

Apt

Dayhouse Quarry
Design and Access Statement

April 2022

South Vertical Access, Pontoons and Entrance Compound
PL-DAS-002

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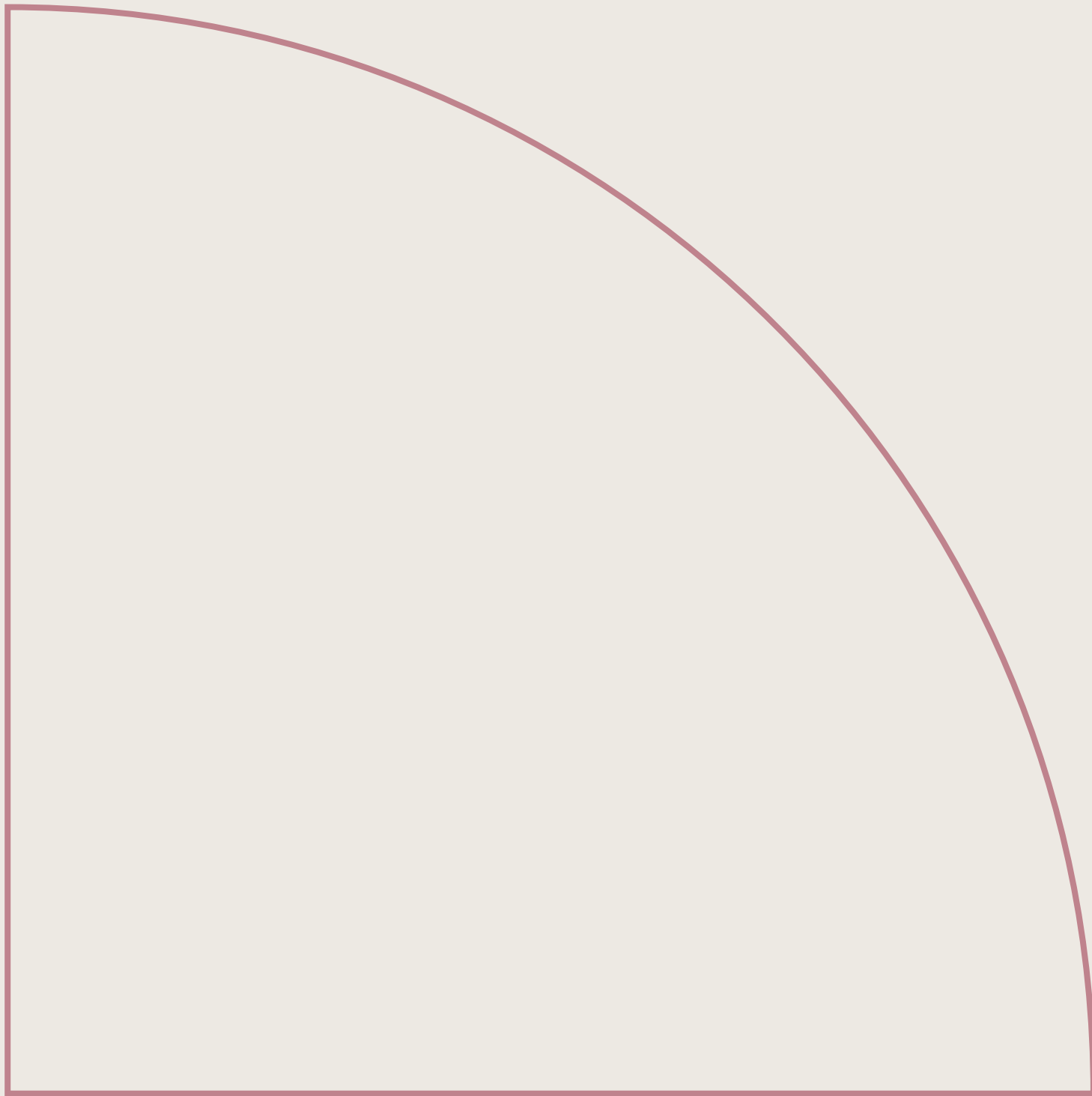
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Project Title Dayhouse Quarry	Project Number 21018
Document Name Dayhouse Quarry, Chepstow	Date 14/04/2022
Status Planning	Revision 00
Author Apt	Reviewed by Apt



1.0

Introduction

1.1 Introduction

This document has been prepared in support of a planning application for improvements to the facilities at the Dayhouse Quarry adjacent to the village of Tidenham in the Forest of Dean.

The proposals aim to improve facilities within the Dayhouse Quarry by creating safer access to the site and water column, for every day use.

This document sets out the proposed improvements which are focused on:

1. Alternative & complimentary access and egress to the water column.
2. Enhanced pontoon provision.
3. Works to the main entrance compound facilities.



1.2 Professional Team

Architect: Apt

Project Management: Radcliffes

Planning Consultant: Savills

Cost Consultant: Gardiner & Theobald

Structural Engineers: AKTII

Services Engineers : AECOM

The logo for Apt, consisting of the letters 'Apt' in a bold, black, sans-serif font.The logo for Radcliffes, featuring the word 'Radcliffes' in a black, serif font with a stylized 'R'.The logo for AECOM, featuring the word 'AECOM' in a bold, black, sans-serif font.The logo for GT GARDINER & THEOBALD, with 'GT' in a large blue font and 'GARDINER & THEOBALD' in a smaller blue font to its right.



2.0
Site




2.1 Site Location

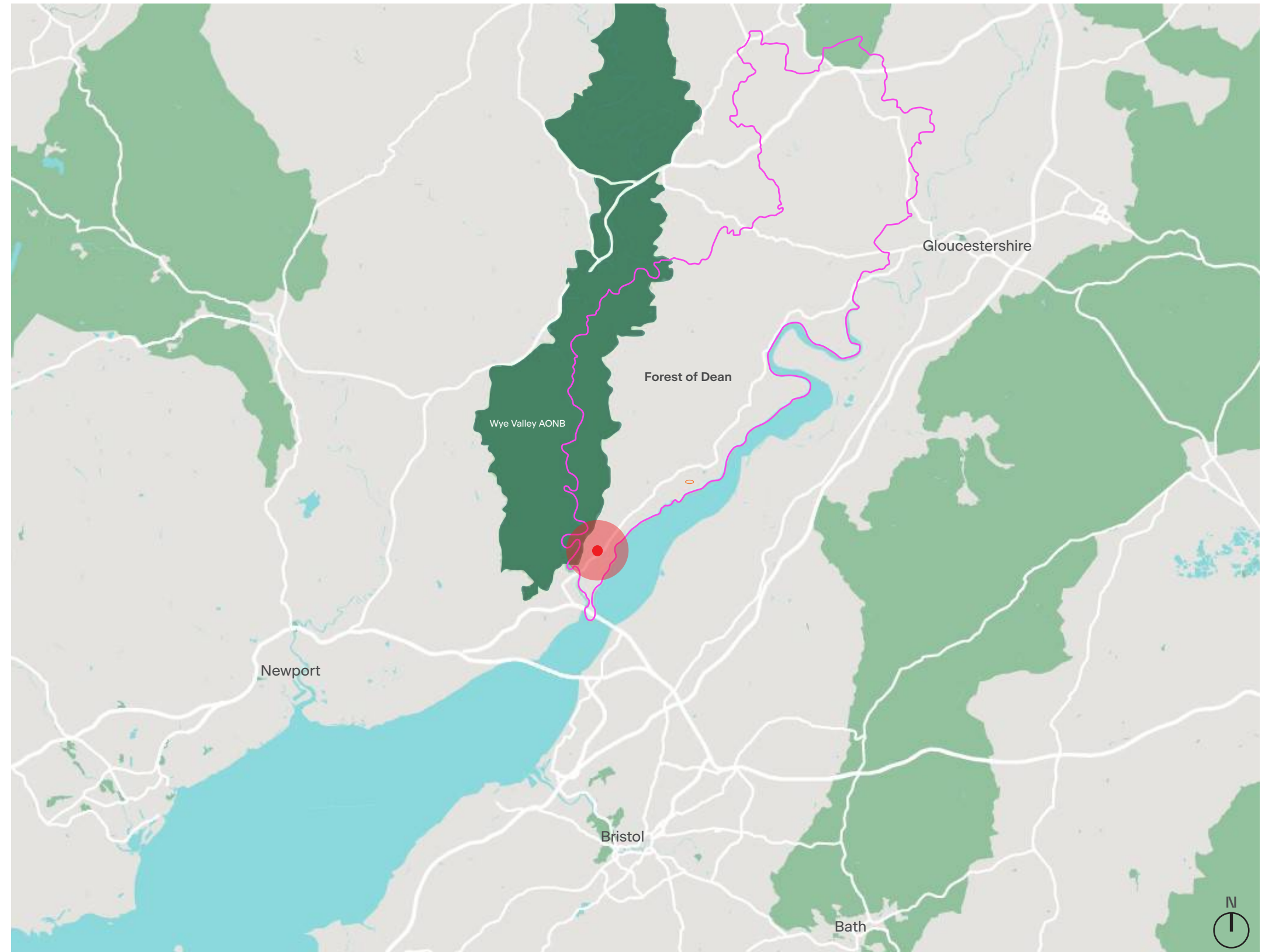
The site is located within the Forest of Dean, in the county of Gloucestershire, to the west of the River Severn estuary and to the east of the River Wye valley.

The site is located on the south-west edge of Gloucestershire; close to the boundary between Wales and England, a border which runs along the centre of the River Wye to the west. The site lies outside the eastern boundary of the Wye Valley Area of Outstanding Natural Beauty (AONB).



Key

-  Site
-  Wye Valley Area of Natural Beauty (AONB)
-  Forest of Dean









2.2 Local Context

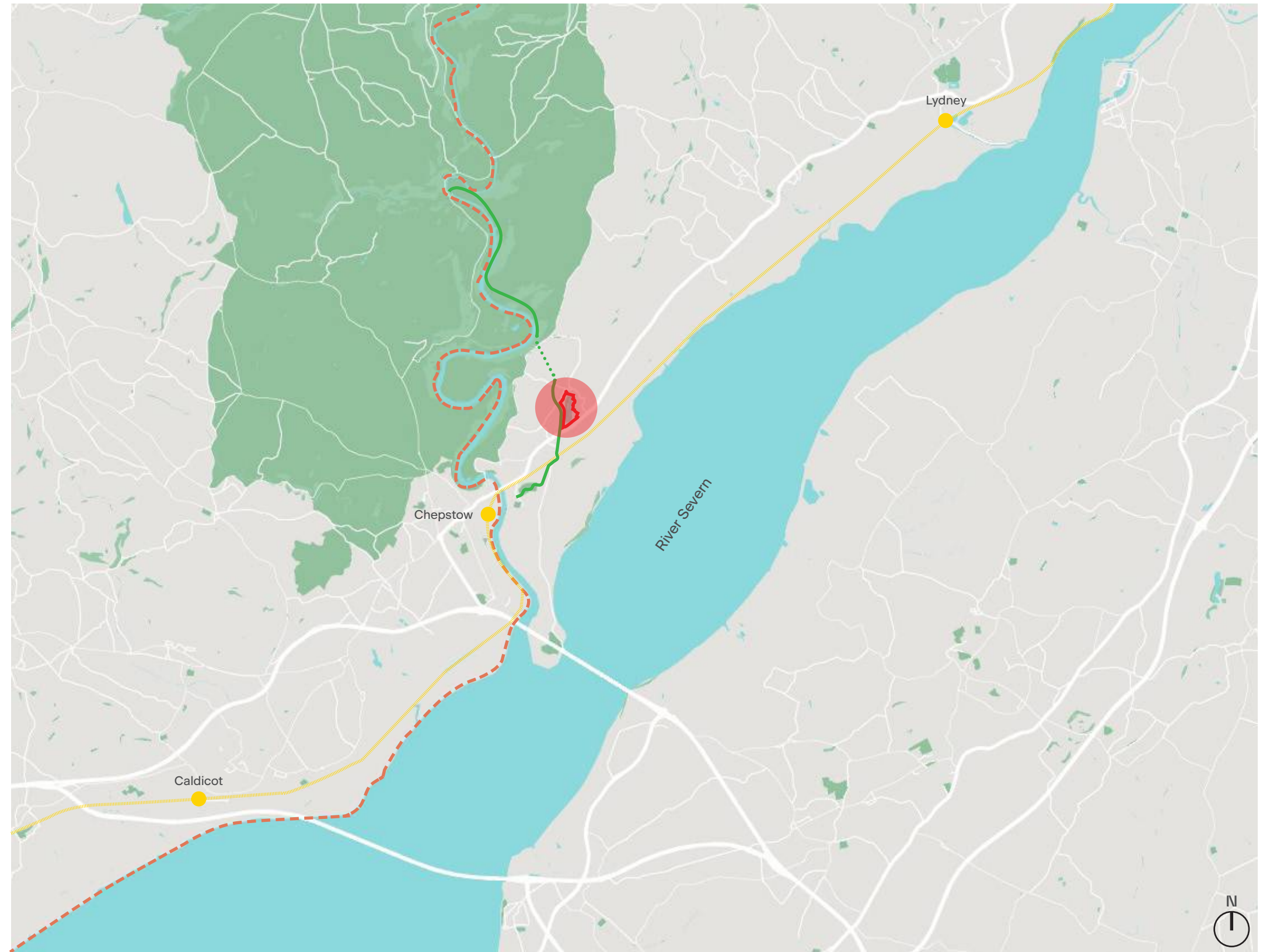
The site is accessed from the A48 running between Chepstow and Tidenham

The site is well connected to local and regional infrastructure, including access to an excellent road and public transport network, with local bus stops adjacent to the site entrance offering a frequent service to Chepstow. This lies circa 2km to the South West with its train station on the Gloucester, Newport and Cardiff line, and Lydney station circa 10km to the North East.

The Wye Valley Greenway, which is popular with walkers, wheelchair users and cyclists, runs along the route of the former Wye Valley Railway. It is a 7km trail that links Sedbury and Chepstow to Tintern and runs directly adjacent to the site's western boundary and the site of the former Tidenham Railway Station.

Key

-  Site
-  Train Stations
-  Welsh border
-  Railway
-  Wye Valley Greenway
-  Wye Valley Greenway (tunnel)



2.3 The Site

The application site is that of the former Dayhouse Quarry, the rocks of which were formed 340 million years ago in the early Carboniferous Period.

The quarry, which is an excavated limestone pit, dates back to the 1930's and was in use until the 1990s and was served by the adjacent goods-only railway line, following the closing of Tidenham station to passengers in 1959. The last train serving the quarry ran in September 1992.

In 2005 the site was taken over by The National Diving Academy & Activity Centre (NDAC), taking advantage of the freshwater lake that formed within the quarry when the quarry pumps were turned off. The water is crystal-clear, fed by local aquifers with depths of up to 80m (260ft).

The linear quarry is broadly aligned north-south and is c. 540m long and c. 100m wide.



Key

 Site

2.4 Aerial Views and Elevations



2.5 History of the Quarry

Dayhouse Quarry was created on the site of Coombsbury Wood. There are archives indicating that a place named 'Coombsbury Wood' and 'Coombsbury' have been recorded as early as 1845.

Dayhouse Quarry was operated by T. S. Thomas Lydney Ltd. In 1968 Tidenham station was converted into a stone-loading site for the quarry. It was located half a mile from the main line junction.

The last train ran to the quarry in September 1992. Since then the quarry has partially filled with water and has been operated as the National Diving and Activity Centre until its closure in March 2022.



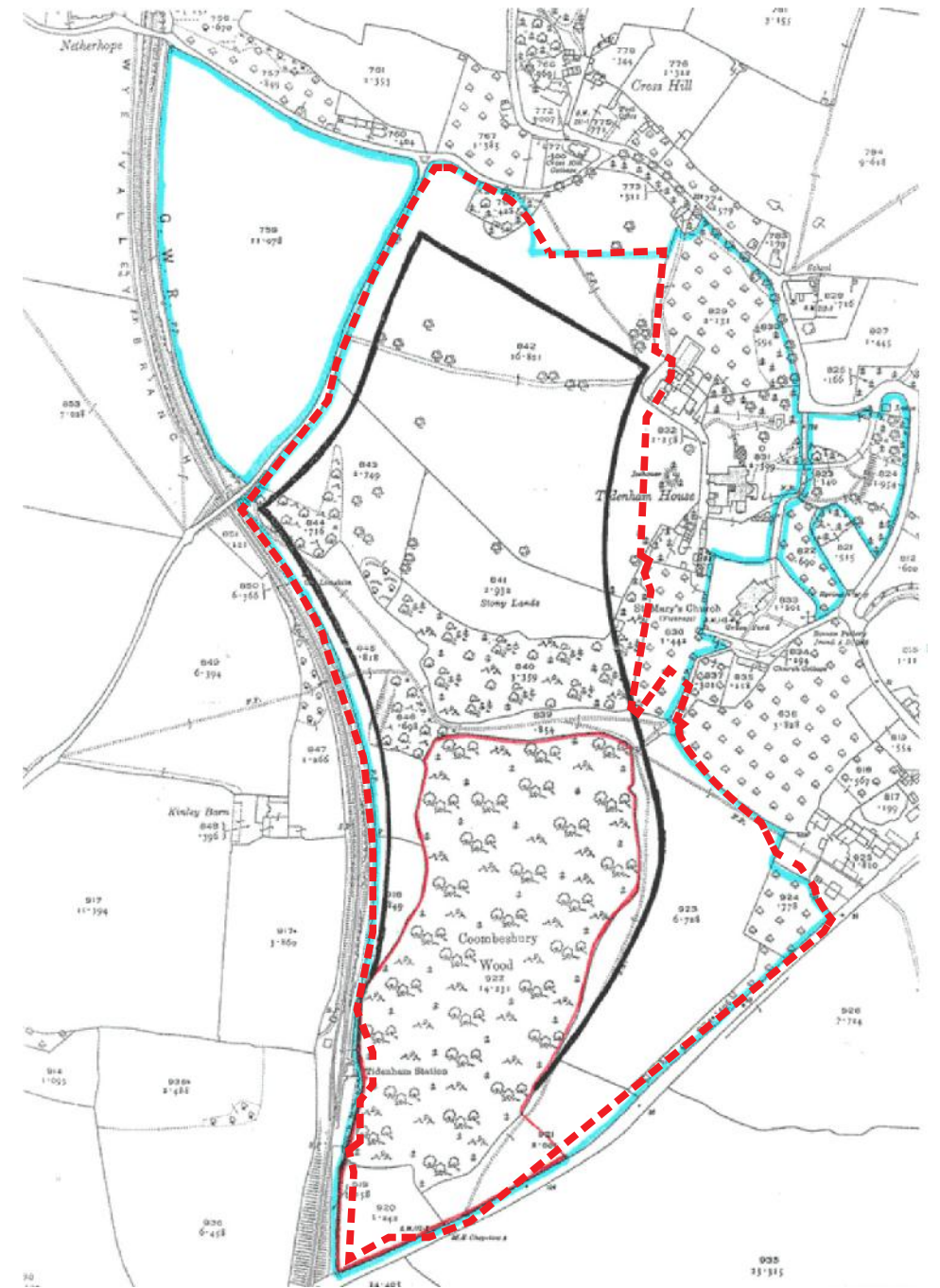
A view from south of the site towards the quarry plant area and access prior to restoration



A view from south of the site towards the original quarry buildings and access after the restoration



A view from the eastern edge of Woodroft following removal of quarry buildings




A map of Coombsbury Wood before the quarry opened for mineral extraction



A view of the quarry in use before the pumps were turned off and it flooded.

Key

 Site

 Coombsbury Wood

2.6 Existing Site Layout

The Dayhouse quarry site is arranged as a series of level plateaus on a sloping site with the former quarry, now partially filled with water, at its centre.

The site entrance is located to the south east, accessed directly from the A48 or from footpaths which skirt the southern and eastern boundaries, one such pedestrian access being from the Wye Valley Greenway at the southern tip of the site.

The main facilities and car park are located to the south of the quarry, adjacent to the main entrance. These include visitor facilities, a cafe, wc's and changing areas.

Located to the south on a plateau raised up from the car park is a cluster of accommodation pods with communal facilities.





To the east of the quarry are 3 plateaus stepping down from the quarry wall toward the A48. The uppermost plateau has a string of accommodation pods with external decks, overlooking the quarry. A private residence with external private space is located on the mid plateau. The lower plateau accommodates a 3 storey modular building and a single storey mobile home.

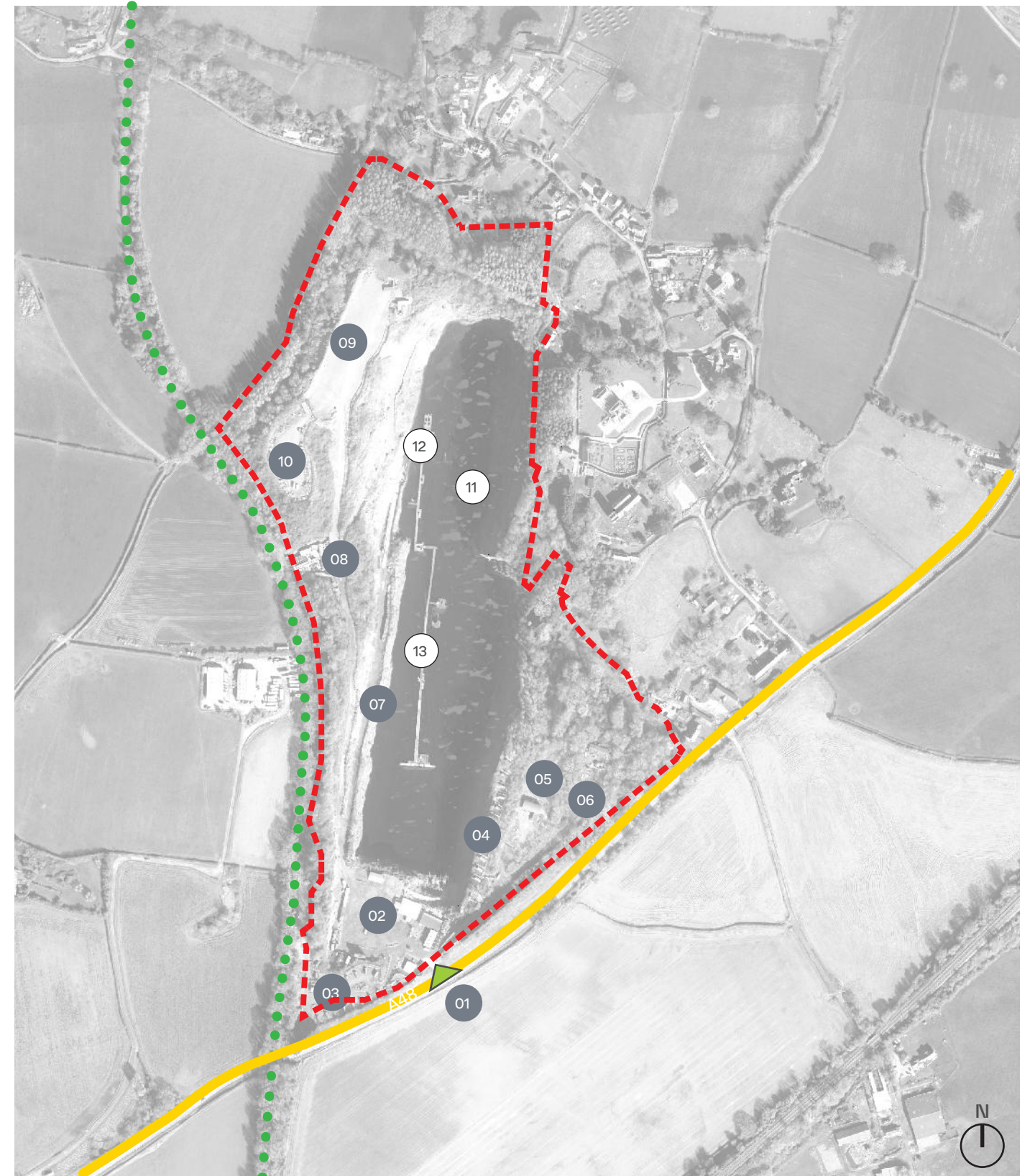
Located at the south west corner of the quarry are tracks which fork to either descend toward the quarry, this track being the original quarry access haul road. Or ascend toward the north west of the site where there is a large plateau of open ground, with a Zip wire attraction occupying the northern most point. The southern end of this plateau is utilised as a storage area.

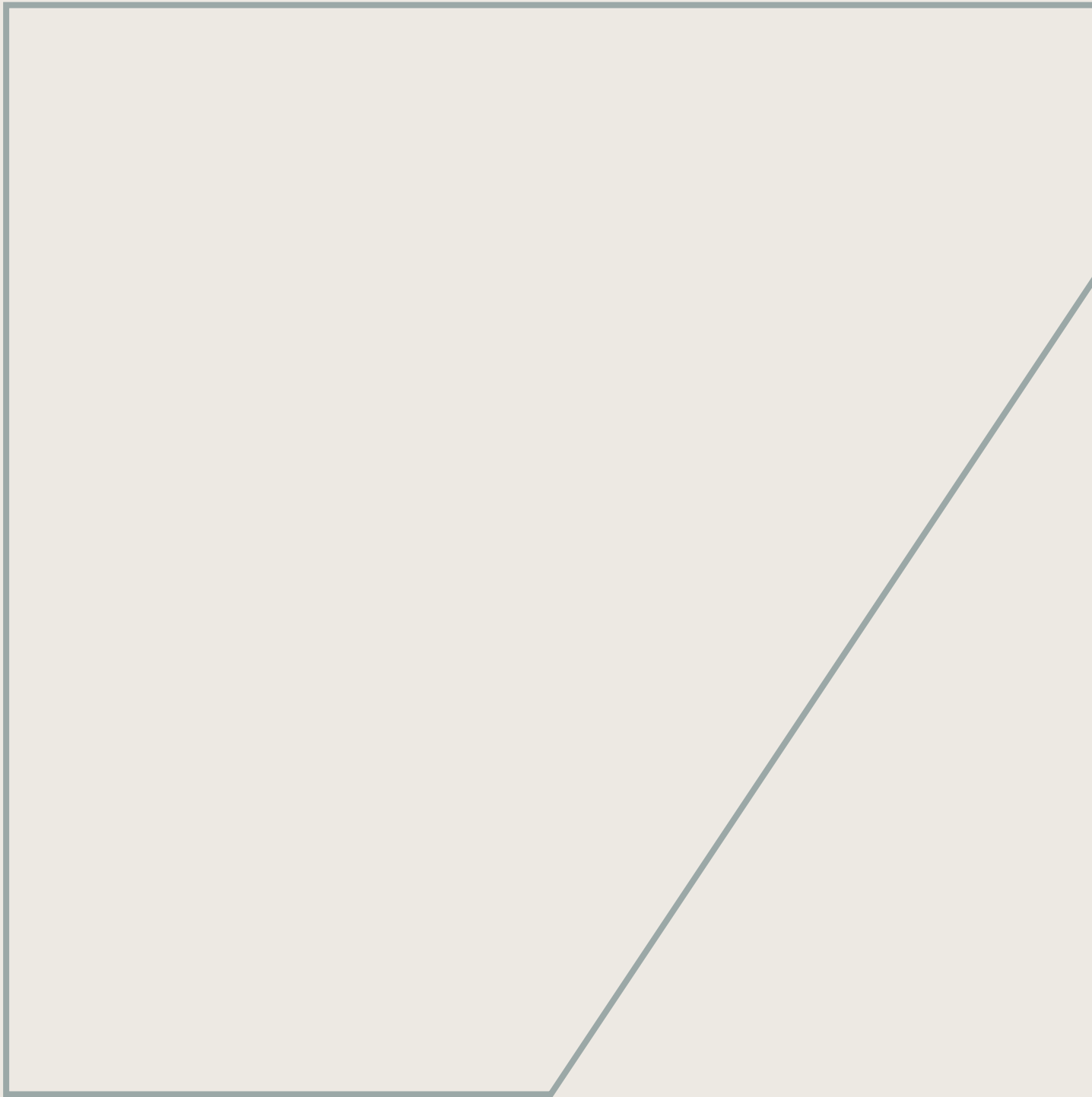
Mid way along the western side of the quarry is another smaller plateau which spans between overlooking the quarry and connecting to the western boundary and the Wye Valley Greenway. This plateau houses a cluster of decorative ramshackle cabins and containers which form the 'Fear Fest' visitor attraction.

- 01 Main Entrance (off A48)
- 02 Main Facilities & Car Park
- 03 Southern Plateau - Accommodation pods & facilities
- 04 Eastern Upper Plateau - Accommodation pods with external decks
- 05 Eastern Mid Plateau - Private residence and external private garden
- 06 Eastern Lower Plateau- Modular building and mobile home
- 07 Quarry access haul road
- 08 Western Plateau - 'Fear Fest' visitor attraction
- 09 Northern Plateau - Open ground and Zip-wire visitor attraction
- 10 North Plateau - Storage area
- 11 Quarry - Water column
- 12 Quarry - Slipway
- 13 Quarry - Pontoons

Key

-  Site Boundary
-  Main Site Entrance
-  Major Roads
-  Wye Valley Greenway





3.0

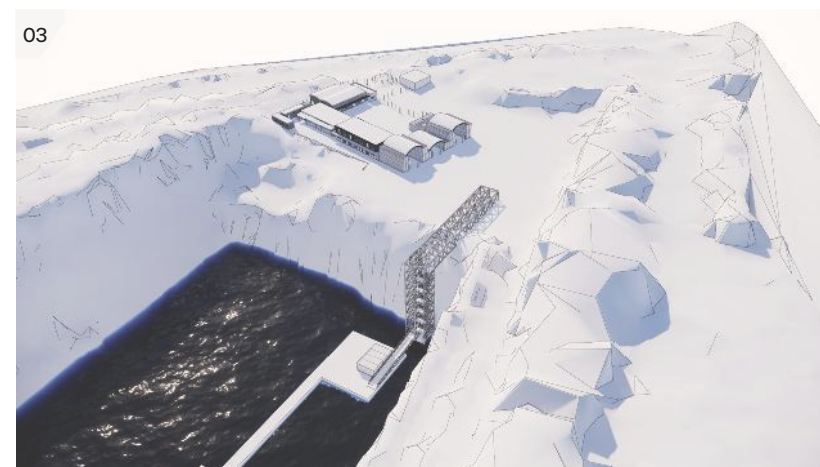
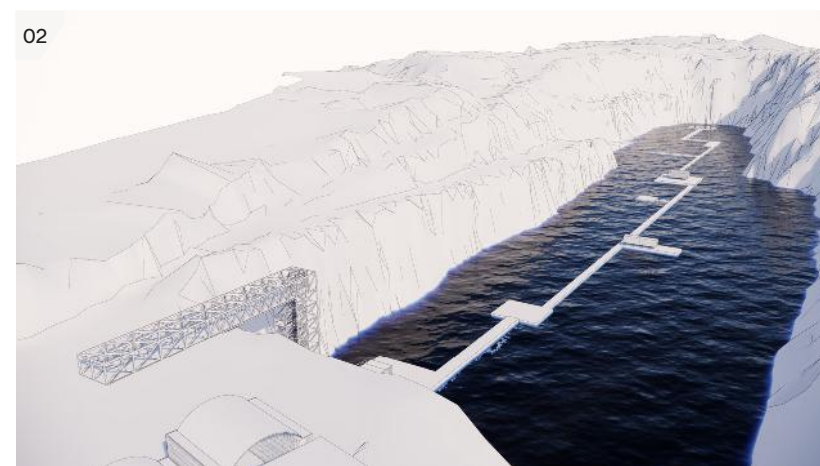
Proposals




3.1 Proposals Overview

The proposed works are to improve facilities within the Dayhouse Quarry with new accommodation and by creating safer access to the water body, for every day use.

The proposed improvements are focused on :

1. Vertical access and egress to the water column, located on the southern quarry wall.
2. Enhanced pontoon provision, giving greater access to the water.
3. Works to improve the facilities and accommodation in the entrance compound area.



- Key
-  Southern Vertical Access
 -  Pontoons
 -  Entrance Compound



3.2 South Vertical Access

Currently the only way to access the water is at the apron and slipway at the base of the quarry haul road.

The proposals include for a new vertical access point to be located at the southern end of the quarry, adjacent to the entrance compound at the site entrance.

A new structure is proposed to cantilever beyond the incline of the quarry south wall and support a staircase and lift which will connect the entrance compound with the water.

During the proposed works to the new apron and the quarry haul road the proposed southern access will be the only means of accessing the water. After access is restored via the haul road and apron the southern access will provide a valuable second means of access and egress to the water, in close proximity to the main facilities.



01 View of the quarry south west corner





02 View of the south quarry wall



View from the top of the south quarry wall

Key

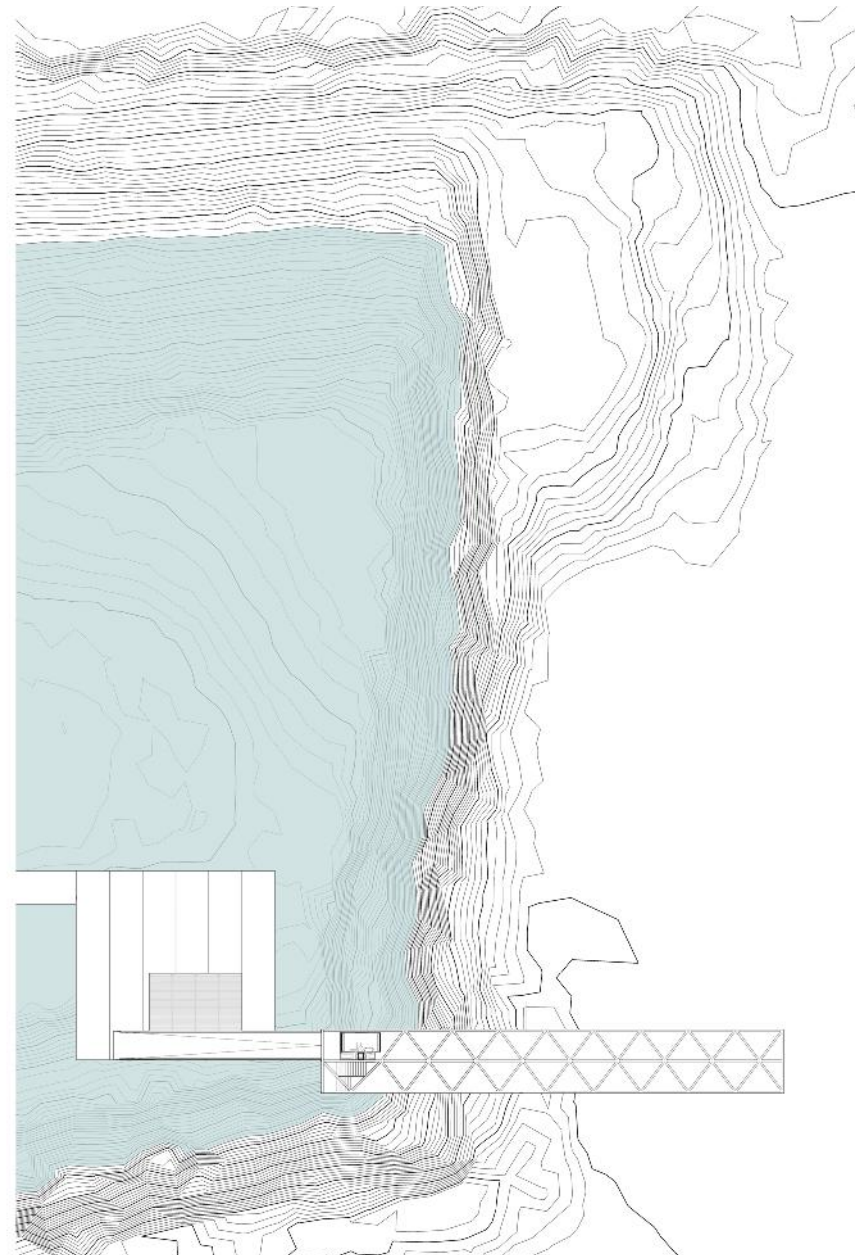
-  Southern Vertical Access
-  Pontoons



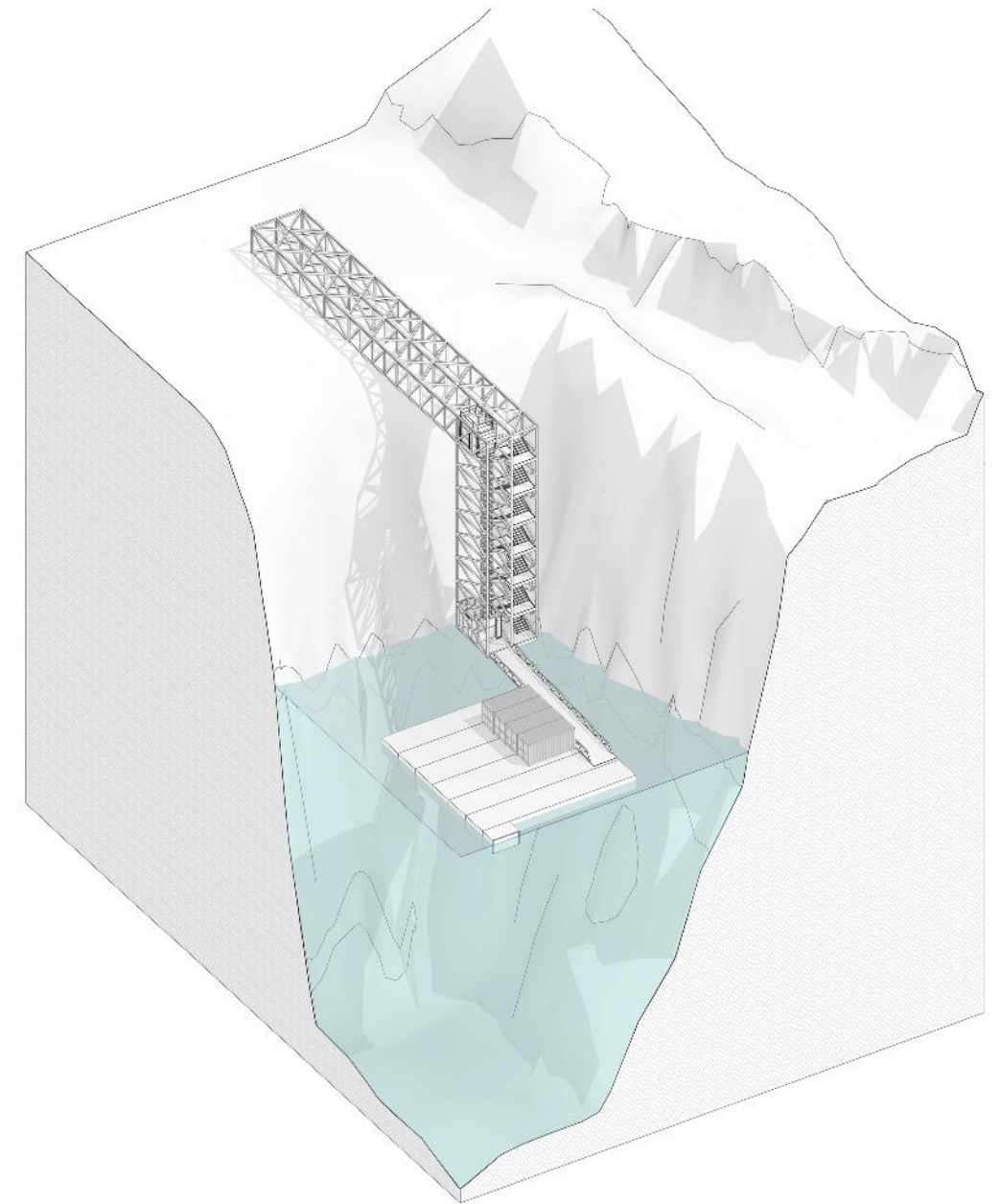
South Vertical Access

The proposed vertical access cantilevers beyond the south quarry wall, a steel box truss supports a new stair and lift accessing the water via a hinged walkway which connects to series of pontoons on the surface of the water.

The cantilevered box truss is supported by foundations which anchor into the bedrock of the existing car park. This approach minimises the requirement for works to the existing quarry walls.



Plan of south west vertical access stair & lift



3D view of south west vertical access stair & lift

3.3 Pontoons

Existing Pontoons

There is an existing string of pontoons which connect to land at the existing apron & slipway with a hinged pedestrian bridge.

The existing pontoons stretch north to south across the water surface providing access to dive sites at a variety of depths.



01
View of the existing pontoons from water level



02
View of the existing pontoons from the southern quarry wall



View of the existing pontoons from on the water



Plan showing the extent and arrangement of the existing pontoons

Pontoons

Proposed Pontoons




It is proposed to retain and reuse the existing pontoons and enhance the water access with a number of new pontoons.

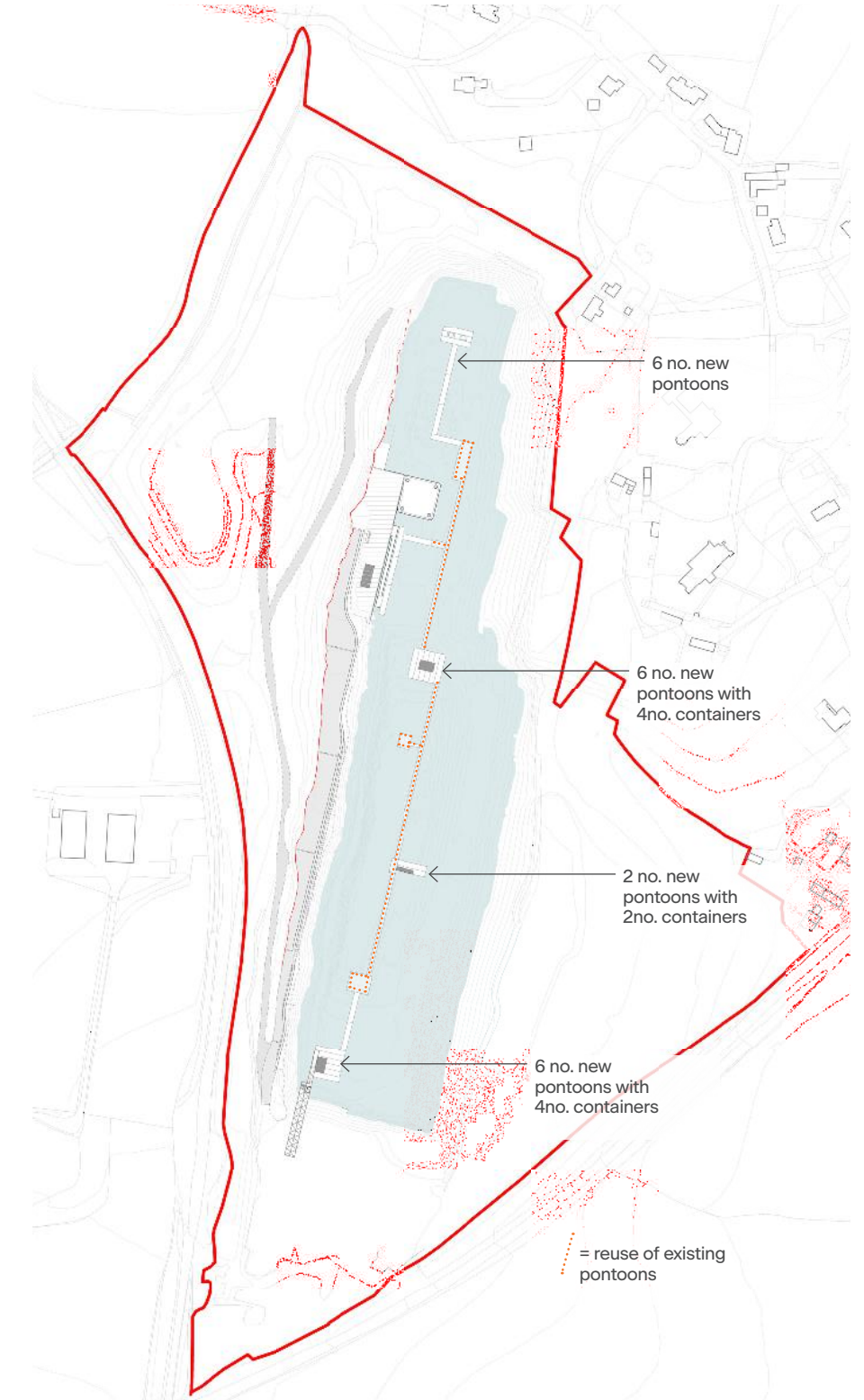
To the south, a raft of new pontoons will be located at the base of the new south vertical access. A new pontoon layout will create a route between the south access and the new apron (subject to separate application), giving options for access and egress from the water.

In locations the new pontoons will be joined together to create a raft for water level activities. These rafts of pontoons will house shipping containers for storage of equipment for daily use, minimising the requirement to manhandle equipment onto and across the pontoons.

There will also be shipping containers on the pontoons which will house a hyperbaric chamber and associated gas compressors, so that the facilities are easily and readily accessible in the event of an emergency.

Key

-  Apron (Subject to separate application)
-  Southern Vertical Access
-  Pontoons



3.4 Entrance Compound Overview

The main facilities for the existing site are located in a compound adjacent to the main entrance from the A48.






View of the entrance compound from the north - with cafe & terrace



View of the entrance compound from the south



Key

-  Site Boundary
-  Main Site Entrance
-  A48



3.5 Entrance Compound Existing

The existing facilities located in the compound adjacent the main entrance include:

1. Single storey cafe building with terrace overlooking the quarry.
2. Two storey Storage building with staff room and shop.
3. Male changing, shower and wc building
4. Female changing, shower and wc building.
5. Large marquee with fenced off support areas.
6. Security kiosk.
7. Refuse store.
8. Container with hyperbaric chamber.
9. Car park.
10. 3no. Portacabins with diving operations.
11. Stacked containers with external cinema screen.
12. External tiered bleacher seating.
13. Containers containing aquapark operations.

Several of the existing facilities are proposed to be retained and re-used. There are also elements which have exceeded their lifespan and are no longer fit for purpose or required, they will be cleared from the site creating space for new facilities.



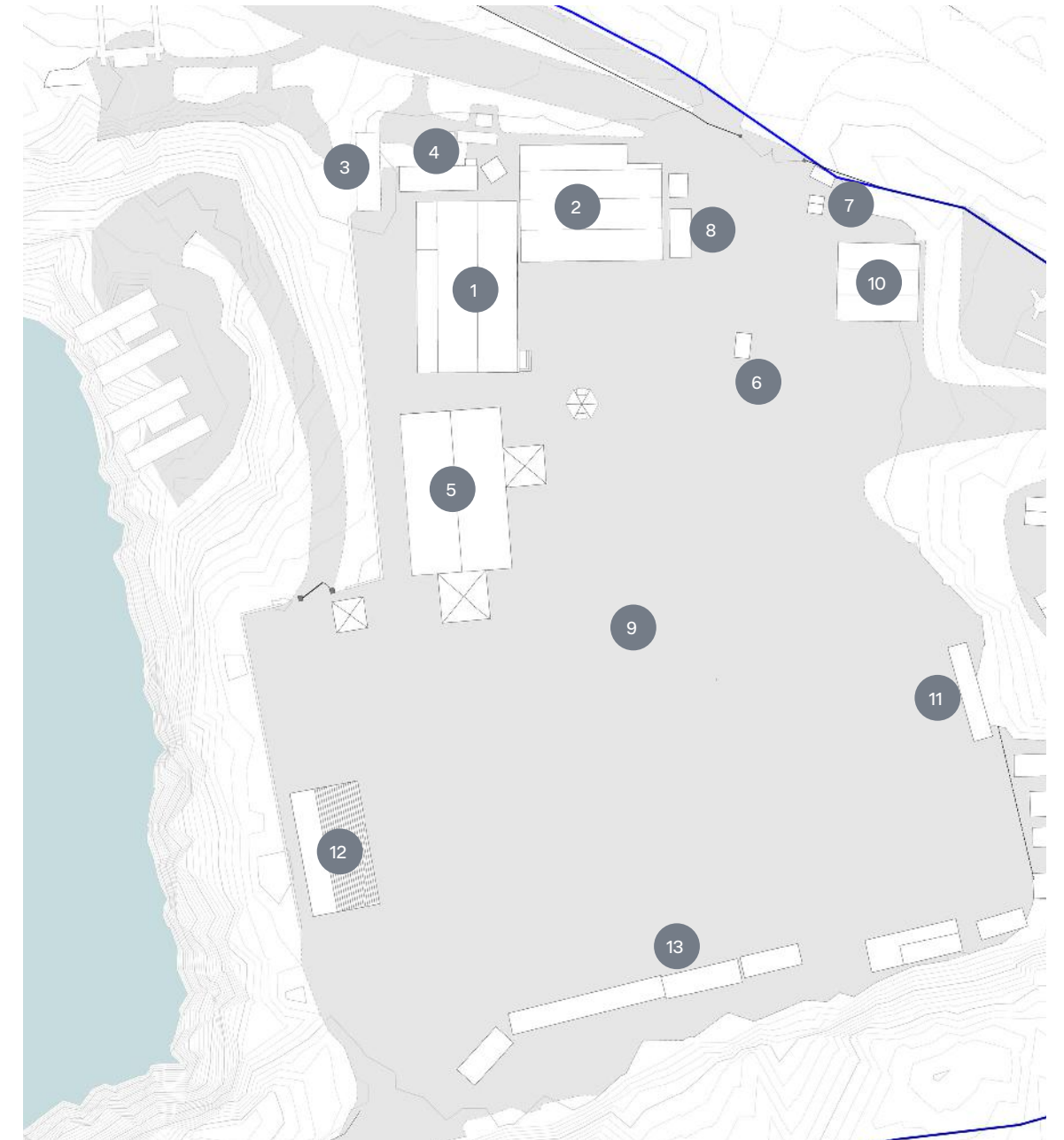
View of the drive in cinema screen & aquapark operations containers



View of the marquee



View of the storage building and hyperbaric chamber containers.



Existing entrance compound plan



3.6 Entrance Compound Proposed

Proposed

A new layout of facilities in the entrance compound is proposed, to create accommodation which will enhance the operations and use of the quarry.

The new layout will include the retention of facilities in place, such as the cafe and black metal clad storage buildings to the north of the main entrance. It will also include the reuse of containers, relocated from other areas of the site to create storage in close proximity to the main facilities. The containers will be painted black and include proprietary light weight covers spanning between containers to create covered external spaces.

The reused and relocated facilities will be complimented by new facilities, such as new portacabins located next to the existing cafe. The new portacabins will provide new medical room, changing and wc's, and office space with views overlooking the water body, improving safety with active and passive surveillance.

The appearance of the new portacabins will reflect the existing cafe with it's black painted body, partially clad with timber. The use of horizontal and vertical timber slats will be in keeping with the retained facilities and give a variety of texture and interest to the new additions.

The existing portacabins housing the male and female wc & changing areas located to the north east of the cafe are proposed to be replaced with like for like new facilities.

New portacabins housing offices and security are located next to the main entrance.

The main facilities are enclosed with a new fence providing security and delineating the site operations compound.



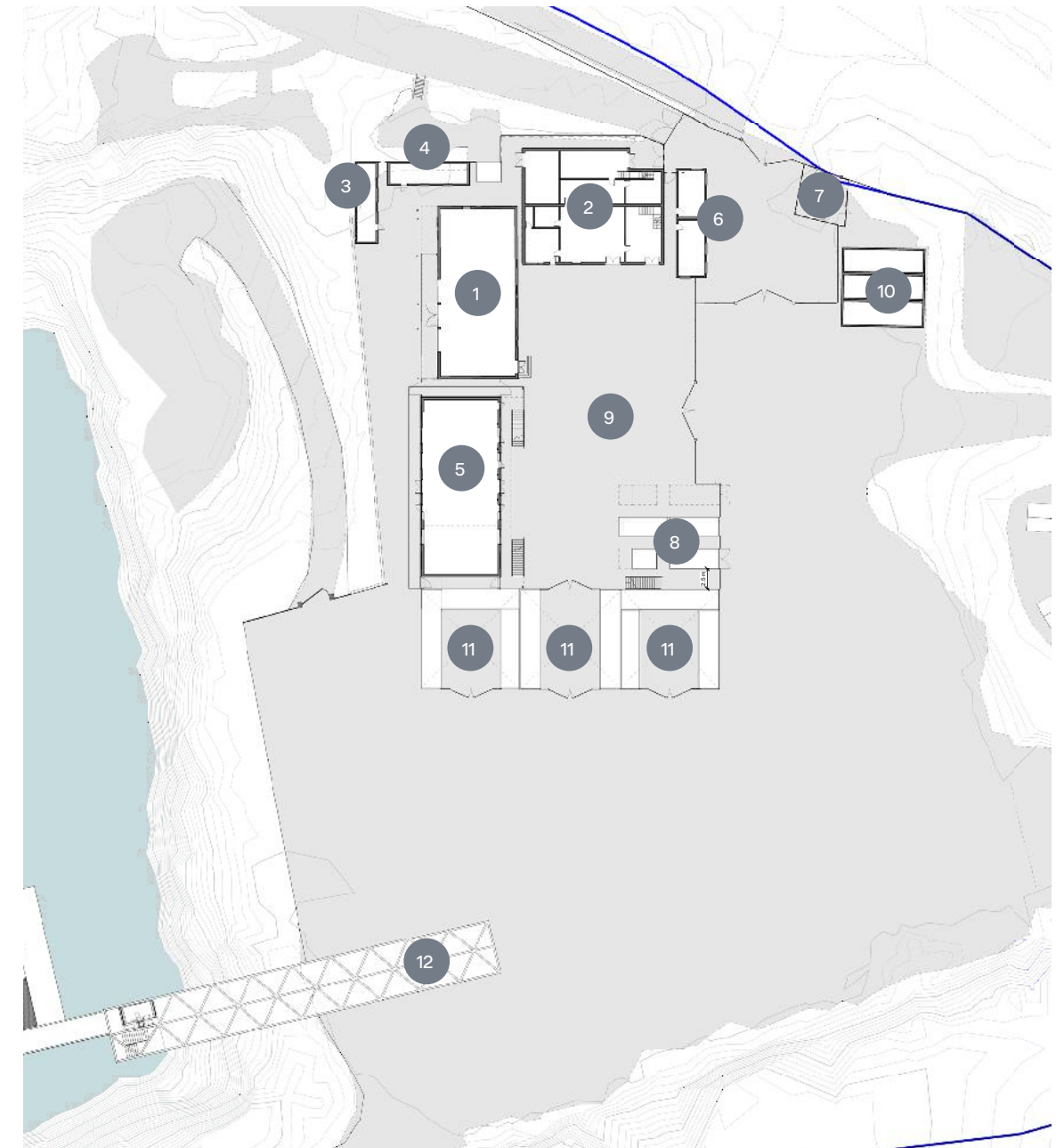
Containers to be relocated and re-used



Timber and black metal covered terrace - Cafe to be retained



Retained and renovated black metal sheds with pitched roofs

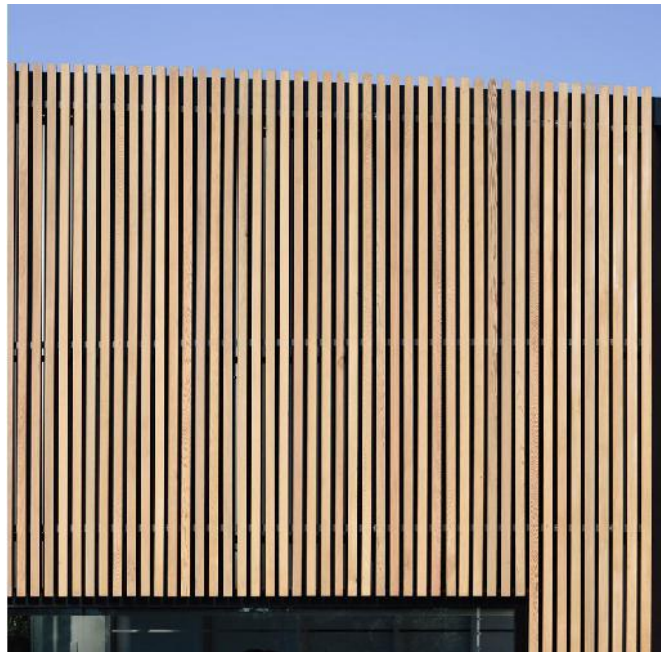


Proposed entrance compound plan



- | | |
|---|--|
| 1. Cafe (retained) | 7. Refuse store (retained) |
| 2. Facilities building (retained and renovated) | 8. Hyperbaric chamber (retained and relocated) |
| 3. Male wc's & changing (replaced) | 9. Car park |
| 4. Female wc's & changing (replaced) | 10. 3no. portacabins (retained) |
| 5. Operations portacabins (new) | 11. Covered storage area (new and retained containers) |
| 6. Security kiosk & office (new) | 12. Vertical access entrance |

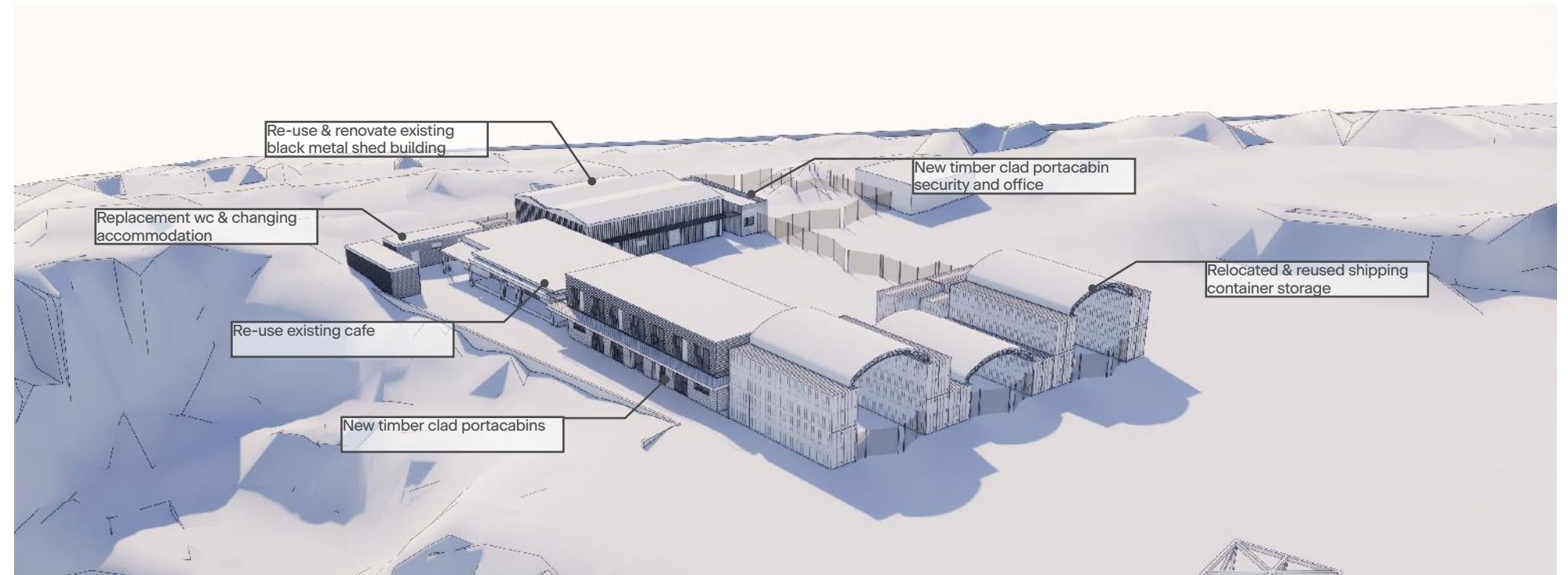
Entrance Compound Proposed



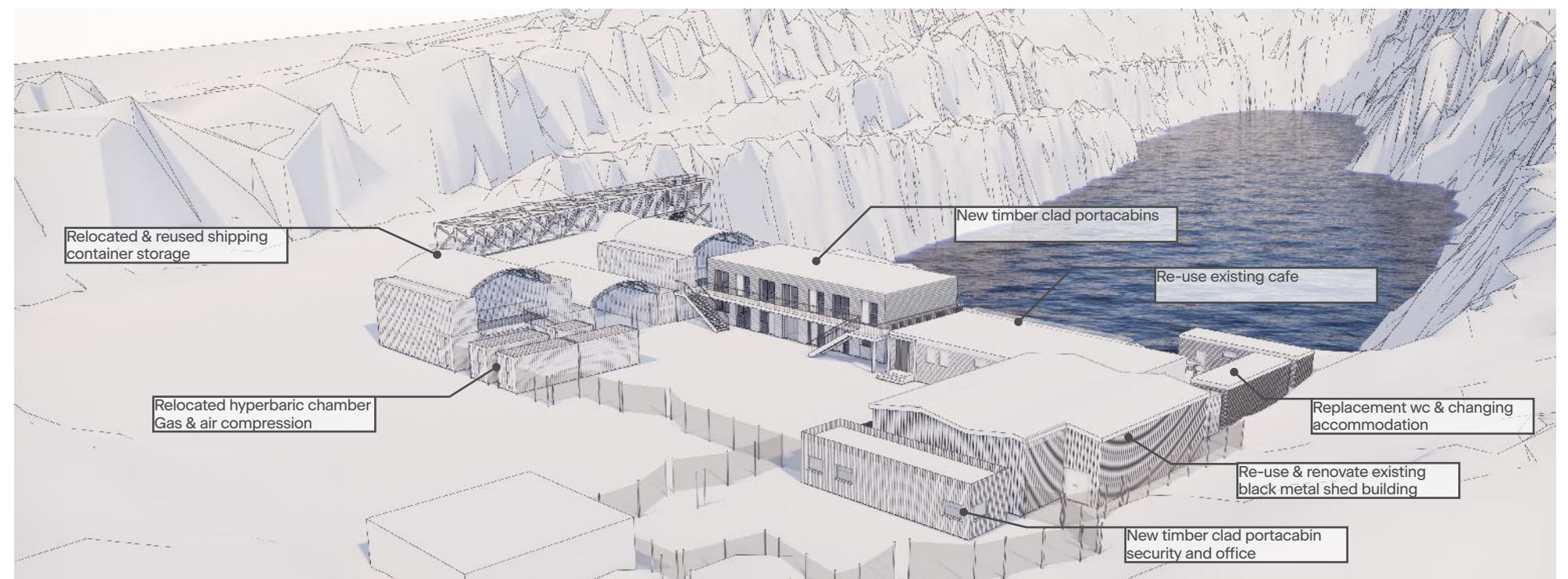
Vertical & horizontal timber cladding to black painted portacabins



Proprietary covers between storage containers



Entrance compound - View from north west



Entrance compound - View from south east

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