-02-19] 232250 RE: Lehaunstown Plot L8 site: Clarification

Categories: Filed to CloudFiler

Hi Daniel

Thank you for the clarity and feedback

We will document our planning application documentation on this basis

Thanks

Mark Richardson
Chartered Engineer
BA BAI CEng

Associate



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From: Otero Daniel <dotoero@DLRCOCO.IE>
Sent: Thursday 19 February 2026 10:53
To: Mark Richardson | PUNCH <mrichardson@punchconsulting.com>
Cc: O'Lonargain Natalie <nolonargain@DLRCOCO.IE>
Subject: Lehaunstown Plot L8 site: Clarification

Hi Mark,

Eoghan from the Pond 2A project team has contacted me regarding a potential misunderstanding you could have regarding the connection of the surface water network to the Pond 2A. There are here two scenarios:

- A) **That the Pond 2A is built before the end of the construction of the development:** This is the ideal scenario, with a connection to the Pond 2a having a permanent solution straight forward. The details are pending to be submitted, see Specific Objective PI6 in the Part 8 document.
- B) **That the Pond 2A is not built:** In this case the temporary solution shall be applied, the connection of the attenuation tank to the swale was proposed and the idea is approved in the Part 8. The specific route shall be agreed with the Pond 2A project team to ensure its constructability. When the Pond 2A is built, the attenuation tank shall be connected to the Pond

2A and the flow towards the swale shall be stopped. For this reason, a plan to move from the temporary to the permanent solution shall be submitted to both the Pond 2A team and the Physical Infrastructure DAPT. A permanent connection to the swale is not accepted, see further details under the Specific Objective PI6 in the Part 8 document.

It is my understanding from our conversations before that you were aware of this, but the DAPT would like to ensure that this is fully understood.

Kind regards

Daniel Martinez Otero – BEng(Hons) PhDEng MIEI

Acting Senior Executive Engineer – Planning – Forward Planning Infrastructure

Block 1, Harbour Square, Crofton Road, A96 ETN5

Dún Laoghaire-Rathdown County Council |

dotero@dlrcoco.ie | www.dlrcoco.ie



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**Appendix G Uisce Éireann Confirmation of Feasibility for Neighbouring
Septic Tank**

CONFIRMATION OF FEASIBILITY

Mark Richardson
PUNCH Consulting
Carnegie House
Library Road
Dun Laoghaire
Co. Dublin
A96C7W7

Uisce Éireann
Bosca OP 448
Oifig Sheachadta na
Cathrach Theas
Cathair Chorcaí

Uisce Éireann
PO Box 448
South City
Delivery Office
Cork City

www.water.ie

8 October 2025

**Our Ref: CDS25006343 Pre-Connection Enquiry Grangeland,
Lehaunstown, Dublin 18**

Dear Applicant/Agent,

We have completed the review of the Pre-Connection Enquiry.

Uisce Éireann has reviewed the pre-connection enquiry in relation to a Wastewater connection for a Single Domestic of 1 unit(s) at Grangeland, Lehaunstown, Dublin 18 (the **Development**).

Based upon the details provided we can advise the following regarding connecting to the networks;

- **Wastewater Connection** - Feasible without infrastructure upgrade by Uisce Éireann

This letter does not constitute an offer, in whole or in part, to provide a connection to any Uisce Éireann infrastructure. Before the Development can be connected to our network(s) you must submit a connection application and be granted and sign a connection agreement with Uisce Éireann.

As the network capacity changes constantly, this review is only valid at the time of its completion. As soon as planning permission has been granted for the Development, a completed connection application should be submitted. The connection application is available at www.water.ie/connections/get-connected/

Stiúirthóirí / Directors: Niall Gleeson (POF / CEO), Jerry Grant (Cathaoirleach / Chairperson), Gerard Britchfield, Liz Joyce, Michael Nolan, Patricia King, Eileen Maher, Cathy Mannion, Paul Reid, Michael Walsh.

Oifig Chláraithe / Registered Office: Teach Colvill, 24-26 Sráid Thalbóid, Baile Átha Cliath 1, D01 NP86 / Colvill House, 24-26 Talbot Street, Dublin, Ireland D01NP86

Is cuideachta ghníomhaíochta ainmnithe atá faoi theorainn scaireanna é Uisce Éireann / Uisce Éireann is a designated activity company, limited by shares.

Cláraithe in Éirinn Uimh.: 530363 / Registered in Ireland No.: 530363.

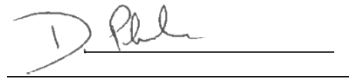
Where can you find more information?

- **Section A** - What is important to know?

This letter is issued to provide information about the current feasibility of the proposed connection(s) to Uisce Éireann's network(s). This is not a connection offer and capacity in Uisce Éireann's network(s) may only be secured by entering into a connection agreement with Uisce Éireann.

For any further information, visit www.water.ie/connections, email newconnections@water.ie or contact 1800 278 278.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'D. Phelan', is written over a horizontal line. Below this line is another horizontal line, likely representing a printed name or title.

Dermot Phelan
Connections Delivery Manager

Section A - What is important to know?

What is important to know?	Why is this important?
Do you need a contract to connect?	<ul style="list-style-type: none"> • Yes, a contract is required to connect. This letter does not constitute a contract or an offer in whole or in part to provide a connection to Uisce Éireann's network(s). • Before the Development can connect to Uisce Éireann's network(s), you must submit a connection application <u>and be granted and sign</u> a connection agreement with Uisce Éireann.
When should I submit a Connection Application?	<ul style="list-style-type: none"> • A connection application should only be submitted after planning permission has been granted.
Where can I find information on connection charges?	<ul style="list-style-type: none"> • Uisce Éireann connection charges can be found at: https://www.water.ie/connections/information/charges/
Who will carry out the connection work?	<ul style="list-style-type: none"> • All works to Uisce Éireann's network(s), including works in the public space, must be carried out by Uisce Éireann*. <p>*Where a Developer has been granted specific permission and has been issued a connection offer for Self-Lay in the Public Road/Area, they may complete the relevant connection works</p>
Fire flow Requirements	<ul style="list-style-type: none"> • The Confirmation of Feasibility does not extend to fire flow requirements for the Development. Fire flow requirements are a matter for the Developer to determine. • What to do? - Contact the relevant Local Fire Authority
Plan for disposal of storm water	<ul style="list-style-type: none"> • The Confirmation of Feasibility does not extend to the management or disposal of storm water or ground waters. • What to do? - Contact the relevant Local Authority to discuss the management or disposal of proposed storm water or ground water discharges.
Where do I find details of Uisce Éireann's network(s)?	<ul style="list-style-type: none"> • Requests for maps showing Uisce Éireann's network(s) can be submitted to: datarequests@water.ie

<p>What are the design requirements for the connection(s)?</p>	<ul style="list-style-type: none"> • The design and construction of the Wastewater pipes and related infrastructure to be installed in this Development shall comply with <i>the Uisce Éireann Connections and Developer Services Standard Details and Codes of Practice</i>, available at www.water.ie/connections
<p>Trade Effluent Licensing</p>	<ul style="list-style-type: none"> • Any person discharging trade effluent** to a sewer, must have a Trade Effluent Licence issued pursuant to section 16 of the Local Government (Water Pollution) Act, 1977 (as amended). • More information and an application form for a Trade Effluent License can be found at the following link: https://www.water.ie/business/trade-effluent/about/ <p>**trade effluent is defined in the Local Government (Water Pollution) Act, 1977 (as amended)</p>

Appendix H Pond 2A Correspondence

Karen Duddy | PUNCH

From: Mark Richardson | PUNCH
Sent: Tuesday 17 February 2026 11:03
To: Wrafter Eoghan
Cc: John Parker; Patrick White; Karen Duddy | PUNCH; Leonard Brennan | PUNCH; FPladmin
Subject: [Filed on 2026-02-17] RE: 232250 Lehaunstown Cherrywood Residential Development and Pond 2A

Hi Eoghan

Thanks for the feedback.

Presuming Pond 2A works allows for the housing development drainage, we can indicate that the development is to connect to Pond2A inlet such that the Pond 2A design has limited impact.

If Pond 2A is built after the housing development, a connection will need to be provided as part of Pond 2A works at the pond 2A inlet.

If Pond 2A is built before the housing development, the housing development will connect to Pond 2A inlet

Thank you

Mark Richardson
Chartered Engineer
BA BAI CEng

Associate



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From: Wrafter Eoghan <ewrafter@DLRCOCO.IE>

Sent: Monday 16 February 2026 12:19

To: Mark Richardson | PUNCH <mrichardson@punchconsulting.com>

Cc: John Parker <j.parker@abkdublin.com>; Patrick White <p.white@abkdublin.com>; Karen Duddy | PUNCH <kduddy@punchconsulting.com>; Leonard Brennan | PUNCH <lbrennan@punchconsulting.com>; FPladmin <FPladmin@DLRCOCO.IE>

Subject: Re: 232250 Lehaunstown Cherrywood Residential Development and Pond 2A

Mark,

That is a planning question you should clear up with DAPT, i understood that the surface water sewer to the swale is a temporary arrangement in case the development advances prior to the completion of pond 2A?

Kind regards,

Eoghan Wrafter

A/Senior Executive Engineer | Forward Planning Infrastructure Department
A/ Innealtóir Sinsearach Feidhmiúcháin | An Roinn um Phleanáil Chun Cinn agus Bonneagar

DLR County Council, 3rd Floor, 1 Harbour Square, Crofton Road, Dún Laoghaire, Co. Dublin

Telephone: 01-2054700 | Mobile: 087 362 1924 | Email: ewrafter@dlrcoco.ie



From: Mark Richardson | PUNCH <mrichardson@punchconsulting.com>

Sent: Monday, February 16, 2026 12:03 PM

To: Wrafter Eoghan <ewrafter@DLRCOCO.IE>

Cc: John Parker <j.parker@abkdublin.com>; Patrick White <p.white@abkdublin.com>; Karen Duddy | PUNCH <kduddy@punchconsulting.com>; Leonard Brennan | PUNCH <lbrennan@punchconsulting.com>; FPladmin <FPladmin@DLRCOCO.IE>

Subject: RE: 232250 Lehaunstown Cherrywood Residential Development and Pond 2A

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Hi Eoghan

Thank you for the support and feedback.

Presumably if our development discharges to the swale downstream of pond 2a, then the discharge from pond 2A will be reduced to allow for this, providing a final total discharge to match the actual area drained by Pond 2A and in accordance with the Cherrywood SDZ Plan

Thanks

Mark Richardson
Chartered Engineer
BA BAI CEng

Associate



From: Wrafter Eoghan <ewrafter@DLRCOCO.IE>

Sent: Monday 16 February 2026 11:55

To: Mark Richardson | PUNCH <mrichardson@punchconsulting.com>

Cc: John Parker <j.parker@abkdublin.com>; Patrick White <p.white@abkdublin.com>; Karen Duddy | PUNCH <kduddy@punchconsulting.com>; Leonard Brennan | PUNCH <lbrennan@punchconsulting.com>; FPIadmin <FPIadmin@DLRCOCO.IE>

Subject: Re: 232250 Lehaunstown Cherrywood Residential Development and Pond 2A

Mark,

Yes ok, please include a note to that effect along with co-ordinating the detailed location/design of the surface water sewer from the hydrobrake to the swale.

Kind regards,

Eoghan Wrafter

A/Senior Executive Engineer | Forward Planning Infrastructure Department

A/Innealtóir Sinsearach Feidhmiúcháin | An Roinn um Phleanáil Chun Cinn agus Bonneagar

DLR County Council, 3rd Floor, 1 Harbour Square, Crofton Road, Dún Laoghaire, Co. Dublin

Telephone: 01-2054700 | Mobile: 087 362 1924 | Email: ewrafter@dlrcoco.ie



From: Mark Richardson | PUNCH <mrichardson@punchconsulting.com>

Sent: Monday, February 16, 2026 11:34 AM

To: Wrafter Eoghan <ewrafter@DLRCOCO.IE>

Cc: John Parker <j.parker@abkdublin.com>; Patrick White <p.white@abkdublin.com>; Karen Duddy | PUNCH <kduddy@punchconsulting.com>; Leonard Brennan | PUNCH <lbrennan@punchconsulting.com>; FPIadmin <FPIadmin@DLRCOCO.IE>

Subject: RE: 232250 Lehaunstown Cherrywood Residential Development and Pond 2A

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Hi Eoghan,

We wish to submit for planning imminently.

Is it possible for you to endorse the design we have provided, and/or provide relevant commentary for inclusion.

Possibly a comment could be added to our drawing/reports, similar to the below

In advance of construction, the detail location and arrangement of the swale is to be coordinated with the available design for Pond 2A to ensure that the works allow for Pond 2A outlet in the permanent condition.

If you provide relevant feedback, we can include the correspondence in our planning application documentation.

Thank you,

Mark Richardson

Chartered Engineer

BA BAI CEng

Associate



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From: Wrafter Eoghan <ewrafter@DLRCOCO.IE>

Sent: Monday 16 February 2026 11:15

To: Mark Richardson | PUNCH <mrichardson@punchconsulting.com>

Cc: John Parker <j.parker@abkdublin.com>; Patrick White <p.white@abkdublin.com>; Karen Duddy | PUNCH <kduddy@punchconsulting.com>; Leonard Brennan | PUNCH <lbrennan@punchconsulting.com>; FPladmin <FPladmin@DLRCOCO.IE>

Subject: Re: 232250 Lehaunstown Cherrywood Residential Development and ond 2A

Mark,

Thanks for your email, noting the proposed temporary discharge arrangement from the development to the swale. We are currently at the start of the design review and then the detailed design stage for the pond will commence. I will share the latest design proposals with our consultant for review and we will look to engage if we have any queries or comments in the coming weeks.

Kind regards,

Eoghan Wrafter

A/Senior Executive Engineer | Forward Planning Infrastructure Department

A/Innealtóir Sinsearach Feidhmiúcháin | An Roinn um Phleanáil Chun Cinn agus Bonneagar

DLR County Council, 3rd Floor, 1 Harbour Square, Crofton Road, Dún Laoghaire, Co. Dublin

Telephone: 01-2054700 | Mobile: 087 362 1924 | Email: ewrafter@dlrcoco.ie

From: Mark Richardson | PUNCH <mrichardson@punchconsulting.com>
Sent: Wednesday, February 11, 2026 3:36 PM
To: Wrafter Eoghan <ewrafter@DLRCOCO.IE>
Cc: John Parker <j.parker@abkdublin.com>; Patrick White <p.white@abkdublin.com>; Karen Duddy | PUNCH <kduddy@punchconsulting.com>; Leonard Brennan | PUNCH <brennan@punchconsulting.com>
Subject: 232250 Lehaunstown Cherrywood Residential Development and ond 2A

EXTERNAL EMAIL: This email originated from outside Dún Laoghaire-Rathdown County Council. Do not click links or open attachments unless you recognise the sender and know the content is safe.

Hi Eoghan

We are advised to liaise with you in regard to the Pond 2A design interface with our proposed DLRCC residential development in Lehaunstown, Cherrywood.

Please note the intent is to provide a swale that provides for our development independently and also allows for the pond 2A future works

As you know we cannot guarantee which project will proceed first so it should be possible for each to stand alone.

I attach our recent issue drawing as well as the record design we have of Pond 2A works.

I would be obliged if you could provide feedback in regard to the proposals to ensure relevant interface.

Thank you

Mark Richardson

Chartered Engineer

BA BAI CEng

Associate



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