

182186 - Priorsland Cherrywood SHD

**Outline Construction Management Plan** 

March 2022



# **Document Control**

Document Number 182186-R4-PL1

Revision	Description	Date	Prepared	Checked	Approved
PLO	Outline Construction Management Plan	29/07/21	JP Murray	MC Daly	P Casey
PL1	Outline Construction Management Plan	30/03/22	JP Murray	MC Daly	P Casey



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# 1 Introduction

The purpose of this document is to briefly outline the general activities required for the construction of the proposed mixed-use development on a site located at the northwest sector of the Cherrywood SDZ, to the south and east of the Carrickmines Luas Park and Ride, County Dublin.

A Main Contractor has not yet been appointed to carry out the proposed works. Once appointed, it will be the responsibility of the Main Contractor to prepare and submit a detailed construction management plan for the Client's submission to the local authority for approval. The construction management plan will be a live document that will be updated throughout the project lifecycle by the Main Contractor as required.

Regardless of the form of contract, the Contractor will be contractually bound by any conditions arising from the site constraints identified and specified, all Statutory Regulations governing the works, and any additional measures or modifications that may be imposed on the proposed development by the local authority or An Bord Pleanála.

# 2 Description of the Works

1 Carrickmines Land Limited intend to apply for permission for development at this site of approx.8.63 ha located at Priorsland, located within the townlands of Carrickmines Great and Brennanstown, Dublin 18. The site comprises lands north and south of the Carrickmines Stream and adjacent Carrickmines Luas Park & Ride. The application relates to development within the Cherrywood Strategic Development Zone (SDZ) and is subject to the Cherrywood Planning Scheme, 2014 (as amended).

The development will comprise a mixed-use village centre and residential development of 443 no. units comprising 6 no. blocks (A-F) of apartments (up to 5 storeys with basement/undercroft parking) providing 402 no. apartments units (146 no. 1-beds; 218 no. 2-beds and 38 no. 3-beds), and 41 no. houses (19 no. 3-beds and 22 no. 4-beds). All apartments provided with private balconies/terraces. Provision of indoor residential facilities to serve apartment residents.

The Village Centre and non-residential elements will comprise a supermarket, local retail/retail service units, non-retail commercial units, creche, gym, community space, and offices (High Intensity Employment) use.

Provision of car/bicycle/motorcycle parking; ESB sub-stations; bin storages areas, and all associated plant areas.

Provision of the first phase of Priorsland Park (on lands within the applicant's ownership) and other public and communal open spaces.

Construction of Castle Street through the subject lands and two road bridges across the Carrickmines Stream, one to serve the future school site/ park, the second to provide pedestrian and cyclist access to the Carrickmines Luas station and future Transport Interchange to the north. Provision of an additional pedestrian bridge to the park. Provision of an acoustic barrier along the southern/western edge of the site.

All associated site development works, landscaping, boundary treatments and services provision.

The proposed works are outlined in a series of architectural drawings prepared and MOLA Architects and engineering drawings prepared by PUNCH, supplied as part of this planning submission.



## 3 Indicative Construction Programme

It is estimated that the construction programme for the works associated with the proposed works will last 36 months from the date of commencement. This estimation is based on the typical construction programmes for other similar developments that are currently underway. It is envisaged that construction of the proposed building and external works will be carried out over two large phases, the first of which will have two subphases within itself. The Main Contractor will be required to prepare a detailed construction programme as part of their tender proposal.

# 4 Site Set-Up and Security

The Main Contractor will be required to submit a site layout plan that will detail the proposed location of the site compound. The Contractor will ensure that the site compound will be serviced as required and will be secured with appropriate fencing/hoarding. The site compound will be used as the primary location for the storage of materials, plant and equipment, site offices and worker welfare facilities. As Project Supervisor Construction Stage (PSCS), the Contractor will be responsible for site security and they are to ensure that the site and site compound are adequately secured at all times.

As with the other construction activities that are being carried out within the Dun Laoghaire-Rathdown County Council local authority area, activities associated with the construction compounds will be subject to restrictions to the nature and timing of operations so that they do not cause undue disturbance to neighbouring areas and communities.

The site layout plan will also include the site perimeter and the proposed detail with regards the hoarding and gate system.

## 5 Site Access

It is proposed that the construction traffic temporarily access/exit the proposed development via a western route utilising the available legal right of way (itself accessed via the M50 Southbound Roundabout). This is a temporary arrangement only and has a precedent approval associated with it under the previously granted permission DZ16A/0585. This access track may be utilised for construction activities associated with construction of the western Carrickmines Stream bridge crossing to establish the proposed interim pedestrian and cyclist access to the Transport Interchange. Refer to the 'Outline Construction & Demolition Waste Management Plan'.

This interim access represents an 'alternative use of infrastructure' pursuant to the adopted amendment to the SDZ which states the following in Section 7.2.2:

"However, it is acknowledged that there may be exceptional or unforeseen circumstances beyond the reasonable control of an individual developer or the local authority, whereby a piece of infrastructure necessary to progress the development of a Growth Area cannot be provided in the short to medium term (circa 0-3 years). In such instances, there may be an appropriate alternative utilising other infrastructure as provided for under the Planning Scheme, as an interim measure to facilitate the early delivery of housing, and early engagement with the Development Agency will be an essential prerequisite."

Once the Castle Street extension becomes viable, and is completed in its entirety, that Level 2 route would become the standard, on-going access route for the Priorsland development. Access to the Priorsland development will therefore eventually utilise the Level 2 Road access route as required under the permanent SDZ requirement. This also applies to the residential/operational traffic associated with the proposed development.



Refer to Section 7 and Figures 3 and 4 below for illustration. Also refer to the Outline Construction & Demolition Waste Management Plan for further details of the proposed construction traffic management proposals.

## 6 Material Storage and Delivery

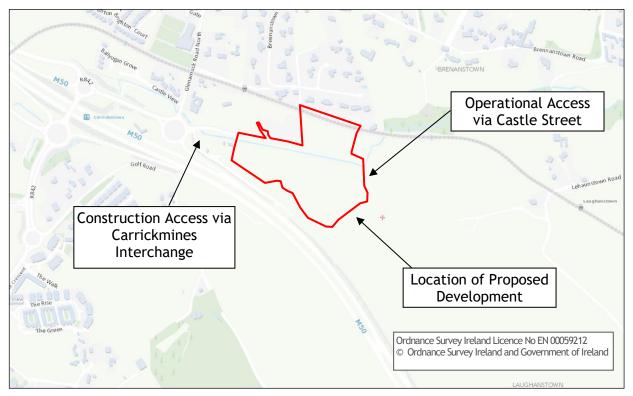
The Contractor will ensure that the delivery of materials is coordinated to minimise impacts to adjacent properties. The Contractor will ensure that all materials are adequately stored and secured in their site compound.

For more details please refer to the Outline Construction and Demolition Waste Management Plan prepared and included in the planning submission.

The Contractor will ensure the roads adjacent to the site are kept clean and free of debris.

## 7 Traffic Management Plan

The Contractor will be required to prepare and submit a detailed traffic management plan as part of their tender submission. Once appointed, the preferred Contractor will further develop the traffic management plan as required for the developer to submit to the local authority for approval in advance of works commencing onsite. The Contractor will ensure that advanced warning signs are erected on approaches to the site as required by the PSCS. The Contractor will use a competent sign provider and all signage that meets the requirements of the Safety, Health & Welfare at Work (General Applications) Regulations 2007 and Chapter 8 Traffic Signs Manual. Any proposed temporary road markings must also confirm to the requirements of Chapter 8 of the Traffic Signs Manual.



#### Figure 3 - Proposed Access Routes To/From Site

The Main Contractor will be responsible for all site access and works activity and must ensure the continued operation of the Cherrywood SDZ road network and the surrounding local road network as a result of its construction traffic.

The management of construction traffic on the public and private road networks in and around the Cherrywood SDZ is a critical part of the overall project and must be actively managed by the Contractor.

The Contractor must submit a Construction Traffic Management Plan to the Local Authority for approval. Haulage vehicle movements should be fully coordinated to comply with the requirements of the agreed plan:

- Construction vehicles must not stop or park along the routes at any time;
- Haulage vehicles must not travel in convoys greater than two vehicles at any time;
- Site entrance to remain free of parked or stationary vehicles at all times;
- All loading of demolition material will occur within the site boundary;
- All off-loading of deliveries will take place within the site, remote from the public road and will access via the agreed construction access point.

The site is located in an established (in the case of the interim scenario) and emerging suburban area (in the case of the permanent scenario) - as the Cherrywood Area becomes more and more developed - where the road and junction space is shared with public road users and construction traffic associated with other nearby developments. Therefore, the flow of construction traffic will need to be marshalled and controlled to ensure that potential conflicts are avoided as much as possible.



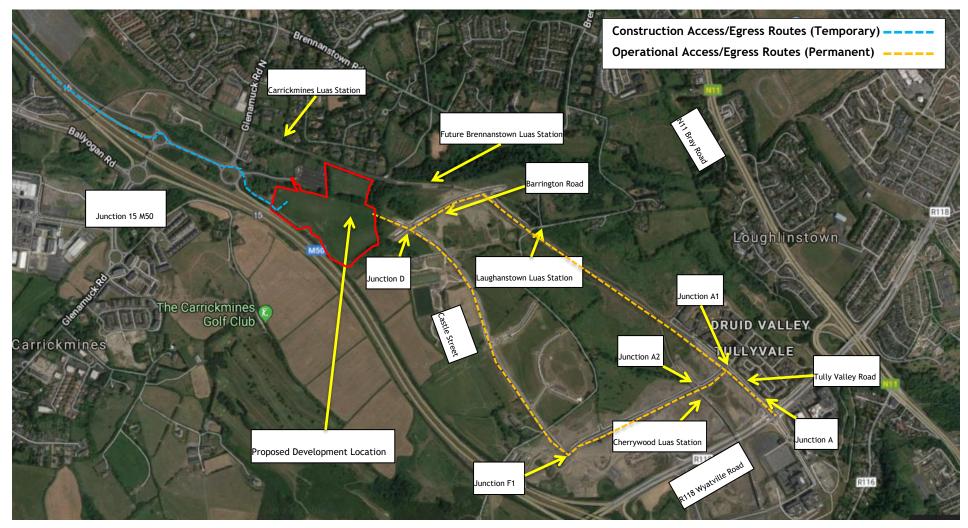


Figure 4 - - Development Site Location Map and Surrounding Road Network © Google Map



There are no proposals to introduce temporary road closures or temporary traffic light signals to facilitate construction of the proposed development. There are also no proposals to amend the existing local access arrangements to the surrounding areas.

For more details please refer to the Outline Construction and Demolition Waste Management Plan prepared and included in the planning submission.

## 8 Potential Interface with Other Projects

Given the development activity associated with the Cherrywood SDZ, the proposed works will likely have an interface with other projects within the locality. The appointed Contractor will need to coordinate with other Contractors as required to ensure a smooth interface between projects.

There may be a number of PSCS's operating in the urban locality at any one time on individual sites. It will be responsibility of the appointed Contractor as PSCS to ensure that delivery and haul routes, site access and egress points and potential crossing points associated with the site are fully coordinated and agreed with other Contractors in advance of the works commencing.

# 9 General Construction Approach

## 9.1 Construction Working Space

Construction working space will be set out in the detailed construction management plan at compliance stage.

Construction access routes, haul routes and delivery routes to the site are to be agreed with the Engineer/Employer's Representative in advance of works commencing onsite.

Any road closures required will be submitted and approved in advance with the local authority. It is the responsibility of the Main Contractor to prepare and submit the road closure application to the local authority in advance of works commencing onsite.

## 9.2 Outline Phasing Strategy

It is currently envisaged that the proposed development will be completed in three total phases, as detailed below. Please refer to Appendix A for an outline illustration of the phasing - for further details relating to the works, please refer to the more detailed planning drawings (architectural, engineering, landscape, etc.).

#### Phase 1:

- 1. Construction of the western bridge crossing over Carrickmines Stream, i.e. the established flood containment zone, including establishment of the temporary pedestrian and cyclist access route to the Carrickmines Luas Stop in the north-west of the site.
- 2. Construction of Castle Street within the private site extents, i.e. no crossing of the Ticknick Stream, and completion of associated service routes and ancillary works. This will also include a bus turning head at the western end of Castle Street to facilitate bus operations subject to development of adjacent lands to the northwest and the permanent vehicular connection to the Transport Interchange.
- 3. Establishment of easement associated with the Irish Water trunk watermain.



- 4. Topsoil removal through development lands refer to Item 17 below for constraints regarding phased translocation of the eastern hedgerow.
- 5. Site regrading throughout development extents to establish flood containment zone.
- 6. The hedgerow along the eastern site boundary will be protected and retained throughout the Works.
- 7. Consideration can be given to the delivery of the Phase 2 basement car park and associated bulk excavations as a means of reducing the nett fill associated with the development. Construction of the basement structure to transfer slab level is an option that will ultimately be influenced by consideration of costs and the financing programme.
- 8. Construction of flood relief culverts to the north and south of Carrickmines Stream.
- 9. Construction of the eastern bridge crossing over the established flood containment zone, including establishment of access routes to the park lands in the north east of the site.
- 10. Installation of drainage/SuDS elements along southern boundary with ultimate discharge to the Ticknick Stream.
- 11. Completion of internal road network to service Phase 1a development, i.e. Plots F and G, including associated private realm SuDS measures.
- 12. Construction of residential units for Plots F and G.
- 13. Installation of perimeter fencing and noise attenuation measures along southern site boundary as required.
- 14. Delivery of landscaping and parks/recreation elements throughout the Phase 1 extents.

## Phase 2:

- 15. Completion of internal road network to service Phase 2 development, i.e. Plots A, B and C, including associated private realm SuDS measures. This includes the delivery of the service access yard at the basement car park entrance.
- 16. Construction of residential and non-residential units for Plots A, B and C.
- 17. Delivery of landscaping and parks/recreation elements throughout the Phase 2 extents.

## Phase 3:

- 18. Completion of internal road network to service Phase 2 development, i.e. Plots D and E, including associated private realm SuDS measures.
- 19. Construction of residential units for Plots D and E.
- 20. Delivery of landscaping and parks/recreation elements throughout the Phase 3 extents.

## Phase 3 (continued):

- 21. Subject to completion by third party landowner, construction of Castle Street from the as-built extents at junction with Barringtons Road up to the Ticknick Stream crossing point as per the extant permission DZ20A/0399.
- 22. As per the extant permission DZ20A/0399, construction of bridge over Ticknick Stream providing the operational/permanent access arrangement to the subject lands at Priorsland.
- 23. Subject to completion by third party landowner, construction of associated services along Castle Street from relevant tie-in locations within adjacent landowners' lands (to be progressed in tandem with Items 21 and 22 above). This is in accordance with the planning conditions associated with the extant permission DZ20A/0399.
- 24. Subject to completion by third party landowner, establishment of the vehicular connection at western bridge crossing over Carrickmines Stream.



## 9.3 Outline Works Description

The construction works will involve an indicative sequence of works, as described in short below. The Contractor will outline works which impact public spaces within the Construction Management Plan that shall be subject to submission and agreement with Dun Laoghaire-Rathdown County Council.

#### 9.3.1 Hoarding, Site Set-up and Formation of Site Access/Egress

The site area will be enclosed with hoarding details of which are to be agreed with DLRCC. Hoarding panels will be maintained and kept clean for the duration of the works. This will involve erecting hoarding around the proposed site perimeter in line with the finished development extents.

The available site footprint will enable the Contractor to set up the site compound within the site boundary.

The Contractor will be responsible for the security of the site. The Contractor will be required to:

- Operate a Site Induction Process for all site staff;
- Ensure all site staff shall have current 'Safe Pass' cards and appropriate PPE;
- Install adequate site hoarding to the site boundary;
- Maintain site security at all times;
- Install access security in the form of turn-styles and gates for staff;
- Separate public pedestrian access from construction vehicular traffic;

#### 9.3.2 Site Clearance and Demolition

The location is a greenfield site and will require minimal site clearance past topsoil removal and some light tree removal.

It is noted that the proposed development consists of the excavation and construction of a single level of basement, the subsequent construction of multiple storeys of residential apartments and the associated site landscaping and ancillary development. It also includes the construction of single-family homes and overall site in-fill to raise the site as a whole south of the Carrickmines Stream flood zone.

#### 9.3.3 Construction Sequence of Development

The construction of the proposed Plots A and B mixed-use development will consist of excavation and installation of the basement car park and construction of RC framed structures on ground floor transfer slabs. The construction of the proposed Plots C, E, and F will consist of construction of RC framed structures on an associated transfer slab over undercroft parking. Plot D will consist of an RC framed structure over a typical pad foundation. Plot G will consist of typical blockwork houses on a pad foundation.

The construction methodology and programme of these activities will be dictated by the Contractor.

#### Site Grading

The basement area will involve the excavation of approximately  $15,000m^3$  of material. However, in order to raise the site out of flood zones A and B, the site as a whole will need to be raised a little more than a meter, on average. This will involve the infill of approximately  $47,000m^3$  of material. A geotechnical report undertaken by IGSL on 22/01/2019 shows that the predominant soils in the area are brown silt/clay. The basement formation level is at c-1.50mOD, so it is not envisaged that rock will be encountered during excavation.

The Contractor must prepare a Construction and Demolition Waste Management Plan in accordance with the "Best Practice Guidelines on the Preparation of Waste Management Plans for Construction and Demolition Projects" (Department of Environment, Heritage and Local Government, 2006) and ensure



that all material is disposed of at an appropriately licensed land fill site. The Contractor must also outline detailed proposals within the Construction Management Plan to accommodate construction traffic.

#### **Basement Construction**

In the case of Plots A and B, the construction of the basement will involve the excavation of the basement footprint and immediate surrounds to enable construction of an RC foundation slab with thickenings coinciding with column locations. The basement perimeter wall will consist of RC construction (likely a pre-cast component). The spoil generated from the basement construction must be disposed at an appropriate licensed land fill site. The concrete operations associated with the basement structure will require concrete deliveries to site.

The geotechnical report by IGSL indicates a relatively high groundwater table, as high as 1.2 below ground level in some borings. This may be problematic for the basement car park below Plots A and B. To prevent any potential risk of groundwater intrusion into the lower structure the basement car park will be constructed as a water tight box, the proposed grade for the basement is Grade 1, as per BS 8102:1990. The proposed structural integrity of the basement and its ability to prevent groundwater intrusion into the site is deemed sufficient to mitigate the potential risk to acceptable limits. The concrete works will involve concrete deliveries to site and adequate wash-down and wheel wash facilities must be provided for the concrete wagons.

#### **Construction Sequence of Superstructure**

The construction of the various superstructures will involve complex sequencing of activities and various construction methodologies could be adopted to deliver the Contract. The nature of the buildings in Plots A-F, the column grids and economic factors, among other issues, would suggest that the buildings will be constructed utilising reinforced concrete frames. The houses in Plot G will be constructed of traditional concrete blocks, with a façade as shown in the architect's details.

As noted the construction methodology and therefore the programme of the construction activities will be dictated by the Contractor.

#### Building Structure Plots A and B:

- Construction of the foundation basement slab and permanent basement perimeter wall structures;
- Construction of rising elements to Level 0 and construction of Level 0 floor slab and transfer structures;
- Similar sequence of construction of rising elements and floor slabs

#### Building Structure Plot C - Plot F:

- Construction of the ground floor foundation slab
- Construction of rising elements to Level 1 and construction of Level 1 floor slab;
- Similar sequence of construction of rising elements and floor slabs

#### Building Structure Plot G:

- Construction of the ground floor foundation slab
- Construction of concrete block masonry to Level 1 and construction of level 1 floor slab

#### Envelope / Cladding Plot A - Plot F:

- Commencement of envelope works to Level 1 when structure has progressed to approximately Level 2/3;
- Advancing of Cladding two levels behind the structure.

#### Envelope / Cladding Plot G:

• The structural blockwork will also act as the envelope for the structure, and cladding will follow completion of the blockwork.



#### Mechanical & Electrical Fit-Out:

- First fix will commence from ground floor level upwards;
- This will be followed by the second fix and final connections.

#### Fit-Out:

- Initial installation of stud work when cladding completed and floor is weather tight;
- Installation of equipment and associated connection to services;
- Completion of finishes.

#### Commissioning:

• The final commissioning period will commence during fit-out.

The above represents a high level indicative construction sequence only. The actual sequence will be dictated by the Contractor. The Contractor will issue a detailed construction programme outlining the various stages prior to commencement of works.

It is envisaged that multiple tower cranes will be temporarily erected to accommodate the apartment block construction works for the distribution of building materials and plant. The Contractor is required to obtain all necessary licences from DLRCC.

## 10 Waste Management Plan

The Main Contractor will be required to prepare a detailed waste management plan for the project. This will be included in the overall construction management plan that will be submitted to the local authority.

For more details please refer to the Outline Construction and Demolition Waste Management Plan prepared and included in the planning submission.

## 11 Communications and Local Stakeholder Management

The Contractor will, as required, liaise with owners of the local properties in advance of works commencing onsite. The Contractor will use a competent sign provider and all signage used will meet the requirements of the Safety, Health & Welfare at Work (General Applications) Regulations 2007 and Chapter 8 Traffic Signs Manual.

## 12 Construction Noise, Dust and Vibration

The Main Contractor will be required to monitor noise, dust and vibration as will be outlined in the planning conditions. The Contractor will establish baselines for noise, dust and vibration in advance of works commencing onsite. As part of their detailed construction management plan, the Contractor will be required to clearly indicate how they plan on monitoring noise, dust and vibration throughout the course of the project. This will be especially critical in relation to the basement construction and associated piling works. The Contractor will also be required to clearly outline the mitigation measures they plan on putting in place to ensure any breaches in the baselines are mitigated.

For more details please refer to the Construction and Demolition Waste Management Plan prepared and included in the planning submission.



## 13 Working Hours

The proposed hours of work on site will be 08:00 hrs to 19:00 hrs Monday to Friday and 08:00 hrs to 14:00 hrs Saturday unless otherwise specified by planning conditions. It is anticipated that construction working hours will be stipulated in the planning conditions attached to the planning grant. Any working hours outside the normal construction working hours will be agreed with Dun Laoghaire-Rathdown County Council. The planning of such works will take consideration of sensitive receptors, in particular any nearby businesses.

For more details please refer to the Outline Construction and Demolition Waste Management Plan prepared and included in the planning submission.

# 14 Lighting

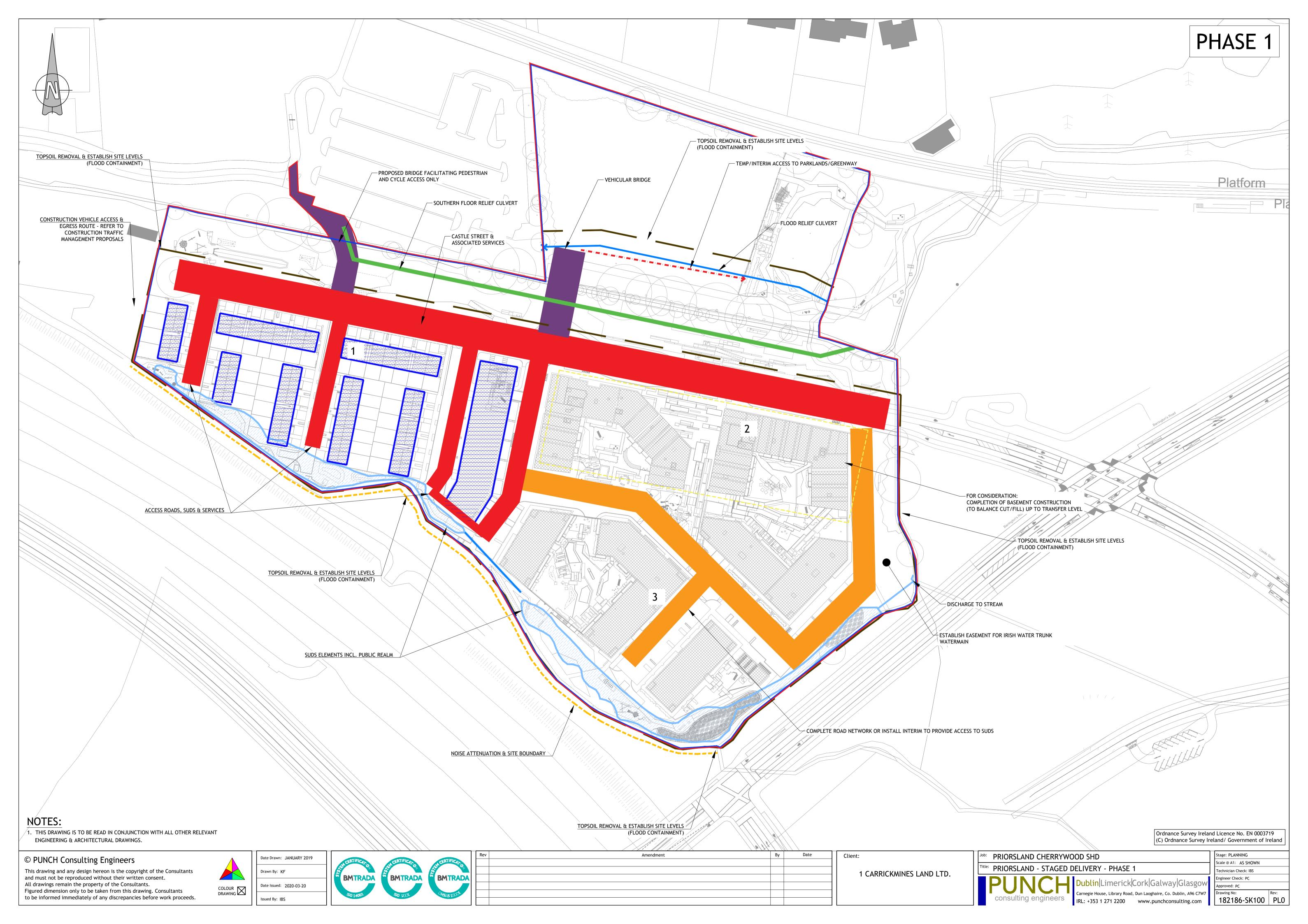
There are no proposals to alter the existing lighting arrangements in the area. It is not envisaged that any existing public lighting will need to be disconnected as a result of the proposed works. Appropriate lighting will be provided as necessary at construction compounds. All lighting will be installed so as to minimise light spillage from the site.

# 15 Construction Employment

Construction employment numbers will vary depending on the construction stage of the project and the actual approach adopted by the Contractor. However, it is anticipated that at the peak of construction there may be a workforce of approximately 300 people employed (maximum).



Appendix A - Preliminary Phasing Drawings



NOTES:

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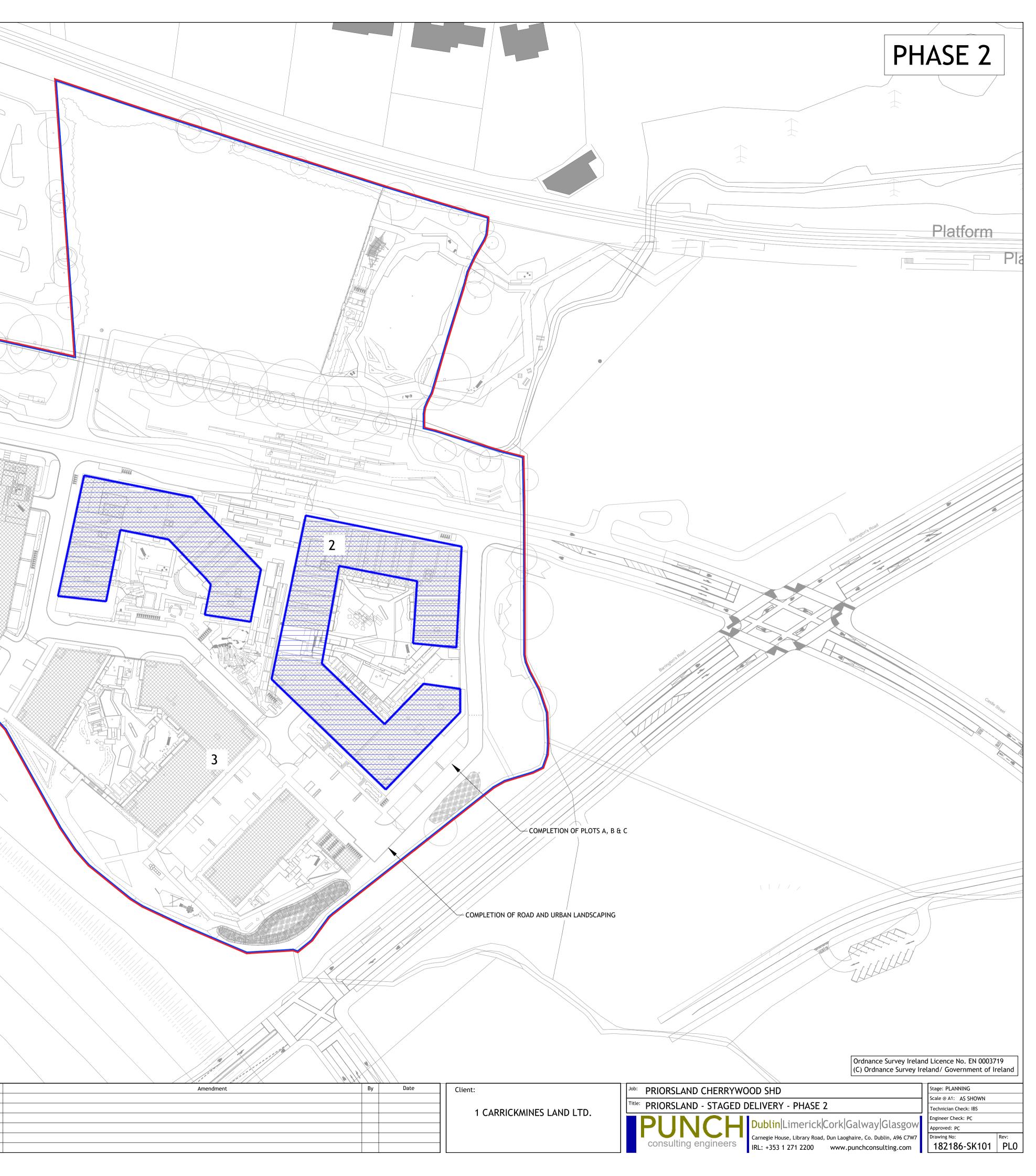
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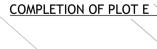
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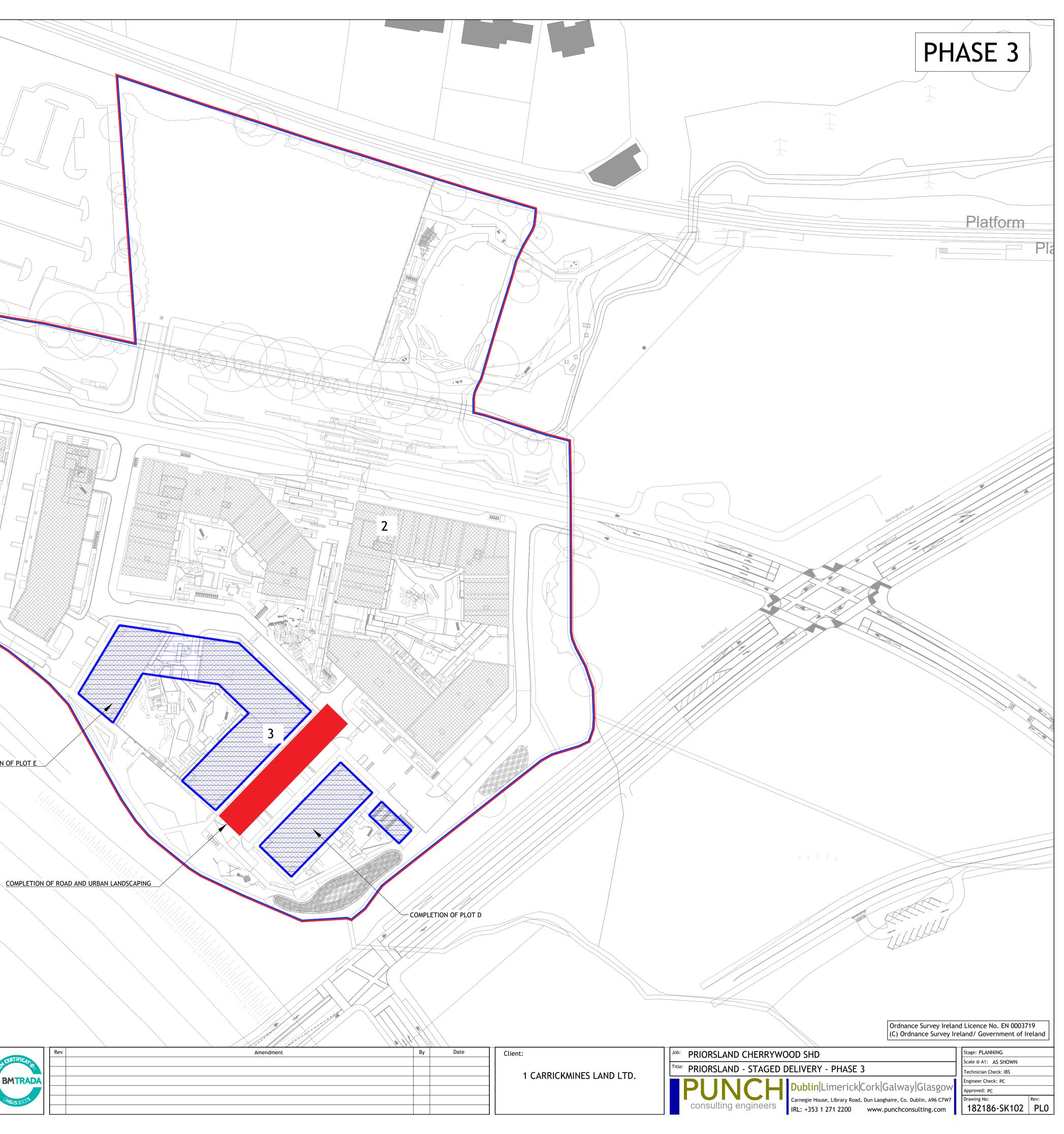
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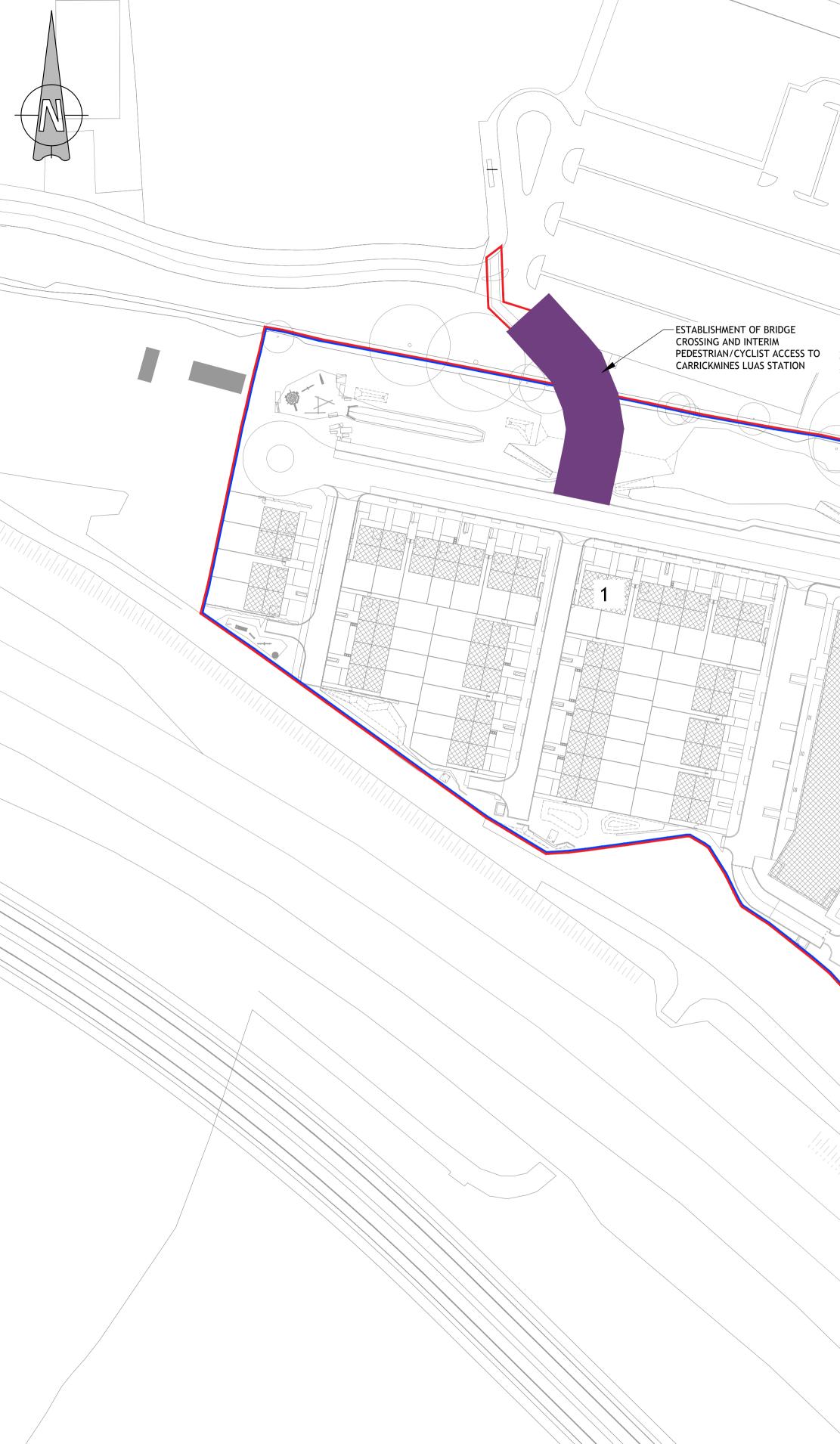
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