

**Centrifuge Building, River Itchen Water Treatment
Works**

Flood Risk Assessment

Prepared for

Portsmouth Water

May 2024

Job No: 23708

Revision	Amendments	Prepared By	Checked	Status	Date
1	First Issue	JLB	IJW	Planning	08/05/2024
2	Red Line Plan Added	JLB	IJW	Planning	31/05/2024

TABLE OF CONTENTS

1.0 Introduction	1
1.1 Development Background	1
1.2 Site Location	1
2.0 Potential Sources of Flooding	2
2.1 River Flooding.....	2
2.2 Surface Water Flooding	3
2.3 Groundwater Flooding	3
2.4 Flooding from Reservoirs.....	3
2.5 Flooding Records and Flood Warnings.....	4
3.0 Flood Risk Vulnerability and Flood Zone Compatibility	4
3.1 Flood Zone Vulnerability	4
3.2 Flood Zone Compatibility	4
4.0 Flood Risk Management Measures	5
5.0 Residual Risks	5
6.0 Conclusion	5

FIGURES

Figure 1: Aerial view of Site (approximate site boundary in blue, and area of works bounded in red)

Figure 2: Planning Practice Guidance, Flood risk and coastal change.

Figure 3: UK Government Indicative Flood mapping from rivers and sea

Figure 4: UK Government Indicative Map of Flood Risk from Surface Water

Figure 5: UK Government Indicative Map of Surface Water Flooding Depth

Figure 6: Extract from National Planning Policy Framework Annex 3, (March 2012)

Figure 7: Planning Practice Guidance – Flood risk and coastal change, Table 2 (August 2022)

APPENDICES

Appendix A: Site Red Line Plan

Appendix B: Layout Drawings

1.0 Introduction

1.1 Development Background

The site is located on Allington Lane, Southampton, SO30 3HQ
(National Grid Reference SU 45731, 15672).



Figure 1: Aerial view of Site (approximate site boundary in blue, and area of works bounded in red)

Planning Permission is being sought for a new building housing a centrifuge unit to an existing water treatment plant. The proposals are shown on the layout drawings included in Appendix B.

This report summarises the flood risk assessment for the site.

1.2 Site Location

The site is located within the larger River Itchen water treatment plant, operated by Portsmouth Water. The area of the proposed centrifuge is approximately 180m east of the River Itchen, and ground levels typically fall towards the river

2.0 Potential Sources of Flooding

2.1 River Flooding

Table 1 Flood Zones, from Planning Practice Guidance – Flood risk and coastal change, reproduced in Figure 2 below, defines the flood zones shown on the UK Government’s Indicative Flood Map for planning –

Flood Zone	Description
Zone 1 Low Probability	Land having a less than 0.1% annual probability of river or sea flooding. (Shown as ‘clear’ on the Flood Map for Planning – all land outside Zones 2, 3a and 3b)
Zone 2 Medium Probability	Land having between a 1% and 0.1% annual probability of river flooding; or land having between a 0.5% and 0.1% annual probability of sea flooding. (Land shown in light blue on the Flood Map)
Zone 3a High Probability	Land having a 1% or greater annual probability of river flooding; or Land having a 0.5% or greater annual probability of sea. (Land shown in dark blue on the Flood Map)
Zone 3b Functional Floodplain	Functional floodplain will normally comprise: • land having a 3.3% or greater annual probability of flooding, with any existing flood risk management infrastructure operating effectively; or • land that is designed to flood (such as a flood attenuation scheme), even if it would only flood in more extreme events (such as 0.1% annual probability of flooding).

**Figure 2: Planning Practice Guidance, Flood risk and coastal change.
Table 1 – Flood Zones (August 2022)**

The overall site, shown in figure 3, is shown to be bordering an area of high risk from fluvial flooding, which is from the River Itchen, however the area of the proposed centrifuge is within an area of no risk of flooding from fluvial sources.

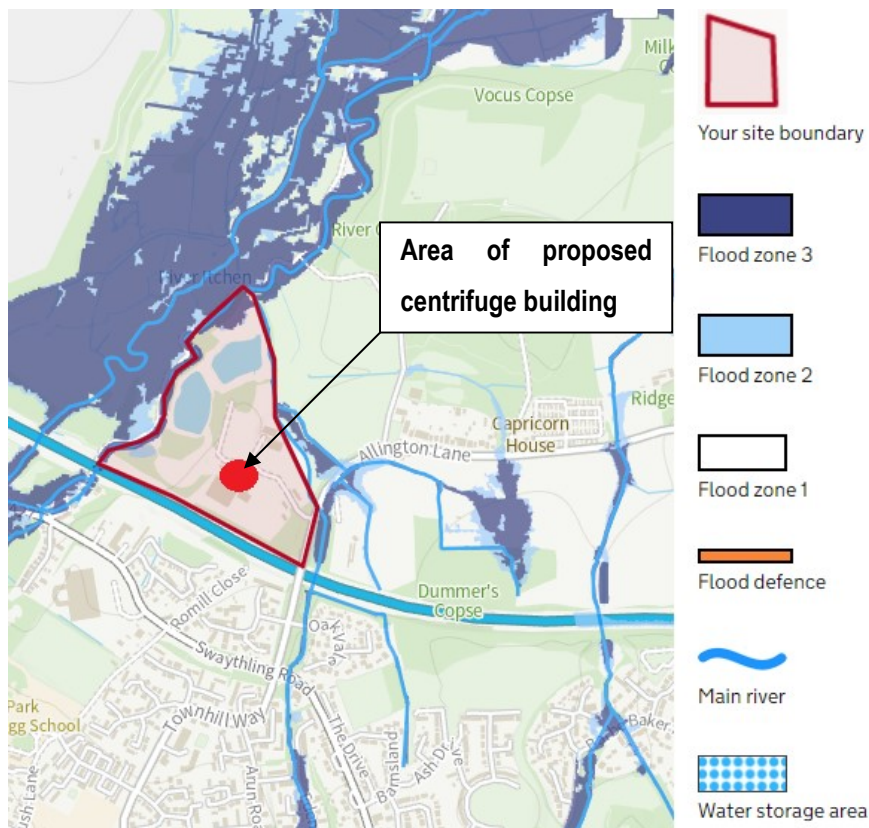


Figure 3: UK Government Indicative Flood mapping from rivers and sea

2.2 Surface Water Flooding

An extract of the UK Government's Indicative Map showing risk of flooding from surface water is shown in Figure 4. The site can be identified as being at low risk of flooding from surface water.

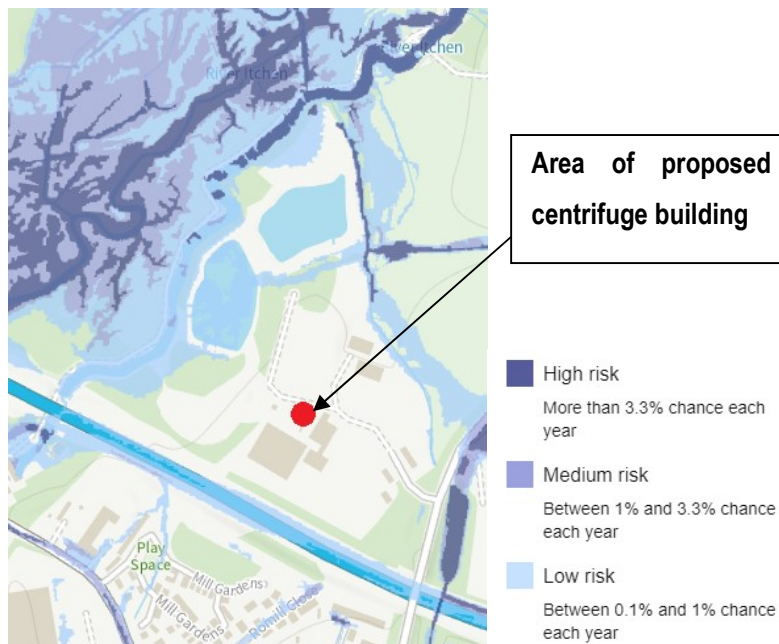


Figure 4: UK Government Indicative Map of Flood Risk from Surface Water

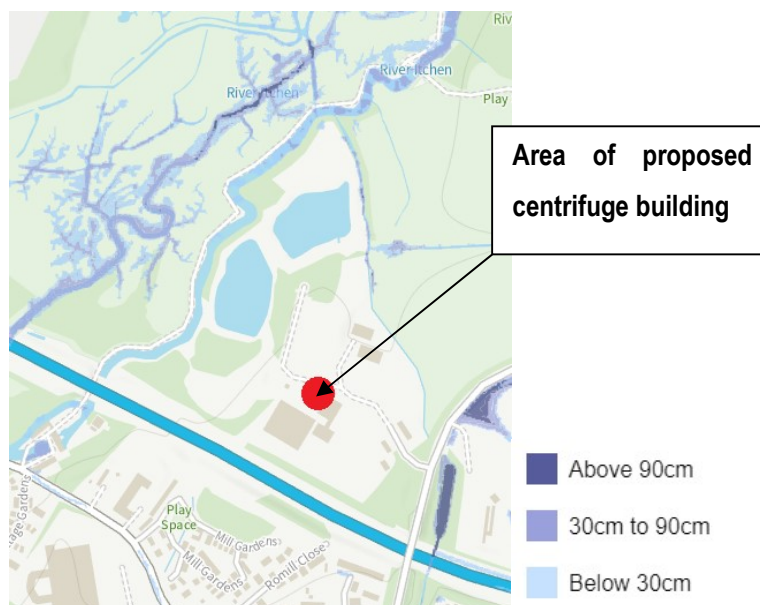


Figure 5: UK Government Indicative Map of Surface Water Flooding Depth

Figure 5 shows the depth of flooding from surface water to not to reach area where the centrifuge is proposed.

2.3 Groundwater Flooding

Using publicly available information the site is 25% to 50% susceptibility to groundwater flooding.

2.4 Flooding from Reservoirs

The site is indicated on the UK Government maps as not being at risk of flooding from reservoirs.

2.5 Flooding Records and Flood Warnings

Using publicly available information there are no records of historic flooding. The site is not within a flood warning area, however the land to the west of the River Itchen is subject to flood warnings.

3.0 Flood Risk Vulnerability and Flood Zone Compatibility

3.1 Flood Zone Vulnerability

In accordance with ‘Annex 3: Flood risk vulnerability classification’ of the National Planning Policy Framework, shown in Figure 6, the proposed development can be classed as “Less Vulnerable”

Less Vulnerable:

- Police, ambulance and fire stations which are not required to be operational during flooding.
- Buildings used for shops; financial, professional and other services; restaurants, cafes and hot food takeaways; offices; general industry, storage and distribution; non-residential institutions not included in the ‘more vulnerable’ class; and assembly and leisure.
- Land and buildings used for agriculture and forestry.
- Waste treatment (except landfill* and hazardous waste facilities).
- Minerals working and processing (except for sand and gravel working).
- Water treatment works which do not need to remain operational during times of flood.
- Sewage treatment works, if adequate measures to control pollution and manage sewage during flooding events are in place.
- Car parks.

Figure 6: Extract from National Planning Policy Framework Annex 3, (March 2012)

3.2 Flood Zone Compatibility

Table 2 (Flood risk vulnerability and flood zone ‘compatibility), from Planning Practice Guidance – Flood risk and coastal change, reproduced in figure 7, shows that ‘Less Vulnerable’ development in Flood Zone 1 (equivalent to the non-shaded areas of the UK Government Flood Map) is appropriate, without requiring the Sequential Test and Exception Test.

Flood risk Vulnerability classification		Essential infrastructure	Highly Vulnerable	More Vulnerable	Less vulnerable	Water compatible
Flood Zone	Zone 1	✓	✓	✓	✓	✓
	Zone 2	✓	Exception test required	✓	✓	✓
	Zone 3a†	Exception test required †	×	Exception test required	✓	✓
	Zone 3b*	Exception test required *	×	×	×	✓*

Figure 7: Planning Practice Guidance – Flood risk and coastal change, Table 2 (August 2022)

4.0 Flood Risk Management Measures

Existing ground levels are to be maintained, which currently directs overland surface water flows westwards away from the building towards the River Itchen.

The area of the new centrifuge building is not within a flood risk area, and therefore will not be impacted by flooding.

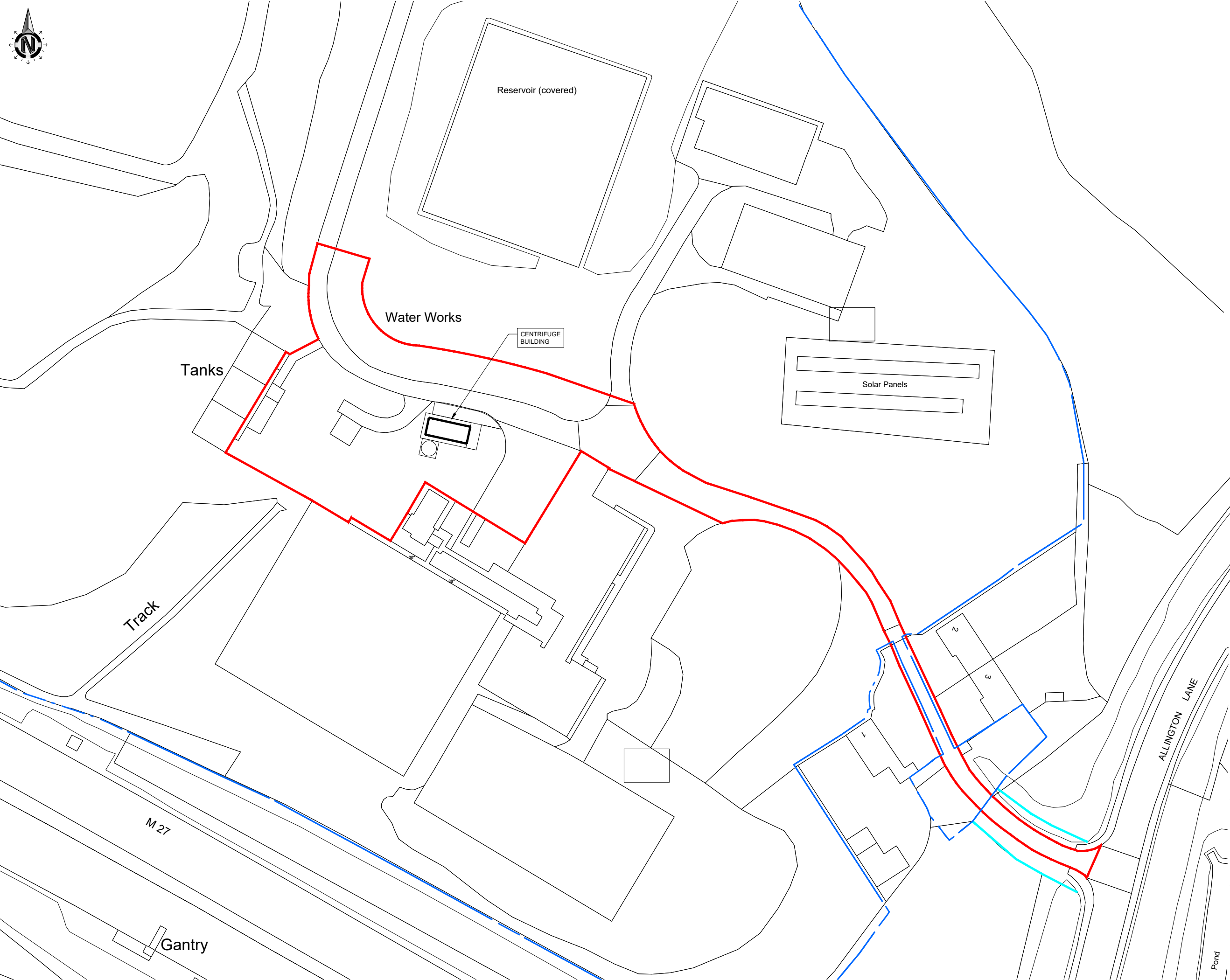
5.0 Residual Risks

There are no residual flood risks associated with the development proposals.

6.0 Conclusion

This report presents a flood risk assessment for this site. The site is next to an area identified as Flood Zone 3, however the site, and proposed centrifuge building, is within Flood Zone 1. Furthermore, there is no identified risk of surface water flooding, and groundwater flooding is minimal.

Appendix A: Site Red Line Plan



General Notes

- These drawings are to be read in conjunction with all relevant Architect's and Engineer's drawings and specifications, refer to Drg. No.00 for Structural Specification
- Except where specific dimensions are shown on these drawings, all setting out shall be in accordance with the architects drawings and specifications. Any discrepancy between these drawings and the architects drawings or the actual site dimensions should be referred to the engineer immediately and confirmed in writing. The contractor is responsible for the accuracy of all dimensions and the setting out.
- Do not scale from these drawings. If in doubt, ask.
- All dimensions are in millimetres unless noted otherwise.
- All proprietary materials to be in accordance with manufacturers specifications and to Engineer's approval.
- All proprietary CDP elements shown on the drawings should be treated as indicative and are subject to detailed design by specialist manufacturer/supplier. The contractor should make suitable allowance for third party design/detailing and potential impact on the permanent work design.

LEGEND

- DEVELOPMENT SITE
- APPLICANT OWNERSHIP
- APPLICANT RIGHT OF ACCESS (LEASED LAND)

THIS DRAWING IS FOR PLANNING PURPOSES ONLY

This drawing has been prepared for submission to fulfil planning permission requirements only.

P01	23.05.24	Preliminary Issue	UW
Rev	Date	Revision Description	Issued by

S3 - Suitable for Review

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PARTNERSHIP LTD
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Client: PORTSMOUTH WATER LTD

Project: RIVER ITCHEN WORKS - CENTRIFUGE

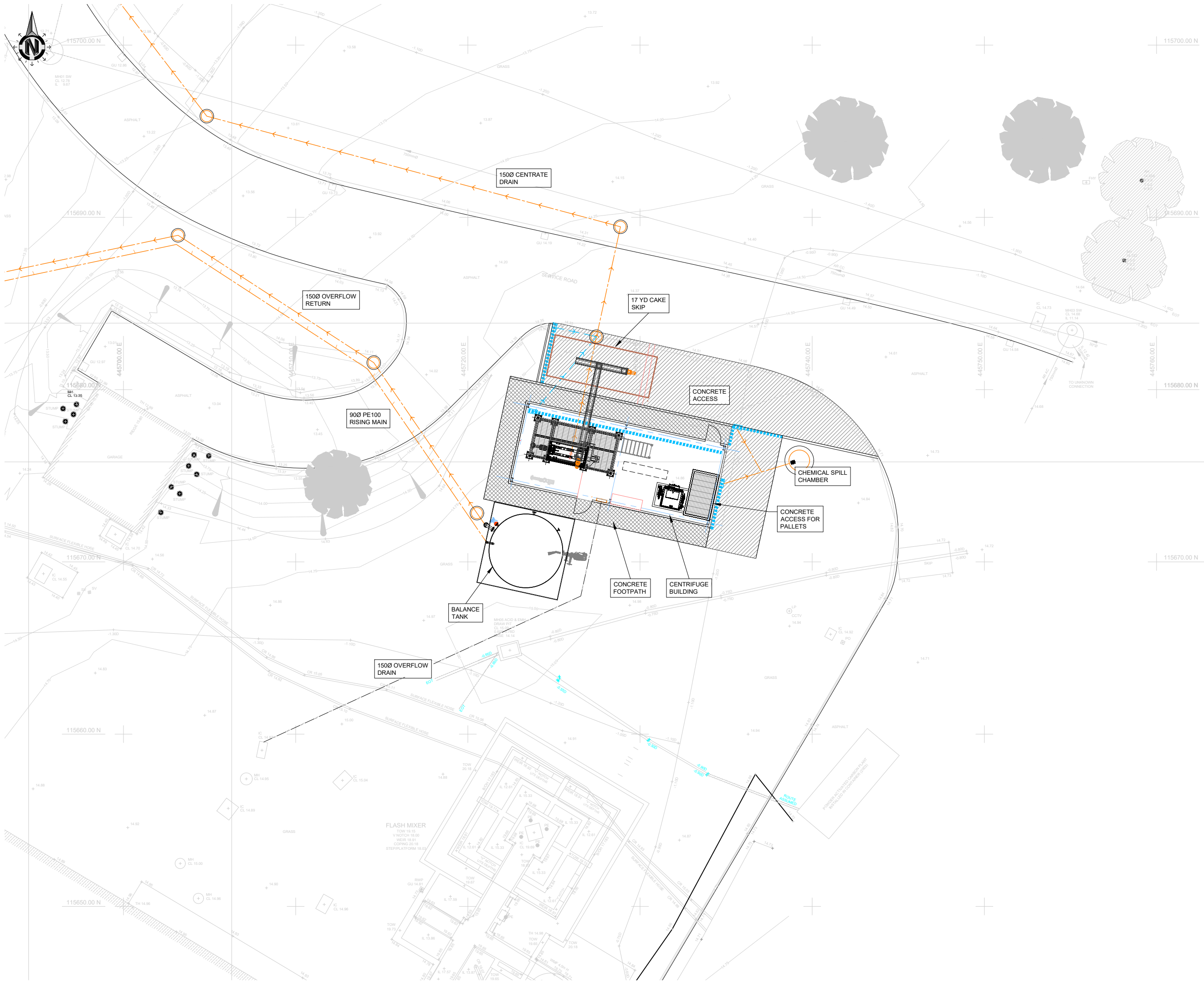
Drawing Title: CENTRIFUGE BUILDING
BLOCK PLAN

Scale: 1 : 500 @ A1 Drawn: GAP Checked:

Project-Originator-Zone-Level-Type-Role Drawing No.: 23708-GAP-XX-XX-DR-C 9051 P01

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Appendix B: Layout Drawings



- General Notes
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 2. Except where specific dimensions are shown on these drawings, all setting out shall be in accordance with the architects drawings and specifications. Any discrepancy between these drawings and the architects drawings or the actual site dimensions should be referred to the engineer immediately and confirmed in writing. The contractor is responsible for the accuracy of all dimensions and the setting out.
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P04	08.05.24	Service runs	IJW
P03	14.03.24	Building repositioned.	IJW
P02	14.02.24	Building moved back from road to suit conveyor. Additional notation.	IJW
P01	23.01.24	Preliminary issue	IJW
Rev	Date	Revision Description	Issued by

S3 - Suitable for Review

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Client: PORTSMOUTH WATER LTD
Project: RIVER ITCHEN WORKS - CENTRIFUGE
Drawing Title: CENTRIFUGE BUILDING
SITE LAYOUT
PLAN

Scale: 1 : 100 @ A1 Drawn: GAP Checked: IJW

Project-Originator-Zone-Level-Type-Role Drawing No.: Revision:

23708-GAP-XX-XX-DR-C 9001 P04