

# Cattewater Harbour Masterplan

## Prevailing Port Conditions Assessment

---

<b>Project:</b>	Cattewater Harbour Masterplan		
<b>Our reference:</b>	100114133-RP-002-P1	<b>Your reference:</b>	
<b>Prepared by:</b>	A Marr, J Turner	<b>Date:</b>	13/09/2023
<b>Approved by:</b>	N Seaholme	<b>Checked by:</b>	R Lewis
<b>Subject:</b>	Prevailing Port Conditions Assessment		

---

## 1 Introduction

This technical note presents the baseline conditions of existing facilities and operations on the Cattewater. This exercise forms a key component of the overall masterplanning scope, as it informs the physical constraints and opportunities that could impact future operations in the port. It sits alongside a wider body of knowledge that has been researched for Plymouth and the Cattewater, including a market assessment, synthesis of policy aims and stakeholder feedback, and a study of designated land and features that are subject to special status in planning law. Together, these are intended to form a sound basis of evidence for decisions to be made on the future of the harbour.

The assessment is carried out as a desktop study using existing port data and information available to Mott MacDonald. The following is considered:

### Existing Operations

For each area, the prevailing commercial and leisure operations will be assessed to ascertain the following information:

- Current methods and quality of handling cargo
- Operational performance and quality.

### Prevailing Infrastructure

The fundamental civil infrastructure will be reviewed, such as:

- existing marine structures such as pier and jetties.
- existing buildings, warehouses and offices.
- current port equipment.

At this stage, an in-depth condition survey of infrastructure has not been carried out. The report comments on the general condition of infrastructure where this is known.

---

## Structure

The technical note has the following structure:

- Section 1: Introduction
- Section 2: Cattewater Harbour Overview
- Sections 3 to 17: Site-by-site assessment of prevailing conditions

## 2 Cattewater Harbour Overview

The city of Plymouth has four port and harbour areas (Cattewater, Sutton Harbour, Millbay and Devonport), of which Cattewater is the easternmost. The Cattewater Harbour limits are to the east of a line joining Mountbatten Breakwater to Fishers Nose, bounded by Sutton Lock Gates to the North, and Laira Bridge to the East.

Cattewater Harbour sees the majority of Plymouth's commercial cargo operations in terms of dry and wet bulk cargo, especially petroleum import. Recreational land/water use is also present via several separate marinas, as well as other commercial but marine-related operations such as Marine Technology Development & Research.

Figure 2.1 shows indicatively the key land uses within the harbour, while Table 2.1 lists in greater detail the operations taking place at each location and the associated stakeholders.

### 2.1 Tide Levels

Tide levels for Plymouth, referred to Chart Datum (CD) are as follows:

- Highest Astronomical Tide 6.05mCD
- Mean High Water Springs 5.53mCD
- Mean High Water Neaps 4.43mCD
- Mean Low Water Neaps 2.23mCD
- Mean Low Water Springs 0.80mCD
- Lowest Astronomical Tide 0.14mCD

Figure 2.1: Main Land Uses for the Cattewater



**Table 2.1: Overview of Current Port Operations**

<b>Sub-Section</b>	<b>Location</b>	<b>Description of Operations</b>	<b>Stakeholders and Operators</b>
3	Queen Anne's Battery Marina	<ul style="list-style-type: none"> <li>● Yacht Marina – Long-term &amp; visitor berths</li> <li>● Boatyard Facilities</li> </ul>	MDL Marinas
4	Victoria Wharf	<ul style="list-style-type: none"> <li>● Bulk &amp; Project Cargo Berths</li> <li>● Covered &amp; Open Storage</li> </ul>	Victoria Group
5	Greenergy Plymouth Terminal	Fuel Terminal	Greenergy
6	Cattedown Wharves	<ul style="list-style-type: none"> <li>● Liquid bulk (petroleum) berths</li> <li>● Bulk &amp; Project Cargo Berths</li> <li>● Covered &amp; Open Storage</li> </ul>	James Fisher Group
7	Valero Plymouth Terminal	Fuel Terminal	Valero
8	Neptune Park	Mixed use commercial	Cattedown Regeneration Ltd.
9	Corporation Wharf	<ul style="list-style-type: none"> <li>● Bulk cement berth</li> <li>● Cement storage &amp; distribution</li> </ul>	Victoria Group
10	Plymouth Boat Yard & Marina	<ul style="list-style-type: none"> <li>● Yacht Marina</li> <li>● Boatyard Facilities</li> </ul>	Plymouth Boat Yard & Marina
11	Pomphlett Wharf	<ul style="list-style-type: none"> <li>● Aggregate export berth &amp; storage (inactive)</li> </ul>	Aggregate Industries
12	Yacht Haven Quay	<ul style="list-style-type: none"> <li>● Dry stack marina</li> <li>● Boatyard Facilities</li> </ul>	Yacht Havens Group
13	Turnchapel Wharf	<ul style="list-style-type: none"> <li>● Marine Business Park</li> <li>– Marine Technology Development &amp; Research</li> <li>– Marine Training</li> <li>– Luxury motor yacht fitout</li> </ul>	<ul style="list-style-type: none"> <li>● Aquamare</li> <li>● ARGO Nautical</li> <li>● Dignhy Shack</li> <li>● ELEC Marine</li> <li>● Elite Marine Services</li> <li>● Fugro</li> <li>● Home Office</li> <li>● HA Marine</li> <li>● The Guard Room</li> <li>● Marine AI Ltd</li> <li>● Plymouth Sailing School</li> <li>● Plymstock Security Systems</li> <li>● Princess Motor Yacht Sales</li> <li>● SeaRegs</li> <li>● Stormystudio</li> <li>● Thales</li> <li>● Yacht Havens Group</li> <li>● Yacht Solutions</li> <li>● Westclad</li> </ul>
14	Plymouth Yacht Haven Marina	<ul style="list-style-type: none"> <li>● Yacht Marina – Long-term &amp; visitor berths</li> <li>● Boatyard Facilities</li> </ul>	Yacht Havens Group
15	Mount Batten Watersports & Activities Centre	<ul style="list-style-type: none"> <li>● Outdoor Education centre</li> <li>● Watersports facilities</li> </ul>	The Mount Batten Centre Charity Trust Hooe Point Sailing Club
16	Barbican Landing Stage	<ul style="list-style-type: none"> <li>● Small commercial vessel landings</li> </ul>	Cattewater Harbour Commissioners

Sub-Section	Location	Description of Operations	Stakeholders and Operators
17	Cattewater moorings	<ul style="list-style-type: none"> <li>• Trot and swinging moorings in the Cattewater</li> <li>• Small craft mooring areas</li> </ul>	Cattedown Harbour Commissioners (CHC)

## 3 Queen Anne's Battery Marina

### 3.1 Current Layout

Queen Anne's Battery Marina is located on the northern shore of the Cattewater, towards its western end and at the entrance to Sutton Harbour. Its layout is shown in Figure 3.1 and comprises:

- Pontoon berthing sheltered by a wave wall structure:
  - 235 finger berths for boats up to 18 metres and
  - A visitors' area with alongside pontoon berthing for boats up to 42m
- Boatyard facilities for repairs or maintenance work.

The marina is operated by MDL Marinas and is home to the Royal Western Yacht Club.

**Figure 3.1: Queen Anne's Battery Marina**



### 3.2 Marine Infrastructure

The following marine infrastructure is present:

- A wave wall structure sheltering the southern face of the marina, comprising a piled deck walkway, with timber wave screen infill panels between piles.
- Pontoon Berthing:
  - Modular floating pontoons, in a walkway and finger unit arrangement.
  - Pontoons are held in place by guide piles or anchored to the wave wall structure.
  - Access from land is via two gangways and a pontoon which runs down the slipway.

- Pontoons are equipped with fresh water, electricity, and emergency/safety equipment comprising fire extinguishers, first aid kits, life-saving equipment and safety ladders.

### 3.3 Landside Infrastructure

The following landside infrastructure is present:

- Slipway for launch & recovery of boats on trailers
- Open, paved boat yard with tents for undercover storage
- Parking facilities including 2 electric car charging points
- Amenities and services including:
  - 40T “Wise” Boat Hoist
  - Fresh water supply throughout boat yard
  - Refuse disposal including Lead Acid Battery, Hazardous waste and recycling
  - First aid point
- Buildings including:
  - Marina office and provisions shop
  - Toilets, showers and launderette
  - Chandlery
  - Royal Western Yacht Club House

### 3.4 Access

#### 3.4.1 Navigation Access

Access to the marina is via a channel maintained at -2.5mCD, with a shallower inshore portion at -2mCD.

Depth in the marina basin varies from -4mCD near the wave wall, to 0mCD at the northern and eastern edges of the basin.

#### 3.4.2 Land Access

Road access to the marina is via Teats Hill Road, and it is under five minutes’ drive to the A374 leading west to the city centre and east out of the city.

More direct pedestrian access to the city centre is possible from the marina via the Sutton Harbour footbridge.

## 4 Victoria Wharf

### 4.1 Current Layout

Victoria Wharf is located on the northern shore of the Cattewater, towards its western end. Its layout is shown in Figure 4.1 and comprises:

- Two quays forming an indented basin berth
- Open area comprising quay apron and open storage
- Covered storage buildings

Victoria Wharf is operated by Victoria Group and primarily handles dry bulk cargoes.

**Figure 4.1: Victoria Wharf**

## 4.2 Marine Infrastructure

Review of available historical maps and discussions suggest that the quays at Victoria wharf are early 20<sup>th</sup> century stone structures:

- 145m long west quay, which extends as a pier into the Cattewater
- 110m long east quay

The southeastern portion of the site is bounded by a reveted structure of unknown form.

## 4.3 Landside Infrastructure

The following landside infrastructure is present:

- Approximately 10,300m<sup>2</sup> open paved area (including the quayside) used for vessel loading/offloading operations and open storage of cargo & equipment
- Approximately 8,000m<sup>3</sup> of covered storage.

Disused tracks from the old Cattewater branch rail line feature in Victoria Wharf. These run from the quayside and provided connection to the main line through a historic underground tunnel that is present roadside of the quay.

## 4.4 Cargo Operations

Victoria Wharf serves as a dry bulk import/export facility for a wide range of cargoes. The most significant commodities handled are:

- Import – Fertiliser, Wood Pellets
- Export – Ball clay

Other cargo of note is:

- Landing of fish which occurs in low volumes, but with a high value per tonne.
- Project cargo, e.g. for construction work

#### 4.4.1 Berth Capacity

The berth features a continuous quay which affords flexibility in accommodating vessels, for example the dimensions of the berth allow 3 to 4 fishing boats to be worked alongside a coaster cargo vessel.

The berth itself measures 28m wide at quay pavement level and 27m wide at the seabed. The maximum vessel that can be accommodated is 25.5m beam at a length of 140m.

Berth equipment comprises mobile cranes/long reach excavators and bulk conveyors.

At the time of writing, typical bulk carrier cargos average between 4,500 – 6,000 tonnes but can peak at 8,000 tonnes per vessel.

#### 4.4.2 Storage capacity

The primary cargoes handled at Victoria Wharf require covered storage, such that this is currently the main limiting factor on the capacity of the wharf overall. The total covered storage area is approximately 8,000m<sup>2</sup>.

#### 4.4.3 Access capacity

Access to the berth is via a channel maintained at -5mCD for a width of 60m at its narrowest point. The berth depth is at -6mCD.

Road links to Victoria Wharf are suitable for heavy goods vehicles with link roads direct to the A374, which is for the most part a dual carriageway link to the A38. From discussion with the operator, the upper end of road movements is understood to be in the order of 150 trailers/day for clay export and 70 trailers/day for wood pellet import.

## 5 Greenergy Plymouth Terminal

### 5.1 Current Layout

Greenergy's Plymouth Terminal is located on the northern shore of the Cattewater, in the Cattedown area. Its layout is shown in Figure 5.1. The area comprises two discrete tank farms, one on the water's edge and one inland in a former quarry site.



**Figure 5.1: Greenergy Plymouth Terminal**

## 5.2 Marine Infrastructure

The only marine infrastructure present is the river retaining wall which forms the seaward boundary of the site. The water adjacent to the wall is shallow and intertidal. The waterside frontage is not currently used by vessels.

## 5.3 Landside Infrastructure

The primary landside infrastructure on both Greenergy sites comprises petroleum storage tanks and their associated pipeline infrastructure. These are understood from discussion with stakeholders to provide buffer storage for Greenergy's operations, holding imports received from Cattedown Wharves prior to onward distribution by road.

The waterside tank farm is supplied from the Cattedown Wharves liquid berth by an overland pipeline which runs along the water's edge.

The landside tank farm is supplied from the Cattedown Wharves liquid berth by a pipeline which passes underground under Cattedown Road & part of the Wallsend Industrial Estate, before running overland through the northern half of the industrial estate to the tank farm.

Disused rail tracks from the old Cattewater branch rail line feature throughout the site, though in many places these have been built over by new infrastructure. Review of available aerial photographs indicates that approximately 300m of historic track and rail corridor remain within the site alongside buildings and infrastructure that once served the line.

## 6 Cattedown Wharves

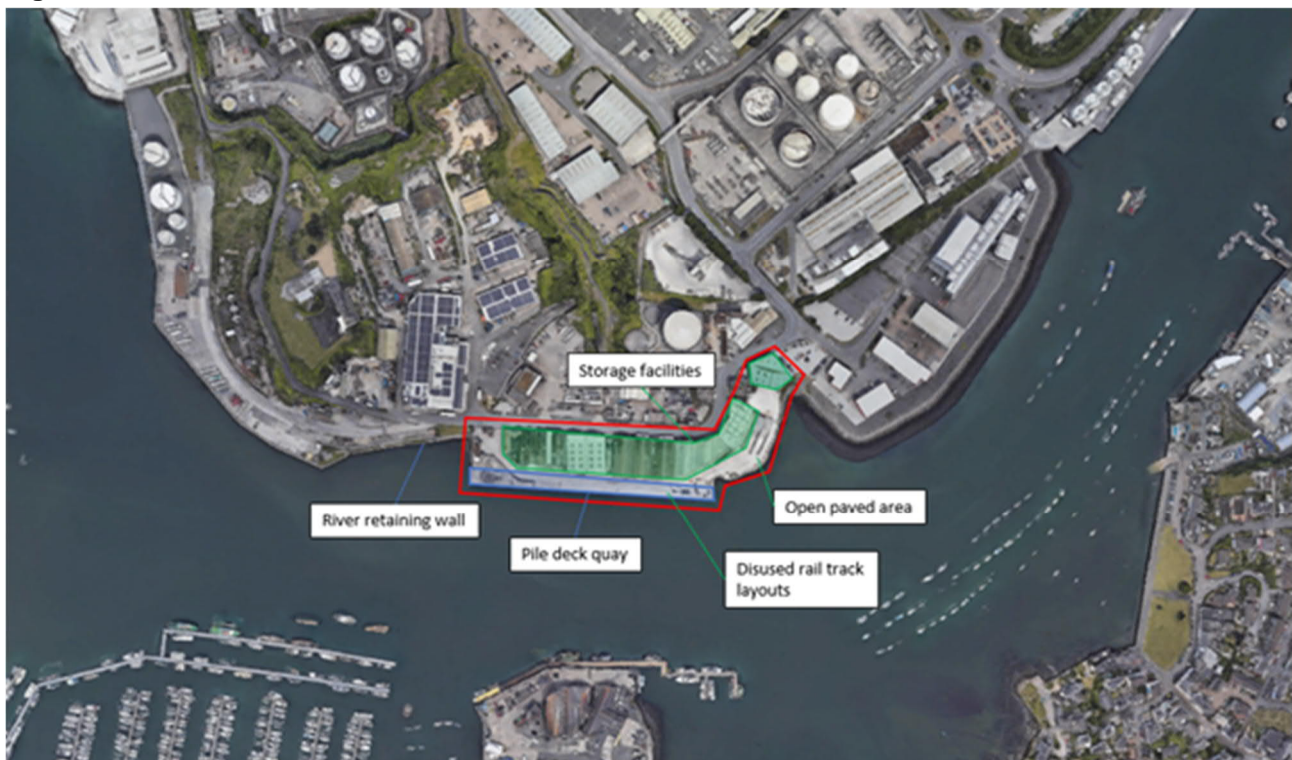
### 6.1 Current Layout

Cattedown Wharves are located on the northern shore of the Cattewater, towards its central section in Cattedown. Their layout, shown in Figure 6.1, comprises:

- A continuous quay with liquid bulk operations at the western end and dry bulk operations on the eastern end
- Open area comprising quay apron and open storage
- Covered storage buildings

Cattedown Wharves are operated by the James Fisher Group and handle both liquid and dry bulk cargoes.

**Figure 6.1: Cattedown Wharves**



### 6.2 Marine Infrastructure

Cattedown Wharves is along a 220m long quay, which is understood from discussion with the operator to be a piled deck structure. This is a historic structure constructed in the late 19<sup>th</sup> Century and repaired in the 1950s. It is understood to currently be in a state of poor condition, though it is known that it once accommodated heavy cranes.

To the west of the jetty is a river retaining wall, bordering the Greenergy Terminal, equipped with mooring points which are regularly used to secure the bow lines of tankers using the berth.

To the east of the jetty the site is bounded by a rock armour protected revetment..

### 6.3 Landside Infrastructure

The following landside infrastructure is present:

- Approximately 5,000m<sup>2</sup> open paved area (including the quayside), of which 1,000m<sup>2</sup> is used for open storage of cargo and the remainder for vehicle movements and operations.
- Approximately 5,500m<sup>3</sup> of covered storage.

Disused rail tracks from the old Cattewater branch rail line feature within the site. Review of available aerial photographs indicates that approximately 220m of track and/or track corridor passing through the site along the piled deck structure of the quay, but not currently in use.

## 6.4 Cargo Operations

Cattedown Wharves offer liquid bulk import and dry bulk import/export facilities. The most significant commodities handled are:

- Liquid bulk import – clean petroleum products
- Dry bulk export – Animal feed, Clay, Aggregate

### 6.4.1 Berth Capacity

The berth is split between tanker and bulk carrier operations on the western and eastern ends respectively.

A berthing pocket is maintained at -7.0mCD for tankers and -6.3mCD for dry bulk carriers, in the configuration shown in Figure 6.2.

The maximum vessel length currently accommodated is 150m for tankers and 130m for dry bulk carriers – these are limited by the physical features and turning area of the approach channel, and the current dimensions of the berth pocket.

Berth equipment for liquid bulk operations comprises three marine loading arms. These are located at the western end of the quay. As tanker manifolds are typically located amidships, the forward part of visiting vessels extend beyond the quay when vessels are moored on the berth.

Berth equipment for dry bulk operations comprises mobile quayside cranes.

**Figure 6.2: Cattedown Wharves Berthing Pocket**

Source: Navionics, ESRI

#### 6.4.2 Storage capacity

The primary cargoes handled at Cattedown Wharves require covered storage and this is currently the main limiting factor on the capacity of the wharf overall. The total covered storage area is approximately 5,500m<sup>2</sup> divided across 12 sheds, while open storage is approximately 1,000m<sup>2</sup>. The current breakdown of storage space is:

- 10 Sheds – animal feed
- 2 Sheds – Clay
- Open storage – Aggregate

Use of space is not immediately flexible due to the requirement for segregation of different types of commodities.

#### 6.4.3 Access capacity

Access to the berth is via a channel maintained at -5mCD for a width of 60m at its narrowest point. The harbour turning area opposite Victoria Wharf limits vessel lengths to 150m and vessel approach is tug-assisted.

The road to Cattedown Wharves is considered to be suitable for heavy goods vehicles, with link roads direct to the A374, which is for the most part a dual carriageway link to the A38.

## 7 Valero Plymouth Terminal

### 7.1 Current Layout

Valero's Plymouth Terminal is located on the northern shore of the Cattewater, in the Cattedown area. Its layout is shown in Figure 7.1. The area comprises a single tank farm inland, constructed within a former quarry site.

**Figure 7.1: Valero Plymouth Terminal**



### 7.2 Marine Infrastructure

The site does not feature any marine infrastructure.

### 7.3 Landside Infrastructure

The primary landside infrastructure on the Valero site comprises petroleum storage tanks and their associated pipeline infrastructure. These are understood to provide buffer storage for Valero's operations, holding imports received from Cattedown Wharves prior to onward distribution by road.

The tank farm is supplied from the Cattedown Wharves liquid berth by a pipeline which passes underground under Cattedown Road and part of the Wallsend Industrial Estate, before running overland through the northern half of the industrial estate and crossing Shapter's Way on a steel truss bridge to the tank farm.

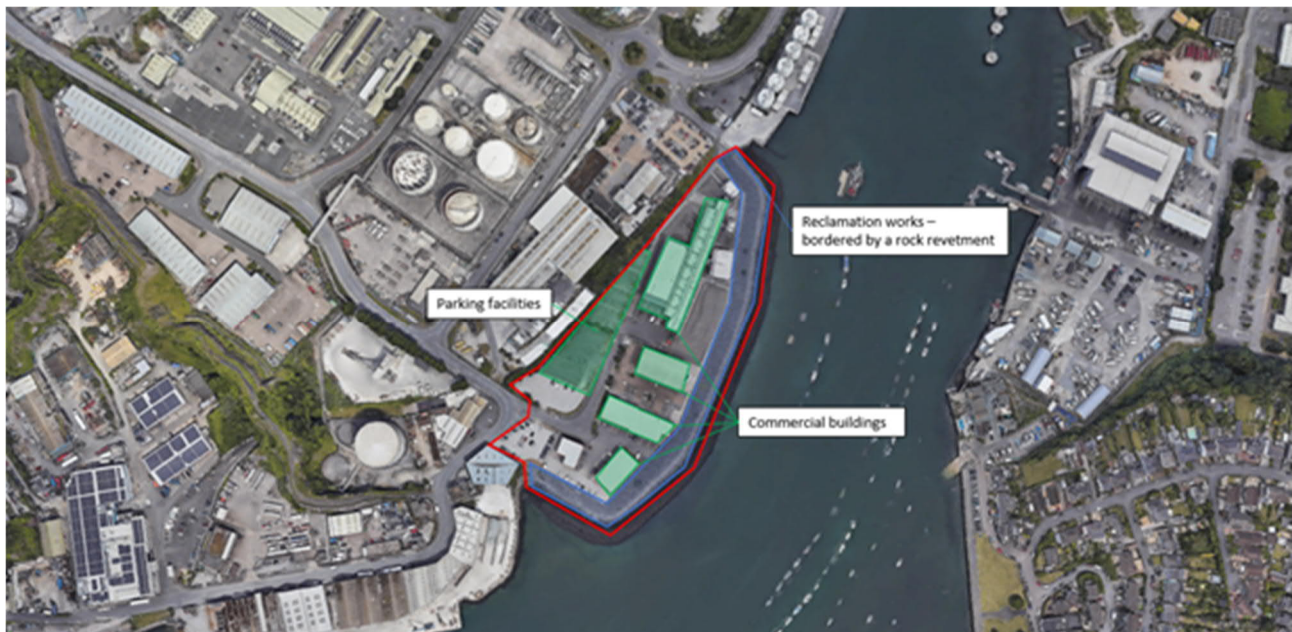
## 8 Neptune Park

### 8.1 Current Layout

Neptune Park is located on the northern shore of the Cattewater, towards its central section in Cattedown. Its layout is shown in Figure 8.1. The area comprises reclaimed land, occupied by a mixture of commercial buildings, offices and open parking.

Neptune Park is owned by Cattedown Regeneration Ltd. on a long lease from the Duchy of Cornwall – land use is commercial in nature.

**Figure 8.1: Neptune Park**



### 8.2 Marine Infrastructure

The area comprises approximately 61,000m<sup>2</sup> reclaimed from tidal mudflats in 1995. The reclamation works used crushed limestone fill and are bordered by a rock revetment. There is no infrastructure to accommodate vessels at the site – the adjacent water space is intertidal and shallow, currently used for small craft mooring as presented in Section 17.

### 8.3 Landside Infrastructure

Neptune Park is occupied by commercial buildings comprising warehouses, offices and workshops between 2 and 4 storeys high. These are served by a mixture of paved and unpaved parking areas. Examples of current building occupants are:

- Theatre Royal Plymouth – set/prop workshop and training facility
- Occupied and unoccupied offices
- A car dealership

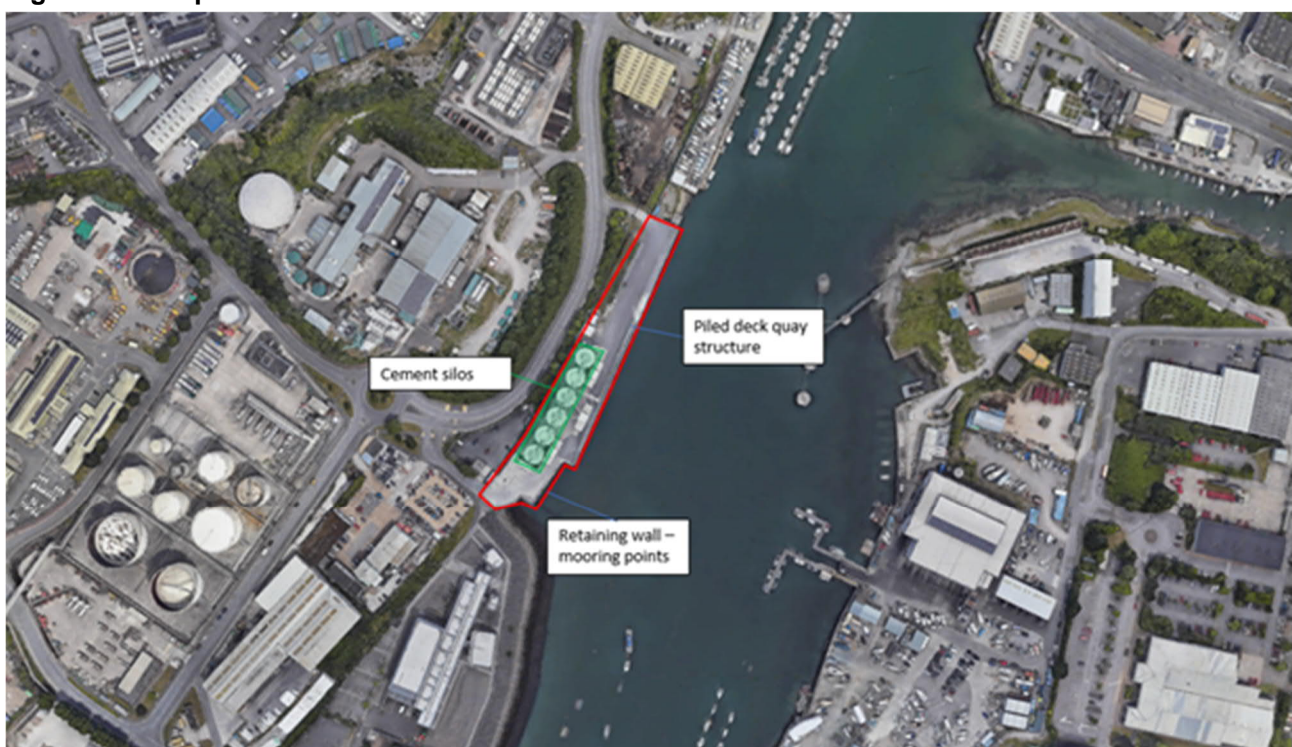
## 9 Corporation Wharf

Corporation Wharf is located on the northern shore of the Cattewater, towards its western end. Its layout is shown in Figure 9.1 and comprises:

- A continuous quay
- Open area comprising quay apron and vehicle access for HGVs
- Cement silos

Corporation Wharf is operated by the Victoria Group and is a dedicated cement import facility constructed in 2015/16.

**Figure 9.1: Corporation Wharf**



### 9.1 Marine Infrastructure

Corporation Wharf is along a 175m long quay, which is understood to be a piled deck structure which predates the current cement import infrastructure.

To the south of the main quay is a river retaining wall equipped with mooring points.

### 9.2 Landside Infrastructure

The primary landside infrastructure at Corporation Wharf is a group of six cement silos. Cement is discharged from vessels to silos by vacuum pipeline.

### 9.3 Cargo Operations

Corporation Wharf is a dedicated cement import facility.

### 9.3.1 Berth Capacity

The berth is a NAABSA (Not Always Afloat but Safely Aground) berth, dredged to -2mCD.

The maximum vessel length currently accommodated is 100m which is limited by the turning area adjacent to the berth. Longer vessels have been accommodated by making use of the turning area at the western end of the Cattewater (which allows vessels up to 150m) and subsequently towing the vessel stern-first to the berth, but this is a complex operation and is not current practice.

Berth equipment for cement operations comprises vacuum pipelines, which in current operations offload an average of 1000 tonnes per day.

### 9.3.2 Storage capacity

Cement is stored in six silos. Throughput for the facility currently stands at 180,000 tonnes per annum, but it is believed that the current equipment could achieve up to 400,000 tonnes per annum.

### 9.3.3 Access capacity

Access to the berth is via a channel maintained at -2mCD at its shallowest, with a width of 50m at its narrowest.

The road to Corporation Wharf is suitable for heavy goods vehicles, with link roads direct to the A374, which is for the most part a dual carriageway link to the A38.

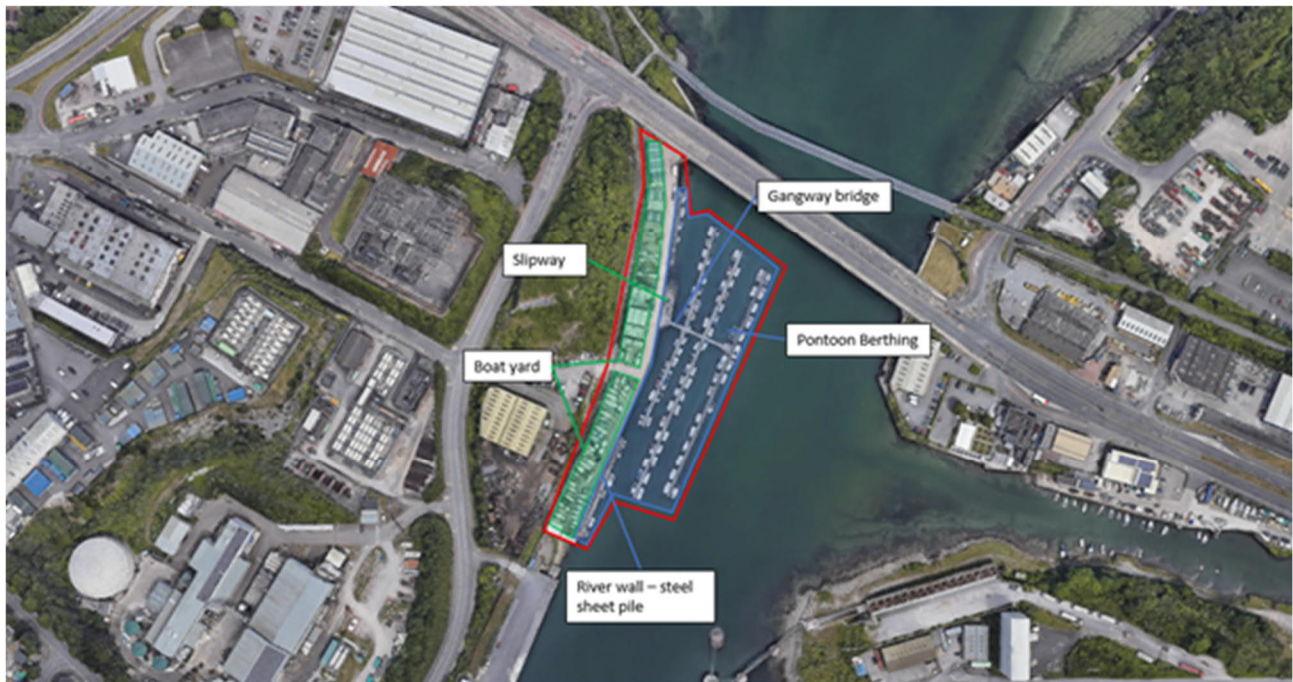
## 10 Plymouth Boatyard & Marina

Plymouth Boatyard & Marina is located on the northern shore of the Cattewater, towards its eastern end adjacent to the Laira road bridge. Its layout is shown in Figure 10.1 and comprises:

- Pontoon berthing on three pontoons in the river, and two pontoons along the river wall
- Boatyard facilities for repairs or maintenance work.
- Concrete slipway

The marina is operated by Plymouth Boatyard & Marina Ltd.



**Figure 10.1: Plymouth Boat Yard & Marina**

## 10.1 Marine Infrastructure

The following marine infrastructure is present:

- Pontoon Berthing:
  - Modular floating pontoons:
    - Three main lengths in a walkway arrangement with alongside berthing each side.
    - Two shorter lengths along the river wall with alongside berthing on the riverside.
  - Pontoons are held in place by standalone guide piles or wall guides along the river wall structure.
  - Access from land is via a gangway bridge from the head of the slipway, which splits into three ramps down to the main pontoons.
- The river wall is a steel sheet pile structure south of the slipway, and appears to be a masonry structure north of the slipway

## 10.2 Landside Infrastructure

The following landside infrastructure is present:

- Slipway for launch & recovery of boats on trailers
- Open, paved boat yard
- Parking facilities

Running alongside the paved boat yard is 260m of the old Cattewater Branch rail line, leading North from the Cattewater heading back towards the city centre.

## 10.3 Access

### 10.3.1 Navigation access

The maintained section of the Cattewater channel ends before the marina and bed depths vary between -1mCD and 0mCD in the centre of the channel and there are intertidal areas adjacent to the river walls and upstream of the Laira river bridge.

Depths at moorings range between +0.5mCD and -1mCD.

### 10.3.2 Land access

Road access to the marina is via Faraday road, and it is under five minutes' drive to the A374 leading west to the city centre and east out of the city.

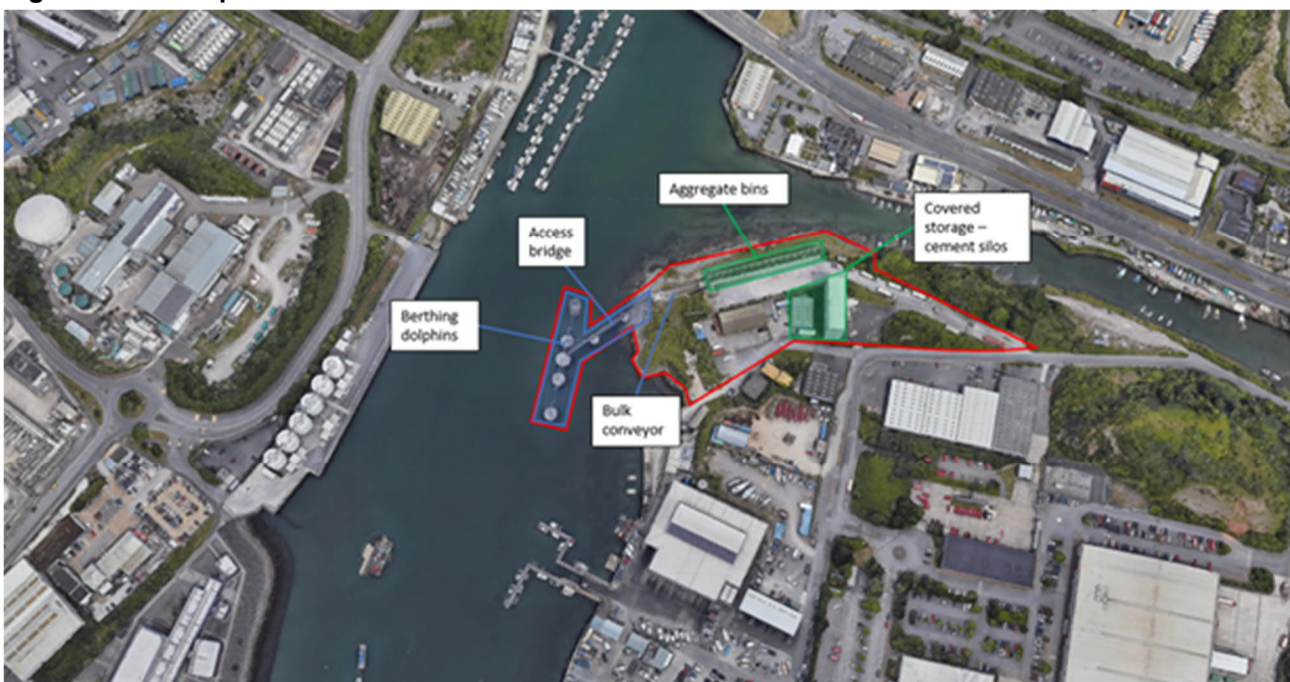
## 11 Pomphlett Wharf

Pomphlett Wharf is located on the southern shore of the Cattewater, towards its eastern end. Its layout is shown in Figure 11.1 and comprises:

- "Island" type berth composed of five dolphins connected to shore by an access bridge
- Open storage comprising 16 aggregate bins
- Covered storage comprising 3 cement silos

Pomphlett Wharf is operated by Aggregate Industries andt has been inactive since circa 2018, with Aggregate Industries making use of Cattedown Wharves for aggregate export instead, and cement import taking place at Corporation Wharf.

**Figure 11.1: Pomphlett Wharf**



## 11.1 Marine structures

Berthing at Corporation Wharf is on an “island” berth comprising five dolphins. These appear to be circular cell structures which could typically be expected to comprise steel sheet piles infilled with granular fill material. The dolphins are linked by walkways and connected to the shore by an access bridge. This bridge has two piers of similar circular cell construction to the dolphins and affords pedestrian access, carries a bulk conveyor from the aggregate bins and a pipeline from the cement silos.

It is understood that parts of the marine infrastructure at Pomphlett Wharf have reached the end of their operational life and that the required maintenance or replacement is not currently economical – this has contributed to the facility being mothballed and aggregate export operations moving to Cattedown Wharves.

## 11.2 Buildings

Landside infrastructure at Pomphlett Wharf comprises aggregate bins and cement silos.

## 11.3 Cargo Operations

### 11.3.1 Berth Capacity

The berth is dredged to -2mCD. The maximum vessel length currently accommodated is 100m which is limited by the turning area adjacent to the berth.

### 11.3.2 Storage capacity

Storage comprises:

- Sixteen aggregate bins, each with 220 tonne capacity
- Three cement silos, each with 1500 tonne capacity

### 11.3.3 Access capacity

Access to the berth is via a channel maintained at -2mCD at its shallowest, with a width of 50m at its narrowest point opposite Oreston.

The road to Pomphlett Wharf links to the A374, which is for the most part a dual carriageway link to the A38. It is understood that access by HGVs is made difficult by a busy roundabout providing access to the nearby Morrisons superstore which receives a large volumes of car traffic.

# 12 Yacht Haven Quay

## 12.1 Current Layout

Yacht Haven Quay is located on the eastern shore of the Cattewater. Its layout is shown in Figure 12.1 and comprises:

- Two pontoons for short-term berthing
- Boat hoist
- Boatyard facilities for repairs or maintenance work.
- Dry stack facility
- Buildings housing the Marina Office and several marine businesses

The marina is operated by Yacht Havens Group.

**Figure 12.1: Yacht Haven Quay**

## 12.2 Marine Infrastructure

Marine infrastructure comprises short-stay pontoon berthing at the entrance to the boat hoist dock, as follows:

- Modular floating pontoons, in a walkway arrangement.
- Pontoons are held in place by standalone guide piles.
- Access from land is via two gangways.
- Pontoons are equipped emergency/safety equipment comprising fire extinguishers and life-saving equipment.

## 12.3 Landside Infrastructure

The following landside infrastructure is present:

- Boat hoist dock
- Open, paved boat yard with tent option for yachts up to 40ft
- Parking facilities
- Amenities and services including:
  - Marine Forklifts and mobile crane for boat hoist up to 13T weight and 45ft length
  - Electricity and water throughout boat yard
  - Recycling and waste disposal
  - Refuelling
- Buildings including:
  - Marina office and Café Bar
  - Washrooms

- Several buildings accommodating marine businesses including sailmakers, boat maintenance, brokerage, chandlery and general repairs.
- Dry stack facility
  - Indoor racking system accommodating boats up to 5T weight 36ft length

## 12.4 Access

### 12.4.1 Navigation access

Access to the quay is via a channel maintained at -2mCD.

### 12.4.2 Land access

Road access to the marina is via Breakwater road, and it is approximately a ten minutes' drive to the A374 leading west to the city centre and east out of the city.

## 13 Turnchapel Wharf

### 13.1 Current Layout

Turnchapel Wharf is located on the southern shore of the Cattewater, towards its central section opposite Cattedown. Its layout is shown in Figure 13.1 and comprises:

- pontoons for alongside berthing
- Slipway for boat launch and recovery, with adjacent careening grid
- Designated paved parking area
- Mixed-use open space for engineering works and equipment, boats or storage
- Industrial units
- Office units
- Café building

The site is operated by Yacht Havens Group.

**Figure 13.1: Turnchapel Wharf**

### 13.2 Marine Infrastructure

The following marine infrastructure is present:

- Pontoon Berthing:
  - Modular floating pontoons offering 400m alongside berthing:
  - Pontoons are held in place by standalone guide piles or wall guides along the river wall structure.
  - Access from land is via a gangway
- Concrete Slipway
- The river wall is a mixture of masonry, piled deck and revetment.

### 13.3 Landside Infrastructure

The following landside infrastructure is present:

- Boat hoist dock
- A total of 24,000m<sup>2</sup> mixed-use open space for engineering works and equipment, boats or storage
- A total of 1,000m<sup>2</sup> industrial units currently used for warehouse, storage and workshop space and equipped with:
  - Roller shutter doors
  - 3-phase power supply
  - Air compressor lines
  - Gantry cranes
- Office buildings totalling 2,800m<sup>2</sup> floor space
- Parking facilities
- Café building

## 13.4 Access

### 13.4.1 Navigation access

Access to the wharf is via the channel maintained at -5mCD.

Depth at the main berths of the wharf varies from -5mCD to -2mCD. There is also an intertidal area featuring small craft moorings.

### 13.4.2 Land access

Road access to Turnchapel wharf is via Barton Road. It is approximately a twenty minute drive to the A374 leading west to the city centre and east out of the city. Barton road passes through residential land and is in places a too narrow for two-way traffic road so is unsuitable for high volumes of HGV traffic.

## 14 Plymouth Yacht Haven Marina

### 14.1 Current Layout

Plymouth Yacht Haven Marina is located on the southern shore of the Cattewater, towards its western end and opposite the Cattedown area. Its layout is shown in Figure 14.1 and comprises:

- Pontoon berthing with 450 marina berths
- Boatyard facilities for repairs or maintenance work.

The marina is operated by Yacht Havens Group.

Figure 14.1: Plymouth Yacht Haven Marina



## 14.2 Marine Infrastructure

The following marine infrastructure is present:

- Pontoon Berthing
  - Modular floating pontoons,
    - Inner section: in a walkway and finger unit arrangement.
    - Outer section: in a walkway arrangement for alongside berthing.
  - Pontoons are held in place by standalone guide piles.
  - Access from land via two access brows
  - Pontoons are equipped with fresh water, electricity, and emergency/safety equipment comprising fire extinguishers, life-saving equipment, and safety ladders.
- Slipways for boat launch and recovery
- Boat hoist dock for boat launch and recovery

## 14.3 Landside Infrastructure

The following landside infrastructure is present:

- Two historic aircraft hangars dated to 1917, now accommodating a variety of marine businesses. Total covered area approximately 5,000m<sup>2</sup>, with 3,500m<sup>2</sup> mixed use open space in front of hangars.
- A total of 3,400 m<sup>2</sup> designated boat yard space



- Marina office, restaurant, washrooms and office space
- Designated car parking facilities across two separate carparks

The boat yard is served by a 75-tonne boat hoist.

## 14.4 Access

### 14.4.1 Navigation Access

Access to the marina is via a channel maintained at -5mCD.

Depth at the marina varies from -5mCD to -2mCD, with the inside of the pontoon arrangement maintained at -2mCD.

### 14.4.2 Land Access

Road access to Plymouth Yacht Haven Marina is at the junction roundabout via Lawrence Road, and its approximately a fifteen-minute (3.6 miles) drive to the A374 leading west to the city centre and east out of the city. To access into the marina itself is via Shaw Way.

## 15 Mount Batten

### 15.1 Current Layout

Mount Batten is located on the southern shore of the Cattewater at its western end. Its layout is shown in Figure 15.1 and comprises:

- Pontoon Berthing
- Slipways for boat launch and recovery
- Café building
- Both outdoor and internal facilities for boat storage
- Designated parking spaces
- Commercial facilities – shop
- Education centre and water sport facilities
- Office floorspace

The site is operated by the Mount Batten Centre Charity Trust and home to the Hope Point Sailing Club.

Figure 15.1: Mount Batten



## 15.2 Marine Infrastructure

The following marine infrastructure is present:

- Pontoon Berthing on a singular modular floating pontoon.
  - Pontoon is held in place by standalone guide piles
  - Boarding from land is via one access brow.
- Main Concrete slipway and a secondary Northwest slipway
- River wall – masonry and revetment (sections of wall protected by shingle beach)

### 15.2.1 Mount Batten Breakwater

Located at Mount Batten is a breakwater that stretches nearly 300m west into Plymouth Sound as shown in Figure 15.2. With no facilities on the breakwater itself, it is used by the public for fishing and viewing the shipping entering/leaving the harbour. The breakwater has become a popular destination to visit when in Plymouth. It was constructed in 1881 and refurbished in 1995. Its practical function is to shelter vessels in the harbour against strong waves and winds entering the Cattewater from the English Channel. Its structural form is understood to comprise masonry protected by a rock revetment.

**Figure 15.2: Mount Batten Breakwater**



### 15.3 Landside Infrastructure

The following landside infrastructure is present at Mount Batten:

- Parking facilities
- A total of 3,200 m<sup>2</sup> outdoor storage boat facility
- A total of 1,800m<sup>2</sup> open space to allow for manoeuvring loading/unloading boats for the slipways.
- A total of 600m<sup>2</sup> multi-use units for warehouse, storage, and workshop space
- A 1,400m<sup>2</sup> floorspace for mutli-use building complex containing a Dive shop, Café, commercial offices, and water sports centre.

### 15.4 Operations

#### 15.4.1 Typical Operations

The slipway at Mount Batten is free for the public to use for the launching and recovery of most vessels, including those that are towed. It is also host to The Mount Batten Water sports and Activities Centre, being one of the foremost outdoor education centres in the southwest offering multi-activity courses.

#### 15.4.2 Navigation Access

Access to the pontoon is first via a channel maintained at -5mCD, and thereafter via un-dredged intertidal water with depths between +1mCD and -3mCD. Depths at the pontoon are between +0.5mCD and 0mCD and can be dry at low tides.

A historic wreck lies North of Mount Batten with mooring prohibited in this area.

### 15.4.3 Landside Access

Road access to Mount Batten is via Lawrence Road . It is approximately a 15-minute (3.9 miles) drive to the A374 leading west to the city centre and east out of the city.

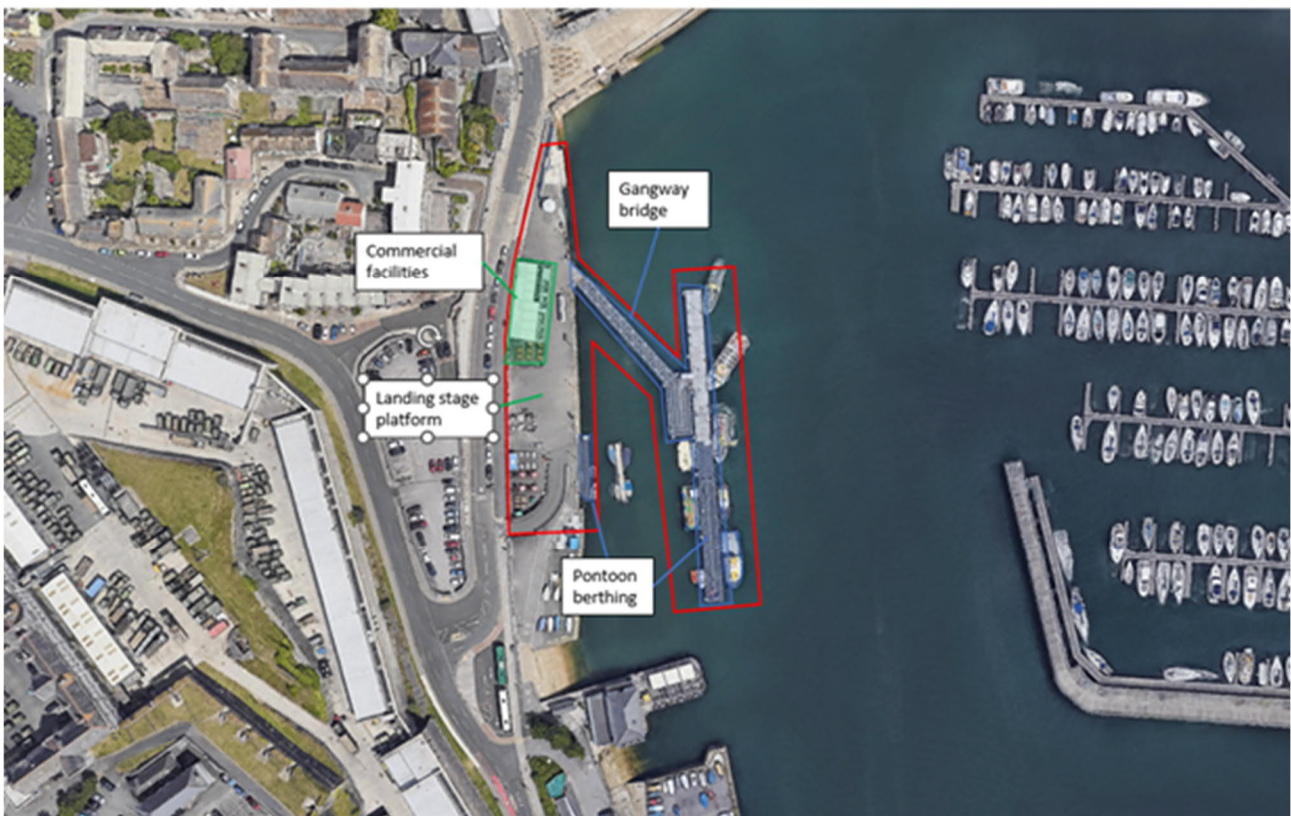
## 16 Barbican Landing Stage

### 16.1 Current Layout

Barbican Landing stage is located on the northern shore of the Cattewater, towards its western end and at the entrance to Sutton Harbour, in the west side of the bay. Its layout is shown in Figure 16.1 and comprises pontoon berthing currently used for cruise ship tenders, pilot boats & tugs, and river taxis.

The landing stage is operated by Cattewater Harbour Commissioners.

**Figure 16.1: Barbican Landing Stage**



### 16.2 Marine Infrastructure

The following marine infrastructure is present:

- Pontoon Berthing:
  - Modular floating pontoon held in place by standalone guide piles
  - Entry from land is via one access brow and walkway ramp to pontoon
  - A small berthing modular pontoon is also present, held by wall guides along the river wall
- Masonry river wall

## 16.3 Landside Infrastructure

At the top of the access ramp and landward of the river wall is a total of 1600m<sup>2</sup> open space and businesses which include cafés and restaurants. Vehicular access is restricted to permit holders but pedestrian access is open to the general public.

## 16.4 Operations

### 16.4.1 Typical Operations

Barbican landing stage is available for use by commercial boat operators. The facility is typically used by cruise ship tenders, pilot boats & tugs, and river taxi. Use of the facility is granted by and coordinated with Cattewater Harbour Commissioners.

### 16.4.2 Navigation Access

Access to the entrance of Sutton harbour is via the Cobbler channel maintained at -5mCD, and thereafter the “visitors area” outside Queen Anne’s Battery Marina maintained at -2.5mCD.

The depth of the un-dredged area between the maintained channel and landing stage varies between -2.5mCD and -2mCD.

Within close proximity to the harbour wall, the water depth is intertidal and approximately +0.6mCD.

### 16.4.3 Landside Access

Road access to Barbican Landing stage is via Commercial Road, with the lower level section reserved for permit holders only. Commercial Road can be accessed via:

- Lambhay Hill, which leads out towards the main city centre of Plymouth.
- Southside Street and the Barbican, which is one-way access from the B3240. Its approximately a 5-minute (0.9 miles) drive to the A374 leading north to the city centre.

Lambhay Hill car park is located opposite the entrance to the landing stage.

## 17 Cattewater Moorings

The Cattewater is host to several trot and swinging moorings, which allow vessels up to 36’ LOA to berth.

- Maintained Trot moorings – vessels moored fore and aft to buoys secured by chains to the riverbed. These are maintained by CHC.
- Maintained swinging moorings (drying + afloat). Vessels moor bow only and swing with the current. These are maintained by CHC.
- Self-maintained swinging moorings (drying + afloat). These are approved by CHC but owned and maintained privately.

### 17.1 Mooring management

To provide a clear and navigable channel, the (CHC) has the authority to relocate vessels and/or moorings to achieve this. To lay, maintain or moor anywhere in the harbour requires a license from the Harbour Authority. Licenses are granted following consideration of:

- The requirements of navigation within the harbour
- Optimisation of the use of the Harbour
- Conservation and environmental enhancement of the harbour

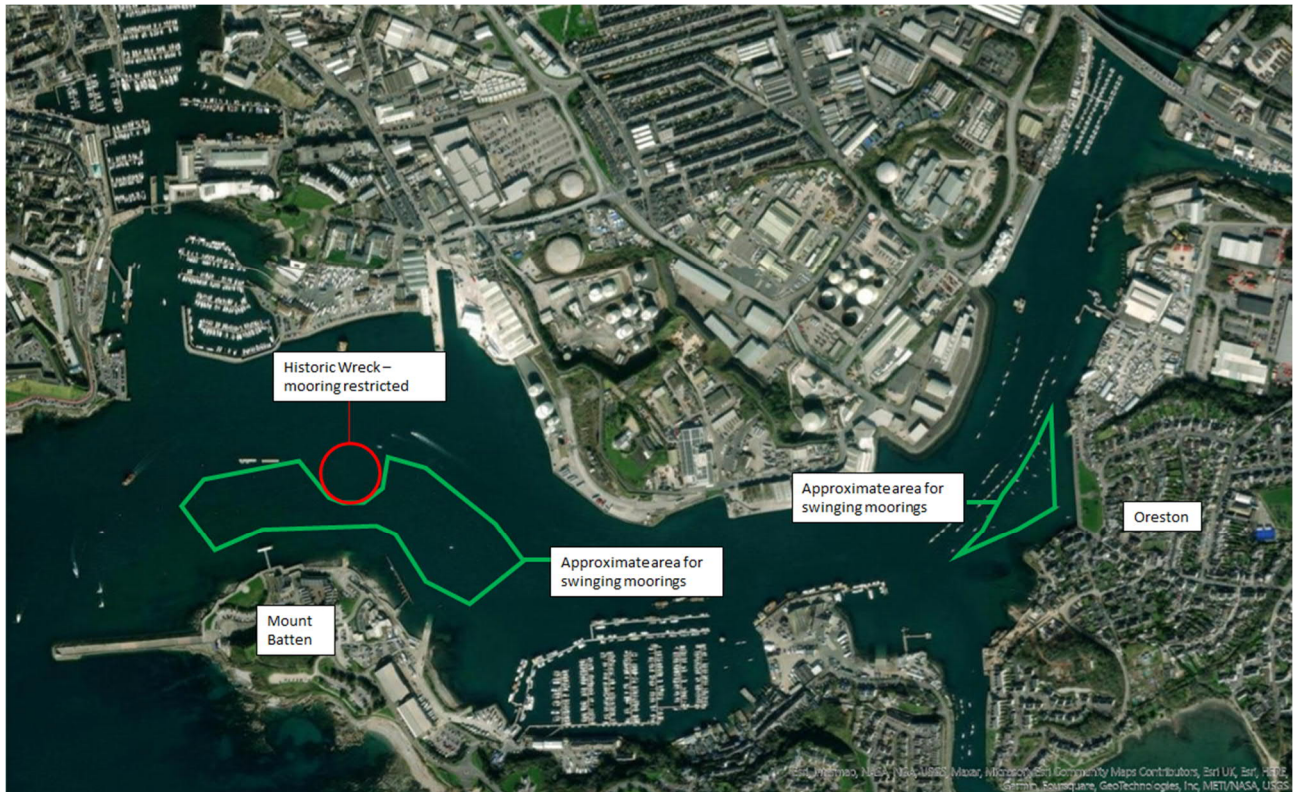
- Customer/ Business requirements

## 17.2 Location of Moorings

Swinging moorings maintained by CHC are at locations shown in Figure 17.1 as follows:

- Near the Oreston area (drying moorings)
- North of Mount Batten presented (deep water moorings)

**Figure 17.1: Swing Moorings in the Cattewater**



Trot Moorings maintained by CHC are near the Oreston area on either side of the main channel, as shown in Figure 17.2.

Figure 17.2: Trot Moorings in the Cattewater







