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Trinity Islands – Plot D1 & D2
Flood Risk Mitigation Verification

Curtins Ref: **ZD-CUR-G580-RP-XX-92015**
Revision: V02
Issue Date: 17 September 2025

Client Name: Renaker Build Ltd

Site Address: Trinity Island, Trinity Way, Manchester (Site D)

Rev	Description	Issued by	Checked	Date
V01	First Issue - DRAFT	CS	CG	08 September 2025
V02	Updated to include client comments	CS	CG	17 September 2025

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1 Introduction

1.1 Project Background

Curtins have been appointed by Renaker Build Ltd to provide verification of the Flood Risk Mitigation measures required within the approved Flood Risk Assessment for Site D (Plots D1 and D2) at Trinity Islands, Manchester. The approved Flood Risk Assessment report is referenced 078567-CUR-XX-XX-RP-C-92001 Revision V03.

The planning approval 134039/JO/2022 and updated Section 73 application 141017/JO/2024 requires verification of the flood risk mitigation measures to satisfy planning conditions 102 and 146. The planning condition requirements are as follows:

Planning Condition 102

102) Phase D1 of development shall be carried out in accordance Flood Risk Assessment and Drainage Strategy - Proposed Site at Trinity Island, Trinity Way, Manchester. Prepared by Curtins on the behalf of Renaker Build Ltd. Report Ref: 078567-CUR-XX-XX-RP-C-92001. Revision V03. Issue Date :12 November 2021 within appendix 16.2 of the ES stamped as received by the City Council, as Local Planning Authority, on the 7 December 2021.

The development shall be carried out in accordance with this assessment including the mitigation measures outlined in section 5. Prior to the first occupation of phase D1, a verification report for phase D1 shall be submitted for approval in writing to the City Council, as Local Planning to confirm that the works in that phase have been undertaken in accordance with the previously approved report.

Planning Condition 146

146) Phase D2 of development shall be carried out in accordance Flood Risk Assessment and Drainage Strategy - Proposed Site at Trinity Island, Trinity Way, Manchester. Prepared by Curtins on the behalf of Renaker Build Ltd. Report Ref: 078567-CUR-XX-XX-RP-C-92001. Revision V03. Issue Date :12 November 2021 within appendix 16.2 of the ES stamped as received by the City Council, as Local Planning Authority, on the 7 December 2021.

The development shall be carried out in accordance with this assessment including the mitigation measures outlined in section 5. Prior to the first occupation of phase D2, a verification report for phase D2 shall be submitted for approval in writing to the City Council, as Local Planning to confirm that the works in that phase have been undertaken in accordance with the previously approved report.

Therefore, this report should be submitted to support discharge of conditions 102 and 146.

The report is based on currently available information and best practice guidance.

This report has been prepared for exclusive use by Renaker Build Ltd for the purpose of development of the site.

1.2 Scope of the Report

This document sets out in detail how flood risks will be mitigated as part of the design and through the operation of the scheme and verifies, where relevant that the mitigation measures have been implemented.

This report provides the following information:

- An overview of the key flooding issues as presented within the approved Flood Risk Assessment.
- A summary of the key mitigation measures as proposed in the approved Flood Risk Assessment.
- Verification of the key mitigation measures as proposed in the approved Flood Risk Assessment.

2 Development Details

2.1 Site Location

Site D is approximately 0.82 ha in size and is bounded by the River Irwell to the north and west, Regent Road to the south and Trinity Way to the east.

The Site can be accessed by vehicle or foot via Trinity Way on the eastern boundary. Refer to Figure 1 for the location.

Figure 1: Aerial Photograph (Google 2025)



The Proposed Landscaping layout is enclosed in Appendix A.

3 Mitigation Measures and Verification

3.1 Introduction

The approved Flood Risk Assessment confirms that from the evidence collated and subsequent negotiations, the main types of flooding that may apply to the development site are as follows:

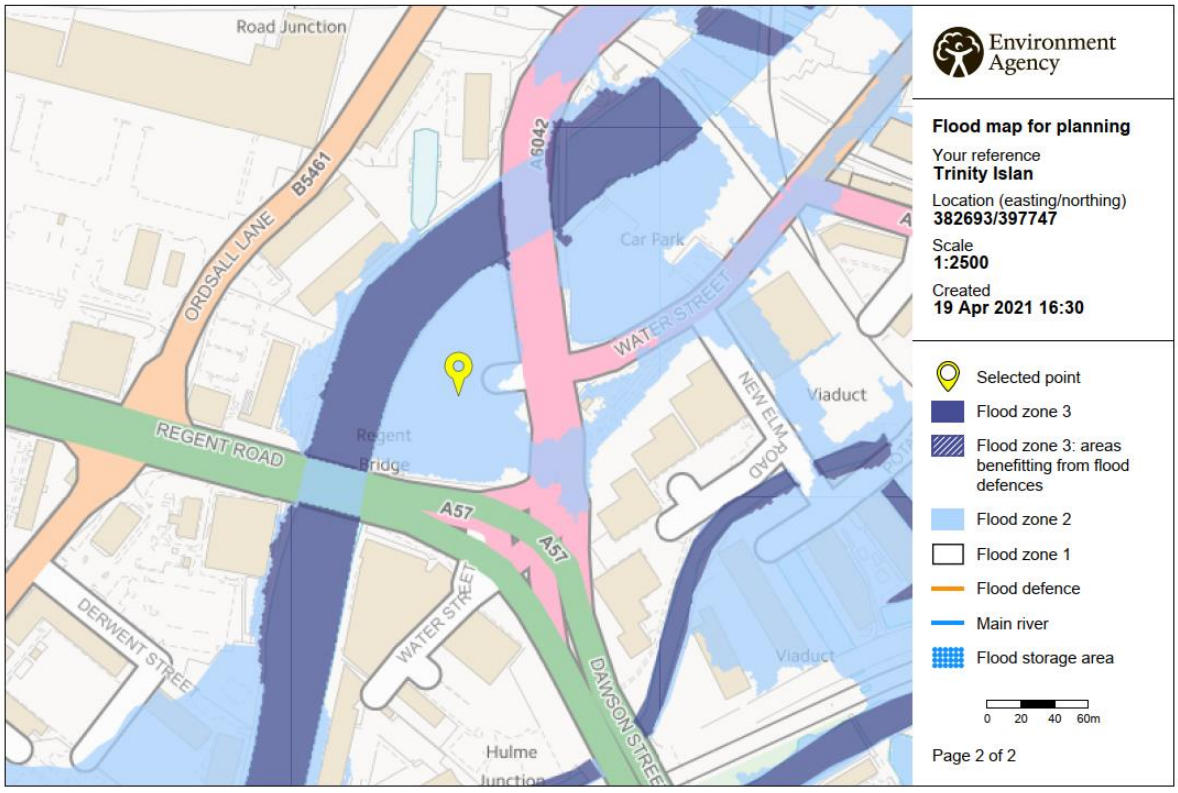
- Fluvial Flood Risk
- Reservoir flooding (potential)
- Groundwater flooding (potential)
- Surface water flooding to the site (potential)
- Surface water flooding from the site

3.2 Fluvial Flood Risk Mitigation

The site is shown by the Environment Agency Flood Map for Planning to be within Flood Zone 2, with localised Flood Zone 3 along the interface with the River Irwell (north-west boundary). An extract if the mapping from the Flood Risk Assessment is shown in Figure 2.

The EA Flood Risk Vulnerability and Flood Zone 'Compatibility' tables confirm that More Vulnerable development (residential use) in Flood Zone 2 as appropriate development.

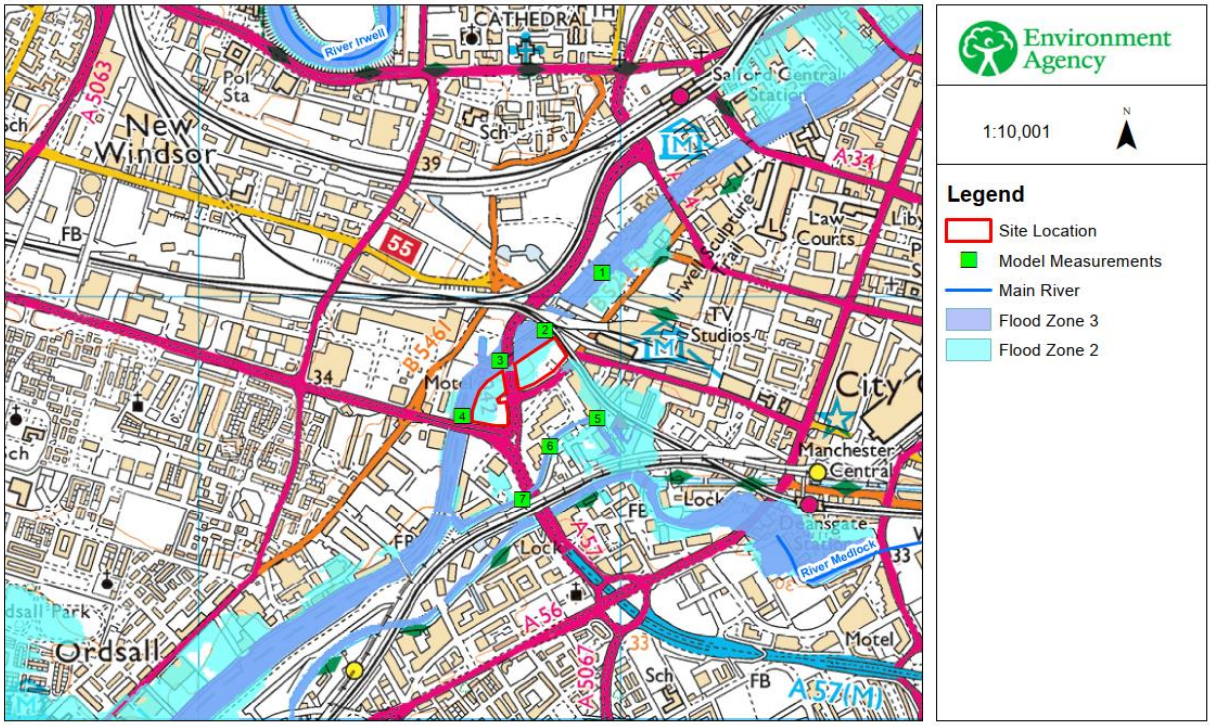
Figure 2: Flood Map for Planning – Flood Risk Assessment 2021



To understand eth extent and depth of flooding, the Environment Agency flood data was obtained from the Manchester Ship Canal Study (2018). Refer to Table 1 for the summary of the levels and node locations.

Table 1 Environment Agency Flood Levels

Map Ref	Node Reference	1 in 100 Year	1 in 100 Year + 35%cc	1 in 100 Year + 70%cc	1 in 1000 Year	1 in 1000 Year Gate Closed
2	**Ea013_0251_IRWZ01_0691**	**24.13**	**24.62**	**25.54**	**25.79**	**25.80**
3	**Ea013_0251_IRWZ01_0569**	23.98	24.49	25.46	25.73	25.76
4	**Ea013_0251_IRWZ01_0380**	23.81	24.27	25.20	25.47	25.50



Model measurements are recorded at 3 nodes (labelled 2 through 4) with flood levels at node 2 considered most relevant to the site (Site C and Site D) and the flood levels and flows at this node have been used to estimate the flood levels across the site.

The site would therefore be classified as within Flood Zones 1 and 2, with localised Flood Zone 3 along the existing river walkway, based on the flood model outputs which concurs with the flood map for planning.

Finished Floor Levels

Guidance recommends that residential areas should be set at 600mm above the 1 in 100-year flood level with an allowance for 35% climate change, however due to the increased risk with a gate closure, it was agreed with the Lead Local Flood Authority to set floor levels at a minimum of 300mm above the 1 in 100 +70% climate change scenario.

This provides a greater level of protection to the site than the 600mm freeboard on the 1 in 100 year plus 35% climate change event.

Flood Levels have been taken from Node Point 2 to determine minimum floor levels across the site.

- 1 in 100 Year =24.130m
- 1 in 100 Year +35% =24.620m
- 1 in 100 Year +70% =25.540m
- 1 in 1000 Year =25.790m
- 1 in 1000 year with a gate closed =25.820m

Proposed floor levels should be set a minimum of **25.840m AoD** which also provide some level of freeboard above the 1 in 1000 year and 1 in 1000 year with gate closed scenario's.

The development constructed Finished floor levels are as follows:

- Basement level 2 = 20.800
- Basement Level 1 = 23.500
- Ground Floor Level = 27.400

Proposed Floor Plans are enclosed in Appendix B.

Ground floor levels are set at a level of 27.400m AOD which is far in excess of the recommended finished floor levels and therefore above predicted flood scenarios.

Proposed ground level access into the basement is generally from ground level, however, there are two fire exit doors located at basement 1 level (one emergency exit for each building – D1 and D2) along the riverside walkway. The purpose of these doors is to direct occupants within the basement during a fire event to exit basement levels externally to the riverside walkway. **However, the fire exit doors provide a mechanism to allow flood water into basement 1 and basement 2 levels and therefore requires additional protection and procedures implementing which are detailed within the Flood Emergency Response Plan with operating procedures within the site O&M Manual.**

The external riverside ground level at the fire exit doors is 24.56m and the location of these doors are shown in Figure 3.

Based on the anticipated flood levels at the site, the fire exit doors (24.560m) would be subject to flooding during any event above the 1 in 100 year.

- 1 in 100 Year =24.130m
- **1 in 100 Year +35% =24.620m**
- **1 in 100 Year +70% =25.540m**
- **1 in 1000 Year =25.790m**
- **1 in 1000 year with a gate closed =25.820m**

Figure 3: Fire Exit Doors



The building management for each building must be signed up to the Environment Agency's Floodline Warnings direct, which is updated daily. It will also be necessary to implement the site-specific flood emergency plan under the advice of Manchester City Council, which will be included within the buildings O&M Manual.

When a flood warning is in place for any part of Site D, the fire exit doors must be closed off by implementation of a flood barrier system to each door, the flood barrier details are included within the Flood Emergency Response Plan. The flood barrier will be fixed internally to the doors and must installed and deployed as detailed by the manufacturer's requirements.

The requirements for fire emergency and general emergency procedures should be reflected to account for the closure of the basement fire exit doors. The implementation of the barrier should be immediately after a flood warning, with all basement access restricted, this includes all mechanical accesses (lifts), ramps and staircases, to prevent persons accessing any areas of Basement 1 and Basement 2 levels until all flood warnings are removed and all flood waters have receded.

The operating procedures should clearly demonstrate that basement areas will be checked at the outset of a flood warning and appropriately closed off – at all lift, ramps and staircases – including barriers and signage.

Flood Barrier

The external ground level at the doors is approximately 24.560m, which will be required to be protected to a minimum predicted water level of 25.840m (which is the 1 in 100 year +70% flood level plus 300mm freeboard) resulting in 1.28m flood water depth. This is to ensure the same level of minimum protection recommended for floor levels. The depth of barrier ordered for the site has been confirmed to us by the client.

The proposed barriers have been specified as Flood Technologies Nautilus Barrier, which are detailed in the Flood Emergency Response plan which will be managed by the site management team who will be appropriately trained in how this will be installed. The procedure has been confirmed to us by the client.

Full life cycle requirements of the barriers, warranties for all components of the barriers, training and storage procedures will be detailed within the site O&M Manual and must be managed by the client. The procedure has been confirmed to us by the client.

Emergency Response Plan

Flood Emergency Response Plan referenced ZD-CUR-G580-RP-XX-92001 should be referred to.

Flood Compensation

Where development is proposed within areas predicated to be within Flood Zone 3a (flooding during the 1% scenario), development should ensure that the volume of flood water entering the site in the predevelopment state can be provided post-development on a 'like for like', 'level for level' basis (and should be provided within the development site where possible). However, as the site is considered as within Flood Zones 1 and 2, with levels along the river walkway being maintained, Flood Compensation is not considered necessary.

3.3 Reservoir Flood Risk Mitigation

It can be seen that the site is located within the edge of the extents of flooding due to reservoir breach.

Based on the proposed recommendations to raise ground level to provide mitigation from fluvial flood risk, the likelihood and extent of flooding by reservoir failure impacting on the site has been significantly reduced.

Since the likelihood of a reservoir breach ever occurring is extremely unlikely, providing that the reservoir asset owners conduct appropriate maintenance and regular inspections, the site is considered to be at low risk of flooding from reservoirs.

Manchester City Council is responsible for coordinating emergency plans for reservoir flooding and ensuring communities are well prepared. Following the declaration of a major incident, Manchester City Council would offer support to the emergency services.

The building occupiers should also have an emergency procedure in place for fluvial flood risk; therefore, this can also be adopted in the unlikely event that a reservoir fails. In the event of a nearby reservoir flooding the site would be notified by the local authorities, therefore allowing an evacuation plan to be successfully executed.

Flood Emergency Response Plan referenced ZD-CUR-G580-RP-XX-92001 should be referred to.

3.4 Groundwater Flood Risk Mitigation

Groundwater flooding tends to be more persistent than other sources of flooding, typically lasting for weeks or months rather than hours or days. Groundwater flooding does not generally pose a significant risk to life due to the slow rate at which the water level rises; however, it can cause significant risk to property.

The Flood Risk Assessment confirms that there may be a risk of groundwater flooding to the site as there was a lack of site-specific information at the time of writing the report. Mitigation measures suggested within the FRA pending full completion of groundwater level monitoring.

WSP have completed intrusive ground investigations and have provided a Phase 2 Ground Investigation report referenced 70082598-11833(4) dated October 2021 and a subsequent Geotechnical Design Report referenced ZD-WSP-A180-RP-XX-GD-01 dated September 2022. The following data has been extracted from the WSP reports:

The groundwater strikes recorded during the ground investigation suggest that the main groundwater table lies within the sandstone bedrock.

Groundwater strikes were recorded as follows:

- Recorded between 3.00m to 4.00m bgl within granular Alluvium or weathered sandstone; or,
- Recorded between 19.00m to 30.00m bgl within bedrock.

Groundwater monitoring indicates the main groundwater table lies at approximately 22.5m AOD within the Granular Alluvium or Weathered Chester Formation Sandstone.

Finished floor levels are as follows:

- Basement level 2 = 20.800
- Basement Level 1 = 23.500
- Ground Floor Level = 27.400

The basement levels are waterproofed and sealed up to ground level, with the lowest interface being at B1 level (whereby basement level B1 interfaces externally above ground with the riverside walkway).

The lowest level of exposure externally are emergency exit doors located at external ground level to the riverside walkway at 24.56m and therefore is in excess of 2m above estimated groundwater levels.

External ground levels across the site fall away from the proposed buildings and ensure that the creation of low points is avoided (other than those used intentionally for drainage features) in order that in the unlikely event of groundwater flooding, the flood water is safely routed away from the buildings on site.

The risk from groundwater flooding would therefore be considered low post development.

3.5 Surface Water Flooding to the site Risk Mitigation

The Flood Risk Assessment confirms that the UK Government Long Term Flood Risk Assessment surface water flood maps indicate that the site is at ‘very low’ to ‘low’ risk of surface water flooding. However, as the site proposals involved reprofiling of ground levels, flood risk mitigation measures recommended:

- Proposed external ground levels across the site should fall away from the proposed buildings in a manner which does not create low points where water might collect unintentionally.
- The proposed surface water drainage network shall be designed to accommodate flows generated from within the site.

The current landscape Layout (ZD-TPM-G710-PL-XX-4029 101) is enclosed within Appendix A and demonstrates that proposed ground levels fall away from the buildings.

The finished floor levels of the D1 and D2 buildings are at 27.4m, with external areas locally around the building falling away. To the wider area of the site, the existing riverside walkway remains at approximately 24.2-24.5m AOD which is significantly lower than the building ground floor levels, with the walkway path falling towards the river edge. To the eastern boundary interface with Trinity Way, existing levels are at approximately 26.1-27.0m AOD where levels are lower than the ground floor levels. To the southern boundary at the interface with Regent Road, levels are between 27-28.8m AOD, whilst some areas along Regent Road are higher than the site, the primary slopes would direct any flows along the length of Regent Road in a easterly direction towards Trinity way where the interface levels are at approximately 26.1m and again at a lower elevation than the site.

The proposed surface water network on site has been designed to accommodate the 1 in 100-year storm rainfall event plus 40% for climate change. The surface water will discharge to the River Irwell (under agreement with Peel) at an unrestricted rate (l/s) on the basis that surface water betterment has been achieved as it relieves the combined sewer system of 100% of surface water flows.

The surface water network has been simulated in surcharged and surcharged conditions according to 1 in 100 year +70% river flood levels to ensure that flood water would not surcharge basement areas.

3.6 Surface Water Flooding from the site Risk Mitigation

Any new development site drainage should be designed in accordance with current best practice to provide adequate capacity not to flood for the critical 1 in 30-year storm event and flood water generated from up to the critical 1 in 100-year plus climate change storm event shall be constrained within the areas on site so not to cause damage to buildings, essential services or adjoining developments & services.

At the time of writing the FRA, the Environment Agency had released updated climate change allowances for peak rainfall intensities which should be applied to new developments (February 2016). Table 2 demonstrates the climate change allowances appropriate at the time of design with central and upper end allowances being considered.

Based on the nature of the development, a lifespan in excess of 60 years is anticipated. Therefore, the potential climate change allowance for 2070-2115 ranges between 20% for the central allowance and 40% for the upper end allowance. As such, an allowance of 40% for climate change on peak rainfall intensity has been included within the on-site design.

Table 2: (Extract Environment Agency Guidance) Peak Rainfall Intensity Allowance in small and urban catchments

Applies across all of England	Total potential change anticipated for the '2020s' (2015 to 2039)	Total potential change anticipated for the '2050s' (2040 to 2069)	Total potential change anticipated for the '2080s' (2070 to 2115)
Upper end	10%	20%	40%
Central	5%	10%	20%

The surface water will discharge to the River Irwell (under agreement with Peel) at an unrestricted rate (l/s) on the basis that surface water betterment has been achieved as it relieves the combined sewer system of 100% of surface water flows.

The surface water network has been simulated in surcharged and unsurcharged outfall conditions according to 1 in 100 year +70% river flood levels to ensure that flood water would not surcharge basement areas.

The drainage design has been sized to ensure that inlets and outlets to all permeable paving, gullies, drainage channels and drains are all suitably sized to accommodate peak storm flows for the 1 in 100 year +40% design event.

The foul water connection to the public sewer in Regent Road has been approved under a Section 106 Agreement referenced 04607038 and details of this has been detailed within the Drainage Verification Reports.

The surface water discharge into the River Irwell has been agreed with Peel - Reference HXD/100721/265 and details of this has been detailed within the Drainage Verification Reports.

The Drainage Layout is enclosed within Appendix C.

A Maintenance Strategy for the site wide drainage has been prepared for the site, which will be included within the site O&M Manuals for the site management team. All recommendations, procedures and timescales between maintenance for each component are provided within this document.

Appendix A

Landscaping layout

HARDWORKS

Proposed Adopted Footway (MCC Ownership)
Refer Curtins S278 drawings

Proposed High Quality Cube Blocks
Product: Local Pennant Stone Block
Trim to match existing on Water Street
Plan Size: 100x100
Laying Bond: Stacked Bond

Proposed High Quality Block Paving
Plan Size: 200x65
Colour: Black
Laying Bond: Herringbone

Proposed High Quality Cube Blocks
Plan Size: 100x100
Colour: Light grey
Finish: Sawn
Laying Bond: Stack Bond

Proposed Resin Bound Gravel
Homogenous impermeable paving treatment
Colour: Light buff

Proposed Asphalt
To Engineers specification

Proposed Play Surface
Typical specification: Corkeen soft play area surfacing

Proposed Pimple Tactile Paving
To adoptable standards

Proposed Corduroy Tactile Paving
Product: High quality stone
Plan Size: 400x400mm
Colour: Silver grey
Laying Bond: Stack Bond

Proposed Solid Stone Steps
Plan Size: 300mm wide x length varies
Unit Depth: height varies
Colour: Silver Grey
Finish: Flamed
Other: Contrast nosings

Proposed Solid Stone Kerbs
Plan Size: 300mm wide x length varies
Unit Depth: height varies 0 -120mm
Colour: Dark Grey
Finish: Flamed

Proposed Metal Edge
Product: Bison by Kinley (or similar approved)
Material: Galvanised Steel
Height above ground: Flush
Other: To form edge between grass and resin bound gravel

Proposed Metal Edge
Product: Raaft Planterline (or similar approved)
Material: PPC Steel (thickness as required by manufacturer)
Height above ground: varies
Other: To form edge between planting beds and resin bound gravel

FURNITURE

Proposed Cycle Racks

Proposed Step Seat
With integrated lighting - spec by Lighting Consultant

Proposed Monolithic Seat
With integrated lighting - spec by Lighting Consultant

Proposed Monolithic Seat
With integrated arm & backrests
With integrated lighting - spec by Lighting Consultant

Proposed Feature Seat

Proposed Large Picnic Table

Proposed Medium Picnic Table

Proposed Feature Pebble Stone Seat

Proposed Bin

Proposed Power Pole
Low level pole providing locked off external power source - to M&E engineers specification

Proposed Handrail
With integrated lighting - proprietary product, spec by Lighting Consultant

Proposed Balustrade with Integrated Lighting
With integrated lighting - refer Artin for locations and spec

Proposed Balustrade

Lighting Element
Mix of columns and bollards - Spec varies - refer Lighting Consultant info

Indicative Locations of Water Safety Info / Ring
Details: tbc

Vehicle Bollard
Details: Refer hardworks drawing

Future Bollard Position
Foundation to be installed below ground for retrofitting of bollards in future should need arise
Client to confirm requirement

Timber Knee Rail
500mm high timber knee rail set to back of cube block margin

Ecology Feature
Bird (orange)/bat (blue) box locations - refer hard works drawing for details

Proposed Balustrade to Play Area

Proposed Balustrade
Standard decorative metal balustrade with vertical bar.

Maintenance Water Tap
Stainless column with lockable water tap

Dog Park Water Tap
Stainless column with self closing tap for users to fill dog bowls etc.
Client to confirm requirement.

SOFTWORKS

Proposed Tree in Soft Landscape
Clear Stem specimen parkland tree
Height: 6m

Proposed Tree in Soft Landscape
Clear Stem tree
Height: 4.5m

Proposed Tree in Hard Landscape
Clear Stem specimen parkland tree
Height: 6m

Proposed Tree in Hard Landscape
Clear Stem tree
Height: 4.5m

Proposed Instant Hedge
Height: Height: 1, 1.5 & 2m refer to planting plans

Proposed Ornamental Planting
Mixed shrub and herbaceous planting
5-7ltr pots with 10ltr specimens
Planting beds to receive 75mm depth ornamental bark mulch.

Proposed Turf
Hard wearing turf

Proposed Green Wall
Ornamental Wall with inbuilt irrigation system

Proposed Vertical Climbers
Located on podium wall along river edge to provide valuable wildlife habitat

Proposed Low Maintenance Planting
Mixed shrubs and native stock to create buffer

Proposed Dog Specific Astroturf
Awaiting spec info from Zenith Management company

BAFFLES (TPM DRAWINGS 410-420)

Proposed Landscape Baffles
Height: 3m (3.5m by generators)
Integrated lighting - spec by Lighting Consultant

Proposed Curved Landscape Baffles
Height: 3m with sections of metal perforate and vertical climbers to create greening
Integrated lighting - spec by Lighting Consultant

Proposed Building / Landscape Baffles
Integrated lighting - spec by Lighting Consultant

Proposed Car Park Ramp Walls
Visual concrete walls: 1.1m above ground level with 0.4m glass screen on top (1.5m total)

+26.26 EXISTING LEVEL

+27.20 PROPOSED LEVEL

S278 Boundary
For all materials and surfacing information relating to this area refer to separate Curtins S278 agreement

Manhole Cover
Surface level covers shown only - for below ground refer Curtins info. For sizes and spec refer to Curtins info

1 **Signage - Development ID**
Integrated into Greenwall - client to confirm

2 **Signage - Parking Ramp**
Refer Project Studio Details

3 **Signage - Directional Signposting/Totum**
Refer Project Studio Details

4 **Signage - Primary Building ID**
Refer Project Studio Details

5 **Signage - Secondary Building ID**
Refer Project Studio Details



GENERAL NOTES

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3. This drawing is to be read in conjunction with all relevant Architects', Engineer's, Specialists, Bills of Quantities and Specifications.
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5. The Contractor is responsible for accurately ascertaining the position of underground services and responding to all relevant service easement requirements.
6. All dimensions are in millimetres unless stated otherwise, for the purposes of construction this drawing must not be scaled and only written dimensions used. Written and scaled dimensions to be checked on site, any discrepancies reported prior to work commencing. IF IN DOUBT PLEASE ASK.
7. All work and materials are to be in accordance with the relevant British Standards and Code of Practice.
8. All Proprietary products are to be used strictly in accordance with the manufacturer's instructions and details.

REVISION NOTES

Rev	By	Description	Date
P12	JS	Boundary wall amended	14.02.25
P11	JS	Steps seating amended	13.12.24
P10	JS	Balustrade type amended	26.09.24
P9	SC	External signage locations added	09.08.24
P8	SC	S73 Updates	05.07.24
P7	SC	Updated for planning conditions discharge	14.06.24
P6	JS	Minor tweaks for planning	27.09.23
P5	SC	Minor tweaks for planning	11.07.23
P4	SC	Issued for Planning Update	05.07.23
P3	SC	Updates as clouded	16.03.23
P2	SC	General updates	07.03.23
P1	KH	First Post Planning Issue	12.05.22

Client
Renaker Build LTD

Project
Trinity Island

Description
Site D - Landscape Layout

Status
For Comment

Scale @ A1	Drawn	Checked	Date
1:250	SC	SC	09.08.24

Drawing number
ZD-TPM-G710-PL-XX-4029 101

Revision
P12

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Appendix B

Architects Floor Plans (Ground Floor Level, Basement Level 1, Basement Level 2)



This drawing is copyright
Do not scale off dimensions.

All dimensions to be checked on site by contractor.

Contractor to report any dimensional discrepancies, errors or omissions prior to commencing on site.

- Residential FOH
- Commercial
- Staff
- BOH
- Refuse
- Amenity
- Terrace



NORTH

Rev	Date	Description
D02	2021-08-02	Landscape & structure revised
D03	2021-08-02	Wind screens shown
D04	2021-11-08	Stage 3 Issue
P10	2022-06-01	Issued for coordination
P11	2022-10-21	Issued for coordination
P12	2022-11-21	Issued for coordination
P13	2023-01-20	Issued for coordination
P14	2023-02-06	Issued for coordination
D10	2023-07-14	Landscape updated
D11	2024-07-18	Layout updated
D12	2024-09-10	D1 amenity updated

Project Title
Trinity Islands
Trinity Way
Manchester

Status
Design Development

Drawing Title
Site D
Site Plan
Ground Floor Plan

Project No
10364

Scale
1:500 @ A3
1 : 250 @ A1

10364-ZD-SHP-G100-PL-GRD-0001

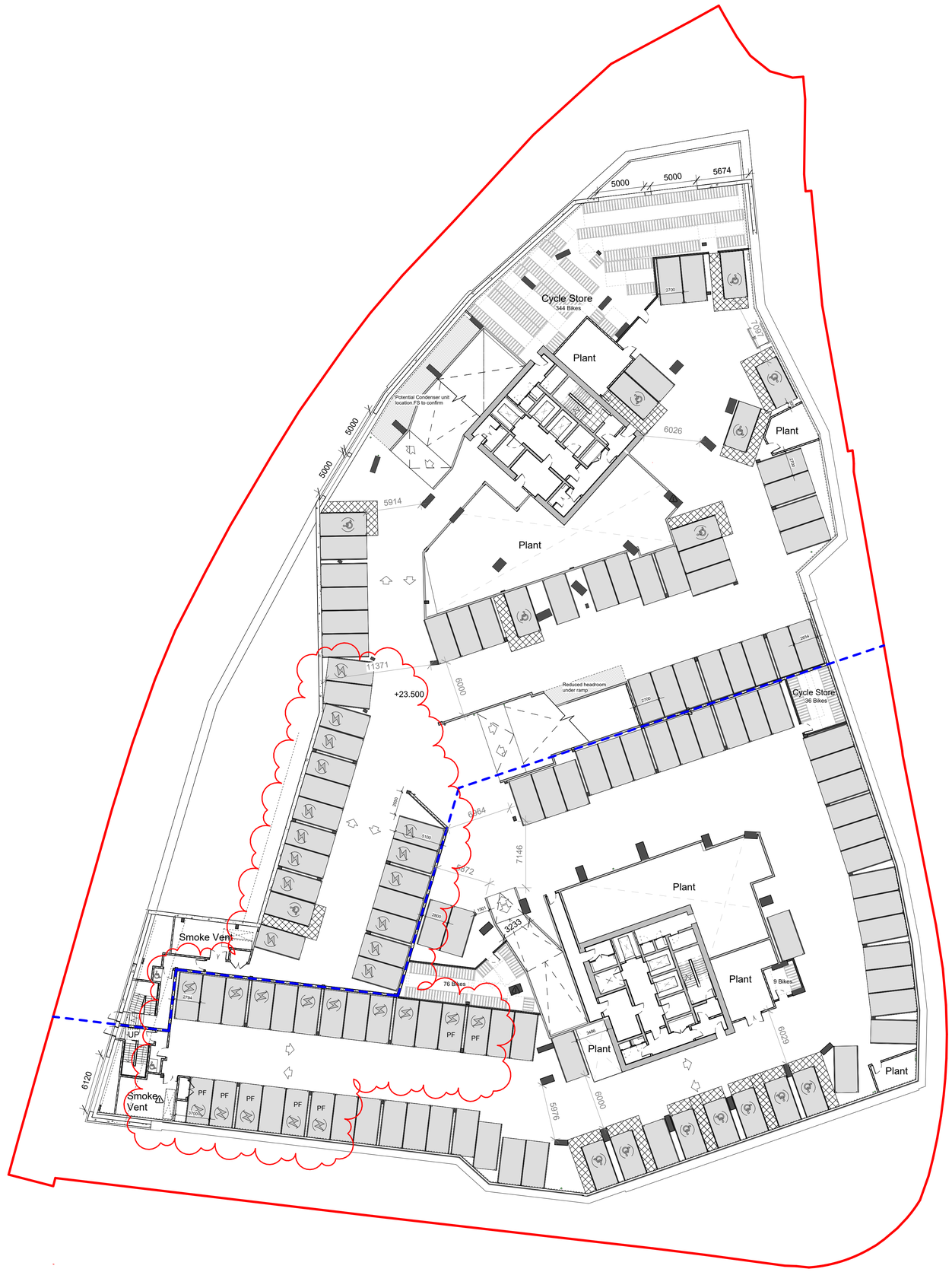
Revision
D12

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DRAWING TO BE READ IN CONJUNCTION WITH SHP SPECIFICATION.

CONTRACTOR TO REPORT ANY DIMENSIONAL DISCREPANCIES, ERRORS OR OMISSIONS PRIOR TO COMMENCING ON SITE.

ALL CONSTRUCTION DETAILS TO BE COORDINATED WITH ADJACENT TRADES AND SE/ ME ENGINEERS DETAILS.

Key

- Boundary line
- Basement Split line
- PF — Provision for Electric Vehicle. Agreed location for Future EV Point install.

PARKING SPACES

D1 - 146 SPACES

D2 - 135 SPACES



Rev	Date	Description
P14	2022-09-12	Coordination Update
P15	2022-09-29	Issued for coordination
P16	2022-10-21	Issued for coordination
P17	2022-11-21	Issued for coordination
P18	2022-11-25	Issued for coordination
P19	2022-12-05	Issued for coordination
D10	2023-02-08	Updated to Design Development
D11	2023-06-06	EV spaces updated
D12	2023-06-06	EV spaces amended
D13	2024-09-04	EV spaces updated
D14	2025-02-04	Updated parking bay and plant space layout
D15	2025-02-12	Layout of electric vehicle parking bays updated

Project Title
Trinity Islands
Trinity Way
Manchester

Drawing Title
Site D
Site Plan
Basement Level 01

Status
Design Development

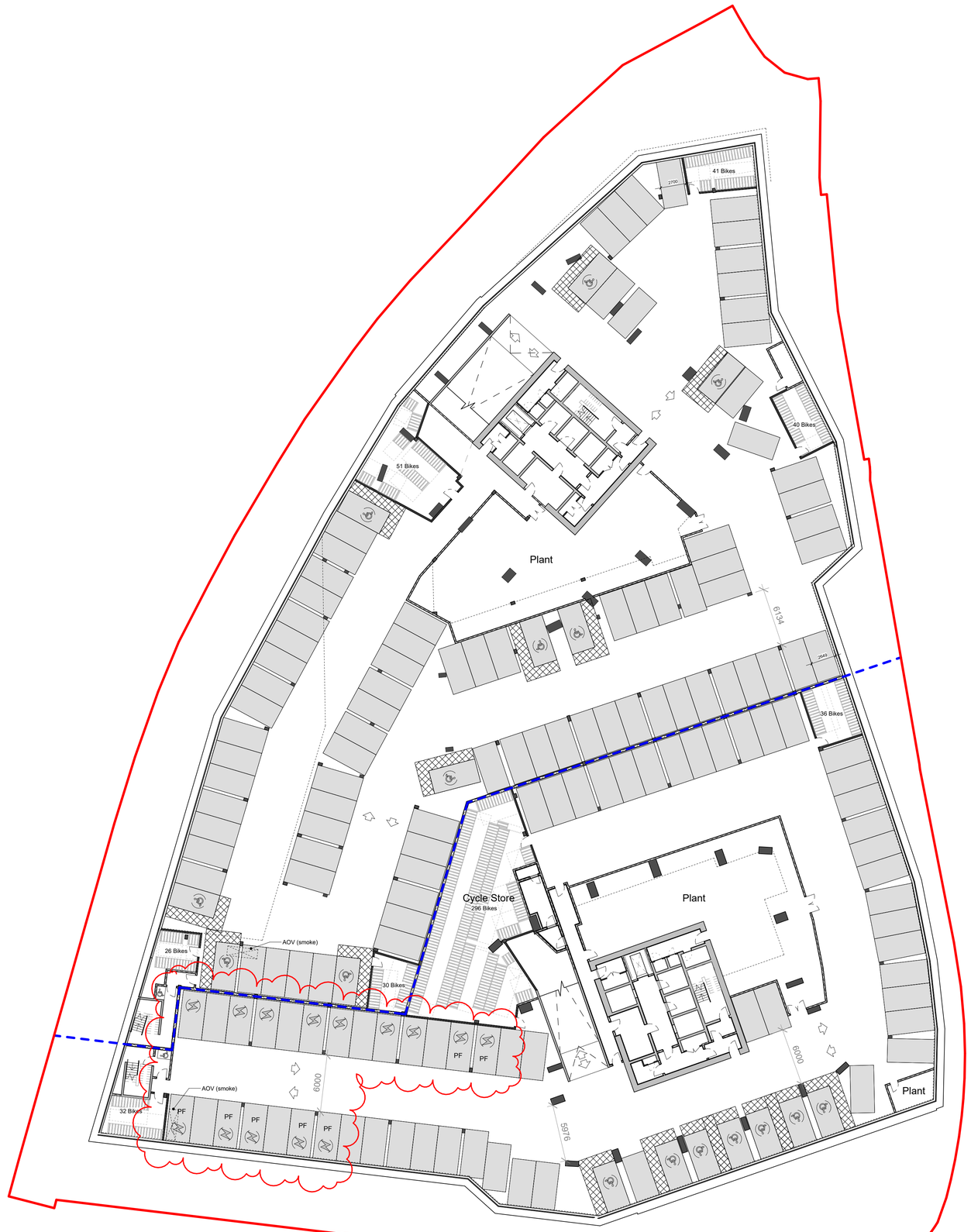
Job No	Scale
10364	*1:500 @ A3* 1 : 250 @ A1

SHP Drawing Code (PROJ - ORIG - ZONE - #LVLS - CLASS - TYPE - LOC - SEQ)
10364-ZD-SHP-G100-PL-B1-0001

Revision D15

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This drawing is copyright
Do not scale off dimensions.
All dimensions to be checked on site by contractor.
Contractor to report any dimensional discrepancies, errors or omissions prior to commencing on site.

NOTE:
DO NOT SCALE OFF DRAWING REFER TO INDICATED DIMENSIONS ONLY.

DRAWING TO BE READ IN CONJUNCTION WITH SHP SPECIFICATION.

CONTRACTOR TO REPORT ANY DIMENSIONAL DISCREPANCIES, ERRORS OR OMISSIONS PRIOR TO COMMENCING ON SITE.

ALL CONSTRUCTION DETAILS TO BE COORDINATED WITH ADJACENT TRADES AND SE/ ME ENGINEERS DETAILS.

Key

- Boundary line
- Basement Split line
- PF — Provision for Electric Vehicle. Agreed location for Future EV Point install.

PARKING SPACES

D1 - 146 SPACES

D2 - 135 SPACES



Rev	Date	Description
P14	2022-09-12	Coordination Update
P15	2022-09-29	Issued for coordination
D10	2022-10-21	Updated to design development
P16	2022-11-21	Issued for coordination
P17	2022-11-25	Issued for coordination
P18	2022-12-05	Issued for coordination
D11	2023-02-08	Updated to Design Development
D12	2023-06-06	EV spaces updated
D13	2023-06-06	EV spaces amended
D14	2024-09-04	EV spaces updated
D15	2024-09-10	Drawing updated
D16	2025-02-12	Layout of electric vehicle parking bays updated

Project Title
Trinity Islands
Trinity Way
Manchester

Drawing Title
Site D
Site Plan
Basement Level 02

Status
Design Development

Job No	Scale
10364	*1:500 @ A3* 1 : 250 @ A1

SHP Drawing Code (PROJ.-ORIG.-ZONE-MOUT.-LEVEL-TYPE-LOC.DES.)
10364-ZD-SHP-G100-PL-B2-0001 — Revision D16

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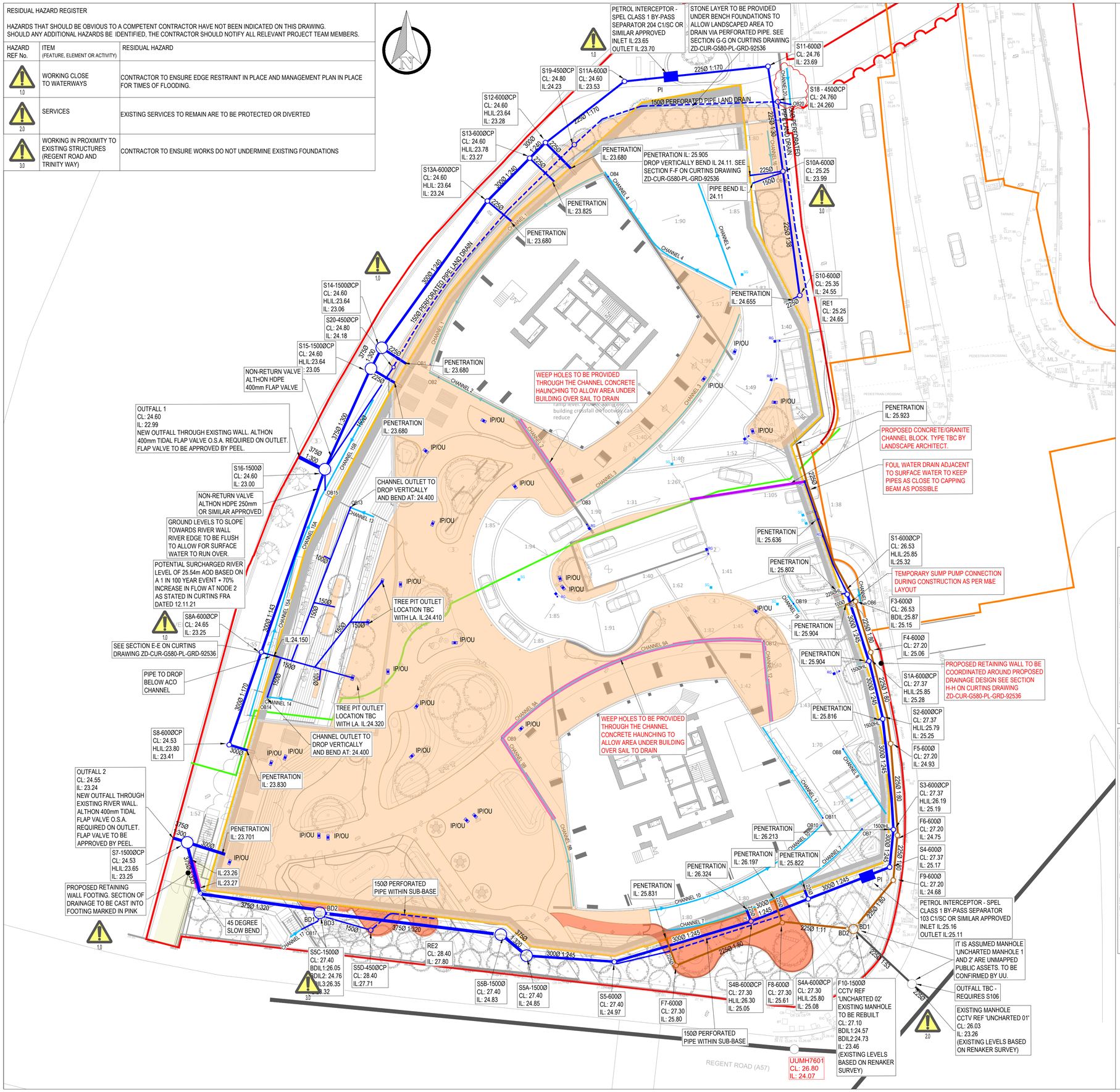
Appendix C

Drainage Layout

RESIDUAL HAZARD REGISTER

HAZARDS THAT SHOULD BE OBVIOUS TO A COMPETENT CONTRACTOR HAVE NOT BEEN INDICATED ON THIS DRAWING.
SHOULD ANY ADDITIONAL HAZARDS BE IDENTIFIED, THE CONTRACTOR SHOULD NOTIFY ALL RELEVANT PROJECT TEAM MEMBERS.

HAZARD REF No.	ITEM (FEATURE, ELEMENT OR ACTIVITY)	RESIDUAL HAZARD
1.0	WORKING CLOSE TO WATERWAYS	CONTRACTOR TO ENSURE EDGE RESTRAINT IN PLACE AND MANAGEMENT PLAN IN PLACE FOR TIMES OF FLOODING.
2.0	SERVICES	EXISTING SERVICES TO REMAIN ARE TO BE PROTECTED OR DIVERTED
3.0	WORKING IN PROXIMITY TO EXISTING STRUCTURES (REGENT ROAD AND TRINITY WAY)	CONTRACTOR TO ENSURE WORKS DO NOT UNDERMINE EXISTING FOUNDATIONS



KEY:

- SITE BOUNDARY TAKEN FROM TPM DRAWING ZD-TPM-G710-PL-XX-4029 RECEIVED 16.05.23 AND UPDATED TO SUIT BACK OF FOOTWAY AND S278 WORKS
- PHASING LINE (TAKEN FROM 10364-ZD-SHP-Z460-PL-GRD-0003-P11)
- S278 BOUNDARY TAKEN FROM CURTINS DRAWING ZD-CUR-G580-PL-XX-90000-P01
- BASEMENT B1 EXTENTS (TAKEN FROM DRAWING 10364-ZD-SHP-G100-PL-B1-0001-P12)
- EXISTING PUBLIC COMBINED DRAIN
- INDICATES PERMEABLE SUB-BASE LAYER FOR SURFACE WATER RUN-OFF COLLECTION ON SLAB.
- INDICATES PERMEABLE SUB-BASE LAYER FOR SURFACE WATER RUN-OFF COLLECTION OFF SLAB.
- ACCESS BOX
- OUTLET BOX AB
- GULLY BOX SUMPLESS RG
- GULLY LOCATED ON STRUCTURAL SLAB BELOW SUBBASE OB SG
- SLAB PENETRATION POINT FOR DRAINAGE TO BASEMENT
- PROPOSED SURFACE WATER DRAINAGE
- PROPOSED SURFACE WATER FILTER DRAIN
- PROPOSED FOUL WATER DRAINAGE
- PROPOSED CHANNEL DRAIN. CURRENT PROPOSAL BASED ON ACO OR SIMILAR APPROVED.
- CHANNEL BLOCK TYPE KERB DIRECT RUN-OFF TOWARDS GULLY. TBC BY TPM.
- SW DRAINAGE WITHIN BASEMENT - BASED ON M&E DRAWING Z3D-FUT-G581-PI-B1-001
- FW DRAINAGE WITHIN BASEMENT - BASED ON M&E DRAWING Z3D-FUT-G581-PI-B1-001
- INSPECTION POINT/ OUTLET FROM THE PERMEABLE PAVING. CRATE BASED ON POLYPIPE PVPP85 (708X354X85mm) OR SIMILAR APPROVED — IP/OU
- PROPOSED PETROL INTERCEPTOR BASED ON SPEL CLASS 1 BY-PASS SEPARATOR OR SIMILAR APPROVED — PI

DRAWING BASED ON:

ARCHITECT'S LAYOUTS
- D1-SHP-G200-PL-GRD-0001 REVISION P18
- D2-SHP-G200-PL-GRD-0001 REVISION D13

LANDSCAPE ARCHITECT'S LAYOUT
- ZD-SQY-G710-PL-XX-101 REVISION P1

PROPOSED STRUCTURAL INFORMATION.
- ZD-WSP-G210-PL-XX-005 REVISION C03
- ZD-WSP-G222-PL-GRD-001 REVISION P05

TOPOGRAPHICAL SURVEY
- 20K269 BY SURVEY OPERATIONS RECEIVED 24.02.21

RIVER WALL SURVEY
- 220617SR BY SURVEY OPERATIONS RECEIVED 20.06.22

M&E
- Z3D-FUT-G581-PI-B1-001 REVISION P06
- Z3D-FUT-G581-PI-B1-002 REVISION P06

DESIGN PHILOSOPHY

SURFACE WATER DESIGN
FLOWS ARE TO BE RESTRICTED TO A MAXIMUM DISCHARGE VELOCITY OF 2m/s INTO THE RIVER IRWELL.

SITE D:

OUTFALL: 2 PROPOSED OUTFALLS TO THE RIVER IRWELL

BASED ON LIMITING FACTOR OF 2m/s THE URRENT MAXIMUM DISCHARGE RATE DURING A 100 YEAR STORM EVENT INCLUDING 40% CLIMATE CHANGE EVENT FROM OUTFALL 1 IS 202l/s AND 194l/s FROM OUTFALL 2

POLLUTION TREATMENT: CAR PARK/HIGHWAY DRAINAGE IS DISCHARGED TO THE SURFACE WATER NETWORK VIA A PETROL INTERCEPTOR.

ALL INTERNAL CARPARK DRAINAGE IS TO BE PICKED UP IN FOUL GULLIES FOR WASHDOWN. ANY SPILLS TO BE CONTAINED AND DISPOSED OF APPROPRIATELY.

FOUL WATER DESIGN
FW PEAK FLOW RATE: 59.2l/s BASED ON TOTAL DISCHARGE UNITS AT OUTFALL PIPE FLOWS BASED ON M&E DRAWINGS Z3D-FUT-G581-PI-B1-001/Z3D-FUT-G581-PI-B1-002 DATED 12.05.23.

OUTFALL: CW SEWER WITHIN TRINITY WAY (ICOSA TO CONFIRM IF THEY WILL AGREE S106 WITH UU).

GENERAL NOTES:

1. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECTS AND ENGINEERS DRAWINGS AND SPECIFICATIONS.
2. DO NOT SCALE THIS DRAWING. ANY AMBIGUITIES, OMISSIONS AND ERRORS ON DRAWINGS SHALL BE BROUGHT TO THE ENGINEERS ATTENTION IMMEDIATELY. ALL DIMENSIONS MUST BE CHECKED / VERIFIED ON SITE.
3. ALL DIMENSIONS ARE IN METRES UNLESS NOTED OTHERWISE.
4. FOR GENERAL NOTES REFER TO DRAWING ZD-CUR-G580-PL-XX -92510.
5. FURTHER CO-ORDINATION REQUIRED BETWEEN EXTERNAL SERVICES AND THE PROPOSED DRAINAGE.

Rev:	Description:	Date:	By:	Chkd:
P11	STAGE 4 UPDATE - PERFORATED DRAINAGE ADDED TO DOG PARK	01.09.25	CS	CS
P10	STAGE 4 UPDATE - CHANNEL 20 ADDED	19.08.25	PB	PB
P09	STAGE 4 UPDATE TO PLAY AREA	27.02.25	CS	CG
P08	STAGE 4 UPDATE	14.03.24	CS	CG
P07	STAGE 4 UPDATE	29.02.24	CS	CG
P06	STAGE 4 UPDATE	30.06.23	CS	CG
P05	ISSUED FOR ICOSA S104 APPLICATION	13.06.23	CS	CG
P04	STAGE 4 UPDATE	27.01.23	CS	CG
P03	STAGE 4 ISSUE	20.01.23	CS	CG
P02	EXTENT OF FLOODING INDICATED	28.07.22	CS	CG
P01	ISSUED FOR INFORMATION	05.07.22	CS	CG

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Status: STAGE 4

Project: TRINITY ISLANDS

Drg Title: PROPOSED DRAINAGE LAYOUT SITE D

Size:	Date:	Drawn By:	Designed By:	Checked By:
A1	21/06/22	CS	CG	CG
Scale: 1:250				

Project No:	Originator:	Volume:	Level:	Type:	Role:	Category / Number:	Rev:
ZD	- CUR -	G580	- PL	- GRD	- 92500	- P11	

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