



HAMBLE POINT MARINA

Hamble-le-Rice, Southampton

FLOOD RISK ASSESSMENT & DRAINAGE STRATEGY

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Control Sheet

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1 EXECUTIVE SUMMARY

- 1.1.1 Permission is being sought for the building of a new restaurant in the southeast of Hamble Point Marina.
- 1.1.2 The site is located in Flood Zone 3 and therefore requires a Flood Risk Assessment.
- 1.1.3 According to the Flood Risk and Coastal Change Planning Practice Guidance, the restaurant would typically have a design life of 75 years, taking it to 2100. However, as reported elsewhere in the planning documents, this development will have a lifetime of 50 years, so to the year 2075. The restaurant is classed a Less Vulnerable development.
- 1.1.4 The predominate flood mechanism at the site is from the tidal River Hamble and Southampton Water. Model prediction shows the site to flood during the present day 1 in 20 year event.
- 1.1.5 Assessment of the Eastleigh Borough Council Strategic Flood Risk Assessment (SFRA) has revealed that there has been an agreement with the Environment Agency that land is not required to store tidal flood water in the Solent, which includes Hamble Point. Therefore, the site is considered to be located within Flood Zone 3a, and the development is permitted.
- 1.1.6 As the site is tidally dominated, the 1 in 200 year event has been taken as the design event. The model shows the present day flood level at the site would be 3.05mAOD, rising to 3.55mAOD by 2075 when the higher central allowance for climate change is applied in accordance with the SFRA. This would result in a depth of flooding at the location of the proposed restaurant of up to approximately 0.80m.
- 1.1.7 The risk of flooding from all other sources has been assessed as being Low or Negligible.
- 1.1.8 The site proposals show that the restaurant would be elevated by 0.83m above the existing ground levels, with resulting finished floor levels at approximately 3.58mAOD. This is sufficient to ensure the site does not flood by 2075 in the design event, albeit with only 0.03m of freeboard. Therefore, flood resilience measures are proposed at least 0.3m above the finished floor levels of the restaurant, including the use of washable floors and walls.
- 1.1.9 A Flood Emergency Plan is also proposed to maximise the safety of site occupiers but minimise potential undue burden on emergency services. This plan would prioritise the closure of the restaurant in advance of predicted flooding at the site.
- 1.1.10 A drainage strategy has been proposed, which makes use of Sustainable Drainage System (SuDS) planters located around the outskirts of the restaurant. In accordance with the SuDS Manual, the total combined surface area of the planters should be 26m².

- 1.1.11 All surface water runoff will drain into the planters, before eventually discharging into the existing surface water drainage system for the Hamble Point Marina. All foul water will also drain into the existing foul water drainage system. This arrangement is subject to detailed design.
- 1.1.12 The proposed car parking would be permeable surfaced.
- 1.1.13 This Flood Risk Assessment shows that the development will be safe for its lifetime. As such it therefore meets the requirements of the National Planning Policy Framework and Planning Practice Guidance.

2 INTRODUCTION

2.1 Background

2.1.1 Calibro has been appointed to undertake a Flood Risk Assessment (FRA) for the construction of a new restaurant in the southeast of Hamble Point Marina.

2.1.2 The National Planning Policy Framework (NPPF) requires that the planning system takes full account of flood risk. This requires that:

- Within the site, the most vulnerable development is located in areas of lowest flood risk, unless there are overriding reasons to prefer a different location;
- The development is appropriately flood resistant and resilient such that, in the event of a flood, it could be quickly brought back into use without significant refurbishment;
- It incorporates sustainable drainage systems, unless there is clear evidence that this would be inappropriate;
- Any residual risk can be safely managed;
- Safe access and escape routes are included where appropriate, as part of an agreed emergency plan.

2.1.3 Footnote 63 of the NPPF states that a site-specific FRA will be required for proposals:

- a) that are greater than 1 hectare in area within Flood Zone 1;
- b) that are located in Flood Zones 2 and 3;
- c) in an area within Flood Zone 1 which has critical drainage problems;
- d) in an area within Flood Zone 1 identified in a Strategic Flood Risk Assessment (SFRA) as being at flood risk now or in the future;
- e) in an area in Flood Zone 1 that may be subject to other sources of flooding, where its development would introduce a more vulnerable use.

2.1.4 The site falls within Flood Zone 3 and therefore, a proportionate FRA is required.

2.1.5 This assessment considers the risks of all types of flooding to the site for the lifetime of the development and assess if there would be an impact of flooding to third parties, recommending mitigation to the risks identified.

3 EXISTING SITE AND HYDROLOGY CHARACTERISTICS

3.1 Site Description

- 3.1.1 The site is located in the Hamble Point Marina, to the southeast of Hamble Point, Hamble-le-Rice, Southampton. The approximate coordinates for the site are 448622, 105738 and the closest postcode is SO31 4NB. Figure 3-1 shows the site location.

Figure 3-1 Site Location



- 3.1.2 The eastern part of the site is currently hardstanding, comprising compacted gravel, used to store boats on their trailers. The western part of the site is also hardstanding, consisting of a tarmacked access road and parking for the marina.
- 3.1.3 The area immediately surrounding the site contains a series of buildings, consisting of shops, offices and an existing restaurant called the Ketch Rigger, which is approximately 275m to the northwest of the site. Access to the site is via School Lane.

3.2 Hydrology and Topography

- 3.2.1 The nearest watercourse to the site is the tidal River Hamble, a designated Main River. This flows in a southerly direction to Southampton Water and surrounds the site to the east and south. The location of this watercourse is shown on Figure 3-1.

- 3.2.2 An underground survey of the drainage network serving the site and surrounding buildings for Hamble Point Marina has been conducted and is provided in Appendix A. This shows that the buildings immediately to the north of the site are served by foul and surface water drainage systems.
- 3.2.3 A topographic survey of the site has been conducted and has been provided in Appendix B. This has been augmented by readily available LiDAR data to establish the site topography.
- 3.2.4 As shown in Figure 3-2 and the topographic survey, the topography at the location of the proposed restaurant (in the east of the site) is relatively flat, with an average elevation of approximately 2.75mAOD. Immediately to the south of the location of the proposed restaurant, the elevations rise to a maximum elevation of 3.46mAOD in the southern corner of the site.
- 3.2.5 The elevation of the proposed parking bays immediately to the north and west of the proposed restaurant location have an elevation of between 2.86mAOD and 3.18mAOD. The existing access road and car parking spaces in the western section of the site has an elevation of approximately 3.0mAOD.
- 3.2.6 To the north of the location of the proposed restaurant, the levels drop steeply to an elevation of 2.2mAOD. The levels immediately to the east and south of the proposed restaurant sharply drop off to Hamble Spit, at an elevation of approximately -0.1mAOD.
- 3.2.7 There is a topographic high spot (an embankment) to the south of the site, which rises up to 7.9mAOD. There are also low banks which run around the edge of the Hamble Marina to the north of the site. These banks have an approximate elevation of 3.1mAOD, although they are non-continuous, with low spots 95m and 190m to the north of the site. These low spots have elevations of 2.1mAOD and 1.8mAOD respectively, and the locations of the low spots is shown in Figure 3-3.

Figure 3-2 Topography of the site

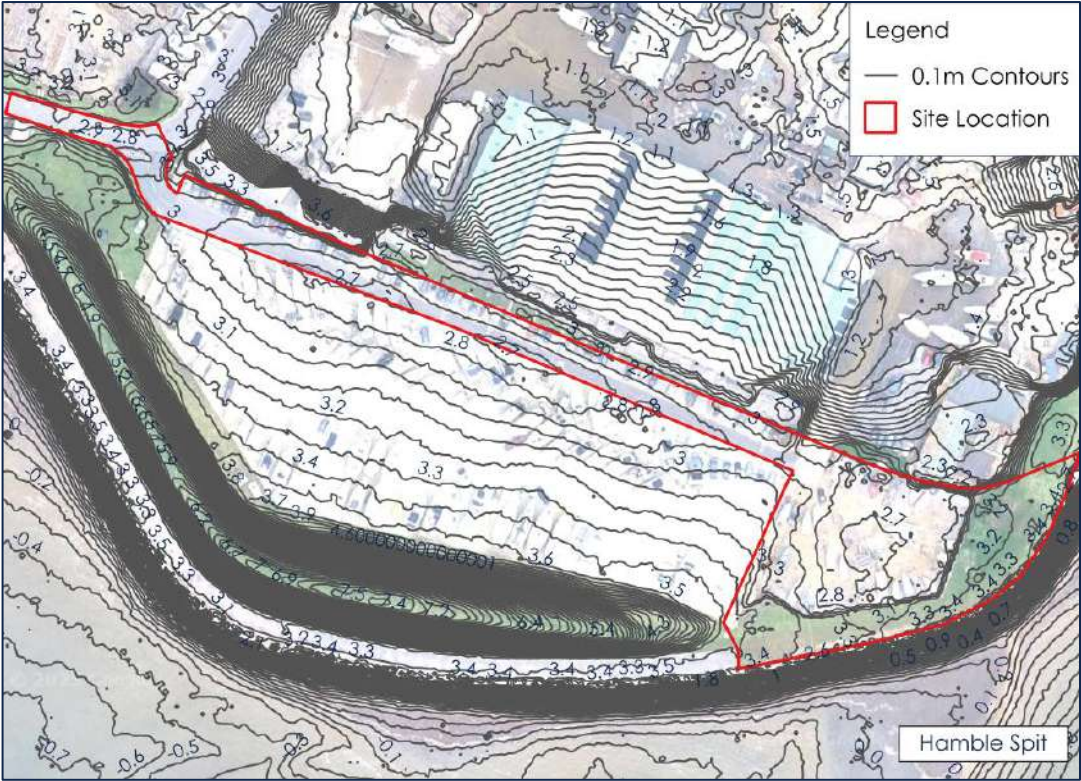
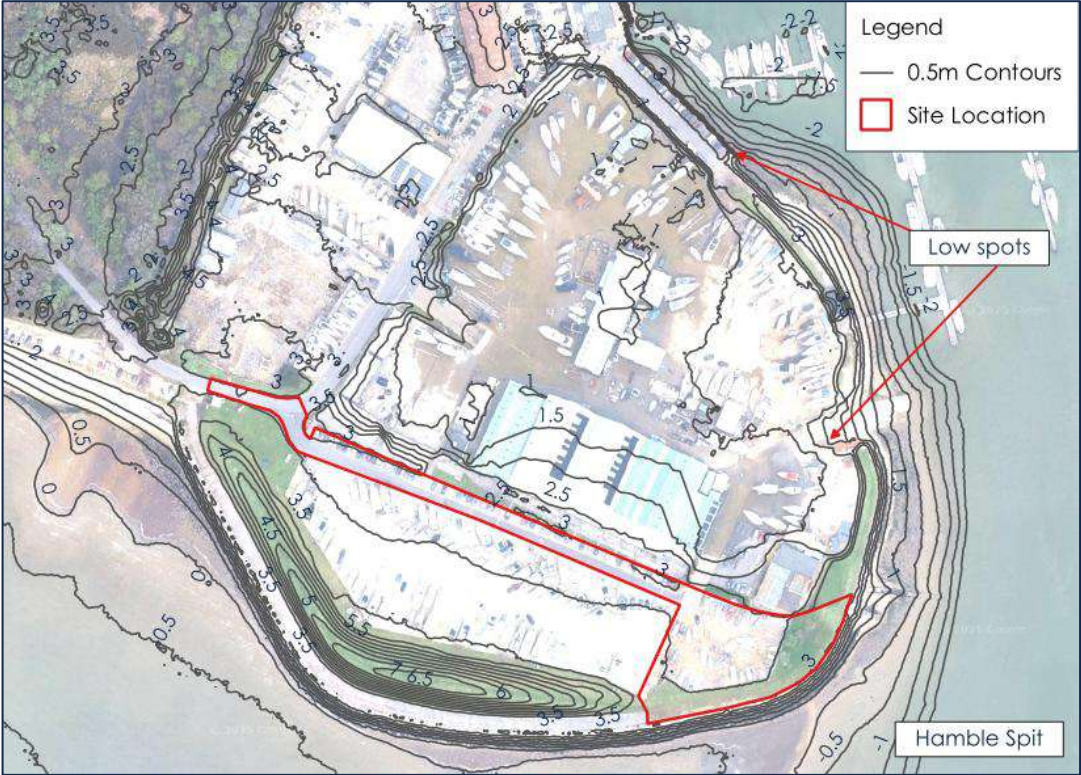


Figure 3-3 Topography of the wider marina



3.3 Geology and Soils

- 3.3.1 Geological data held by the British Geological Survey (BGS) shows the entire site and surrounding area is underlain by a bedrock geology of '*Selby Sand Formation – Sand, Silt and Clay*'.
- 3.3.2 There are two superficial deposits which underlay the site and surrounds, the first is '*Tidal Flat Deposits – Clay and Silt*' which covers the majority of the site, and '*River Terrace Deposits, 2 – Sand and Gravel*', which covers the western most portion of the site.
- 3.3.3 SoilScapes mapping records the soil type beneath the site as being '*Freely draining slightly acid loamy soils*'.
- 3.3.4 In accordance with the BGS Hydrogeology aquifer classification (625k), the western most section of the site has a classification of a '*Moderately productive aquifer*'. The rest of the site has no classification.

3.4 Recorded Flooding

- 3.4.1 The EA 'Recorded Flood Outlines' dataset records no historic flood events in the vicinity of the site.
- 3.4.2 A search of British Hydrological Society's Chronology of British Hydrological Events yielded no relevant flood records.
- 3.4.3 Although both these records show there to be no recorded flooding of the site, an internet search for '*Hamble Point Marina Flooding*' provided images of flooding from 9th April 2024, when Storm Pierrick generated strong winds which coincided with a high tide (equating to a 1 in 55 year event¹). As shown in Figure 3-4, this event caused flooding to the marina. The site itself is shown to be flood free, although it is not known when the photo was taken. If the photo was taken after high tide, flood waters would have receded.
- 3.4.4 It should be noted that a flood alert was issued prior to the event occurring, which enabled the deploying of local defence measures. If these defence measures had not been put into place, the flooding of the marina could have been more significant, although it is unknown if the flooding would have impacted the site.

¹ Marine Industry News, 3rd May 2024. Accessed September 2025 via <https://marineindustrynews.co.uk/south-coast-marinas-shock-flooding/>

Figure 3-4 Image of the flooding of Hamble Point Marina, 9th April 2024



4 PROPOSED DEVELOPMENT

4.1 Site Proposals

- 4.1.1 The proposal is to build a new restaurant (The Point) in the southeast of the Hamble Point Marina.
- 4.1.2 The proposed restaurant consists of dining areas, cooking facilities, toilet facilities, storage facilities including a fridge room and a freezer room, and an office, all located on the ground floor of the building.
- 4.1.3 It is proposed that the new restaurant will be raised above the existing ground levels.
- 4.1.4 Ten standard car parking places will be provided to the rear of the building, alongside two cycle stores, two motorcycle parking bays, three electronic vehicle parking bays and a disabled bay, with access retained from School Lane.
- 4.1.5 It has been agreed that the lifetime of the restaurant will be 50 years, taking it to 2075. The reasoning for this is described in the Planning Statement provided elsewhere in the planning documents.
- 4.1.6 Site proposals are provided in Appendix C.

4.2 Development Vulnerability

- 4.2.1 Table 2 of the Planning Practice Guidance (PPG) defines which types of development are acceptable in each flood zone and is reproduced in Table 4-1. In accordance with Annex 3 of the NPPF, the proposal is considered to be Less Vulnerable.
- 4.2.2 The Partnership for South Hampshire (PfSH) Level 1 SFRA has been split into a main report, which details the approach to flooding across the South Hampshire sub-region, and sub-reports, which cover specific borough council areas. Part 8, which covers the Eastleigh Borough Council area where the site is located has completed a more detailed assessment of the functional floodplain.
- 4.2.3 Hamble Point and the Marina, including the access road along School Lane are located within land that would ordinarily be classified as Flood Zone 3b (the functional floodplain). In accordance with Table 4-1, Less Vulnerable development is not permitted within Flood Zone 3b.
- 4.2.4 However, Section 3.2.12 of the Eastleigh Borough Council SFRA states that '*land is not needed to store tidal flood water given the proximity of the wider Solent. Therefore, a review has been undertaken in the light of these local circumstances and in agreement with the Environment Agency, certain areas will be included within the Flood Zone 3a definition and no Flood Zone 3b associated with the sea will be defined*'.

- 4.2.5 In line with the above statement, Hamble Point is one of these areas, and the site is therefore considered to be located within Flood Zone 3a. As shown by Table 4-1, Less Vulnerable developments are appropriate for Flood Zone 3a. The Sequential and Exception Test implications are discussed elsewhere in the planning documents.

Table 4-1 Flood Risk Vulnerability

Flood Zone	Flood Risk Vulnerability				
	Essential Infrastructure	Highly Vulnerable	More Vulnerable	Less Vulnerable	Water Compatible
1	✓	✓	✓	✓	✓
2	✓	Exception Test Required	✓	✓	✓
3a	Exception Test Required	✗	Exception Test Required	✓	✓
3b	Exception Test Required	✗	✗	✗	✓

5 FLOOD RISK

5.1 National Planning Policy Framework

5.1.1 In accordance with the NPPF, this FRA considers the following sources of flooding:

1. Tidal Flooding – from the sea;
2. Fluvial Flooding – from rivers and streams;
3. Surface Water Flooding – from intense rainfall events;
4. Groundwater Flooding – from elevated groundwater levels or springs;
5. Flooding from Sewers – from existing sewer systems; and
6. Artificial Sources – from reservoirs, canals etc.

5.2 Flood Zones

5.2.1 The Flood Zones are based on the assessed probability of the site flooding from rivers and the sea, ignoring the presence of flood defences. The flood zone classifications from the PPG are presented in Table 5-1 below.

Table 5-1 Flood Zone Classification

Flood Zone	Risk	Fluvial Flooding Chance	Tidal Flooding Chance
1	Low	> 1 in 1,000 year	
2	Medium	Between 1 in 100 and 1 in 1,000 year	Between 1 in 200 and 1 in 1,000 year
3	High	Up to 1 in 100 year	Up to 1 in 200 year
3b	Functional Floodplain	Land where water has to flow or be stored in times of flood. This is defined in the relevant SFRA.	

5.2.2 The 2025 iteration of the Environment Agency (EA) Flood Map for Planning defines the site as falling entirely within Flood Zone 3, meaning the site is at High risk of fluvial or tidal flooding.

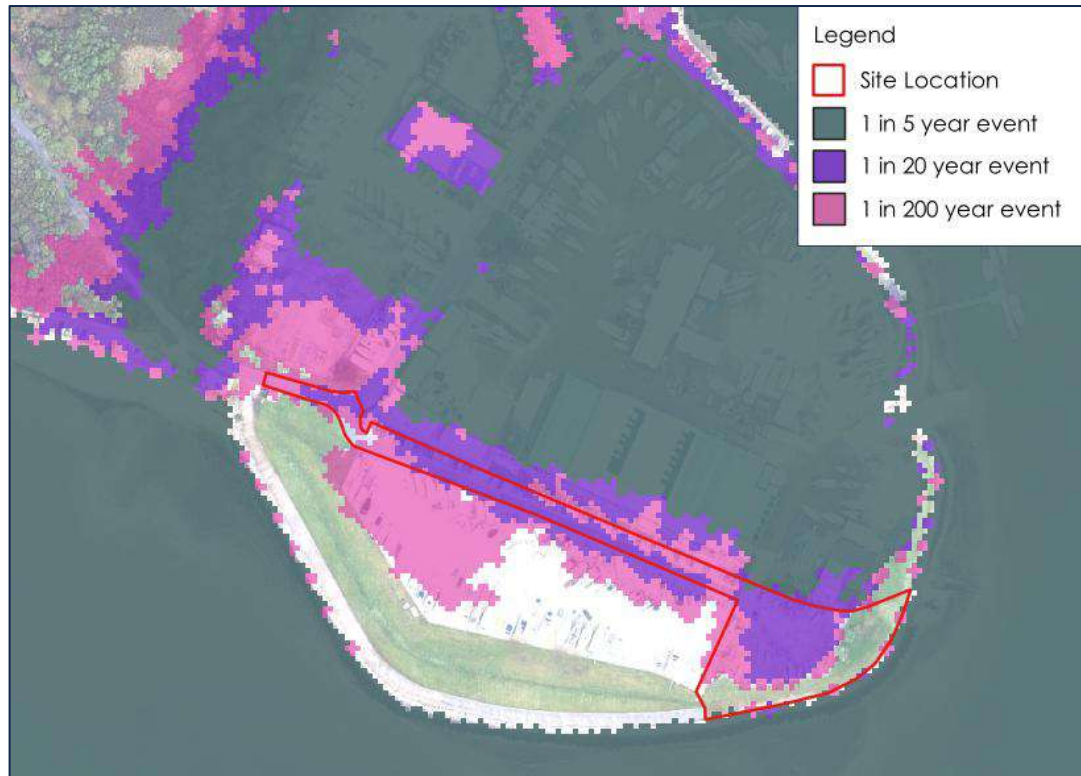
Figure 5-1 Flood Map for Planning



5.3 Fluvial and Tidal Flooding

- 5.3.1 The Southampton Water coastal modelling hydraulic model was developed in 2012 by JBA Consulting and has been used to further assess the flood risk to the site. Assessment of the model shows the flood mechanisms at the site are tidally dominated and as such fluvial flooding is not considered by this assessment.
- 5.3.2 In accordance with the PPG, the design event would be the 1 in 200 year event with a reasonable allowance for climate change. Given the location of the proposed restaurant, an assessment of lower magnitude events has also been undertaken.
- 5.3.3 The model shows that for the present day (2012), the site is flood free in the 1 in 5 year event. It becomes flooded in the 1 in 20 year event and higher events, including the design event, as shown in Figure 5-2.
- 5.3.4 As discussed in Section 3.4, a flood event impacted Hamble Point Marina, equating to a 1 in 55 year event¹. The photos from this event do not show the site to be impacted, whereas the model shows an impact at the site from the 1 in 20 year event. The difference between the two is likely due to temporary defences being put into place before the April 2024 event, which are not present in the model. Therefore, the model represents a conservative approach.

Figure 5-2 Modelled Flood Extents from the Southampton Water model



- 5.3.5 When the Southampton Water model was developed in 2012, it used the UKCP09 allowances to calculate climate change. This has since been superseded by the release of the UKCP18 climate change allowances, which offers more up to date projections. Therefore, the 2012 model results with climate change applied should not be used to assess the flood risk to the site, as they do not reflect the latest sea level rise estimates.
- 5.3.6 An estimation of the expected sea level rise has subsequently been carried out for the site using the latest estimations for the southwest region (in accordance with the Environment Agency's Flood Risk Assessments: Climate Change Guidance). The anticipated development lifetime of the site is 50 years, taking it to 2075. An estimation of the sea level rise to 2075 has been calculated for the site using both the higher central and the upper end allowances, in accordance with the PfSH SFRA.
- 5.3.7 The predicted flood level for the site for the design event in 2075 for the higher central allowance is given in Table 5-2, and is estimated to be 3.55mAOD. This rises to a level of 3.70mAOD when the upper end allowance is applied.
- 5.3.8 As discussed in paragraph 3.2.3, the location of the proposed restaurant currently has an elevation of approximately 2.75mAOD. Therefore, in 2075, the design event flood depths across the site would be approximately 0.80m deep when the higher central allowance is applied, rising to 0.95m deep for the upper end allowance.

- 5.3.9 An estimation of sea level rise has also been carried out for the 1 in 20 year event, as well as the higher central and upper end allowances, which is shown in Table 5-2.
- 5.3.10 For the 1 in 20 year event, flood depths by 2075 at the restaurant are predicted to reach 0.59m when the higher central allowance is applied and an average elevation of 2.75mAOD is used. With the upper end allowance for climate change applied, this rises to 0.74m of flooding.
- 5.3.11 As discussed in paragraph 3.2.7, there are low banks which surround the marina. The presence of these banks has a minimal impact on the flood levels predicted in the marina, with the hydraulic model showing a similar level within in the marina and Southampton Water in both the 1 in 20 year and 1 in 200 year events.

Table 5-2 Flood levels at the site (levels taken from the Southampton Water model)

Flood Event	Water Level (mAOD)		
	Present Day (2012)	To 2075 (higher central allowance)	To 2075 (upper end allowance)
1 in 20 year	2.84	3.34	3.49
1 in 200 year	3.05	3.55	3.70

- 5.3.12 Due to the above analysis, the site is considered to be at a **High** risk of flooding from tidal sources.
- 5.3.13 The mitigation considerations, including maximising the safety of the site occupiers, is provided in Section 6.

5.4 Residual Risk

- 5.4.1 An important part of managing flood risk is the potential residual risk posed should the flood defences fail through a breach or similar.
- 5.4.2 There are no known flood defences at or near to the site, and, as stated above, the low lying banks which surround the site offer little protection from flooding.
- 5.4.3 A review of the undefended design event for the Southampton Water model for the present day (2012) gives a level of 3.05mAOD, the same as the defended 200 year present day level.
- 5.4.4 It is therefore concluded the residual flood risk at the site is no greater than the risk of flooding from a tidal event.

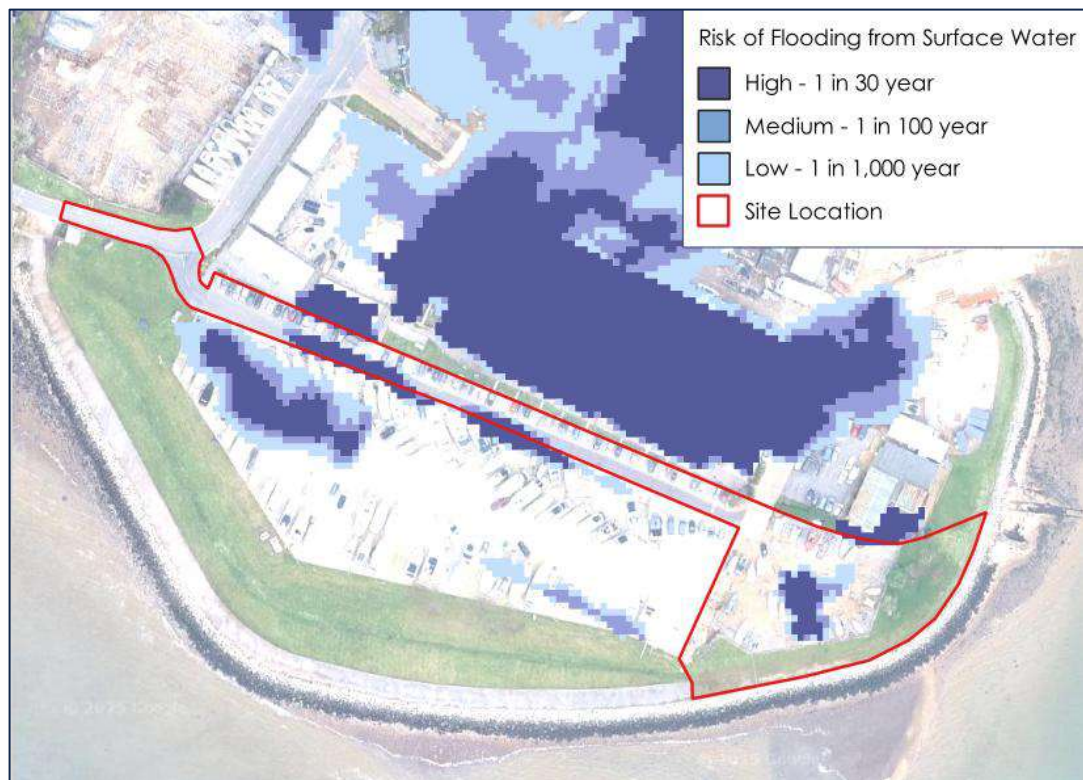
5.5 Surface Water Flooding

- 5.5.1 The 2025 iteration of the Risk of Flooding from Surface Water (RoFSW) mapping indicates areas where water would tend to flow and accumulate during extreme rainfall events. The mapping is derived by simulating the 1 in 30, 1 in 100 and 1 in

1,000 year rainfall events to define areas at high, medium and low risk of surface water flooding respectively, and includes an uplift to account for climate change.

- 5.5.2 The mapping is derived by the simulation of the above rainfall events over a digital terrain model (DTM). The DTM is defined on a 2m square grid and as a result, local topographic features are often poorly defined.
- 5.5.3 The RoFSW mapping (including an uplift for climate change) predicts that the site is at High risk of flooding from surface water, as shown in Figure 5-3. In addition, there are two areas of High risk of surface water flooding immediately to the north of the site.

Figure 5-3 RoFSW with Climate Change Extents



- 5.5.4 The RoFSW dataset also indicates the predicted flood depths which would occur during the extreme rainfall events. The flood risk is categorised into depth bands including 0.2m, 0.3m, 0.6m, 0.9m and 1.2m. It should be noted that depths below 0.075m are removed from the dataset as most land is covered by some water as rain falls across the area in surface water flood modelling.
- 5.5.5 The dataset indicates the risk of surface water flooding present across the eastern portion of the site is not included in the shallowest depth band, the 0.2m depth band, as shown in Figure 5-4. Therefore, the surface water flooding predicted to impact the site in all three rainfall events has depths of between 0.075m and 0.2m.

Figure 5-4 RoFSW with Climate Change Extents 0.2 Depth Band



- 5.5.6 In the west of the site, there is topographic low spot which is showing to still be at High risk of flooding for the 0.2m depth band. This is not present in the 0.3m depth band, indicating this surface water flooding is between 0.2m and 0.3m deep.
- 5.5.7 The area of High risk flooding in the western portion of the site immediately to the north of the site is also not present in the 0.3m depth band, and therefore this surface water flooding is also between 0.2m and 0.3m deep.
- 5.5.8 The area in the eastern portion of the site which has been classified as having a High risk of surface water flooding immediately to the north is at least 0.5m lower than the average elevation of the site. The 0.6m depth band shows there is no flooding at this location in any of the mapped rainfall events, indicating these depths are under 0.6m and therefore do not pose a risk of flooding to the site.
- 5.5.9 As a result of the above, the risk of flooding to the site is assessed as being **Low**.

5.6 Groundwater Flooding

- 5.6.1 The PfSH SFRA and its accompanying online Data Explorer contains an Areas Susceptable to Groundwater Flooding Map. This map shows the proportion of 1km squares where geological and hydrogeological conditions show that groundwater might emerge. The site is located wholly within a 1km square which has been assigned a 25% chance of being susceptible to groundwater flooding.

- 5.6.2 There are no borehole records which provide information on water levels below the ground levels at the site or in the vicinity of it.
- 5.6.3 As stated in paragraph 3.3.1, the majority of the site is listed as having no aquifer classification, and the proposals for the site show the site will be locally elevated above ground levels, with no basement or similar are proposed.
- 5.6.4 It is possible that the groundwater is in hydraulic continuity with the tide. However, it is very unlikely that the levels of elevated groundwater would exceed that of tidal flooding. The risk of flooding from groundwater is therefore considered to be **Low**.

5.7 Flooding from Sewers

- 5.7.1 In the event of sewer flooding occurring upstream of the site, water would behave in a similar manner to the surface water flood mapping shown above. The extent of surface water flooding on the site itself, shown in the RoFSW mapping (Figure 5-3), is from water falling on the site rather than flowing from elsewhere. There are no known sewers on the site to generate flooding.
- 5.7.2 The risk of sewer flooding is therefore considered to be **Negligible**.

5.8 Flooding from Artificial Sources

- 5.8.1 The EA's 'Reservoir Flood Extents – Wet Day' national dataset does not predict flooding in the vicinity of the site. No other artificial sources of flood risk have been identified in the vicinity of the site.
- 5.8.2 The risk of flooding from artificial sources is concluded to be **Negligible**.

6 FLOOD RISK MITIGATION

- 6.1.1 This section of the FRA describes the mitigation required to promote the safety of the occupiers of the site for the lifetime of the development.
- 6.1.2 The site is deemed at being at High risk of flooding from tidal sources, both for the present day and in the future due to the impacts of climate change commensurate with the lifetime of the non-residential development. It is therefore important for the site to include proportionate mitigation measures to manage the potential risk of flooding.
- 6.1.3 Section 7 of the PfSH Eastleigh specific SFRA sets out the recommendation for developing sites within Flood Zone 3. Section 7.3 recommends that [sic] *'all developments within Flood Zone 3 should, in areas of tidal flooding, finished floor levels (FFL) should be raised above the design level, including an appropriate allowance for climate change and freeboard. For Less Vulnerable developments, the higher central allowance should be applied'*.
- 6.1.4 Therefore, in line with paragraph 5.3.8 of this report, the FFL of the site should be raised at least 0.80m above the existing ground elevations, which is the predicted depth of flooding for the design 1 in 200 year event when the higher central allowance for climate change is applied.
- 6.1.5 At present, the proposals are showing the restaurant is to be raised approximately 0.83m above the existing ground levels. This creates a FFL of approximately 3.58mAOD across the site. This is just sufficient to keep the site flood free for 1 in 200 year event, including a higher central allowance for climate change, with no additional mitigation required.
- 6.1.6 The restaurant has a freeboard of 0.03m in the design event including a higher central allowance for climate change. It is therefore recommended that flood resilience measures are incorporated into the design. These measures are subject to detailed design but could include:
- Raising water sensitive services such as electric sockets to be at least 0.3m above the FFL, subject to the Equalities Act design requirements, or otherwise protecting them against flooding to this level;
 - The use of waterproof walls, again up to a level of at least 0.3m above the FFL and flooring finishes which can be washed and cleaned thoroughly following a flood event;
 - Non-return valves on foul and surface water pipes;
 - Flood resistant insulation; and
 - Resin-bonded, or similar, units and cabinets.

- 6.1.7 The proposals include a car park serving the restaurant to be located to the northwest of the site, on the existing gravelled area. Paragraph 3.2.5 states this area has an elevation of between 2.86mAOD and 3.18mAOD. In line with the conclusions in paragraph 5.3, flood depths of up to 0.19m would occur in the 1 in 200 year present day event, which is just under the flood depths which would float a car.
- 6.1.8 By 2075, if the car park is kept at the existing levels, there would be flood depths of between 0.16m – 0.37m in the 1 in 20 year event, and 0.48m – 0.69m in the 1 in 200 year event (when the higher central allowance is applied). At the time of writing of this FRA, it is unknown if the car park will be raised above the existing ground levels (similar to the approach taken at the restaurant).
- 6.1.9 Furthermore, to maximise the safety of the site occupiers but minimise the potential undue burden on the emergency services, it is recommended that a Flood Emergency Plan (FEP) is developed for the site and the occupiers.

6.1 Flood Emergency Plan

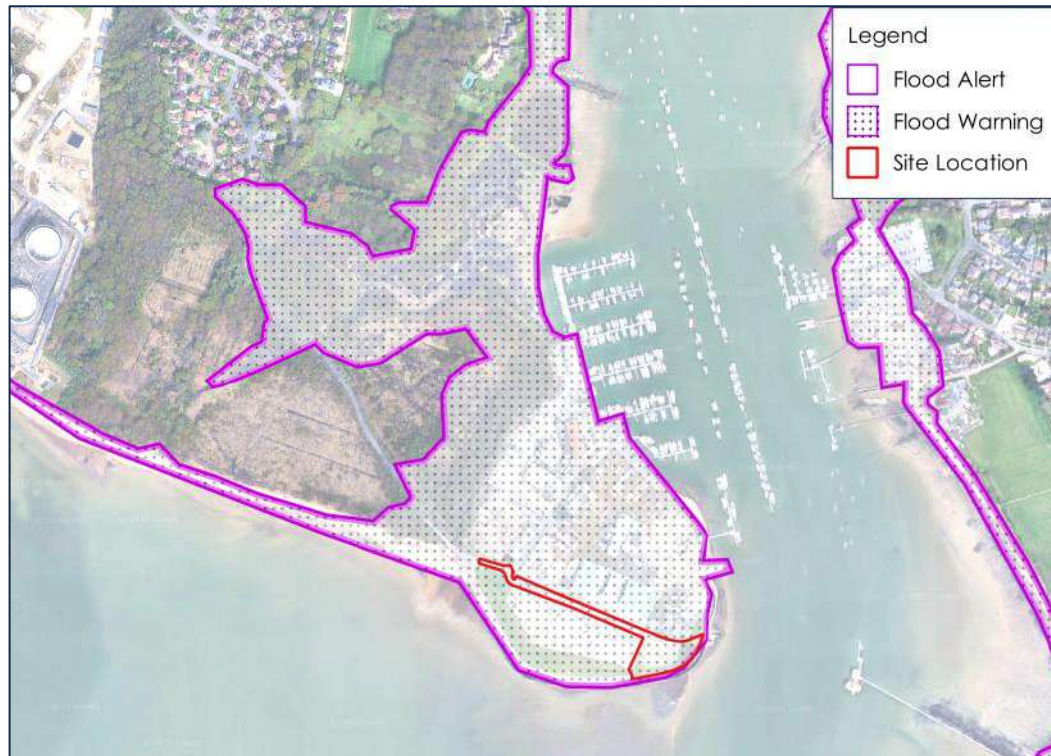
- 6.1.1 An outline FEP is presented in this assessment which has been produced in accordance with the PPG and best practice guidance such as the APEDT and the EA Flood Risk Emergency Plans for New Developers document. Its core ethos will be to maximise the safety of the occupiers without placing undue burden on the emergency services.
- 6.1.2 The FEP should form part of the building management company health and safety documentation. It is recognised that the FEP may need to change over time to reflect the flood predictions at that time and ensure it remains relevant for the entire lifetime of the development.
- 6.1.3 Although the site remains flood free for the development lifetime of 50 years, there is only 0.03m of freeboard provided, and the surrounding car park would be flooded, preventing occupants of the site from leaving. The FEP would be based on a policy which shuts down the restaurant for the duration of the flood event, with no one remaining in the building or vicinity (e.g. the car park).
- 6.1.4 Given the above, it is extremely unlikely that emergency escape would be required during flood conditions.

6.2 Flood Warnings and Floodline Register

- 6.2.1 Floodline Warnings is a free service provided by the Environment Agency that provides flood warnings direct by phone, email or text message.
- 6.2.2 The site is located within the Environment Agency Flood Warning and Alert areas for the Hamble Estuary, as shown in Figure 6-1. It is therefore recommended the restaurant appoint an FEP Manager, and they contact the Environment Agency on 0345 988 1188 and signs up to the flood warning service. The FEP Manager or

Deputies will be responsible for cascading the messages to staff and visitors within the restaurant.

Figure 6-1 Flood Alert and Warning Areas



6.2.3 If flooding is forecast, alerts are provided direct to the user. The three levels of warning are summarised below:

- Flood Alert: Flooding is possible. Be prepared.
- Flood Warning: Flooding is expected. Immediate action required.
- Severe Flood Warning: Severe flooding. Danger to life.

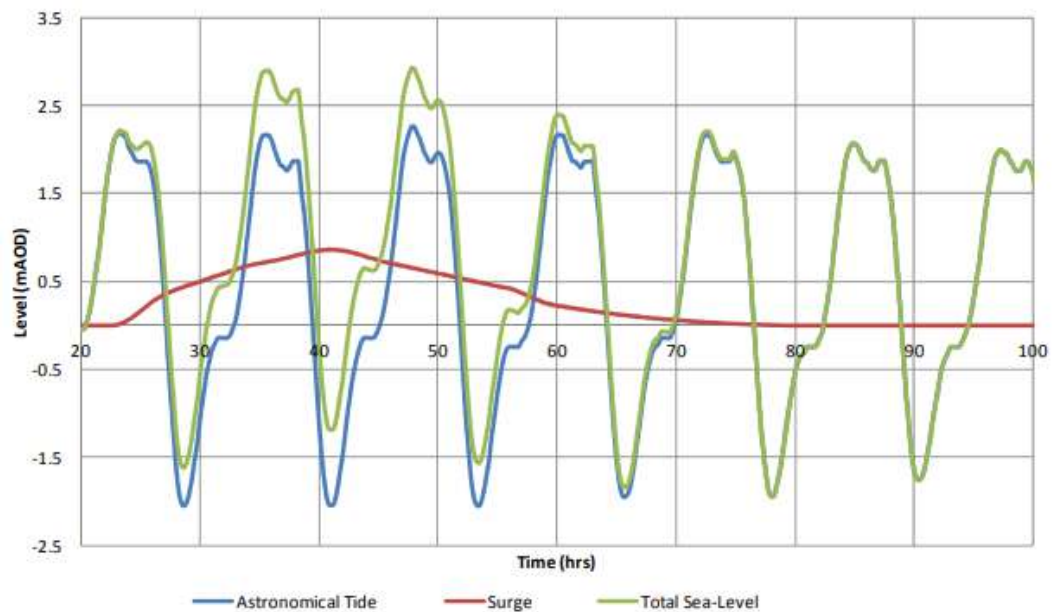
6.3 Estimated Flood Warning and Duration Time

6.3.1 Environment Agency flood warnings are typically issued at least six hours ahead of a likely event. However, given the severe weather circumstances required to generate a flood event, there would likely be additional warning of impending flooding problems through local news and social media channels days in advance of the event.

6.3.2 Nonetheless, it is recommended that occupiers of the site 'follow' Eastleigh Borough Council, Hampshire County Council, the Met Office and the Environment Agency social media accounts to stay alert to any weather or flood warnings.

- 6.3.3 The duration of the flood event has been estimated based on the peak of the design event tidal curve. This has been extracted from the Southampton Water coastal modelling study final inception report and is shown below in Figure 6-2.
- 6.3.4 The peak of the event is approximately 45 hours, with water levels reaching a level where there would be flooding present for approximately one hour either side of the peak of the event in the present day.
- 6.3.5 Therefore, the duration of flooding at the site has been estimated to be approximately two hours.

Figure 6-2 1 in 200 year design tidal graph for the mouth of Southampton Water



6.4 Command and Control

- 6.4.1 The restaurant would be managed and maintained by a management company. This organisation would provide an overseeing role during a flood warning by assigning a FEP Manager with Deputies in case of manager absence.
- 6.4.2 The FEP Manager or Deputies will receive and disseminate flood warnings and information, as required. Such information would be received from various sources, including social media feeds, the Environment Agency Floodline register or Met Office alerts.
- 6.4.3 The following actions are likely to be followed:
- On receipt of an Environment Agency Flood Alert: The FEP Manager to be prepared for a potential flood event, understanding the likely cause, time, durations (if known) and remain up-to-date with weather forecasts, and look

out for further messages. The restaurant should prepare to close if the alert escalates, and all staff and visitors prepare to leave the premises.

- On receipt of an Environment Agency Flood Warning: The restaurant should prepare to close, with all staff and visitors prepare to leave the premises.
- On receipt of an Environment Agency Severe Flood Warning: The restaurant is to close and send all on site staff and visitors home, and/or prevent the entry to the site of staff and visitors. Await confirmation from Eastleigh Borough Council, the Environment Agency or the emergency services that the warning is no longer in force to return to the site.

6.4.4 In addition to Environment Agency Flood Warnings, the above actions could also be triggered by appropriate messages or instructions from the Emergency Services or Eastleigh Borough Council. For example, if a breach in the defences is identified, safe evacuation may be organised.

6.5 Safe Evacuation Procedures and Routes

6.5.1 Given the procedures laid out in this FEP, particularly the closing down of the restaurant in times of flood, it is extremely unlikely that evacuation would be required.

6.5.2 If evacuation were required, this should be undertaken in advance of the flood event where possible. There is one evacuation route to high ground in Flood Zone 1. It should be noted that there is some high ground in Flood Zone 1 to the west of the site, but this would leave occupiers of the site stranded.

6.5.3 The route which should be followed by the site occupiers is approximately 390m. Occupiers should follow the access track which runs around the marina to the west of the site, and continue onto School Lane, which provides access to the whole marina.

6.5.4 It should be noted that there are areas of flooding along School Lane, which provides the access to and from the site. The first area is 375m from the western extent of the site and is due to the removal of a watercourse crossing structure from the model. Inspection of LiDAR data shows the deck level of the crossing is comfortably above the future 1 in 200 year flood level, meaning it would be unaffected by flooding in the design event.

6.5.5 The second area of flooding, which is approximately 550m from the western extent of the site, is due to a topographic low spot. At this location, the LiDAR shows the ground levels to be approximately 2.8mAOD, and the 1 in 200 year present day water levels to be 3.08mAOD. This results in a depth of flooding in the present day of 0.33m, which would rise to 0.84m depth by 2075.

6.5.6 It is therefore important that occupiers of the site fully evacuate along School Lane and into Hamble-le-Rice in ahead of a severe flood warning.

- 6.5.7 The routes, shown in Figure 6-3 are adopted highways with dedicated footways adequate for all mobility needs. The FEP Manager may wish to nominate a dedicated evacuation muster point.

Figure 6-3 Evacuation Route



6.6 Reoccupation and Wider Building Issues

- 6.6.1 In the event that evacuation is required, issues such as reoccupation following a flood, such as post-flood safety inspections, would be co-ordinated by the FEP Manager. The FEP Manager and Deputies would lead on the recovery plan and coordinate with the staff of the restaurant and the authorities as appropriate before confirming when it would be safe to reoccupy the building.

6.7 Training and Exercising

- 6.7.1 This FEP could form part of the wider Health and Safety register for the building management, which would document the FEP Manager and Deputies and when they were trained or refreshed on its contents.

6.8 Document Control

- 6.8.1 This FEP will be revised at least every three years or following a flood event to reflect learning from the event.

- 6.8.2 When revised, the FEP should review the latest available information such as the SFRA. In particular, the latest available flood maps should be used to ensure the FEP keeps pace with climate change and sea level rise. It is possible that the actions and recommendations of the FEP change over time.
- 6.8.3 The FEP summary should be made available to all site users and posted in an appropriate place in the building. It should be updated at least every three years, following activation of the FEP or following a drill, where required improvements have been identified. If more detailed or fundamental updates are required, then this report should also be updated.

7 IMPACT ON DRAINAGE

- 7.1.1 The proposals are for the development of a new restaurant being built on an area which is currently gravelled. This therefore changes the impermeable footprint of the site, which would have an impact on the drainage.
- 7.1.2 It is understood that all surface water runoff will drain into the existing storm water drainage system, and foul water will be picked up by the existing sewage system at Hamble Point Marina. As stated in paragraph 3.2.2, there are both foul and surface water sewers to the north of the site, but at the time of writing of this FRA, the location of the connection point for the development has not been agreed with Southern Water. The location of the connection points to the sewer system for both surface water and foul drainage is therefore subject to detailed design.
- 7.1.3 In order for the site to achieve a betterment in terms of runoff generated, it is proposed that the existing roof area would drain to raised bed Sustainable Drainage Systems (SuDS) planters.
- 7.1.4 According to the CIRIA SuDS Manual, typically the surface area of bioretention areas such as SuDS planters should be 2% – 4% of the roof area it is draining. The site roof measures a total of approximately 642m² and therefore the total combined surface area of the planters should be 26m² (4% of the total area).
- 7.1.5 The SuDS planters are proposed to discharge into the existing surface water drainage system, albeit at much reduced rates.
- 7.1.6 The proposed planters would be a betterment compared to the existing drainage situation of the barn and therefore align strongly with the core aims of the NPPF.
- 7.1.7 A series of plants which are 2m long and 0.6m wide could be placed around the restaurant, particularly on the southern side which looks out across Hamble Spit. Each planter would provide a surface area of 1.2m², requiring 22 planters to be placed around the restaurant at suitable locations. However, the specific distribution and location of the SuDS planters is subject to detailed design considerations. For example, they will need to be located so as to not impede access.
- 7.1.8 A car parking area is to be built immediately to the north and west of the proposed restaurant location. The car park should comprise of either the existing gravel material which is currently at the location of the proposed car park or should be built using permeable paving. This will remove the need to mitigate any car park drainage.

7.2 Design for Exceedance

- 7.2.1 The proposed planters would provide more storage and would result in betterment even in exceedance events when compared to the existing site. In the unlikely event the capacity of the SuDS planters were exceeded, water would gradually flow onto surrounding areas where it would drain into the existing surface water system.

7.3 Water Quality

- 7.3.1 The SuDS Manual (CIRIA C753) states that the design of surface water drainage should consider minimising contaminants in surface water runoff discharged from the site. The level of treatment required depends on the proposed land use, according to the pollution hazard indices. To provide adequate treatment, the SuDS mitigation indices for the development must be equal to, or exceed, the pollution hazard indices.
- 7.3.2 Surface water runoff from 'other roofs (typically commercial / industrial)' are considered by Table 26.2 of the SuDS Manual to present a Low hazard to water quality (see Table 7-1).
- 7.3.3 Table 26.4 of the SuDS Manual provides SuDS mitigation indices for various SuDS methods discharging to the ground, as summarised in Table 7-1. This shows that the bioretention system (SuDS planters) will provide sufficient mitigation of the likely pollutants expected alone.

Table 7-1 Water Quality Indices (as per C753 The SuDS Manual)

		Pollution Hazard Level	Total suspended solids	Metals	Hydro-carbons
Land Use	Other roofs (typically commercial / industrial roofs)	Low	0.3	0.2 (up to 0.8 where there is potential for metals to leach from the roof)	0.05
SuDS Mitigation Indices	Bioretention system	-	0.8	0.8	0.8

7.4 Operation and Maintenance

- 7.4.1 Maintenance of the proposed drainage infrastructure is essential for their operation. The maintenance responsibility will lie with the site owner. The proposed maintenance activities outlined below in Table 7-2 has been sourced from the CIRIA SuDS Manual.

Table 7-2 Planter Maintenance

Maintenance Schedule	Required Action	Typical Frequency
Regular maintenance	Inspect surface for silting or ponding, assess outflow and overflow for evidence of blockage	Quarterly

Maintenance Schedule	Required Action	Typical Frequency
	Assess plants for disease infection, poor growth, invasive species etc. and replace as needed	Quarterly
Occasional maintenance	Remove litter, surface debris and weeds	Quarterly/as required
	Replace plants to maintain density	Quarterly/as required
Remedial actions	Seek advice as to remediation techniques suitable for the type of performance issue and location.	As required if above does not improve performance
	Replace damaged or clogged media or geotextiles	As required
	Repair or improve erosion controls if required	As required
Monitoring	Initial inspection should be provided as post construction survey.	Immediately after construction
	Inspect for evidence of poor operation via water level and if required, take remedial action	3 monthly, 48 hours after large storms in first 6 months
	Inspect silt/debris accumulation rates and establish appropriate sediment/debris removal frequencies	Annually

8 SUMMARY

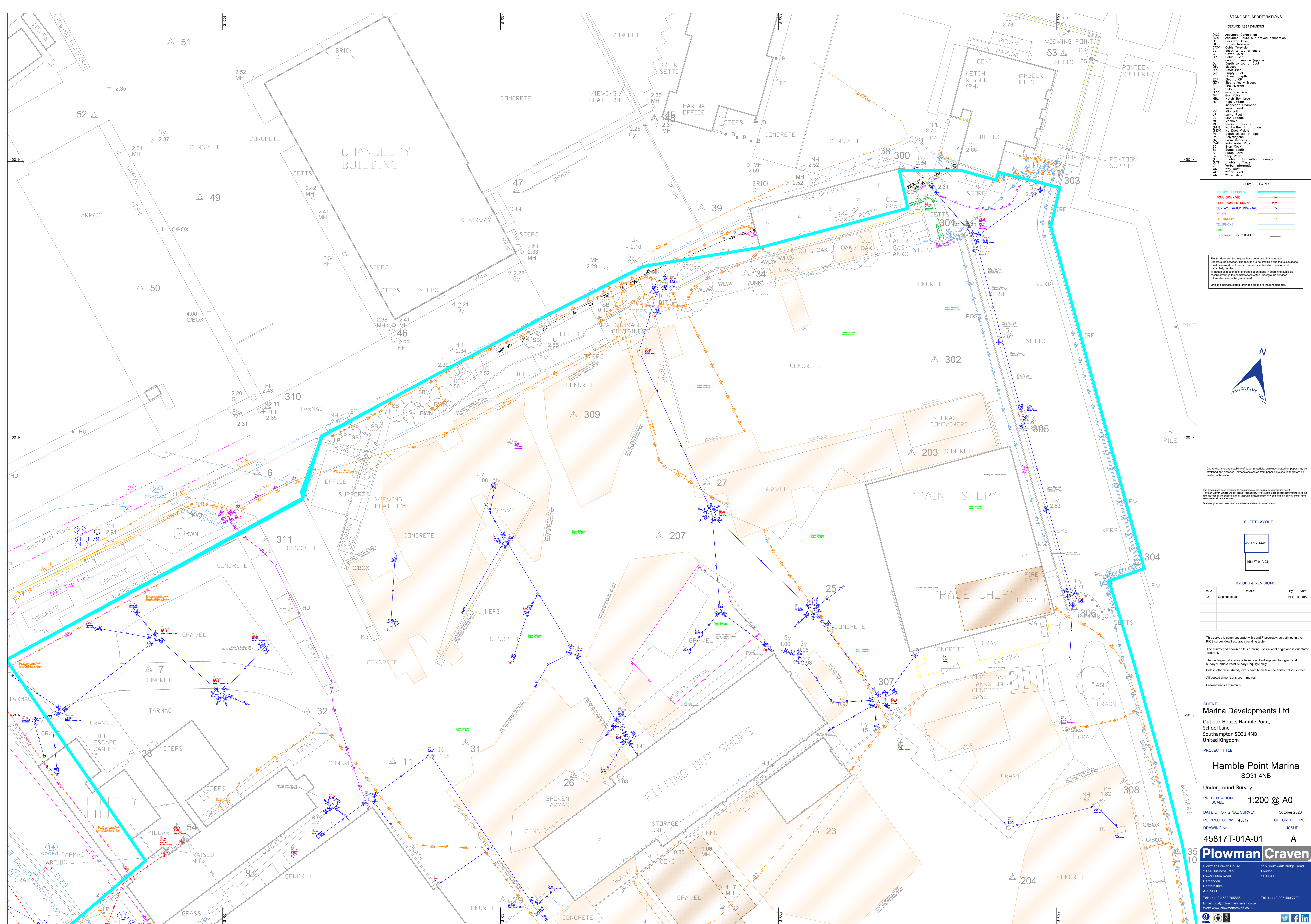
- 8.1.1 It is proposed to build a new restaurant in the southeast corner of Hamble Point Marina.
- 8.1.2 The site for the proposed restaurant is currently a gravelled area used to store boats, and the rest of the site comprises of an existing access road with car parking. The site which is relatively flat and has an average elevation of 2.75mAOD at the location of the proposed restaurant.
- 8.1.3 The proposal is for a non-residential development. It has been agreed the design lifetime for this development is 50 years, so to 2075, and is classed as Less Vulnerable.
- 8.1.4 The Flood Map for Planning shows the site is located in Flood Zone 3. The Southampton Water hydraulic model should the site to fall within the 1 in 30 year flood extent, which places the site within the functional floodplain.
- 8.1.5 Typically, Less Vulnerable development is not permitted within the functional floodplain. However, Hamble Point is listed as a location which has been agreed by the Environment Agency and Eastleigh Borough Council as being classified as located within Flood Zone 3a. Therefore, development is permitted.
- 8.1.6 The flood mechanisms at the site are tidal-dominated, and subsequently, a 1 in 200 year event has been used as the design event.
- 8.1.7 Regarding climate change, the Southampton Water model is not suitable for assessing flood levels as it uses UKCP09 to calculate sea level rise, which has since been updated. Therefore, an estimation of sea level rise has been calculated. The design event has a predicted level of 3.55mAOD when the higher central allowance is applied.
- 8.1.8 The Southampton Water model shows the site is at risk of undefended residual flooding. The levels at the site are the same as those with the defences in place, and therefore the site is at no greater residual flood risk.
- 8.1.9 The calculated sea level rise of 3.55mAOD has been taken as the design flood level for the development. This would result in the flooding of the site and all associated facilities, with depths of up to 0.80m deep above the existing ground levels.
- 8.1.10 Consequently, mitigation measures are proposed for the site, mainly constituting of raising the ground levels. The current proposals show the site will be raised by 0.83m, which is sufficient to ensure the site remains flood free for the design event, albeit with only 0.03m of freeboard.
- 8.1.11 Due to the small amount of freeboard, flood resistance measures up to a height of 0.3m are proposed, and a Flood Emergency Plan is required in the future. This would instruct the restaurant to close, prevent access to the restaurant and provide instructions for the staff and visitors during Flood Warnings or Severe Flood Warnings.

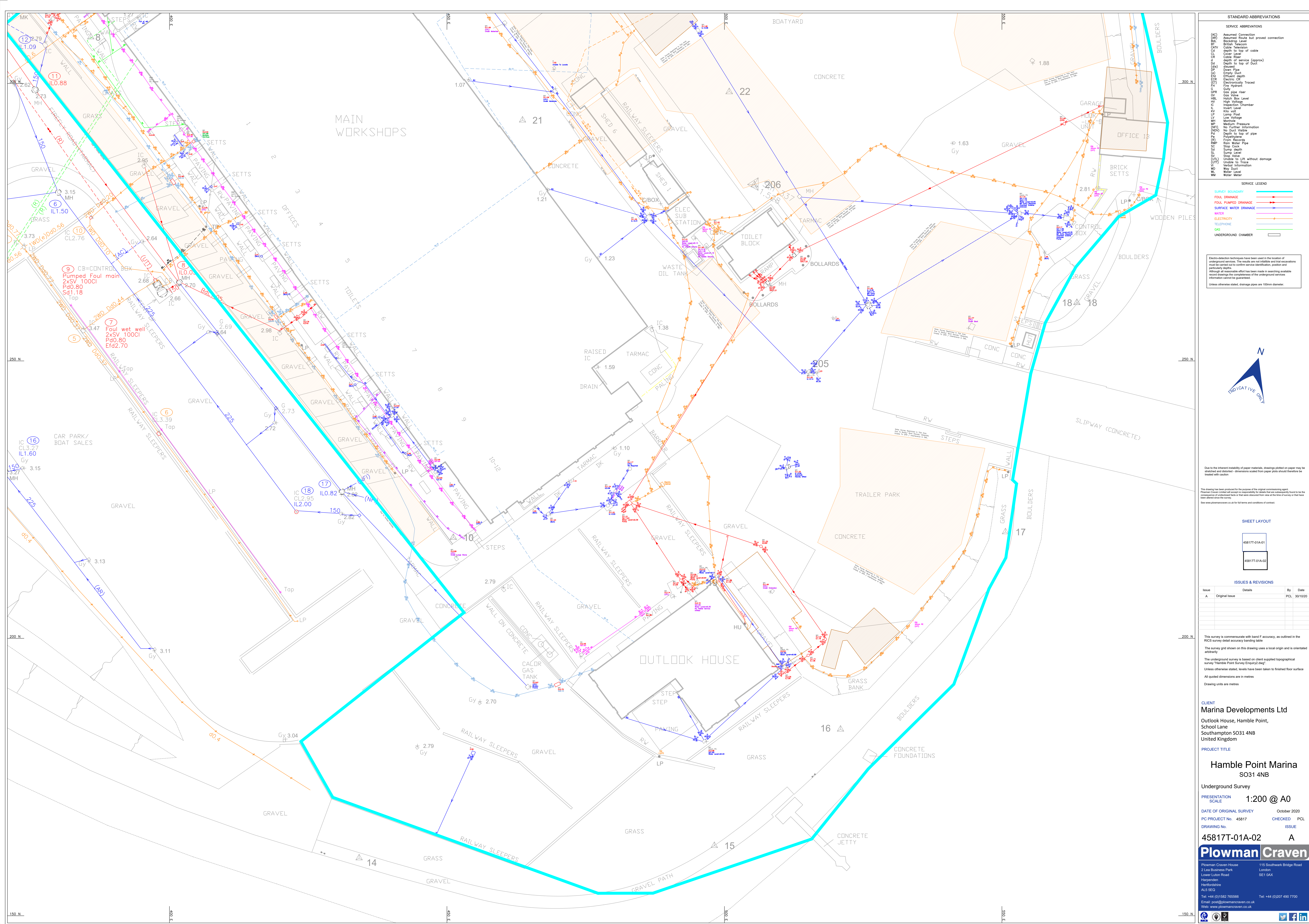
- 8.1.12 The site has been assessed as being at overall Low or Negligible risk from all other sources.
- 8.1.13 Raised SuDS planters have been proposed to accommodate runoff generated from the entirety of the roof of the proposed dwelling. The planters are proposed to have a total combined surface area of 26m² which equates to 4% of the proposed roof area. This approach is in accordance with guidance set out in the CIRIA SuDS manual.
- 8.1.14 The outflow from the SuDS planters would existing drainage arrangements for the wider Hamble Point Marina, as would the foul drainage. This is subject to detailed design.
- 8.1.15 This Flood Risk Assessment shows that the development will be safe for its lifetime, subject to mitigation measures and the implementation of a Flood Emergency Plan and therefore meets the requirements of the NPPF.

APPENDICES

APPENDIX A

Underground Survey

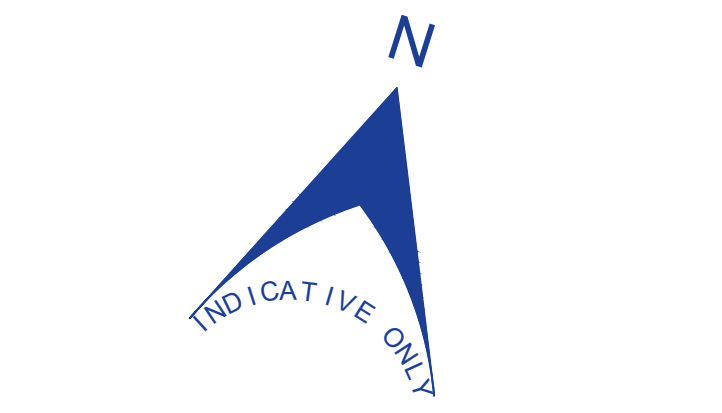




STANDARD ABBREVIATIONS	
(AC)	Assumed Connection
(AR)	Assumed Route but proved connection
BSL	Base Level
BT	British Telecom
CATV	Cable Television
CL	Depth to top of cable
CS	Cover Level
d	depth of service (approx)
Dd	Depth to top of Duct
(ds)	Down Pipe
(E)	Empty Duct
ET	Enthused depth
ECR	Electric CR
(ET)	Electrically Traced
FT	Fire Hydrant
GPR	Ground Penetrating Radar
GV	Gas Valve
HSL	High Voltage
IC	Inspection Chamber
IL	Invert Level
KV	Kilovolt
LP	Lamp Post
LV	Low Voltage
M	Manhole
MP	Medium Pressure
(NDP)	No Further Information
(NDV)	No Duct Visible
Pa	From Records
RWP	Rain Water Pipe
SC	Stop Cock
SL	Sump Level
ST	Stop Level
(UL)	Unable to Lift without damage
(UT)	Unable to Trace
VD	Verbal Information
WL	Water Level
WM	Water Meter

SERVICE LEGEND	
SURVEY BOUNDARY	
FOUL DRAINAGE	
FOUL PUMPED DRAINAGE	
SURFACE WATER DRAINAGE	
WATER	
ELECTRICITY	
TELEPHONE	
GAS	
UNDERGROUND CHAMBER	

Electro-detection techniques have been used in the location of underground services. The results are not reliable and trial excavations must be carried out to confirm service identification, position and particular depths. Although all reasonable effort has been made in searching available records to ensure the completeness of the underground services, information cannot be guaranteed. Unless otherwise stated, drainage pipes are 100mm diameter.



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SHEET LAYOUT	
45817T-01A-01	
45817T-01A-02	

ISSUES & REVISIONS			
Issue	Details	By	Date
A	Original Issue	PCL	30/10/20

This survey is commensurate with Band F accuracy, as outlined in the RICS survey detail accuracy banding table. The survey grid shown on this drawing uses a local origin and is orientated arbitrarily. The underground survey is based on client supplied topographical survey 'Hamble Point Survey Enquiry 2017'. Unless otherwise stated, levels have been taken to finished floor surface. All quoted dimensions are in metres. Drawing units are metres.

CLIENT
Marina Developments Ltd
Outlook House, Hamble Point,
School Lane
Southampton SO31 4NB
United Kingdom

PROJECT TITLE

Hamble Point Marina
SO31 4NB

Underground Survey

PRESENTATION SCALE **1:200 @ A0**

DATE OF ORIGINAL SURVEY October 2020

PC PROJECT No. 45817 CHECKED PCL

DRAWING No. ISSUE

45817T-01A-02 A

Plowman Craven

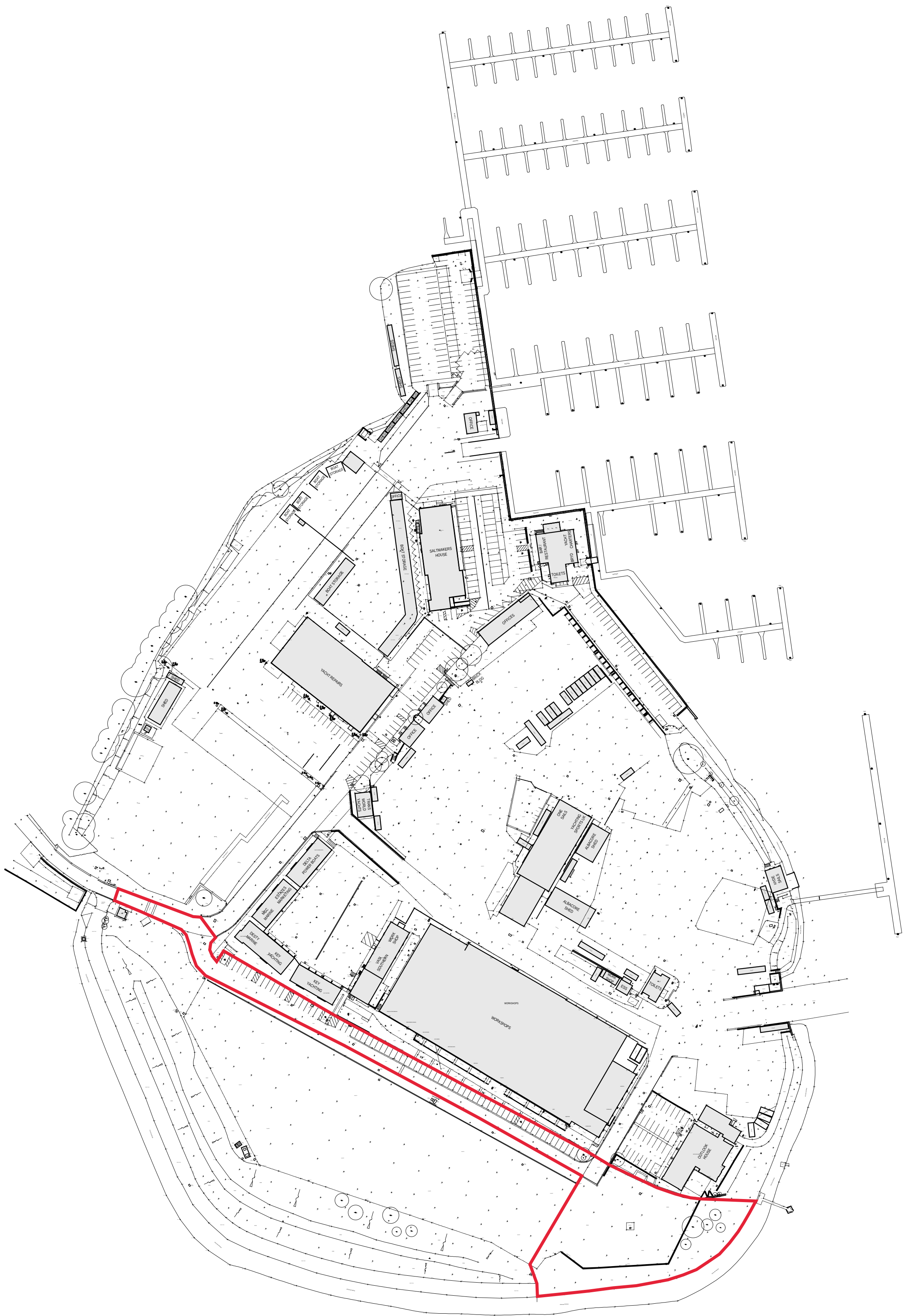
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APPENDIX B

Topographic Survey



Notes:

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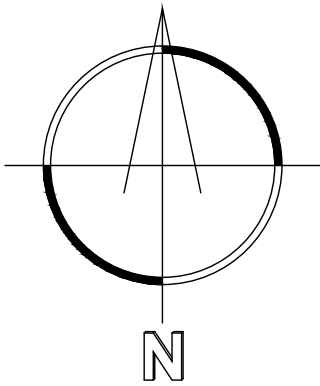
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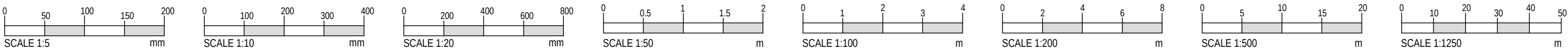
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Rev.	Date	Description	By	Check
Drawing Status				
Client				
Principal Contractor				
Design Consultant				
Project Title				
HAMBLE POINT MARINA SCHOOL LANE HAMBLE SO31 4NB				
Drawing Title				
RED LINE SITE BOUNDARY				
Scales (@ A1 SIZE) 1:1250				Size A1
Drawn	Date	Checked	Date	
	SEPTEMBER 2025			
Drawing No.				Revision
				P1



APPENDIX C

Site Proposals



- Red line (0.59 ha)
- Blue line (46.93 ha)

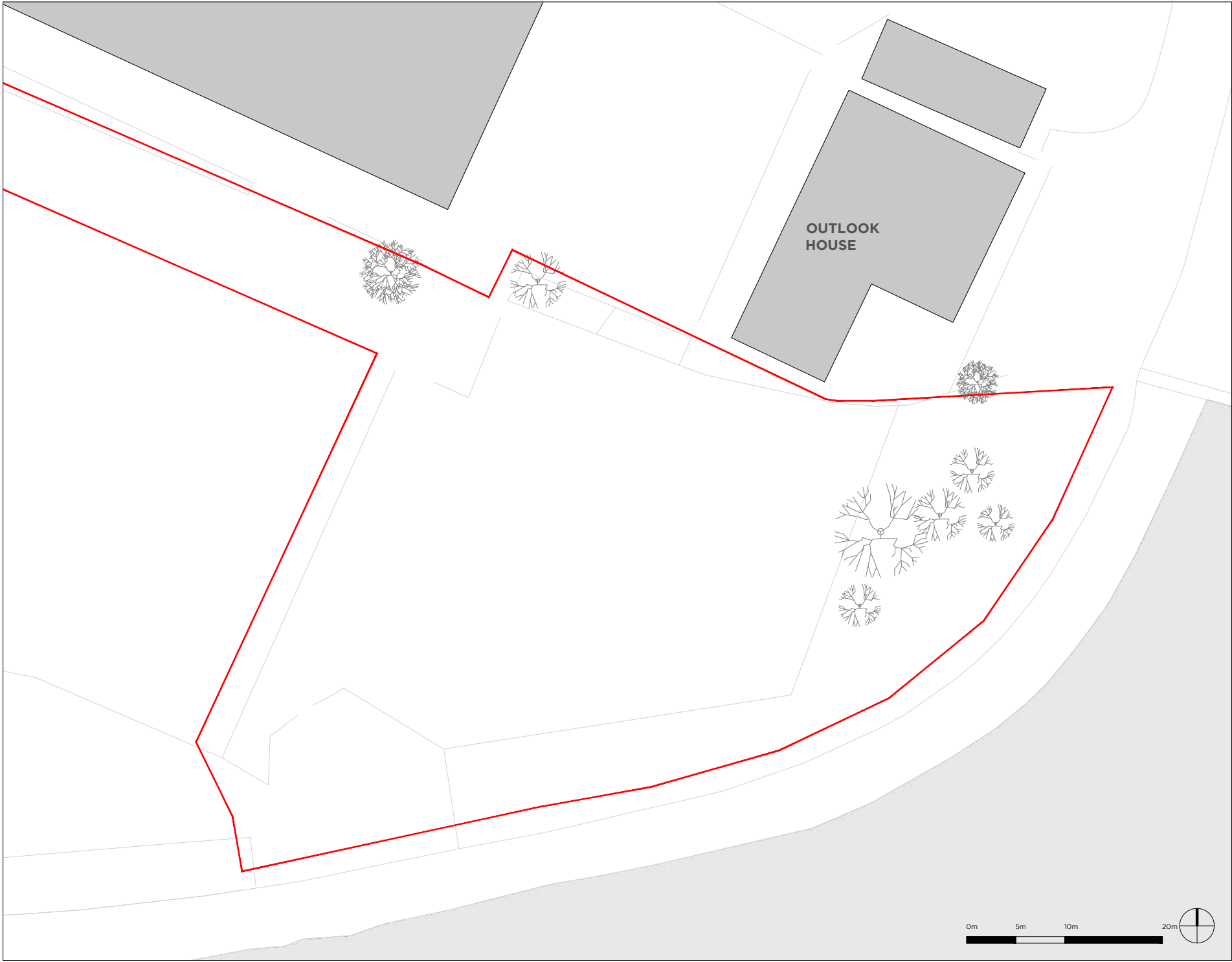
HAMBLE POINT MARINA
on behalf of
Marina Developments Ltd

RL02
Site Plan

Rev.	Date	Note	By
A	01.10	New CAD Base	JM
B	13.10	Red Line Boundary	ALL

Drawn by	Checked by	Scale
JM	JB	1:1250 @A1
Drawn on	Revision	Job
30.09.25	B(13.10.25)	726881





Note:
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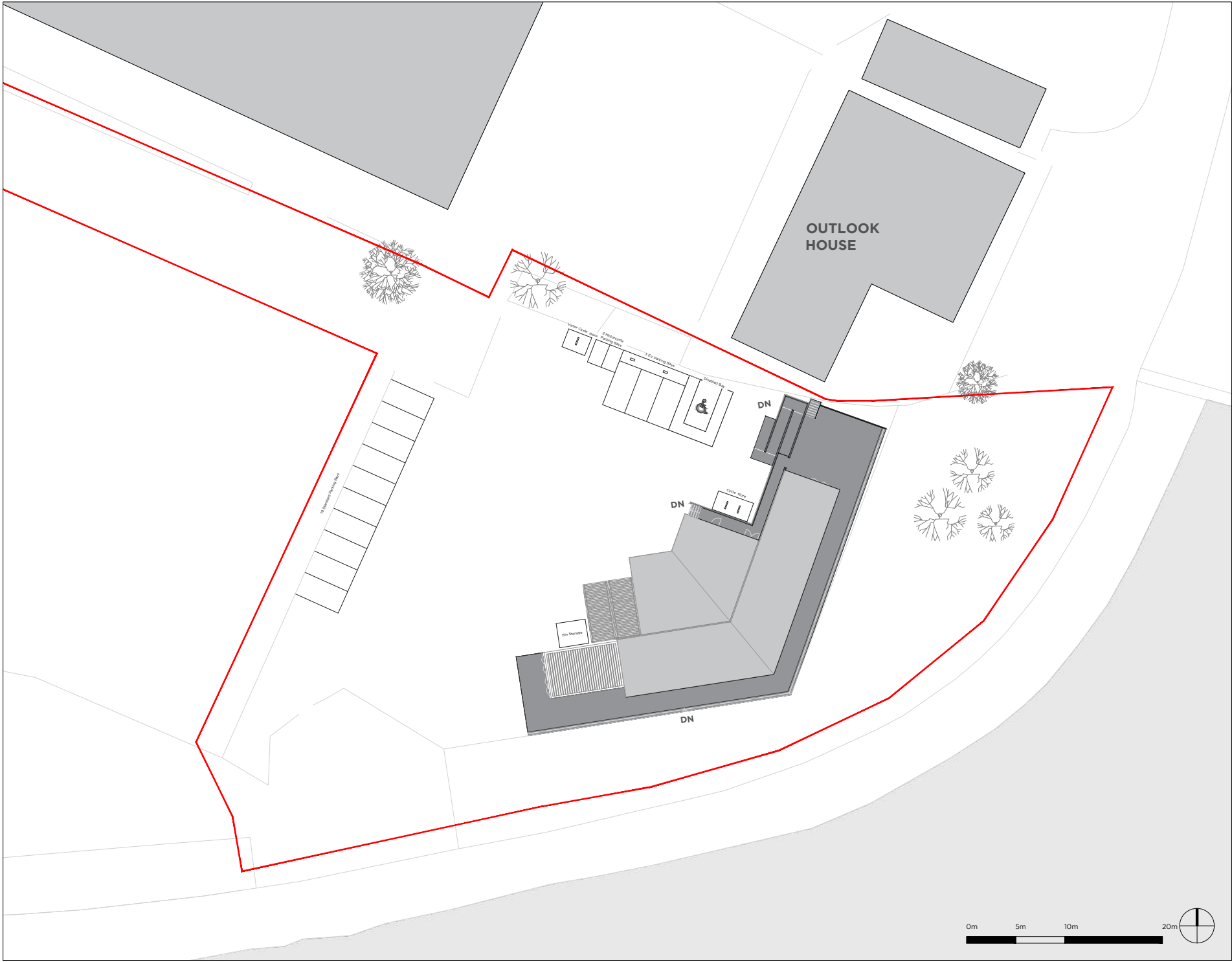


HAMBLE POINT MARINA
on behalf of
Marina Developments Ltd

RL001
Existing Site Plan

Drawn by	Checked by	Scale
AIL	JB	1:500 @A2
Drawn on	Revision	Job
13.10.25	-	726881





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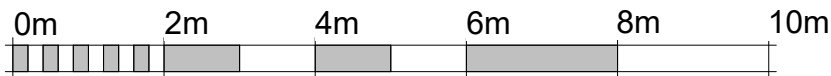


HAMBLE POINT MARINA
on behalf of
Marina Developments Ltd

MP001
Proposed Site Plan

Drawn by	Checked by	Scale
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Drawn on	Revision	Job
10.10.25	-	726881





VISUAL SCALE 1:100 @ A2

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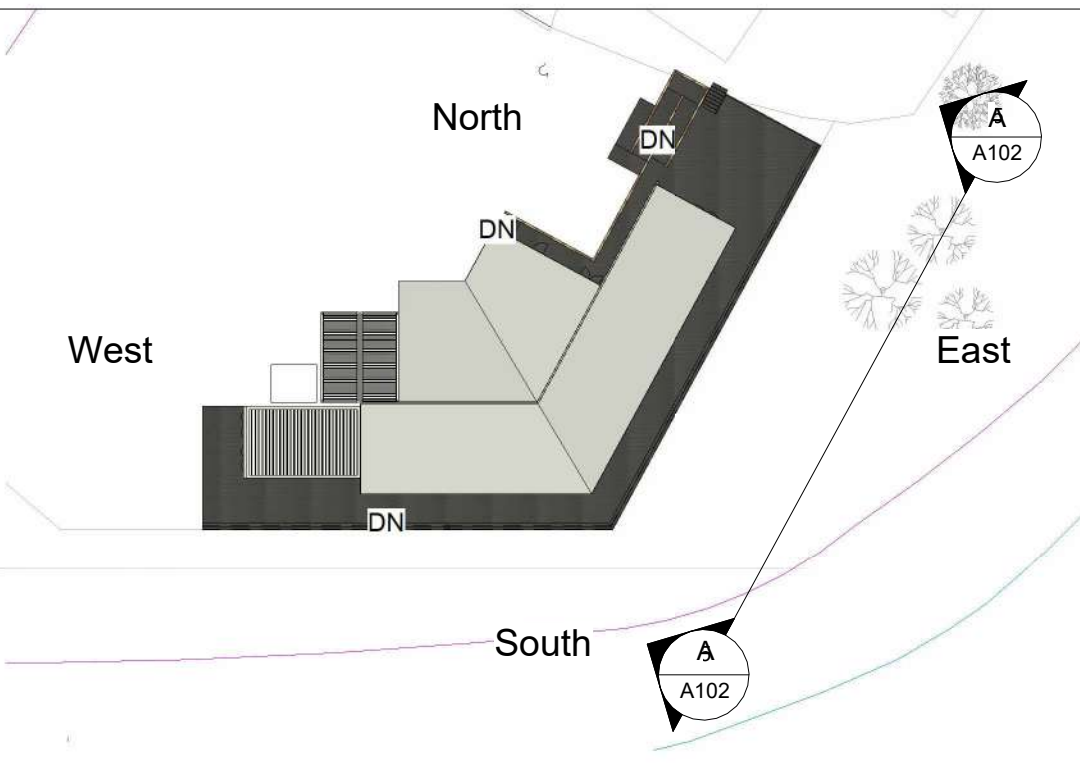
REV	DESCRIPTION	BY	DATE
STATUS: Project Status			



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Accrington BB5 5JW
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PROJECT
The Point

SITE: Hamble Point Marina, School Lane, Hamble-le-Rice, Southampton SO31 4NB			
TITLE: Floor Plan			
SCALE AT A2: 1 : 100	DATE: 08/04/25	DRAWN: Author	CHECKED: Checker
PROJECT NO: Project Number	DRAWING NO: A101	REVISION: V8	



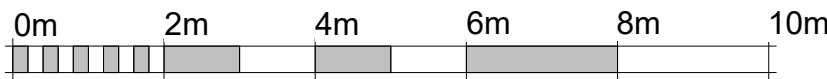
South
1 : 100



A-A
1 : 100



North
1 : 100



VISUAL SCALE 1:100 @ A2

Notes:

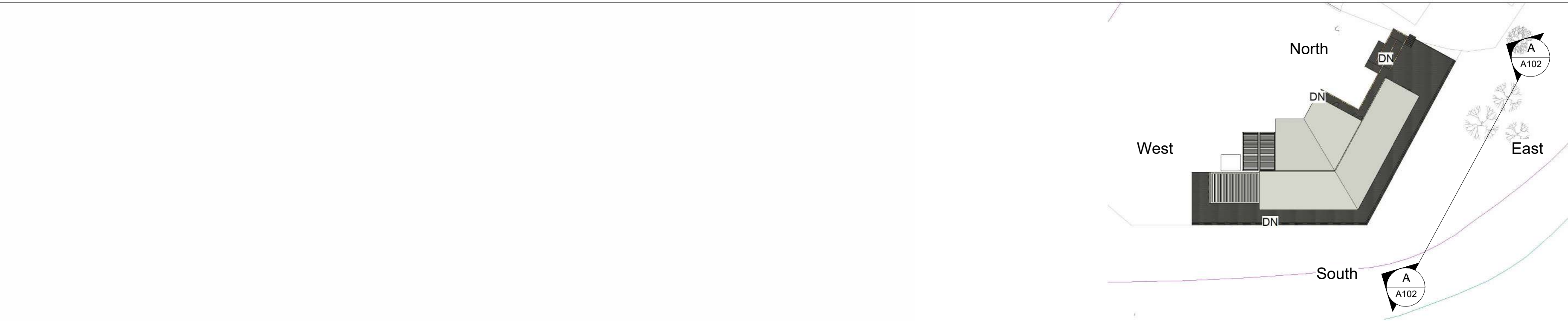
REV	DESCRIPTION	BY	DATE
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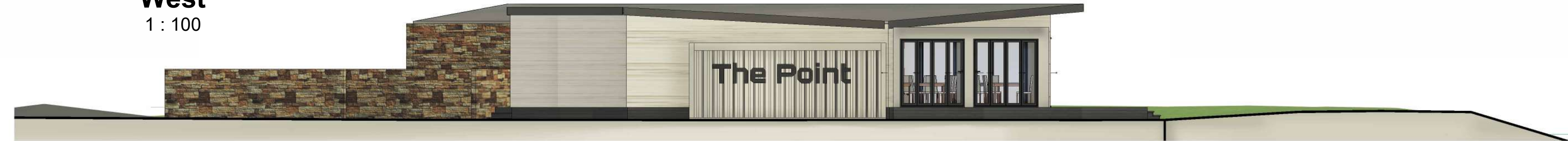
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TITLE: Elevations			
SCALE AT A2: As indicated	DATE: 08/04/25	DRAWN: Author	CHECKED: Checker
PROJECT NO: Project Number	DRAWING NO: A102	REVISION: V8	



East
1 : 100



West
1 : 100



VISUAL SCALE 1:100 @ A2

Notes:

REV	DESCRIPTION	BY	DATE
STATUS: Project Status			

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PROJECT
The Point

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TITLE: Elevations 2			
SCALE AT A2: As indicated	DATE: 08/04/25	DRAWN: Author	CHECKED: Checker
PROJECT NO: Project Number	DRAWING NO: A103	REVISION: V8	



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