The

Fort Dunree Project

Design Statement

August 2023

By
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and
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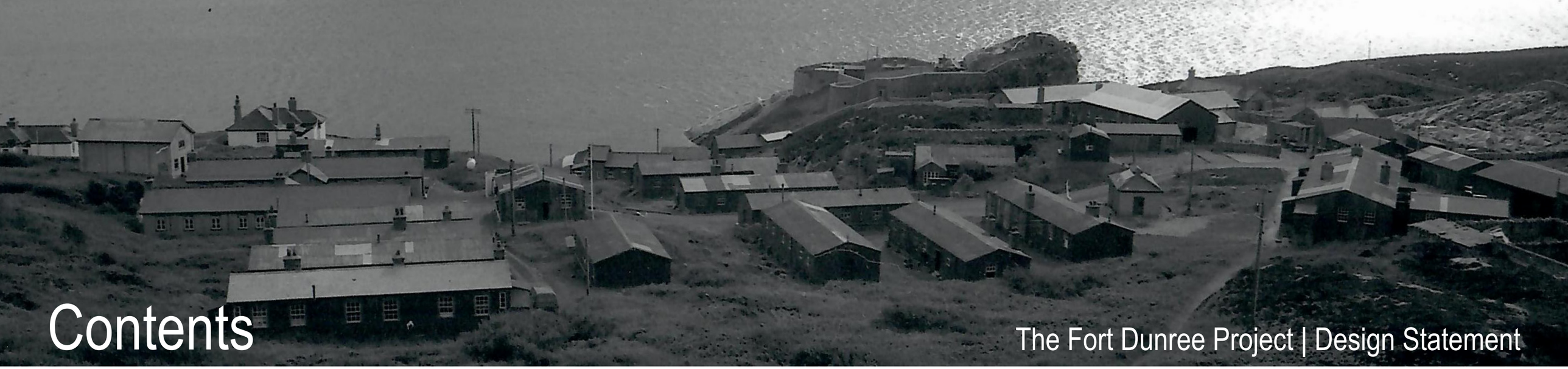

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0.0 Executive Summary

The proposals presented in this report are a response to the Fáilte Ireland Platforms for Growth funding awarded to Donegal County Council for The Fort Dunree Project.

The focus of the project is to unlock Fort Dunree's potential, with the design intent to provide a creative, historically sensitive and imaginative tourism experience; from revitalized historic landscapes and structures, rich biodiversity and new distinctive insertions that will enhance the existing infrastructure and visitor experience.

The Part 8 proposals are derived by the architectural heritage found on site, sets out measures, strategies and key principles to preserve, stabilise and restore the site respectfully. The resulting design provides a conservation based reinterpretation of the structures, respects the history, landscape, wildlife and future users of the site.

This investment will create a "must see" visitor attraction on the Wild Atlantic Way bringing significant investment to Inishowen and the wider Donegal region.

Fort Dunree Aerial

1.0 Introduction

1.1 Purpose of the Report

This report has been prepared by TMKM Architects (Taylor McCarney Architects and Keys and Monaghan Architects) to describe the architectural design of the proposed development. It has been developed in collaboration with Donegal Co Council and Failte Ireland by the Integrated Design Team. This report is part of an application, for a tourism landscape and attractions site, at Fort Dunree, Buncrana to Donegal County Council, under Part 8 of the Planning and Development Regulations 2001.

The Redoubt proposal

1.0 Introduction

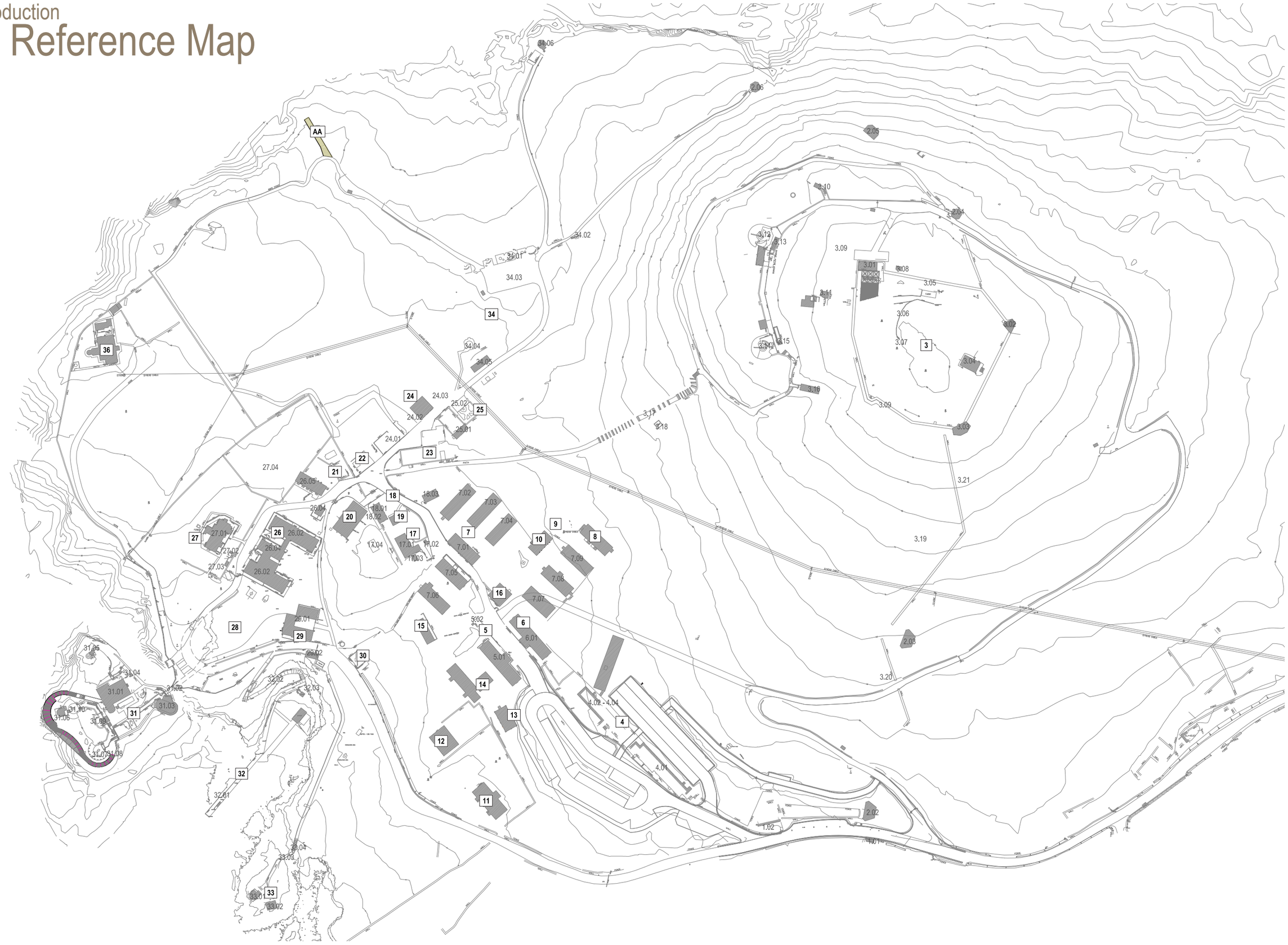
1.2 Design Team

1.2 Project Team

Principal Services	
Architect	Taylor McCarney Architects
	Keys And Monaghan Architects
Conservation Architect	Dedalus Architecture
	Taylor McCarney Architects
Building Services Engineer	Delap & Waller
Civil & Structural Engineer	Design ID
Fire Safety Design	BB7
Project Supervisor Design Process	Taylor Group
Planning And Environmental Consultant	Turley
Specialist Skills	
Assigned Certifier & Design Certifier	Taylor Group
Universal Access Design	BB7
Ecologist	Gareth Grindle Associates
Archaeologist	Farrimond Macmanus
Traffic & Transport Planning	KH Engineering
Thermal Model Design	Delap And Waller
Geotechnical Engineering	Design ID
BER Design	Delap And Waller
Acoustic Design	Grainger Acoustics
Interior Design	Taylor Mccarney Architects
Landscape Architect	Park Hood
Funicular Design	ABS Transportbahnen Gmbh
Independently Appointed Consultants	
Quantity Surveyor	Sammon
Interpretative Consultant	Tandem

1.0 Introduction

1.3 Reference Map



1.0 Introduction

1.4 Project Brief

Brief

The project will physically link the 3 unique elements of Fort Dunree: Lough Swilly below the Fort; the Promontory Fort and the High Fort (Redoubt). Along the visitor journey, immersive heritage and cultural touch-points will be provided with modern intervention view points and imaginative interpretive installations. The ambition is to reposition this defensive site to allow visitors to imagine its past and experience its beauty.

Key interventions include relocating the car park back to the main entry; providing a new interpretative square at the cliff top above the pier; design of an EV mobility bus route bringing those with mobility issues to the High Fort with its 360˚ spectacular overview of the area; viewing installations which embrace Lough Swilly; Linking and developing the unique Lighthouse at Dunree as a interpretative centre along with a sensitive restoration of many of the on-site structures.

The Visitor Experience proposal strikes a balance between the free exploration of the vast site and focused experiences, between the existing structures and new installations to reflect the sequential nature of the sites development -creating a seamless visitor journey through history and contemporary, the built and the natural environments.

7.08 Hut 8 - Barrack, Office & Wireless Room

2.0 Site Analysis

Aerial View of Dunree Hill Battery & Redoubt

2.0 Site Analysis

2.1 Project Area

Site Overview

Fort Dunree contains a vast number of structures throughout the site (107). Blockhouses are dotted around the perimeter to protect the site, serving as a defensive strong point and the 'The Village' is made up of Corrugated Iron Hutments. This was the main living quarters for the soldiers stationed here; with accommodation for sleeping, eating, recreation and so forth. The engine rooms that powered the entire fort are also stationed her. The Lower Fort was the first structure to built n the site and originates from the Victorian era. Its layout and purpose has changed over the years but the original fort walls still remain perched over Lough Swilly.

The Redoubt built at the highest point served several functions, from lookout posts to a water catchment and storage area that served the Fort. The High Guns located east of the Redoubt was the main defensive line.

History

Dunree Fort was built in 1798 to guard against the possible return of a French invasion fleet. This expansive site developed incrementally. The Napoleonic era military battery is located on a natural rock outcrop, jutting out into the Swilly with cliff faces to three sides. In the late 19th Century the Fort was modernised and enlarged to include the development of the later Fort to the west on the summit of Dunree Hill. There is a large complex of corrugated-metal clad buildings and a complex of robust single storey stone buildings in the center of the site. Further to this, there are dispersed blockhouses and watch huts dotted throughout the site. These include two lookout posts located on an island to the southwest of the site, connected to the mainland by a timber footbridge. There are roads and a series of pathways t and rubble stone walls that further characterise the site.

As Lough Swilly was one of the Treaty Ports, the Fort remained under British military control until 1938. It was used by the Irish Army during the Second World War and a number of anti aircraft guns were added to the site. This site is of national historic importance in the understanding of the strategic value of Lough Swilly especially to the British during World War One and played an integral role in safeguarding Ireland's neutrality during World War Two. The site also provides an insight into the defensive thinking of military planning and the skills of military engineers. It is a very interesting example of coastal fortification and an important element of the built heritage and history of Donegal.

The site is part of the shared military heritage of both Ireland and the UK.

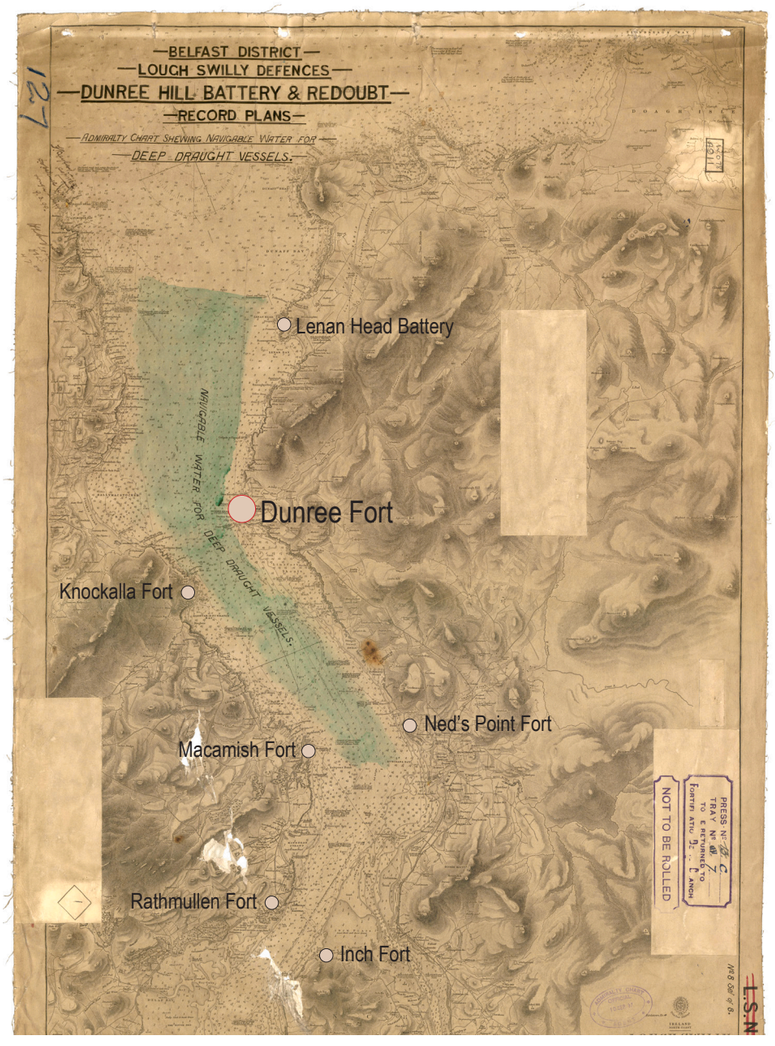
Recent Development

The Fort was abandoned following the end of World War II. It was used by Fórsa Cosanta Áitiúil (FCA) as a training base until the 1980s but has lay vacant for many years. The adaption and reuse of the early battery to the west commenced in the 1980's with the military museum opening in 1986 and it has grown incrementally over the years with the restoration of stone buildings on the site to form a cafe and shop. Since the site was re-branded as a discovery point on the Wild Atlantic Way it has seen increased visitor numbers. The need for further visitor activities and amenities is becoming increasingly apparent.

Only a small section of the site is being used at present. The remainder of the built heritage on this important site is in a derelict condition. Some buildings are in a state of collapse and several buildings have indeed already collapsed.

Although the buildings are derelict and out of use, many of these retain their early form and character, as well as a much of their original fabric. It is critical that these buildings are not left to collapse as they constitute an integral part of the military' history and represents an intrinsic part of Inishowen's heritage. There is a great opportunity to improve the visitor experience and respond to the visitor increase by adapting and reusing of the heritage of the site to meet the current day tourism demand.

(Above) A photograph taken during the handover of Fort Dunree to Ireland.



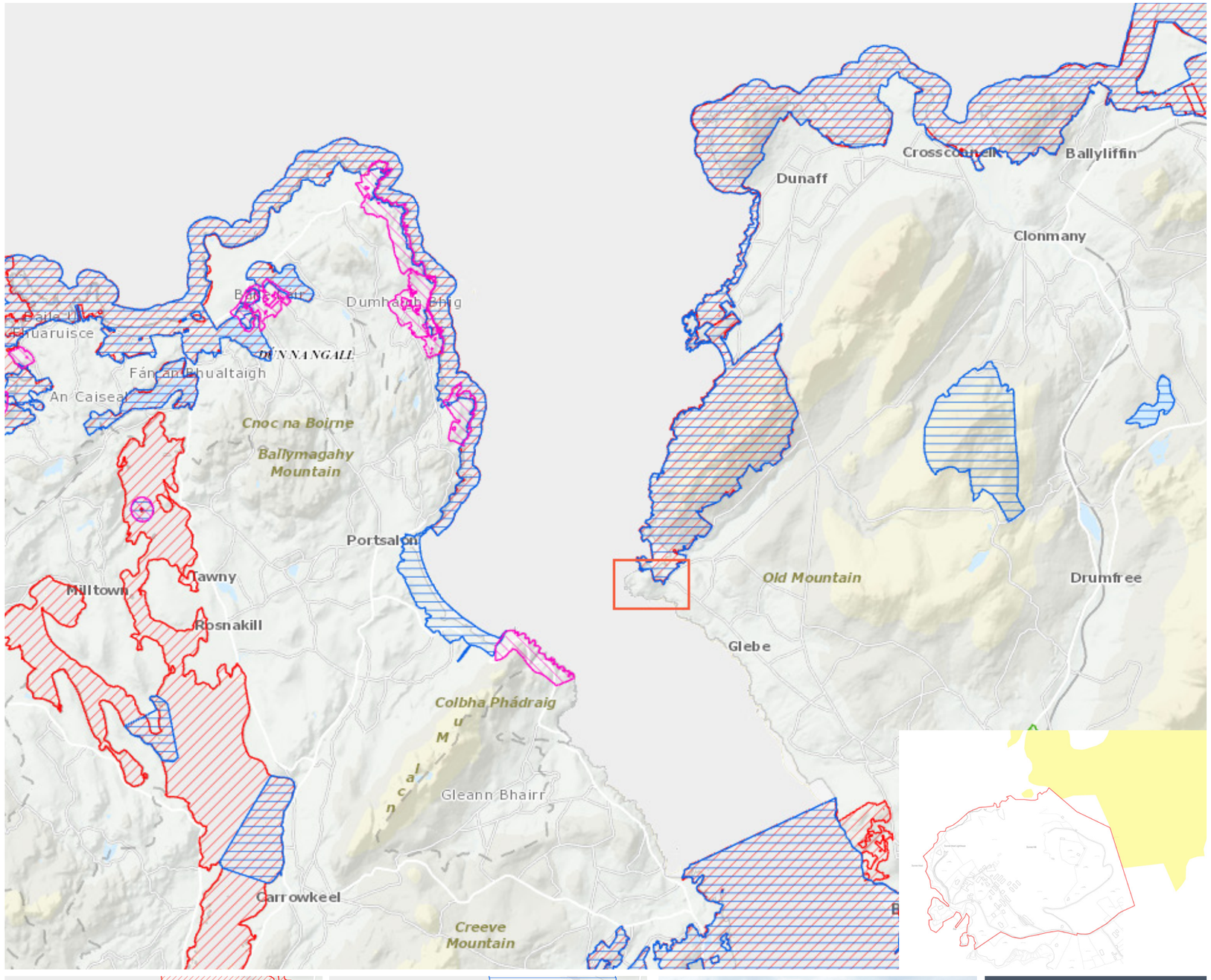
2.0 Site Analysis

2.1 Project Area

Ecology Overview

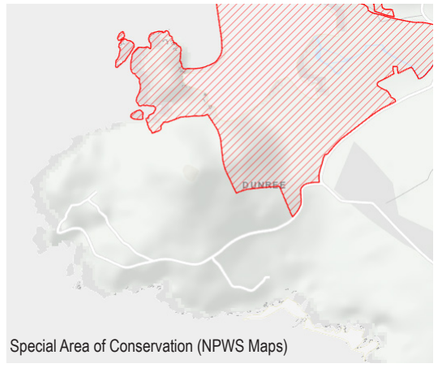
Dunree Head is not within any Natura 2000 site, which is surprising, considering the quality of the natural habitats and their coherence with similar areas designated within North Inishowen Coast. The SAC, terminates immediately to the north & east (see right). The omission of the Fort Dunree site from North Inishowen Coast SAC should not be taken to suggest that the ecology of the site is of any lesser quality or value. In fact, it is likely that habitats and wildlife at Dunree Head merited inclusion within the SAC but was excluded due to the military association.

North Inishowen Coast SAC (notified for coastal and terrestrial habitats and wildlife including Otters; Peregrine Falcon, Chough and breeding seabirds including Fulmar, Cormorant, Shag, Kittiwake, Guillemots, Razorbill are also present). Sections of the coast and cliffs on the far side of Lough Swilly are designated as Ballyhoorisky Point to Fanad Head SAC and Horn Head to Fanad Head SPA (for Peregrine Falcon, Chough and a range of breeding and wintering seabirds including Fulmar, Cormorant, Shag, Geese, Kittiwake, Guillemots, Razorbill). The southern parts of Lough Swilly are designated as Lough Swilly SAC (for a range of estuarine and terrestrial habitats and wildlife) and Lough Swilly SPA (for a wide range of breeding and wintering seabirds including Grebes, Heron, Swans, Geese, Gulls, Terns, Waders, Ducks & Waterfowl etc.). Dunree Head, due to proximity, is considered as a supporting or buffering area for North Inishowen Coast SAC and it is notable that the seabirds known to be present within North Inishowen Coast SAC, but not as a qualifying interest, and on the waters and cliffs at Dunree Head, are listed as qualifying interest for nearby SPAs.

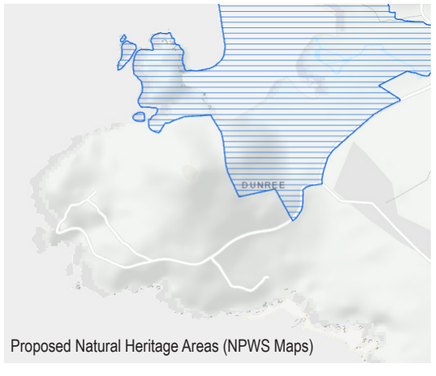


Cormorant In Flight Along The Sea Cliffs

Gulls Nesting On The Cliffs Close To The Museum

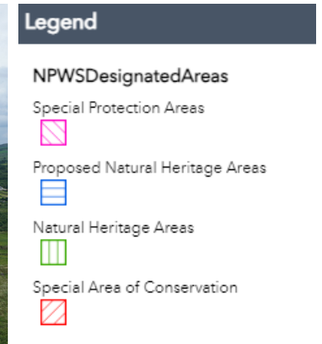


Special Area of Conservation (NPWS Maps)



Proposed Natural Heritage Areas (NPWS Maps)

North Inishowen Coast SAC - Looking North From The High Fort



2.0 Site Analysis

2.1 Project Area

Conservation Overview

There is only one entry in the Record of Protected Structures for Fort Dunree (40901813), noting '*Rubble stone-walled hip-roofed rectangular museum building set inside Napoleonic Battery Fort, built c. 1810*'. The desciption focuses on the museum, this was built in the 1980's which is of no historical interest. A further two Recorded Structures are located within the boundaries of the PDA, Dunree Lighthouse (40901829) and the lighthouse keepers house (40901830). There are 15 recorded structures recorded on the National Inventory of Architectural Heritage (NIAH) within a 2km study area.

Extent of Protection

There is some ambiguity in relation to the extent of protection afforded to the structures within the Fort Dunree site however, The Architectural Heritage Protection Guidelines for Planning Authorities 2011 gives a clear description as to how curtilage should be seen.

13.1 Determining the Curtilage of a Protected Structure

13.1.1 By definition, a protected structure includes the land lying within the curtilage of the protected structure and other structures within that curtilage and their interiors. The notion of curtilage is not defined by legislation, but for the purposes of these guidelines it can be taken to be the parcel of land immediately associated with that structure and which is (or was) in use for the purposes of the structure.

13.1.5 In making a decision as to the extent of the curtilage of a protected structure and the other structures within the curtilage, the planning authority should consider:

a) Is, or was, there a functional connection between the structures? For example, was the structure within the curtilage constructed to service the main building, such as a coach-house, stores and the like?

b) Was there a historical relationship between the main structure and the structure(s) within the curtilage which may no longer be obvious? In many cases, the planning authority will need to consult historic maps and other documents to ascertain this;

c) Are the structures in the same ownership? Were they previously in the same ownership, for example, at the time of construction of one or other of the structures?

Most structures within the Dunree Army Complex could be described to be within the curtilage. As such all buildings are afforded a level of protection as associated structures.

Ref. Number	Name	Description	Address	Muncipal District	Rating	Importance Value
40901813	Fort Dunree	Rubble stone-walled hip-roofed rectangular museum building set inside Napoleonic Battery Fort, built c. 1810	Dunree, Buncrana	Inishowen M.D	Regional	AHPS

National Inventory of Architectural Heritage

In addition to the one entry in the RPS, there are 7 separate inputs into the National Inventory of Architectural Heritage (including Dunree Lighthouse) reference numbers 40901813, 40901824, 40901825, 40901826, 40901827, 40901828, 40901829, 40901830 and 40901831. A detailed list of these can be found in the appendices.

The current importance given to the RPS and NIAH entries are Regional, and the approach to the site from a conservation perspective has been informed by this assessment.

Conservation Strategy & Future maintenance

The value of the 'Hutments' is in its completeness as a collection of buildings; further removal of material will dilute its character and interest in terms of a tourism resource. In order to retain the number of structures and therefore their value, stabilisation measures have been implemented where funding is not available for full restoration.

The existing concrete structures such as the search light emplacements and block houses are failing due to the embedded corroding steel. Restoration would be invasive to the existing structure and therefore have a negative conservation impact. In this instance immediate stabalising interventions are proposed to prevent collapse so that they can be visited safely.

The brick buildings on site are somewhat more difficult to restore, maintain or stabilse due to cost of each and the quantity. As part of this scheme a balance approach has been taken to both support the tourism aspect whilst also safely retaining what we can for this historical site.

Not all necessary repair work is going to be achievable in the context of the current capital works scheme due to the scale of the site and number of structures within (107). The exposed nature of the site and typology of structures combined, it is understood that a long term repair strategy and ongoing maintenance will be required. To aid these works a Conservation Plan has been prepared. This will ensure that any decisions in connection with the existing structures is properly informed and prioritised in accordance with the BS Code of Practice. This plan is intended to have a 5 to 10 year life, subject to periodic review.

There are many instance onsite where the proposals is to stabalise and maintain only. This ensures the existing collection of buildings will be retained albeit in their existing condition. A similar good example of preservation in a state of 'arrested decay' is Bodie in California, the original conservation plan was established about 50 years ago and has informed the maintenance and repair programme since that time. The annual budget for maintenance according to their website is circa $100k per annum. The Fort Dunree Project has and will adopt a similar strategy.

William McCrea Map of Donegal (1796)

Location of National Inventory of Architectural Heritage (NIAH) sites within 2km of the Proposed Development

2.0 Site Analysis

2.1 Project Area

Further Information

For further detailed information please refer to the following documents prepared as part of the Part 8 Planning Application.

- Screening for Appropriate Assessment
- Ecological Impact Statement
- Conservation Plan
- Archaeology Report
- Consultation Report
- Final Site Plan, detailed drawings
- Drainage Report
- Traffic Impact Assessment

2.0 Site Analysis

2.2 Wider Context

General

Dunree Fort is one of the most important Forts in Ireland located 7 miles North of Buncrana, on the Inishowen Peninsula in County Donegal at the Northern end of the Wild Atlantic Way Coastal Touring Route. Lough Swilly is a large sea inlet and it is best known for being the site of the Flight of the Earls in 1607. In 1798, French Fleet carrying Wolfe Tone and some of his United Irishmen troops was intercepted in Lough Swilly and Tone was captured.

Due to its natural shelter and depth it has long been an important naval port. The Fort is one of a series of important defensive structures built by the British Military around Lough Swilly along with Inch Fort and Ned's Point to the south, Lenan Head to the north, and Muckamish, Rathmullan and Knockalla to the west.

Lough Swilly is a deep water fjord and became a royal naval base during World War 1. It was used as anchorage for the "Grand Fleet" as a gathering point before Atlantic crossings. A boom was placed across the Lough to protect the fleet from attack. After Irish independence Lough Swilly became a Treaty Port until the hand over in 1938.

The military history of this part of Ireland is rich and varied. This is a vivid part of the story of Fort Dunree. It is a pivotal location on the Wild Atlantic Way and will draw visitors to its history and setting.

Fort Dunree is identified by Failte Ireland as one of their major signature projects in the Northwest on the Wild Atlantic Way to counterbalance the tourism honeypots of Dublin, Galway, and the Southwest. It forms part of the stunning "Inishowen 100" which predates the WAW. It is along the main route to Ireland's most northerly point at Malin Head driving economic impact in the Northwest.

Fort Dunree will unlock regional dispersal on the Wild Atlantic Way by delivering an innovative, sustainable, visionary tourism project.

2.3 Existing Character

Challenges

1. Accessibility: The change in level throughout the site is significant. From the topographical survey we can determine that from the pier up to the Redoubt, there is a level change of 100m. For persons with limited mobility, Fort Dunree is almost completely inaccessible with the exception of the cafeteria with the adjacent accessible space. As a tourism development, improving the accessibility throughout the site is key.

2. Deterioration: The exposed nature of the site has hastened the dilapidation of the existing structures, to the point of collapse and subsequent removal in many cases. The proposal sets out restoration and stabilisation works to the majority of billet buildings to prevent further collapse.

3. Health & Safety (visitor access): Elements such as handrails and guardings, finding a balance between Health and Safety requirements and not detracting from the existing character is key.

4. Ground Conditions: The geology of the site comprises of Quartzite with multiple outcrops. Due to the high rock levels, suitable ground bearing will mean shallow foundations will be appropriate. Alternatively, at parts of the Low Fort for example, a rock anchor design approach with connection directly to the rock through a grouted steel base plate may be suitable. This depends on the magnitude of horizontal loads applied to the structure. There would be benefits in this approach from a cost, environmental, and ecological perspective, minimising foundation footprint size and a reduction in reinforced concrete material. The Lough Swilly Walkway proposal employs both measures.

5. Ecology: Dunree Head is characterised by some heavily disturbed and heavily trafficed areas. Any proposed development in these areas will have a low impact. There are also other undisturbed and less frequented areas which retain ecologically sensitive heathland and sea cliff habitats. Development here will have a higher impact. The project design has taken this into account and, in the main, new development and redevelopment is restricted to previously developed, brownfield and disturbed areas where vegetation is dominated by non-native and ornamental plants and cultivars. Areas of sensitive natural and semi-natural cliff and upland habitats are largely avoided.

6. Wildlife: Through detailed analysis and design development parts of the project have been modified to avoid or minimise any ecological impact. For example, proposals to use glass “Instagram” viewing platforms close to cliff edges have been removed – this was a feature of early iterations of project design. However, surveys confirmed a range of seabirds nesting on the cliffs and regularly flying close to the cliff faces. Glass can be very hazardous to birds, its use in these areas was considered inappropriate at sensitive sea cliff habitats.

7. Night Skies: In order to respect to the Dark Skies, proposed lighting has been contained to the lower area of the site; from the carpark through the village road to The Square. The proposed fittings are “dark skies” approved; low level illumination, less than 5 lux and directed downwards to avoid spillage. These will be activated by a movement sensor with an override for management control. Lighting will only be on when absolutely necessary.9. Heritage: Integrating the proposed design into the existing site so they both sit comfortably together whilst also being of its own time. The proposal adheres to best conservation practice.

10. Location: It has been found that a large percentage of international visitors arriving in Dublin tend to either vacation around this area or travel further South; the challenge is to develop unique selling points and experiences in the North of the country to create a sense of pull to arriving visitors.

11. Spread the economic benefit: Following point 10, an increase of visitor numbers to the area will spread the benefit to local businesses such as restaurants, shops and hotels

Opportunities

1. Retain the Existing Fabric: There is a rich range of building materials on site: red brick, corrugated metal sheeting, natural slate, eroded steel beams, timber casement windows. The weathered patina on these materials demonstrates the passage of time and the robustness of the original material

2. Preserve the history into the future: This extensive complex of single-storey corrugated-metal clad military buildings with sturdy blockhouses, is arguably the largest and best surviving example in Ireland and the UK. Their importance is in the collective value of these structures Preserving these will not only allow the story to be told for generations to come but it is also a unique selling point.

3. Reuse of existing structures: Providing a new use not only ensures the retention of the existing fabric and structure into the future, but also adds another layer of information and history.

4. Tell Fort Dunree’s history: There is currently little to no signage or information on the site. What really went on there is a story to be told.

5. Create a world-renowned visitor attraction site: Providing an interpretation-based visitor journey that fully captures the essence of Fort Dunree will provide a new an unique destination along the Wild Atlantic Way.

6. Stories and information: The military operation is an obvious story to tell but not the only one. Details of steam engines that powered the fort, the self-sufficiency of the site including farming and water collection, the important ecology. Lough Swilly, The Great Lighthouses of Ireland, Naval ships...there are so many stories that can, should and will be told to attract all types and ages of visitors.

5. Any defensive structure is built to protect and withstand attack, with low roof profiles, tall defensive walls, and loopholes instead of windows. The proposals retains and respects the character of the Fort but there are some new, sensitive installations to allow further exploration and capture views never seen before.

6. Provide linkages: For persons with limited mobility, Fort Dunree is practically inaccessible except for the cafeteria with the adjacent accessible outside terrace. Improving the accessibility and linkages throughout the site is vital for any civic space, any building or attraction open to the public. Improving accessibility throughout the site will grant access to visitors of all ages and abilities.

7. Entry to the High Fort: The High Fort has never been open to the public. These proposals will open up this exclusive area of the site. This will allow a stunning 360-degree view along the Fort Walls.

8. Ecology: Within the development areas, the landscaping proposals and planting schedules will reinforce the existing native planting, with the removal of non-native species. Long-standing development has interrupted the natural transitions from vegetated sea cliffs to upland dry heath in places and has altered the composition of some areas of coastal and terrestrial habitat. Lands around the roads, carparks, paths and buildings (both in-use and derelict), from the pier to the High Fort, are dominated by vegetation communities composed primarily of non-native and ornamental vegetation, including some low and medium impact invasives, that have spread from the former gardens and amenity landscaping. As such, opportunities have been taken to microsite new development to avoid areas of high-value natural habitat and deliver significant improvements.

9. Create a cohesive visitor journey: The proposed development combines improved accessibility, an improved visitor journey with a coherent narrative around newly restored or adapted structures to provide an exciting fully inclusive experience.

3.0 Shaping the Vision

View from the Lower Fort towards the Lighthouse

3.0 Shaping the Vision

3.1 Project Objectives

- Drive economic impact in the Northwest.
- Grow Visitor Numbers from 14,250 (current) to 114,191 (Year 10) annually. The analysis of recent visitor numbers to tourism jobs ratio's shows that approximately 40 visitors can create 1 tourism job. 100,000 additional visitors could have a significant impact on employment rates in the North West.
- Increase employment rates
- Minimum capacity of 295 Visitors Per Hour
- Increasing the dwell time in Donegal / Northern Headlands
- Lengthen the tourism season
- Deliver an innovative tourism product
- Deliver a sustainable project
- Optimise the investment

3.0 Shaping the Vision

3.2 Design Principles

- To provide a design that allows visitors to access and enjoy the landscape and views.
- To provide a cohesive visitor journey throughout the attraction
- To establish the historic hierarchy within the structures across the site
- To design all elements to be sympathetic and complimentary to the existing architectural heritage of each building.
- To reuse and restore the existing structures where possible
- To establish a narrative and relationship between all structures on the site
- To provide a visitor welcome area that is a centrally located between the arrival point and surrounding public attractions
- To design an inclusive visitor experience site that will provide clear orientation and way-finding to the casual and informed visitor
- To improve the accessibility throughout the site
- To offer well-coordinated experiences providing visitors maximum engagement and enjoyment with the surrounding attractions
- To provide a range of interpretative and interactive experiences ranging in topics such as military, navigation, weather, biodiversity, self sufficiency, range finding and so on. This will engage a wider audience
- To take a multi-sensory approach to the visitor experience, making use of objects, imagery, sound, lighting, projections and spoken word to weave a multifaceted tapestry of experiential media.
- To consider future proofing and flexibility without compromising the existing structures
- To develop a clear visual spatial language to allow visitors to easily navigate the spaces, regardless of their spoken language.
- To adopt a 'less is more' approach to physical signage and structures, to assist all visitors regardless of their primary language.

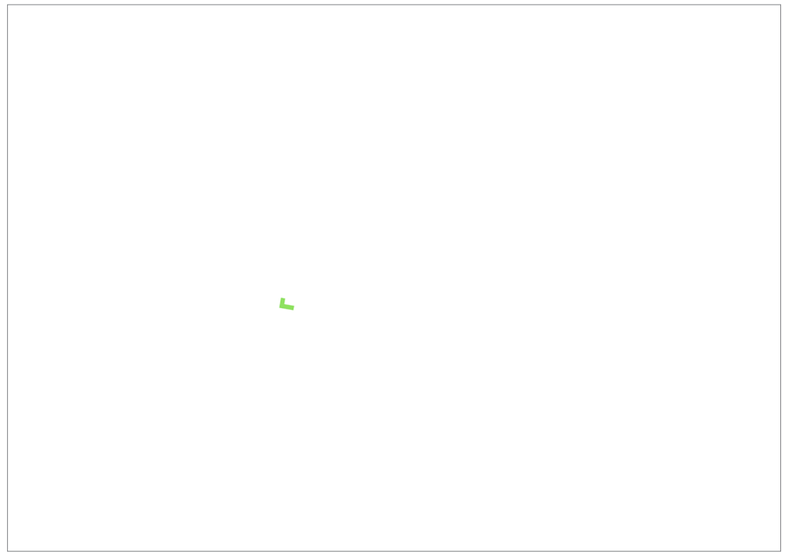
Existing path outside the Fort Walls to be reinstated

3.0 Shaping the Vision

3.3 Design Framework

Mapping the Design Objectives

Existing Visible Structures
(63 Not including foundations, underground stores, collapsed buildings)
Principle: Retention of as much of the existing fabric as possible.

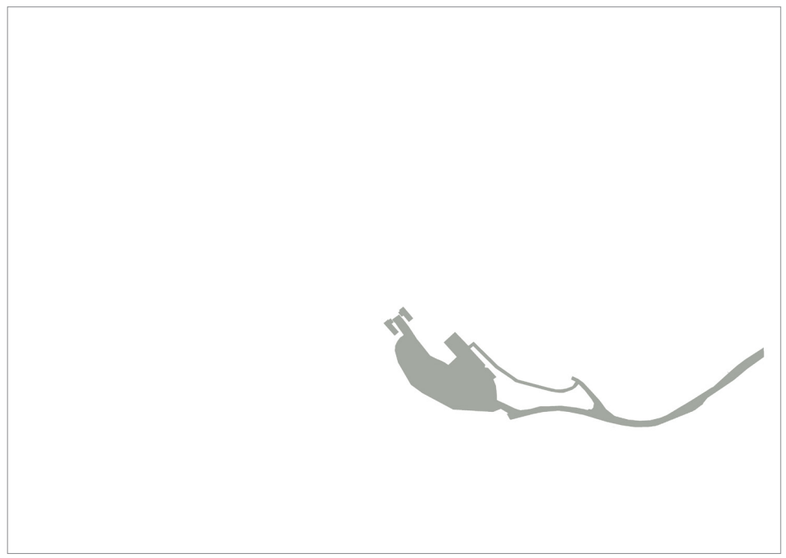


Existing Accessibility
The existing accessibility on-site is extremely poor due to the natural topography and nature of the buildings. As shown only Cafeteria is accessible as a car park space is adjacent.

Existing Public Access without Charge
Only the Lower Fort is currently paid access, the remainder of the site is free to use.

Proposed Visible Structures included within the Planning Application
(Not including foundations underground stores, collapsed buildings))
34 existing structures are included in this application, this is over 53% of the existing standing structures; ensuring retention of as much of the existing fabric as possible.

Proposed Accessibility
Through proposed path upgrades, the provision of an EV mobility bus and the usage of mobility scooters are the optimum solutions for a site of this nature to improve accessibility



Proposed Public Access without Charge
To operate a paid site the public are restricted to the car park and both welcome buildings until a ticket is purchased. The Client is formulating an access strategy with the locals who regularly use the site.

4.0 The Vision

View from the Drawbridge towards the Pier

4.0 The Vision / Proposals
4.1 The Vision

The proposed projects are listed below, with a summary description to the right. This chapter goes through each project in detail, discuses the process and the proposed material and project precedents.

- Redoubt (3)
- High Guns
- The Lighthouse
- Instagram Moment
- Existing Buildings
- Car Park
- Walkways
- Access for All to the high Fort
- The Square
- General Infrastructure.

Fort Dunree – Project Description

The proposed development relates to a conservation led restoration of Fort Dunree. The project involves the protection and enhancement of the existing visitor facilities. The site area is some 26 hectares and is located at Fort Dunree, Linsfort, Buncrana, Co Donegal, F93 C424. The subject site comprises, in the main, two protected structures, namely Fort Dunree (RSP40901813) and Dunree Lighthouse (RSP40901830).

The project is sub divided as follows:

Redoubt Fort

- Construction of a new exhibition / interpretation space, viewing gallery (maximum 4.6 metres in height) at the High Fort to include ground floor events space (41 sq m), first floor exhibition area (94 sq m), toilets (20 sq m), staff room (16 sq m), a lift and an external viewing platform (94 sq m);
- The restoration of the existing stairs and demolition of the non-original first floor structure which formed part of the Guard House;
- Reinstatement, partial realignment and upgrade of accessible pathways around the external and internal perimeter of the Redoubt Fort Walls; and
- Temporary work to repair and stabilise to the Blockhouses.

High Guns

- Conservation and repair of the High Guns including the refurbishment of one underground ammunition store;
- Repairs to the steps, appropriate handrails and guarding around the gun platform;
- Internal repairs, lighting electricity and upgrades to the existing pathways; and
- Re-profiling of the defensive ditch to provide bus access/turning.

Lighthouse

- Internal refurbishment works (repairs to existing fabric, electrical upgrades) and roof replacement to the Lighthouse (protected structures Dunree Lighthouse (40901829) and the Lighthouse Keepers House (RSP40901830); and
- The partial removal of an internal wall, associated external soft landscaping works and a new footpath linking between the existing paths.

Lighthouse walkway

- Construction of a new projecting walkway (28 metres in length including a 12-metre cantilevered section) with supporting steel structure below; and
- Balustrade and flooring to be constructed of perforated metal or equivalent.

Lower Fort/ Lough Swilly Walkway

- Construction of a new walkway (92 metres in length) at the Lower Fort with glass and perforated metal balustrades, a glass floor inset (35 sq m), tapered cantilever beams and new cantilevered perforated flooring; the proposals include the removal of the existing drawbridge replaced with a ramped access;
- Removal of the existing car park replaced with hard and soft landscaping including native vegetation and the provision of 2 no. accessible spaces;
- Construction of a new accessible route to the cafeteria and Lower Fort including the construction of a new drawbridge;
- Restoration and upgrade of four no blockhouses, new connecting pathways, and the provision of repairs to existing pathways;
- Conservation and repair of the four existing metal clad billet buildings, stabilisation works to nine billet buildings, maintenance works to four existing brick buildings (works include the removal of debris, fix loose roof tiles, installation of doors to restrict access) with removal one billet buildings, which has already collapsed; and
- Full restoration of four existing brick buildings; two of restored brick buildings to facilitate a ticket/pay station (66 sq m) and souvenir shop (100 sq m), toilets (129 sq m), retail store (9 sq m), cleaning store (10sq m) and changing places facilities (12 sq m) (referred to as the Welcome Buildings); one restored brick building (former gymnasium) to be used for storage; and upgrade and extension of existing cafeteria and an extended area of hard standing (230 sq m).

Infrastructure and associated ancillary works including car park and access

- Upgrade of existing vehicular / pedestrian access points and associated internal road to the public road;
- Construction of a new access road (140 metres) connecting the Welcome Buildings and High Fort for the provision of a wheelchair accessible EV bus;
- Conservation and restoration and upgrades to existing internal access roads;
- Relocation of existing car park, provision a new car park with 110 no. car parking spaces including 11 no. accessible spaces and 5 no. EV charging spaces, cycle parking spaces, 5 no. minibus /camper-van spaces and 5 no. coach spaces (one of which is an accessible drop off point);
- Construction of two new treatment plants including all associated above and below civils and infrastructural works. Planting to be reinstated above;
- Associated ancillary works to include lighting, connection to services, landscaping, fencing, security gate and barrier; and
- All other associated ancillary minor works above and below ground necessary to bring the development up to the required visitor standards.

4.1 The Proposals

Redoubt (3)

View from 3.01 Guard House or Caretaker's Quarters

4.0 The Vision / Proposals

4.1 The Proposals

Existing Character

Date of Construction: 1899

Summary Description: Defensive bastion, accommodation & secure entrance to upper/ redoubt fort; bastion mounted with DRF post. The upper level is a later addition/ reinforcement of the original 1899 fortress, probably dating from WW1

Appraisal: This impressively-sited coastal battery & redoubt survives in good condition despite a long period of disuse. It consists of two distinct structures: an enclosed inner redoubt with high cement walls with pillboxes at intervals along its length defending approaches from land; and a two-storey gatehouse to the north-west; and an outer section of wall with gun emplacements, sunken magazines and extramural chambers to the west and the north defending the views over Lough Swilly and approaches from the sea. This fort was built in 1895 – 97 by the British Authorities to defend Lough Swilly, an important anchorage for the Royal Navy, and a potential location for an attempted invasion. It largely superseded the earlier Napoleonic-era coastal battery which was built in 1812 – 13, and which was also modified at the same time that this new fortification was constructed. The redoubt fort originally had two 4.7-inch guns, with an additional 4.7-inch gun added to the earlier fort. These were replaced in 1906 by two 4.7-inch guns, and in 1912 by two mark VII 6-inch guns that constituted the main armament at the site until its closure in 1945. As a Treaty Port, these fortifications remained in British hands until 1938, when they were handed over to the Irish Army. Fort Dunree was occupied by the Irish Army during World War Two\The Emergency, and anti aircraft guns were added at this time. This fortification forms part of a site that together constitute one of a number of coastal batteries built by the British military around Lough Swilly. Of historic importance to the Irish nation, shedding light on the strategic value of Lough Swilly especially to the British during World War One, and played an integral role in safeguarding Ireland's neutrality during World War Two. The Guardhouse is a critical defensive element for upper fort, for safety of the fuel and water supplies to the lower fort & for operation of the 6" guns defending entrance to the Swilly from the end of the 19th century onwards.

Condition: Poor, sections close to collapse

4.0 The Vision / Proposals

4.1 The Proposals

Design Process

In the original Platforms for Growth Application it was proposed that the existing Military Museum was to undergo an extension to construct a glass enclosed space above, allowing for an event and meeting space. However, from preliminary design to developed design, it was agreed by all that this space would be better suited to the High Fort for the following reasons.

1. The existing first floor structure at the High Fort is in dire condition, so much so that it needs to be carefully removed. As this first floor structure is not original, the conservation impact of this is low.

2. The High Fort is currently underutilised and closed to the public, opening this space and providing a tourism experience will serve a new and unique offering to visitors.

3. The views from this point are spectacular

4. Restoring another piece of history on the site ensures that the fabric will remain many years to come.

5. Providing place of shelter, will allow visitors to enjoy the High Fort even in poor weather.

Proposal

Within the High Fort, we propose an extensive refurbishment comprising of the following;

1. Reinstatement of and accessible pathway around the internal perimeter of the Fort Walls. According to the original Kew drawings this path is existing, however has become overgrown through the years.

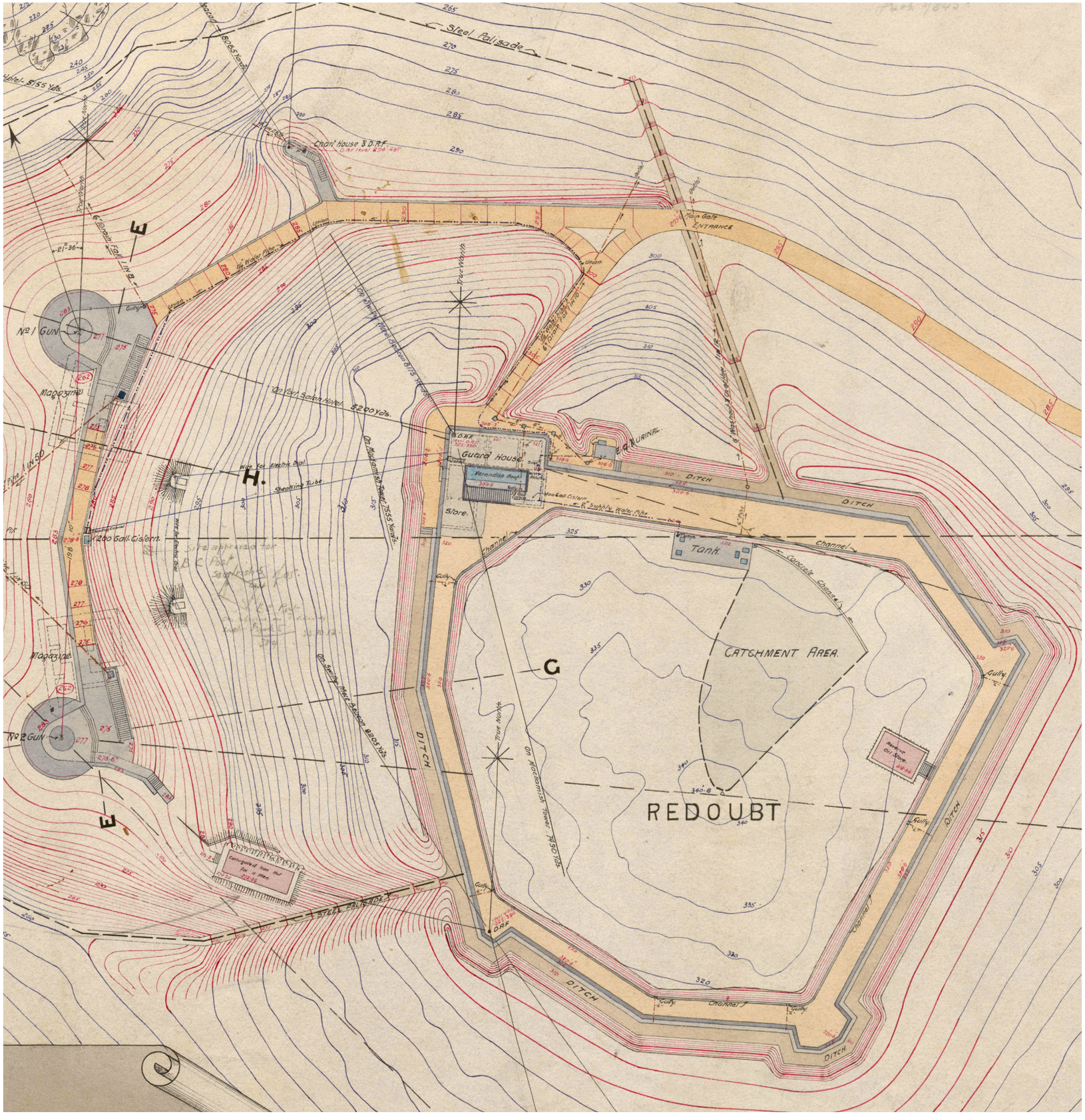
2. Reinstatement of new pathway around the external perimeter of the Fort Walls is proposed. Similar to point 1, the original Kew drawings demonstrate that this path is existing, however it currently overgrown and inaccessible.

3. Temporary work to repair and stabilise the Blockhouses (3.02, 3.03) to form weather shelters and viewing points.

4. Extensive restoration works will be carried out on the entrance pavilion, formally known as the Guard House or Caretaker's Quarters (3.01). The first floor non original structure is to be removed. A glass and reinforced concrete mono-pitch structure is proposed at first floor level to encase the existing stair, this will protect the original fabric which is currently open to the elements.

This revitalised space will form an exhibition / interpretation space, a viewing gallery, along with a facilities to operate a cafe.

(right) Kew drawing of the High Fort WO 78_4911_017



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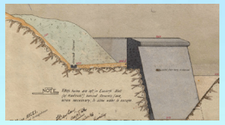
Proposal: New accessible pathway around the internal perimeter of the Fort Walls.



Proposal: New pathway around the external perimeter of the Fort Walls

Temporary works to repair and stabilise the Blockhouses (3.02, 3.03) to form weather shelters and viewing points.

4.0 The Vision / Proposals

4.1 The Proposals

Conservation

Following consultations with DCC's Heritage Officer and the Conservation Architect, concerns were raised in relation to the scale of the proposal and the conservation impact. It was suggested to either; relocate the structure back to its original position (see image Overlay Sketch Proposal - First Floor Plan) or reduce the overall height. We drew the two options for analysis and review.

1. Relocating to the original position: The original survey drawings of the blockhouse on the first floor shows a floor to ceiling height of 2.38m, and an overall first floor height of 2.58m. If the structure is relocated to this position there will be very little leeway to deviate from the existing height. In fact, when tested it makes the proposal look bigger as it is closer to the Fort Wall. With inclusion of services, suspended ceilings and floor finishes it is inevitable that this height will increase. This layout will provide a floor area of 38m2 which will not accommodate the project objectives set out by Fáilte Ireland and Donegal County Council (see Overlay Sketch Proposal - First Floor Plan & Sections).

Based on technical guidance and tested margins, the Client outlined the area that we must achieve for the cafe. 1.5m2 should be achieved per person, with the split of overall space 60 / 40; 60% front of house and 40%, kitchen, storage and toilets. As the toilets and storage facilities are located in the ground floor we can speculate an 80/20 split on the first floor. The areas are calculated below.

Total Area 38m2

80% = 30.4m2 (Dining and front of house)

20% = 7.6m2 (Kitchen facilities)]

An area of 30.4m2 only allows a maximum capacity of 20 visitors at any given time. This space is inadequate and leaves no space for an interpretation display or a protected viewing gallery to take in the spectacular views on a wet and windy Irish summers day.

Hence the requirement for additional space above.

We further note the event space on the ground floor, which could have been used for the interpretation display. Accessibility to this space is extremely challenging. This was carefully examined and drawn to understand the implications. In summary the circulation space level would need increased and the event space level would need to be reduced for accessibility to be achieved.

Circulation route

Existing level = 91.48 *Proposed Level = 91.710*

The level would need increased by 230mm. The implications of this are noted below.

1. There are 11 doors leading from this space, dependant on the location the existing timber doors would need changed - either reduced or increased in height. The existing metal access door would to be reduced in height by 230mm.

2. There are two cut stone thresholds into the proposed events space. The second step would be removed completely whilst the top surface of the first step could be left see (is would be the proposed level).

3. Increasing the level at the main entrance by 230mm will require a ramped access with handrails.

4. The floor connection detail of the metal veranda posts would be lost.

5. The bottom step of the stair would be lost.

6. To reduce the impact, it was our intention to install a raised metal deck floor. Tying this in successful to all access room levels, posts etc, would be incredibly challenging

7. The proposed interpretation in this location will show the self sufficiency of Fort Dunree, including but not limited to the importance of water collection. Increasing the level will hide the existing gulleys from view.

Event Space

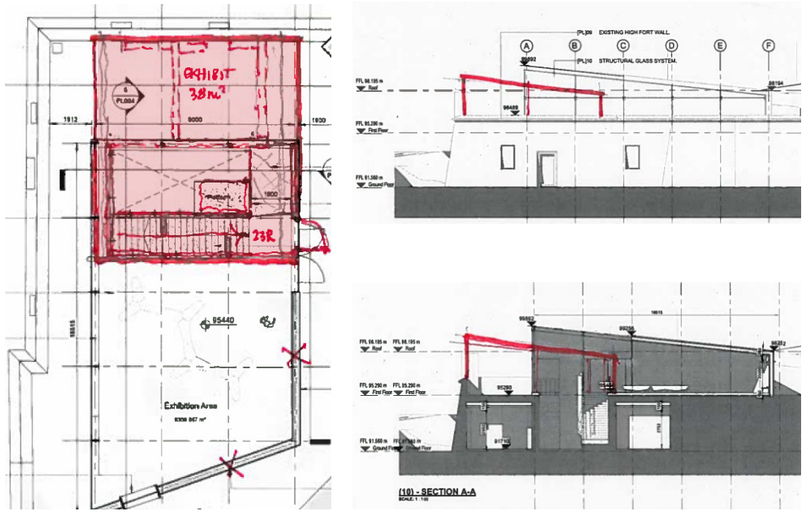
Existing level = 91.84 *Proposed Level = 91.710*

This level would need reduced by 130mm.

1. The second cut stone threshold would have to be removed into the event space
2. The existing foundation wall would need reduced to lower the level of the floor joists.
3. The door heights in this location would need increased by 130mm.
4. The existing fireplace surround would be elevated above the proposed floor level

In summary, for preservation of the existing and original character, accessibility into these rooms cannot be achieved.

Hence the requirement for additional space above.



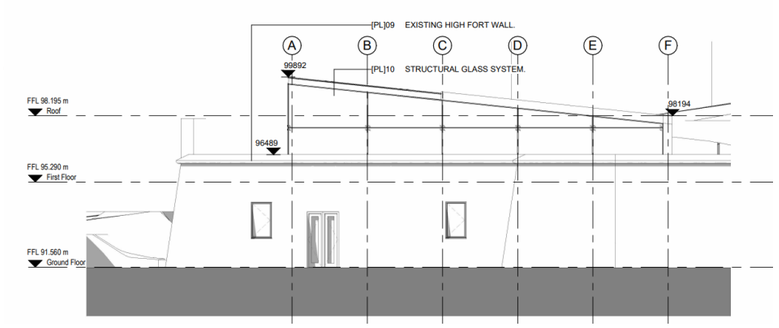
Overlay Sketch Proposal - First Floor Plan & Sections)

4.0 The Vision / Proposals

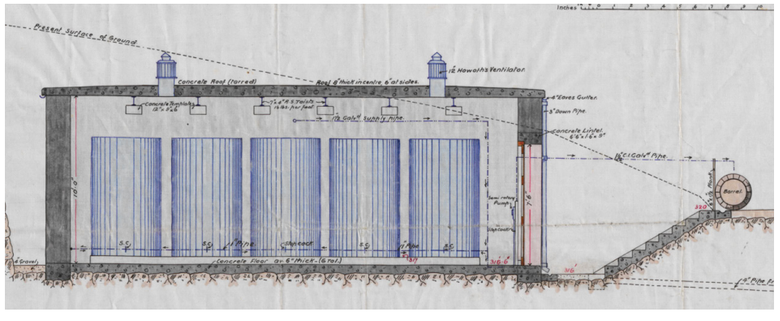
4.1 The Proposals

2. *Reduce the overall height*

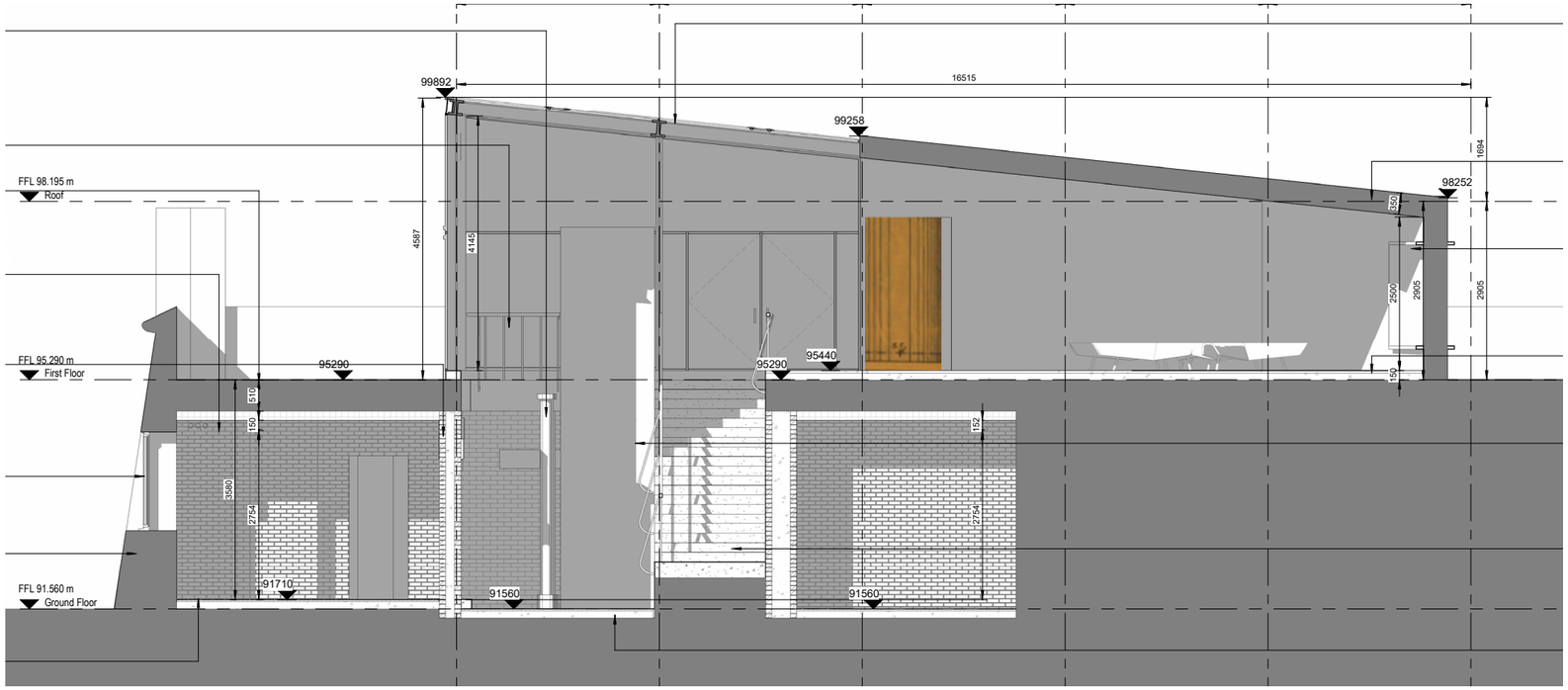
- To help tell the storey of self sufficiency, it is our intention to relocate the existing oil tanks that have been removed from their original location to the new glazed installation. There are 10 tanks in total, 6 of which are in their original location in the Oil Reserve Store however this space can only be accessed via steps and therefore inaccessible. These are approximately 2.5m in height. As shown on both sections to the right the corresponding height allows for these to be installed here.
- Fort Dunree is a regular spot for photographers to capture the northern lights, it is hoped in the future that Fort Dunree can capitalise on this and manage dark skies events. The glazed roof form illustrated, encapsulates the sky which will further heighten this experience.
- As this space is the only new architectural building intervention within the proposal, we have created a structural grid that will allow the suspension of interpretative material from the ceiling.
- The solid roof form is higher than the existing to allow for the associated services and current regulations construction. The roofing material beyond this is glass which will greatly limit any visual impact (as indicated on sketch Side Elevation Glass Representation).
- The stairwell is currently open to the sky, the proposed glass roof structure retains this existing character.



Side Elevation Glass Representation



Kew drawing of the Oil Reserve Store at the High Fort



Section illustration of the oil tanks and suspended interpretative displays

Illustration of the oil tanks and suspended interpretative displays

4.1 The Proposals

Mitigation and Preservation

From early stages through to the developed design, the Design team have followed best conservation principles. To mitigate the conservation impact, the following measures have been taken.

1. Where feasible and practical all existing features will be retained; for example the railings, the metal veranda posts and the steel doorway.

2. Earlier schemes showed additional demolitions of internal walls to increase room sizes. Through consultations and advise this is no longer the case

3. To reduce the visual impact around the site, the new element which may be visible is glass (See image 'Side Elevation Glass Representation')

4. Deviating from the original flat roof form was questioned, however the form has taken inspiration from the existing concrete installations at the High Guns. The existing flat roof is concrete which we want to replicate in the new proposal, however due to the scale this is not appropriate as additional finishes for waterproofing would be required.

5. Encasing the existing stair and structure will preserve the original fabric long into the future.

6. The structure is currently open to the elements and has suffered throughout from water damage along with suspected vandalism. Restoring the fabric sensitively, enclosing the stair and making the structure watertight will preserve the original fabric long into the future.

7. For all projects throughout the site; all new elements will read as new to distinguish changes and modifications from the original fabric. The existing Guard House is primarily red brick, it is proposed the new structure will consist of contrasting materials.

Thr proposed roof form takes inspiration from the existing concrete shelter at the High Guns.

4.0 The Vision / Proposals

4.1 The Proposals

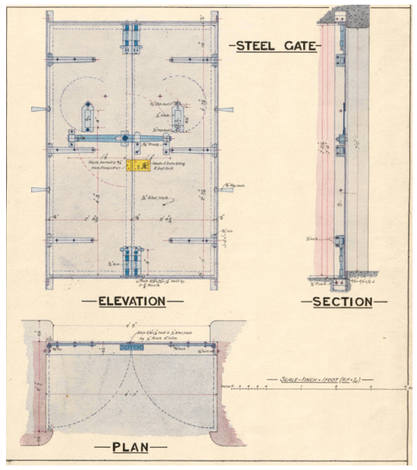
Existing Photographs - Ground Floor Structure

In principle and where feasible, all existing elements are to be repaired and restored.

Existing steel beams to be retained and paired with new to provide support

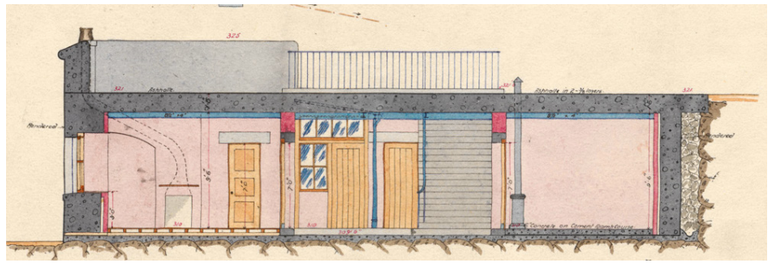
Existing metalwork to be surveyed throughout and repaired appropriately.

Timber and lead paint survey condition survey to be carried out. Timbers to be repaired and restored where possible.



Existing metal access door Kew drawings

Existing metal access door to be retained



Existing Kew drawing section - note the first floor structure to be removed is a later addition

Existing windows to be restored

Brick and metalwork to be repaired

Existing brickwork to be repaired - to be colour matched

Existing metal veranda posts to be retained

Existing stair to be retained and restored - improvements for accessibility to be explored

Patch repairs to the existing Fort Walls

Steel beams to be retained and paired with new

Existing chimney to be repaired and restored

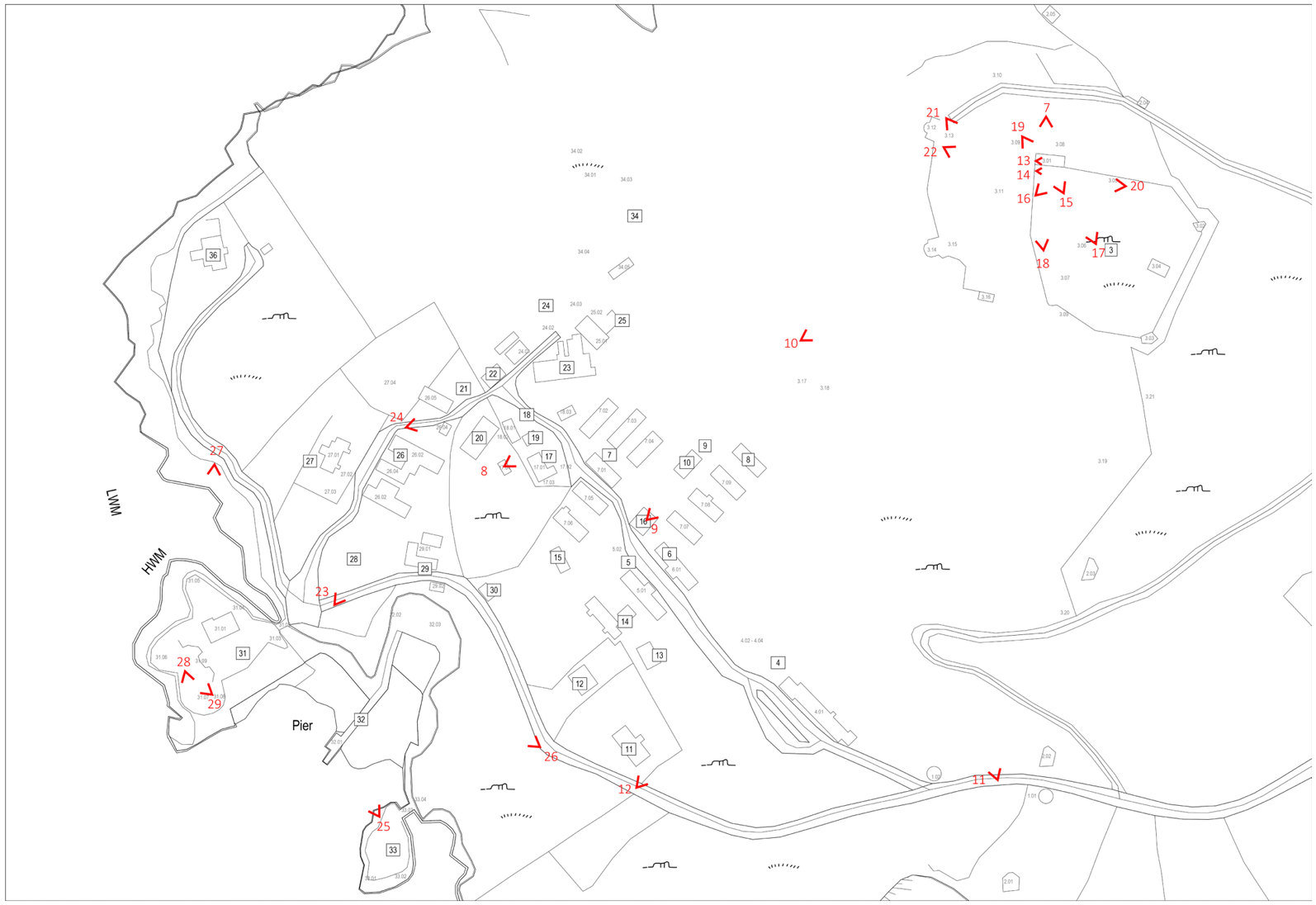
4.0 The Vision / Proposals

4.1 The Proposals

Visual Impact Analysis

To determine if the proposal will result in a visual impact, the design team developed a series of comparative images between the existing and proposed.

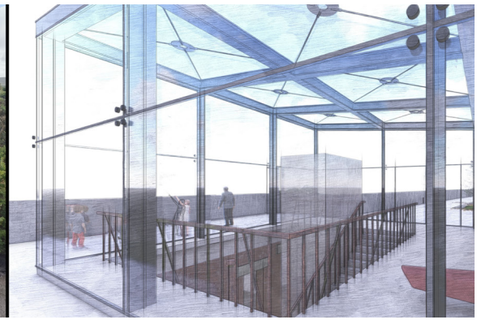
It is important to note, that due to its location and topography of the site the proposal including the existing, is and will be sky-lining. Nonetheless from the majority of points we viewed, the Guard House is not viewable either due to the contours or vegetation. From this exercise, where the High Fort is visible it is our view that the proposal demonstrates a minimal / if any visual impact.

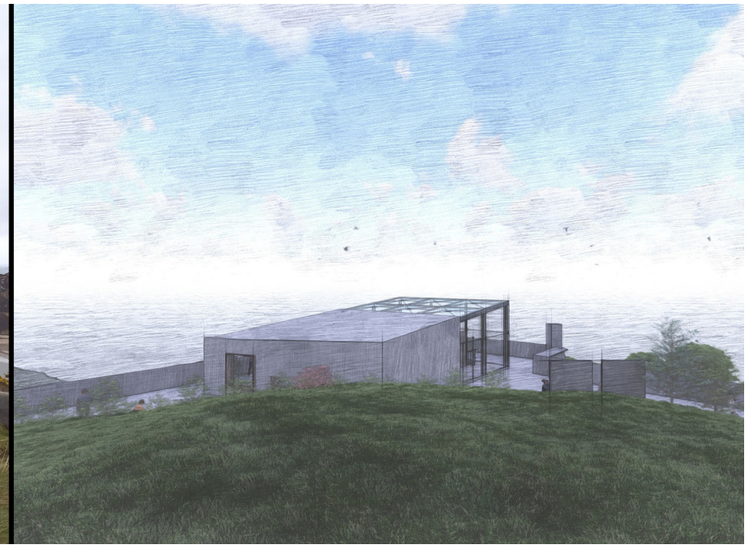


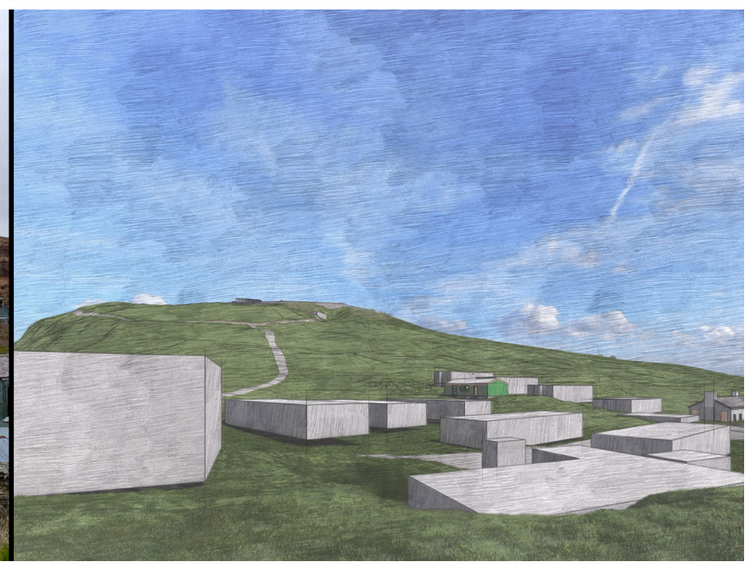
4.0 The Vision / Proposals

4.1 The Proposals

Visual Impact Analysis Continued







4.0 The Vision / Proposals

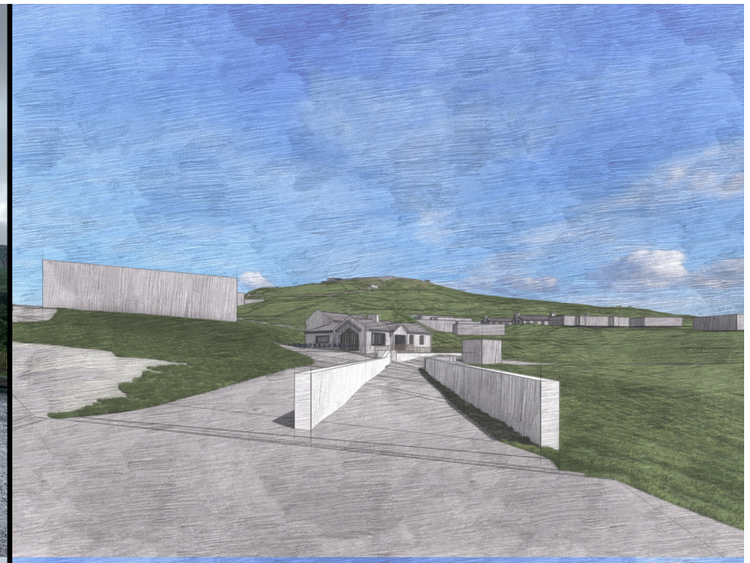
4.1 The Proposals

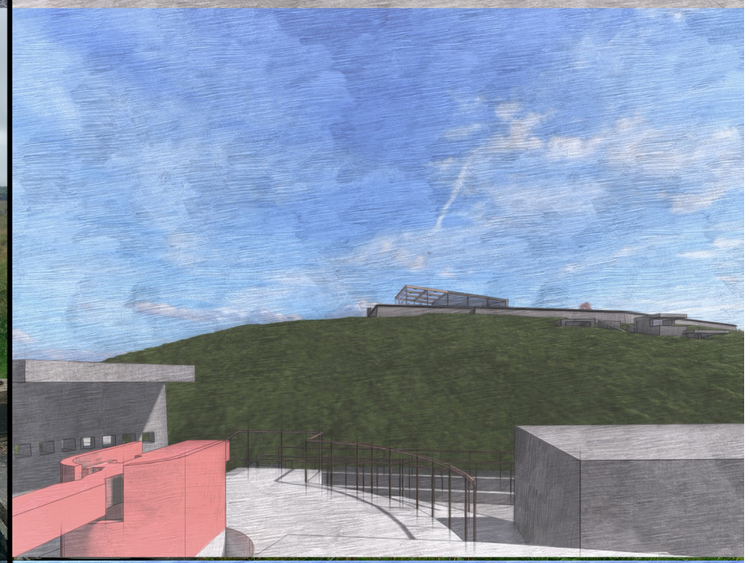
Visual Impact Analysis Continued

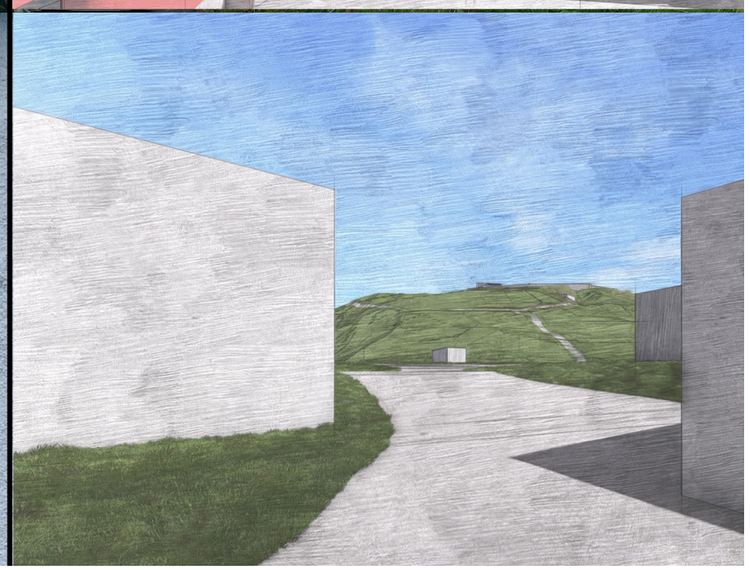
4.0 The Vision / Proposals

4.1 The Proposals

Visual Impact Analysis Continued





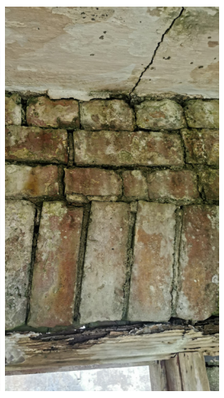


4.0 The Vision / Proposals

4.1 The Proposals

Existing Photographs - First Floor Structure

Due to the condition, the first floor non original structure is to be carefully removed.



4.0 The Vision / Proposals

4.1 The Proposals

Design Material / References

Project Name: Gwyn Hall (1)

Architect: Holder Mathias Architects

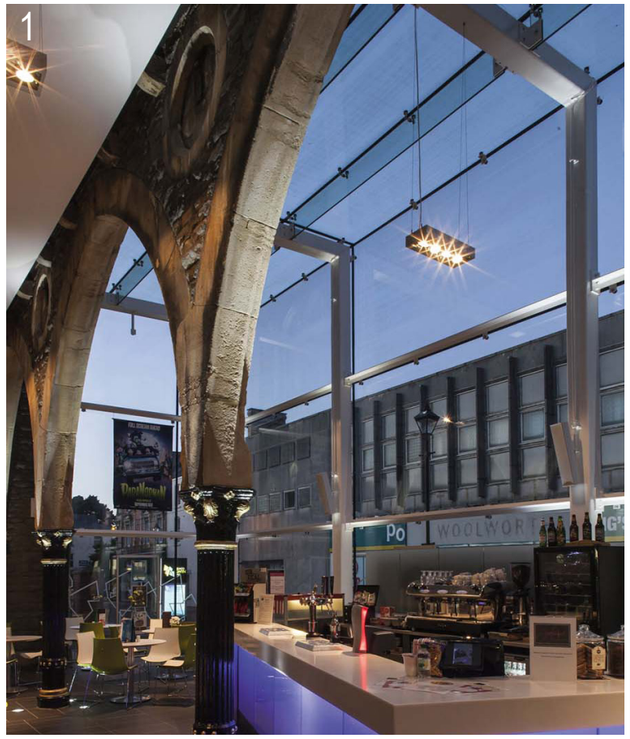
Description: The renovation included the restoration of the 125 year old, Grade II historic shell, which was partially destroyed by fire and the construction of new arts facilities

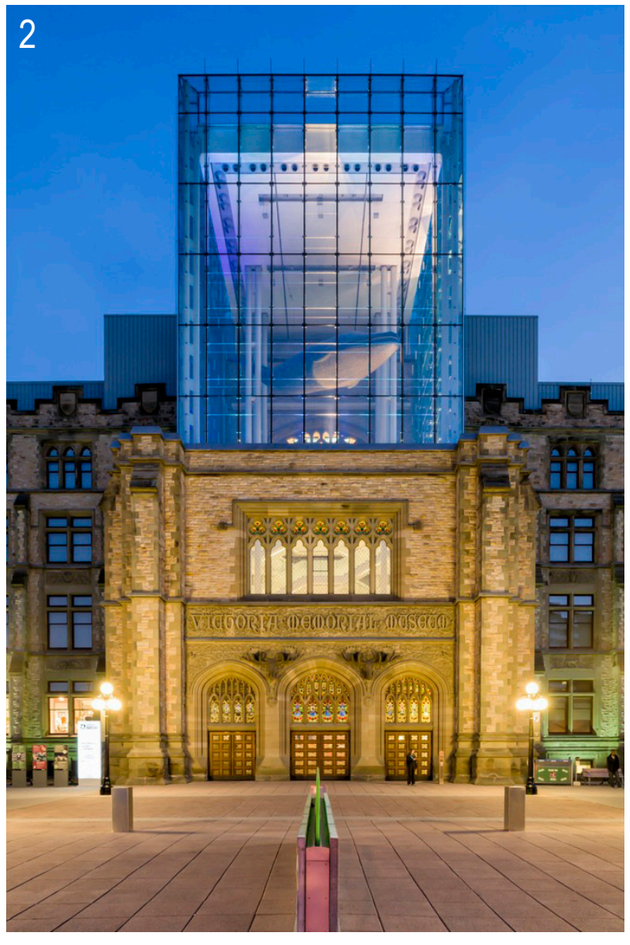
Project Name: Canadian Museum of Nature (2)

Architect: KPMB Architects

Description: The 1912 beaux-arts structure in Ottawa, home of the oldest national museum of Canada, underwent a restoration in 2010. The building received a contemporary twist thanks to the addition of a glass entity on the entrance, replacing the initial tower removed in 1915 due to structural issues. The so-called “Lantern” allows the flow of natural light, improves the circulation and the configuration of spaces. This iconic intervention projected the edifice in the present era while consolidating its historical value.

Victoria Memorial Museum was designated a national historic site of Canada in 1990, because of its prominent and early place in the development of museology in Canada and because of its architecture.





4.0 The Vision / Proposals

4.1 The Proposals

Design Material / References

Project Name: The Music School of Louviers (1)

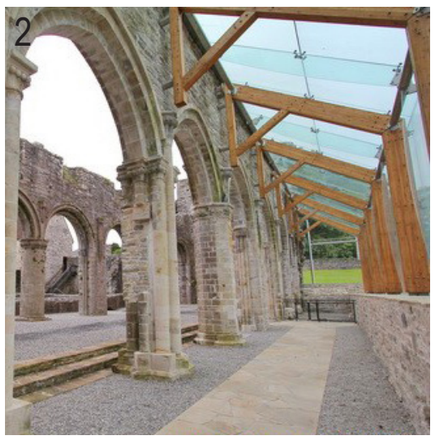
Architect: Opus 5 architectes

Description: The original edifice built around the 1600s was first a monastery and then a prison. The restoration of the ruin was carried out in 2012, to transform the space into a music school and performance space, in the center of Louviers, Normandy.In order to accommodate a modern and functional program, a new extension was added to host the main orchestral hall. This simple rectangular box reflects its surroundings during the day, especially the flowing river beneath and the historical site, whereas by night it radiates and becomes a beacon of new beginnings.

Project Name: Boyle Abbey (2)

Architect: Carrig Conservation International

Description: The Abbey was founded in the twelfth century by monks from Mellifont Abbey and is now a national monument in state care. The original north aisle was reconstructed in timber and glass which has now become an exhibition area within the abbey.



4.0 The Vision / Proposals

4.1 The Proposals

Design Material | Materiality

The existing materials consist mainly of steel, brick, cast concrete and timber and the proposed materials are mainly steel, concrete and glass. Whilst the proposals do not deviate greatly from the existing the finishes will, ensuring the new contrasts with the old while also complementing each other.

4.1 The Proposals

High Guns

View from the High Fort Ditch

4.0 The Vision / Proposals

4.1 The Proposals

Gun platform (3.12) & Magazine (3.13)

Only light touch refurbishment works and Health and Safety improvement works are proposed. This is focused on one underground ammunition store and one Gun Platform. This will include repairs to the steps, appropriate handrails, guarding around Gun Platform 1, light internal repairs and the installation of lighting and electricity for interpretation.

Handrails to existing stairs to be installed. To resemble the existing form

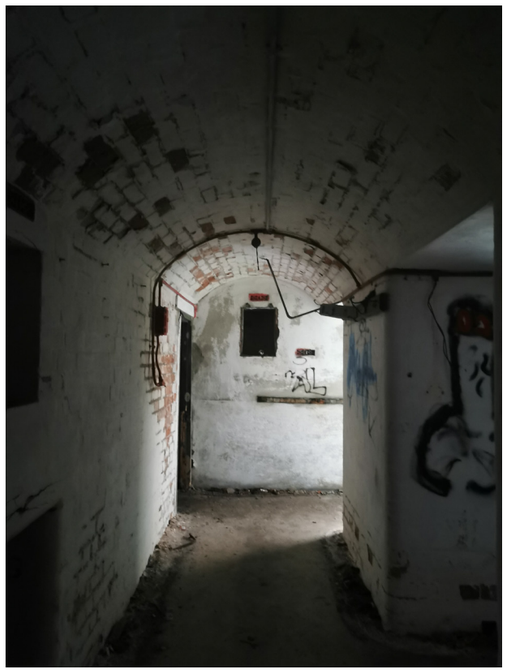
Existing railings to be securely fixed along with the existing mesh guarding to prevent falls.

Overgrown vegetation to be cut back and maintained

Existing railings to be securely fixed along with the existing mesh guarding to prevent falls.

Handrails to existing stairs to be installed. To resemble the existing form

Sensitive colour matched repairs to the existing brickwork only where necessary. Holes created during original use to be retained.



Installation of basic lighting is necessary to open up to the public. Surface mounted fixings and ducting to be used as per the existing.

Repair to the existing metalwork. All vegetation to be carefully removed and the affected area to be made good

Repair to the existing timber-work

Design Team to seek advice from an expect on the practicality of reinstating or restoring and protecting the existing ammunition lift

Existing windows to be restored and paired with new timbers. Single pane glass to be replaced

Existing plaster to be patch repaired to prevent further deterioration

Handrails to be installed Dashed yellow line indicative

Overgrown vegetation to be cut back and maintained

As it is not possible to alter the existing stairs or form an alternative route to greatly improve accessibility, an interpretative virtual tour is proposed.

Existing stairway to access Magazine (3.13)

View from Gun Platform 1

4.1 The Proposals

The Lighthouse

4.1 The Proposals

The Lighthouse (36)

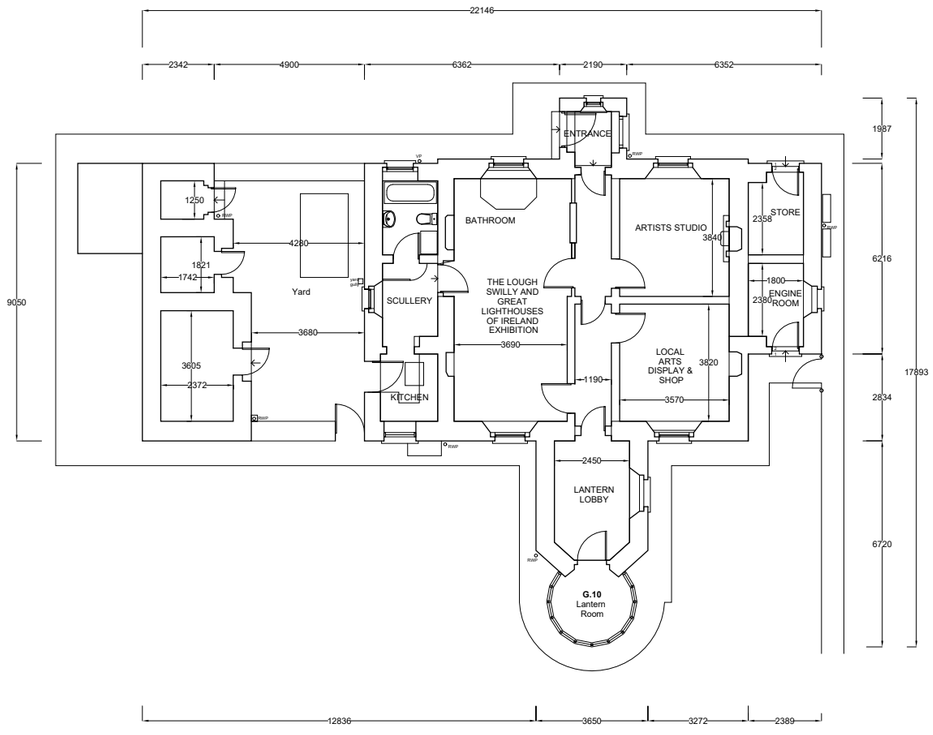
There are two entries within the grounds of the lighthouse in the Record of Protected Structures, Dunree Lighthouse (40901829) and the Lighthouse Keepers House (40901830). As such, the works will follow best conservation practice.

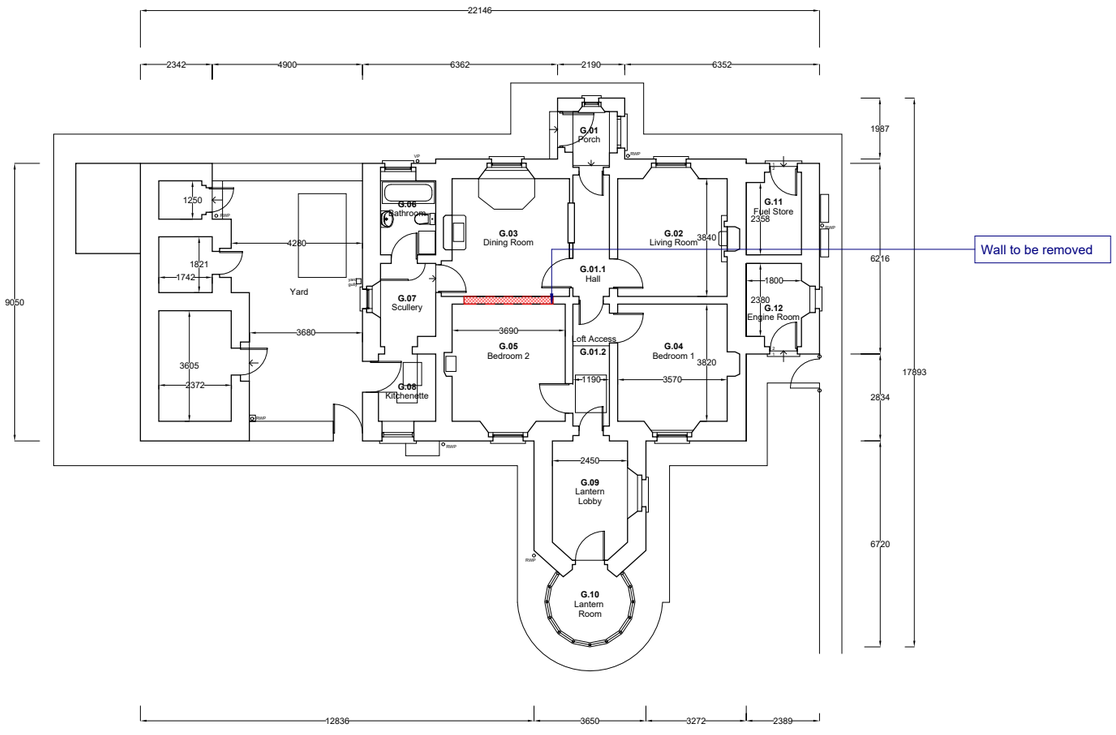
The Lighthouse has remained vacant for a number of years and has fallen into disrepair. The project includes a series of repairs to the existing fabric, roof replacement and electrical upgrades preserving this protected structure into the future. As illustrated on the plans below, the principle of promoting minimum intervention 'do as much as necessary and as little as possible' has been followed.

It is proposed that the Lighthouse will be used as an interpretation space to tell the story of the Great Lighthouse of Ireland. In order for this to proceed, the partial removal of one wall is proposed.

The proposed works will not affect the character of the structure or any element of the structure that contributes to its special interest but it will allow the structure to become habitable once again.

The landscaping adjacent to the lighthouse is also included.





Proposed plans for the Lighthouse - 'do as much as necessary and as little as possible'

4.0 The Vision / Proposals

4.1 The Proposals

Lighthouse | References

Project Name: Rathlin West Lighthouse

Architect: D-on architects

Description: The lighthouse was built into the cliff face between 1912 and 1917. The Grade A listed building is Ireland's only 'upside-down' lighthouse boasting spectacular views across the steep cliffs and sea. Since its restoration it is open to the general public to view how past lighthouse keepers lived and worked on the edge of the island, as well as see the working parts of the light itself.

Rathlin West Lighthouse is one of 70 lighthouses operated by the Commissioners of Irish Lights around the coast of Ireland and plays a vital role in maritime safety.

It is also one of twelve lighthouses which make up Great Lighthouses of Ireland.

Things to note

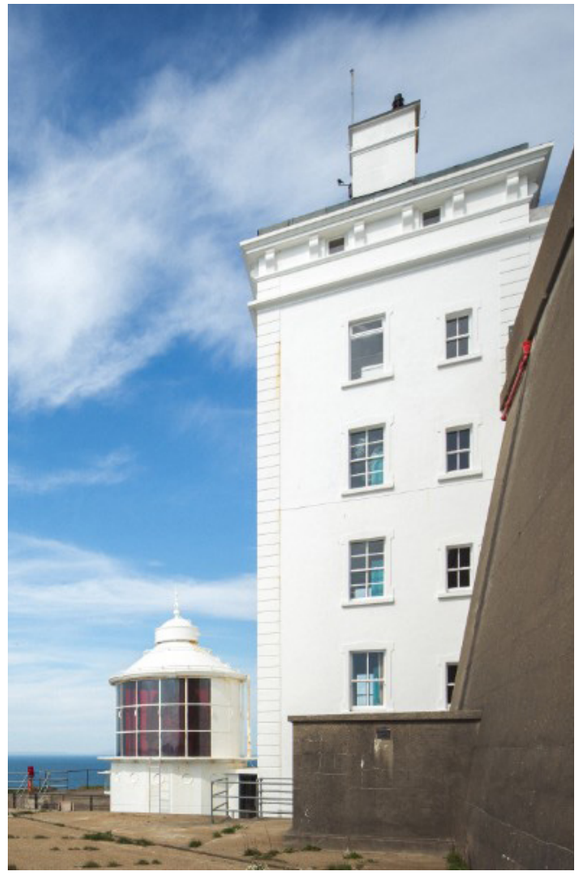
- A special pier and an inclined railway from the pier to the cliff top had to be built to facilitate the lighthouse's construction. The light was first exhibited in 1919.
- Lightkeepers lived in the lighthouse until it was automated in 1983.
- The lighthouse's fog signal, dubbed the 'Rathlin Bull', could be heard from more than 30km away. It was removed in 1995 after 70 years of service.

Project Name: Fanad Head Lighthouse

Architect: Keys and Monaghan

Description: The restoration philosophy with this 200-year-old building was a 'light touch intervention'. The plan respects the original layout with a few small but crucial changes.

This project was extremely challenging, as the building is a protected structure of national significance on a stunning coastal location. The complex lies within the sensitive Natura 2000 network. It is a Special Area of Conservation (SAC) and a Special Protection Area (SPA).



4.0 The Vision / Proposals

4.1 The Proposals

Lighthouse | Materiality

Faithful restoration of a protected structure and fabric. Repair all that we can and replace like for like where possible.

Internal Finishes: Lime render to repair tracking and damages plasterwork. Lath and plaster patch repairs to existing ceilings and studwork. Breathable paint to be used.

Roof: Careful removal of existing slates and leadwork, treatment of roof timbers where required by splicing of decayed parts. Breathable insulation to roof space and sarking. Bangor blue slates fixed with copper nails. Code 4 lead flashing where needed. Thouroughly check and repair cast iron rainwater goods. Similarily with windows,

Openings: Careful review of existing windows and doors; treat, splice and repair damaged elements. New window cords and brush seals for sliding sash windows.

External walls: Repair external lime render and whitewash exterior.

Services: Careful introduction of new M&E services. New fittings to match existing.

4.1 The Proposals

Instagram Moment

View from Gun Platform 1 (31.07) towards Searchlight (31.06)

4.0 The Vision / Proposals

4.1 The Proposals

Instagram Moment - The Lough Swilly Walkway

The project allows for the construction of two breathtaking Instagram moments, however since the Platforms for Growth Application, the location, form, scale and materiality has changed for the reasons listed below.

The Lough Swilly Projecting Glass-way was originally located at the waters edge projecting from blockhouse 33.01. The proposal to relocate was made for the reasons listed below;

1. This location would result in projecting beyond the High Water Mark H.W.M resulting in the requirement of a foreshore license. This is achievable however not to the current programme.

2. From the existing access road to the blockhouse there is a level difference of around 20m, including steps and a bridge to cross a gorge. In order to remove these, an elevated ramp would be required. To form an accessible assuming a 1:20 ramp over 10m with a landing size of 1800mm as per Part M the total ramp length is 167m.

Access Road Level = 25.00m | Top of stair way Level = 12.00m

Level Difference = 13m | 26 x 10m Ramps = 260m | 27 landings x 1.8m = 48.6m

Total Ramp Length = 308.6m

Top of Stairway Level = 12.00m | Blockhouse = 5.00m

Total Ramp Length = 167m

The required lengths are not achievable for the area provided and;

- A level increase of 20m over 475.6m would be extremely strenuous for any wheelchair user, carer or ambulant disabled person.
- Providing this length of ramp scarring the existing natural landscape would have a negative ecological impact.

3. An elevated ramped walkway would have a negative conservation visual impact on the neighbouring blockhouses as the ramp would tower over and compete with them.

4. Glass is not permitted due to the high number of nesting birds and bird flight paths. We have proposed that the Lough Swilly Walkway is relocated to the Lower Fort for the following reasons;

1. According to the Fort Dunree Board of Management members they have always struggled to entice visitors into the Fort. A new installation like the one proposed will address this.

2. The existing accessibility is poor in the Lower Fort. An accessible route from the drawbridge to the installation is proposed.

3. Expansive views and visitor experience stepping on the glass floor looking to the cliffs and Swilly below.

Artist's Impression - View of The Lough Swilly Walkway from the access road

4.0 The Vision / Proposals

4.1 The Proposals

As access to the walkway is an existing route on an existing site, full accessibility is not necessarily required . However, due to the level of funding and the experience proposed the Client has expressed that it must me fully accessible. To achieve this, the existing drawbridge must be replaced along with the removal of the existing concrete path to install a ramped access to the current regulations. Where practical and feasible this ramp has been kept to a maximum of 1:21 to negate the need for handrails and therefore a negative conservation impact.

As indicated by the Figure below, the Lower Fort Structure can be broadly broken into 4 key forms from a structural perspective as follows:

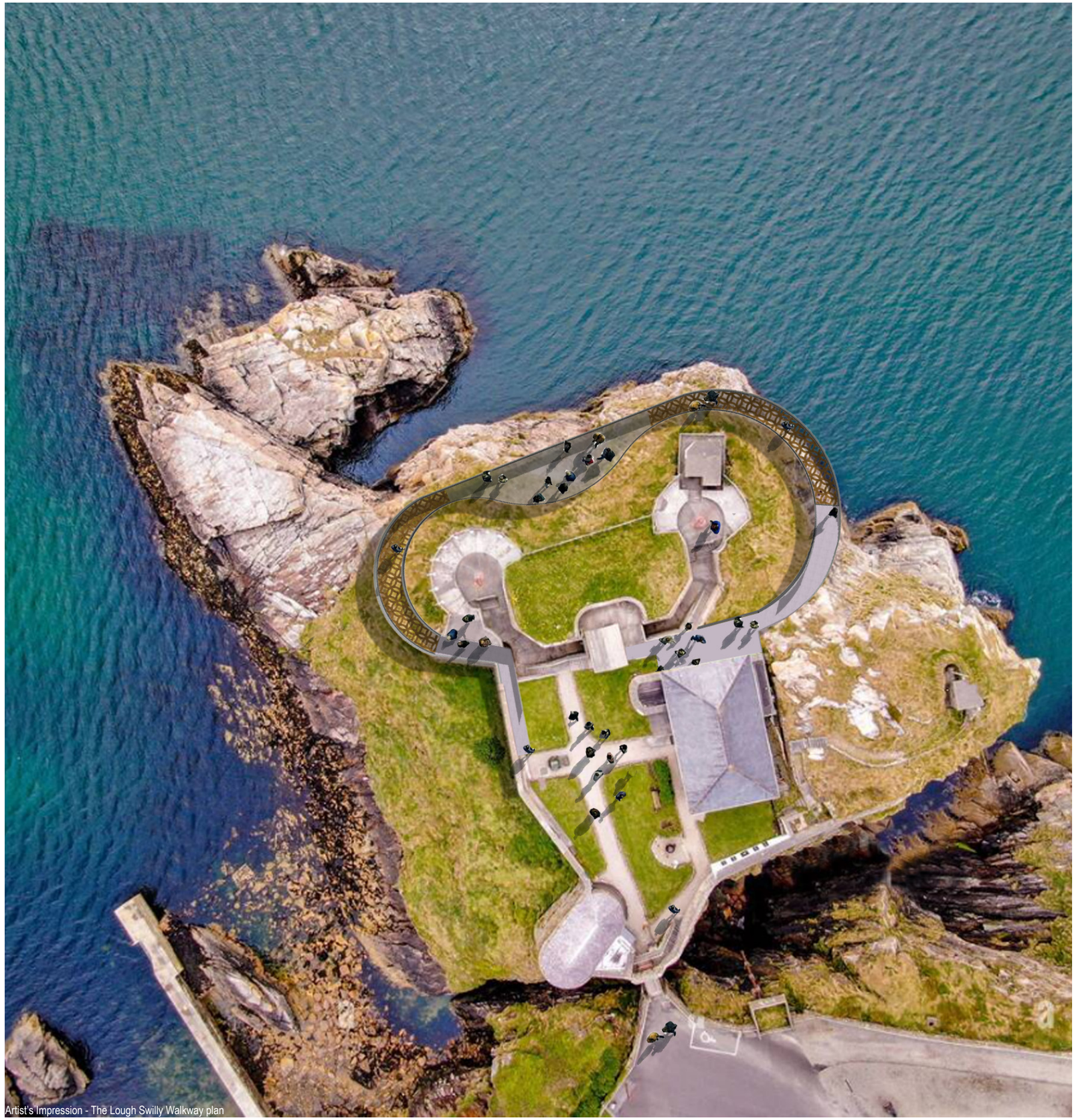
Southern Approach Path - The southern portion of the walkway will comprise of a ground bearing reinforced concrete path.

Central Cantilever – as per 75006-31-ZZ-ZZZ-DR-KXM-ARPL102, the central cantilever section is proposed to comprise of a cantilevered tapered I-beam fixed back to a reinforced concrete pad foundation structure, suitably sized to prevent overturning of the structure.

Blockhouse Cantilever – similarly to the central section, the proposed walkway is proposed to cantilever beyond the cliff edge in this area. However, due to the proximity of the existing blockhouse and conservation concerns, a steelwork grillage secured back to the existing rock face via grouted rock anchors (micropiles) are proposed, in lieu of a reinforced concrete pad foundation structure.

Northern Stepped Access – similar to the south approach, it is anticipated that the top landing of the Northern Stepped Access will be formed via in-situ reinforced concrete ground bearing slab.

The Lough Swilly Walkway plan - Structural reference plan



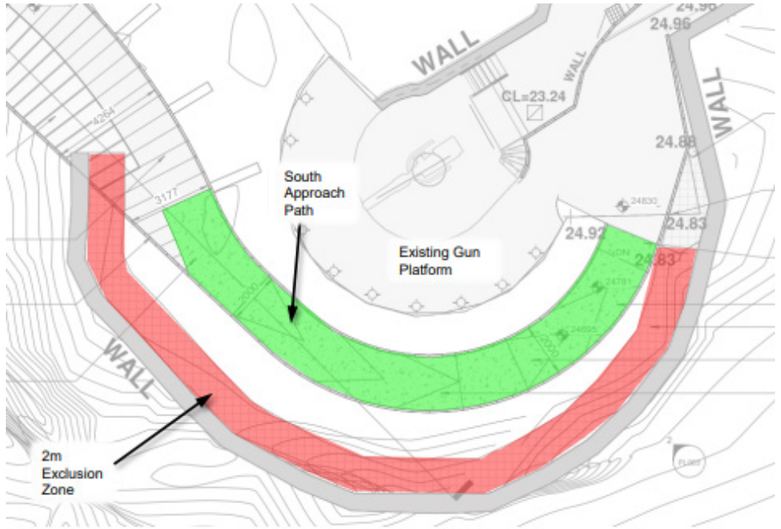
Artist's Impression - The Lough Swilly Walkway plan

4.0 The Vision / Proposals

4.1 The Proposals

Materiality

Due to the location and neighbouring heritage, the developed design and subsequent detailed detail will look and feel as light touch as possible. The main material chosen will be a GRAEPEL or equivalent perforated metal balustrade and flooring. As heighten the visitor experience the central section will consist of a glass floor and guarding. The guarding directly opposite the blockhouse will also be glass so the view from the searchlight is not restricted.

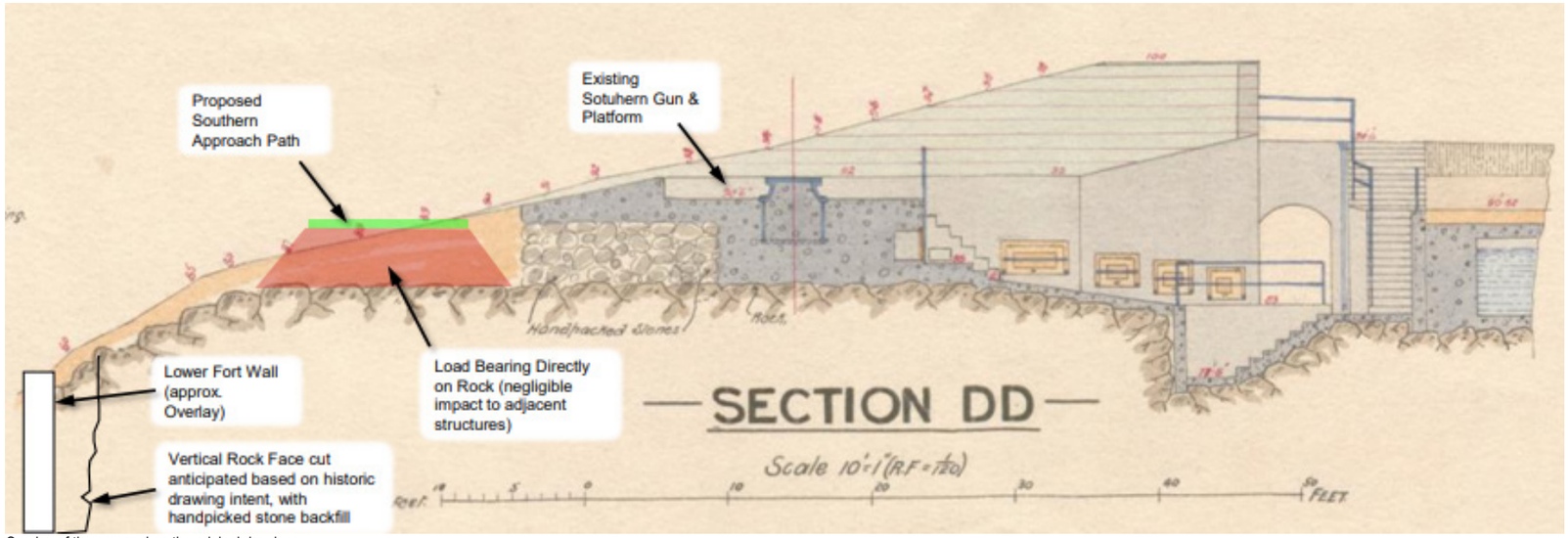


Plan showing construction exclusion zone

Conservation and protection of existing structures

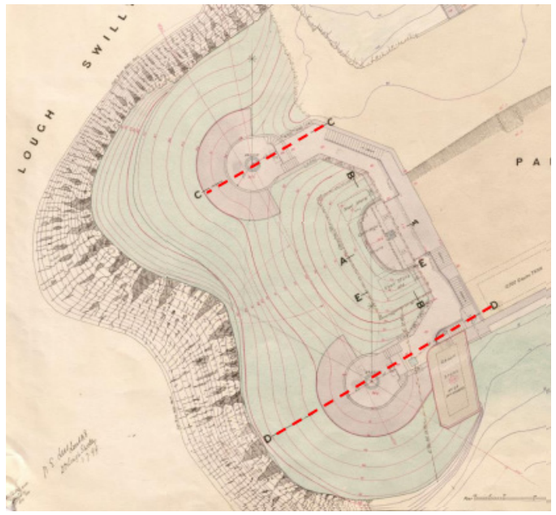
With respect to the protection of the Lower Fort Wall & Gun Platform to the southern walkway approach, it is proposed that a minimum 2m exclusion zone is maintained from the face of the Lower Fort Wall and 1.0m from the railings of the gun platform (see image above). It is important to note however that the vast majority of the approach path achieves an exclusion zone in excess of 4m to the Lower Fort Wall. In addition, the approach path is proposed to tie into existing levels as far as reasonably practical to ensure that any increase in loading adjacent to the existing structures is minimised.

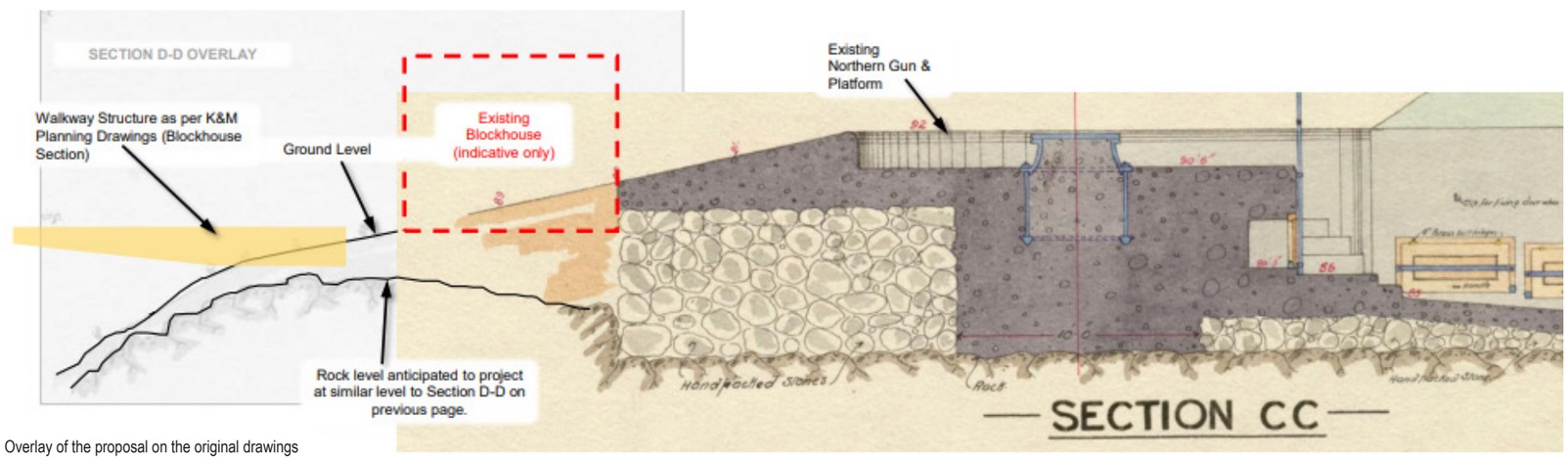
From the historic drawings, it is anticipated that the Lower Fort Wall is in the region of 1-1.5m thick. Considering this and the fact that rock is highly likely to be present at shallow depth, it is unlikely that any direct loading would be imparted on the adjacent structures. This assumption is validated by the extract taken from Section C-C of Historic Drawing WO78_4912_008, which clearly illustrates rock at shallow depth. It also depicts the intent that vertical rock cuts would be formed for the structures, and backfilled with hand picked stone. As such, if the proposed structures bare on competent rock, no loading would be imparted on the adjacent structures



Overlay of the proposal on the original drawings

The foundation for the blockhouse is unknown and given the sensitive nature of the existing structure, intrusive ground investigation Pre-Planning was not deemed suitable. However, it is a reasonable assumption that the blockhouse is founded on a shallow foundation, bearing directly onto hand-picked stones on existing bedrock. This assumption is validated to reasonable degree by Section C-C of Historic Drawing WO 78_4912_008, which clearly illustrates the proposed construction of the Northern Gun. For the purposes of communicating the relationship between proposed and existing, further detail has been added to Section C-C below. Based on the rationale above, the likelihood of any walkway works undermining the blockhouse foundation is deemed low. Cautiously however, an alternative foundation design solution has been proposed, as illustrated below to negate the need to carry out any significant excavation works adjacent to the existing blockhouse.





Overlay of the proposal on the original drawings

4.0 The Vision / Proposals

4.1 The Proposals

Construction

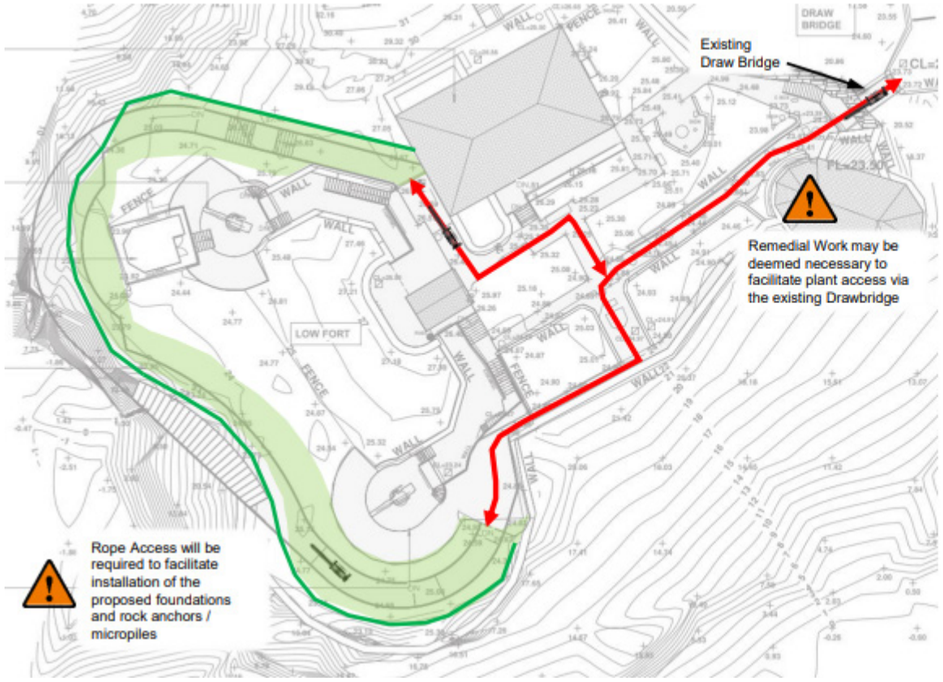
1. Enabling Works : This will involve the removal of top soil in the area local to each foundation structure and shallow depth excavation to identify rock level / suitable bearing stratum. On the basis of the historic sections presented previously, it is anticipated that rock level will be identified typically 0.5-1m below existing ground level. Following this, the ground would then be prepared with granular working platforms, to facilitate tracked plant access. In addition, a Temporary Edge Protection System would be installed adjacent to the cliff face.

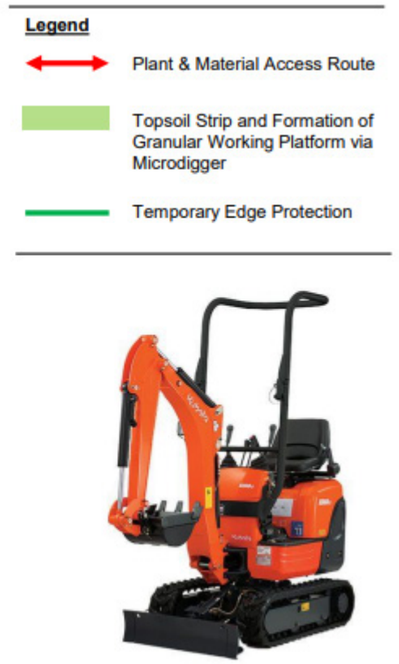
Please note, this is not an exhaustive list of potential enabling works and further proposals would be developed by the appointed Contractor. All excavation works would be carried out using Micro-diggers or suitable remote controlled excavation plant.

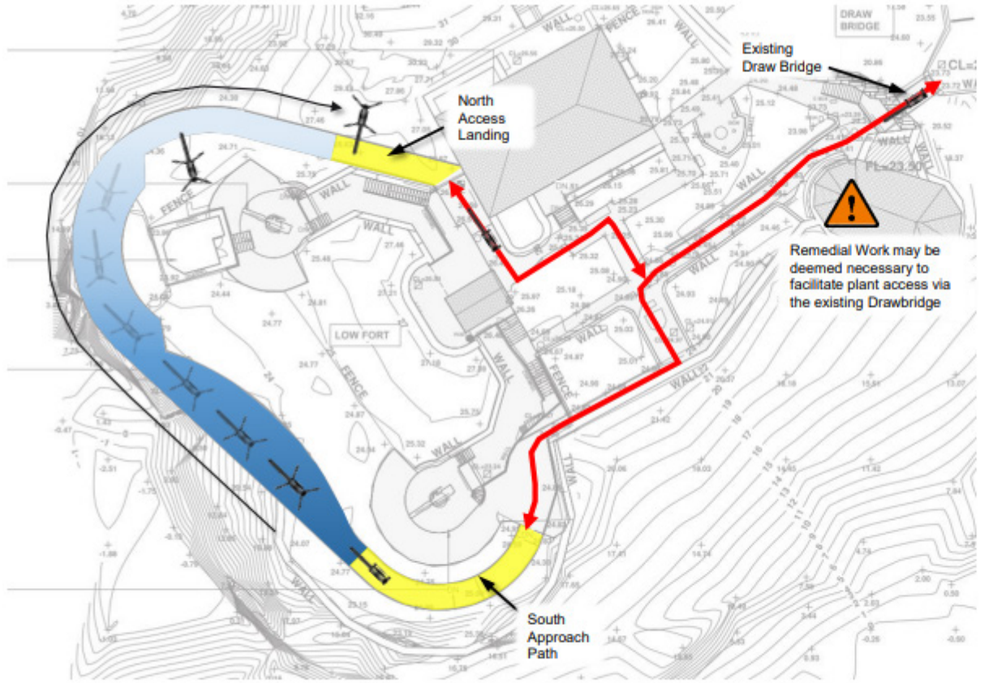
2. Foundation Construction: Following the enabling works, foundation construction would then commence. The exact extent of walkway for which a concrete or a steelwork grillage foundation type is utilised will be subject to Detailed Design and Costing, as described previously. Due to the access constraints posed at the Fort, it is likely that any pad foundations would need to be cast in-situ, with concrete supplied to the works area via a concrete pump positioned outside the Fort. Any rock anchors / micropiles deemed necessary would be installed via a suitably sized, tracked micropile rig – refer to figure right for context. It is important to note however that either foundation construction will require some degree of rope access and fall arrest equipment to facilitate safe construction.

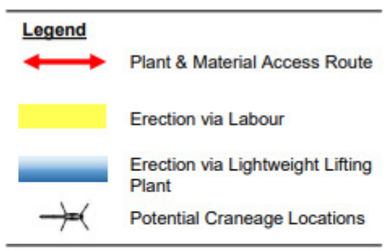
3. Superstructure Erection: On completion of the substructure (foundations), the next stage in the construction process will be the erection of the superstructure. Given site access constraints, the walkway superstructure will be pre-fabricated off-site and suitably detailed such that all steelwork elements are easily manually handled, or erected using Mini Spider Cranes (1-2T Gross Weight) or similar light-weight lifting plant. Such plant could be tracked across the existing drawbridge subject to confirmation of suitable structural capacity. Alternatively, the plant could be readily lifted over the top of the Lower Fort Walls via one-off cranage and tracked to their proposed works area. The intent of this method is that it will allow the walkway to be constructed from within the walkway itself, helping to mitigate any risk of plant collision and/or collapse on to the existing heritage structures. To facilitate this method, the walkway would be designed in support of the proposed plant. The likely travel path of the proposed cranage is as indicated in the figure on the right. Alternative sequencing is also possible, and the sequence shown is for information purposes only.

4. Approach Landings: The final stage in the construction process will be the casting of the approach landing to the North and Approach Path to the South. The feasibility of proposing pre-cast concrete solutions for both elements will be explored further at Detailed Design Stage.









Construction phasing, plant and labour requirements

4.0 The Vision / Proposals

4.1 The Proposals

Instagram Moment - The Lighthouse Walkway

The Lighthouse Projecting Glass-way was originally positioned next to the lighthouse overlooking the cliffs and Lower Fort. The proposal to relocate was made for the reasons listed below;

1. The Ecologist within the design team has highlighted his concerns with the proposed location of this installation as nesting birds specifically use this area.

2. The Ecologist also stressed that the use of a clear glass was potentially hazardous to the local bird-life.

3. Installing a structure in this area would have a detrimental affect on the existing ecology and wildlife. This would have triggered an Appropriate Assessment and required submission to An Bord Pleanála.

4. Construction had been proposed on land that is not in Donegal County Council's ownership. This is owned and managed by the Commissioners of Irish Lights.

5. This location would result in projecting beyond the High Water Mark H.W.M resulting in the requirement of a foreshore license. This was achievable however not to the current programme.

6. Furthermore, from a conservation point of view the installation will visually impact the lower Fort.

We propose to relocate the 'Lighthouse Projecting Glass-way' now recognised as The Lighthouse walkway (AA) further around the northern coast for the following reasons;

1. Relocating this Instagram moment further around the head will help evenly distribute visitors around the site.

2. No conservation Impact

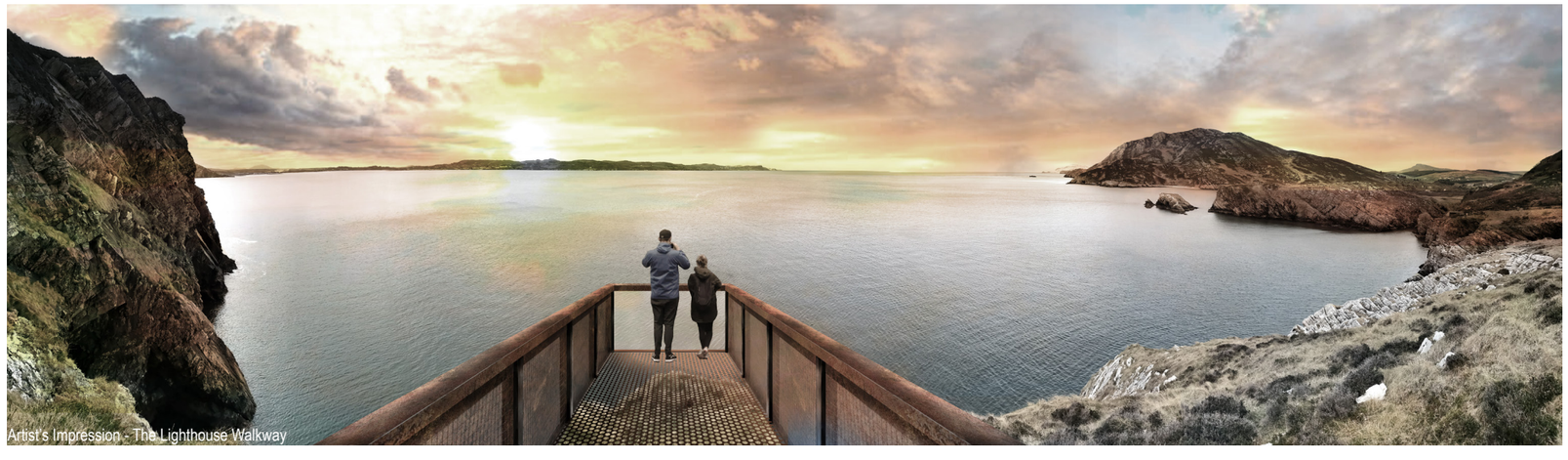
3. Impact on the ecology is minimised

4. The wild remote location will enhance the visitor experience.

It is proposed that The Lighthouse Walkway and the Lough Swilly Walkway work hand in hand in terms of materiality. Similarly, the main material chosen will be a GRAEPEL perforated metal balustrade and flooring or equivalent.

Following discussions at the PSGM on 18th July 2023 a gate to restrict access is to be included.

Artist's Impression - The Lighthouse Walkway



Artist's Impression - The Lighthouse Walkway

4.0 The Vision / Proposals

4.1 The Proposals

Instagram Moment | References

1. Carlingford Castle

Architect: Howley Hayes Cooney

Using a 'light touch' a fully accessible route is created through the preserved ruins allowing visitors to enjoy a full understanding of the historic context. A series of carefully inserted elements, in corten and stainless steel, combined with polished concrete and pebble mosaic ramps. The new steel, concrete and stone elements were chosen as appropriate materials for the new additions to be contemporary, yet sensitive and clearly identifiable, preserving the castle's authentic character. The steel will weather over time creating a timeless addition that relates to the texture of the historical stone walls.

2. Duero Lookout

Architect: HOLLEGHA arquitectos

Due to its length of 12.8m and the location on the precipice, the platform offers completely new perspectives for landscape and bird watch, and the view of the famous hydroelectric station of Aldeadávila is spectacular. At its furthest point there is an opening covered with a steel grating that allows a vertical view over the cliff. The structure is a result of a very careful process of adapting the original design to both environmental requirements and building codes.

3. Perspektivenweg (Path of Perspective)

Architect: Snøhetta

Part of a series of architectural interventions for a walking trail in the Nordkette mountain range above the town of Innsbruck, Austria. Snøhetta designed the simple 'lightweight' structure so that it appears to "grow out of the terrain". Made from Corten steel, with a metal grate floor, the cantilevered platform gives visitors views across the Inn Valley and below.

2

2

2

3

3

3

1

4.0 The Vision / Proposals

4.1 The Proposals

Instagram Moment | Materiality

As shown on the images taken around the site, a series of metal forms and mesh can be found on site, the proposed materials will take inspiration form this. Particularity in the Lower Fort, it is important that the installation for not detract from the existing, for this reason a combination of glass and perforated metal is proposed for its transparency qualities.

Due to the location it is important that the material and products used have low maintenance requirements, long lasting, and robust.

For continuity, both walkways along with the drawbridge will be constructed using the same material.

Duero Lookout

4.1 The Proposals

Existing Buildings

4.0 The Vision / Proposals

4.1 The Proposals

Existing Character

Sample description of two buildings within the village area.

Hut 5 - Commander's Offices 7.05 (**(existing photos to the right)**

Date of Construction: 1915

Summary Description: Pitched corrugated-metal roofs with red brick chimneystacks and some remaining sections of cast-iron rainwater goods. Corrugated metal clad walls, mounted on concrete plinths. Square-headed window openings with remains of six-over-six pane timber sliding sash windows, and timber casement windows. Square-headed door openings, generally with battened timber doors.

Appraisal: This single–storey corrugated-metal clad former barrack building is an integral element of Fort Dunree Complex. Although derelict and out of use this building retains its early form and character as well as a significant amount of original fabric.

Condition: Poor - partially Collapsed

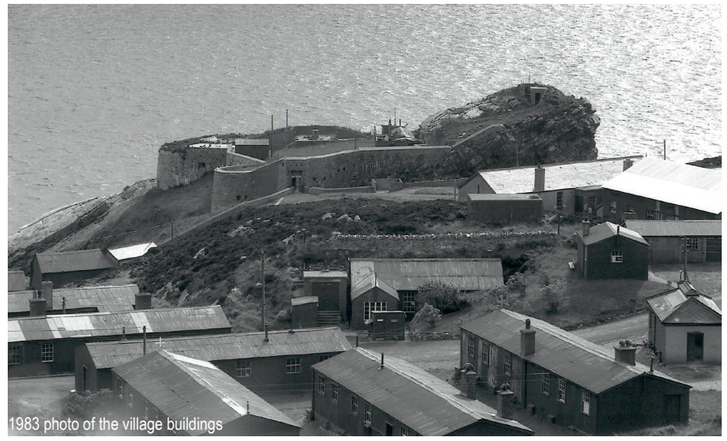
Barracks 5.01 (existing photos to the right)

Date of Construction: 1911

Summary Description: Pitched slated roofs with cement rendered brick chimneystacks and some remaining sections of cast-iron rainwater goods. Roughcast rendered wall. Square-headed window openings with remains of six-over-six pane timber sliding sash windows, and timber casement windows. Square-headed door openings, generally with battened timber doors.

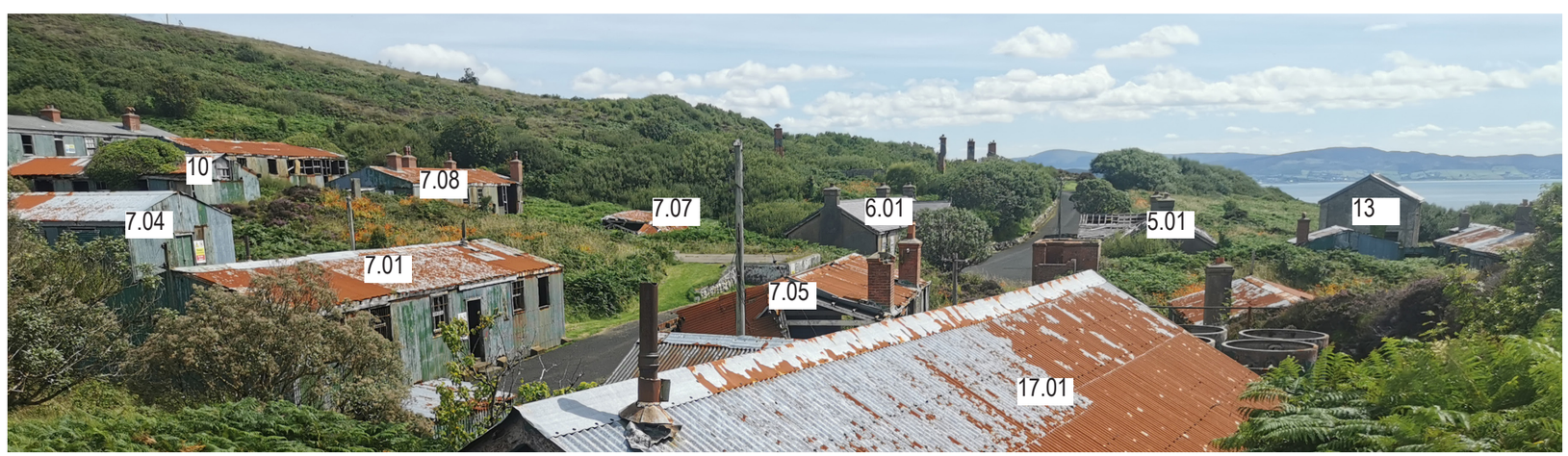
Appraisal: This single–storey former steel framed & brick built former barrack building is an integral element of Fort Dunree Complex. The structure is an important feature in showing the scale and extent of the facility & forming enclosure to the west side of the 'main street'.

Condition: Ruin



1983 photo of the village buildings

Hut 5 - Commander's Offices 7.05



4.0 The Vision / Proposals

4.1 The Proposals

Conservation and Restoration

During the Platforms for Growth Application it was proposed to demolish some unstable structures and remove those already fallen off site. Although the hutments throughout are not architecturally important individually, their status as part of a collection is. In fact, it is quite likely that this is the largest surviving examples of a complex of corrugated-metal buildings in Ireland. From learning more of their Conservation and Heritage significance and historical importance removal of further fabric is not acceptable.

The photographs to the right and below highlight the damage caused over a three year period from September 2019 to August 2022. The bottom right photograph was taken in 1983: All of the corrugated-metal buildings in this picture are now gone. These photographs illustrate the importance of the proposed works.

It is the goal of this project to protect the last surviving corrugated-metal buildings within the 'complex', along with retaining as much of the existing fabric as possible. Due to the number of structures on site, unfortunately it is not possible to restore them all now. Instead, we have developed a series of cost effective approaches, that will stabilise and them. This way, when additional funding becomes available the structures will still be standing to restore. The strategies relate to the main building types throughout the site; the brick buildings, concrete structures and corrugated hutments.

The strategy is to restore the worst affected buildings and stabilise the rest. For example Hut 7.05 (right), it is quickly deteriorating and at a high risk of full collapse. Hut 7.05 is located in the centre of 'the village,' directly on the access road so its importance is elevated. The proposal looks at fully restoring this structure along with Hut 7.01 directly opposite.

The brick/stone buildings are more difficult to manage due to the cost of each.

All proposals are sympathetic, sensitive and protect the character to the site. They are reversible and all new elements will be distinguished from the old.

7.05 Hut 5 - Commander's Offices c. September 2019

7.05 Hut 5 - Commander's Offices c. August 2022

24.01 Garages c. September 2019

24.01 Garages c. August 2022

1983 photo of the village buildings now gone from the site

4.0 The Vision / Proposals

4.1 The Proposals

Within the Platforms for Growth Application the following was included;

- Restoration of two existing metal clad billet buildings
- Maintenance of seven existing brick buildings.
- Four billet buildings is to be maintained to a suitable safety standard
- The remaining surplus of billet buildings are to be demolished.

Demolition is permitted subject to the appropriate approvals either through the planning process or under the Local Government (Sanitary Services) Act 1964 if the building is considered to be a dangerous structure. A condition report would be required to demonstrate this. Overall it is our aim to protect the built heritage of Donegal - once its gone, its gone.

After careful review, analysis and change of scope the planning application includes for;

- Restoration of four existing metal clad billet buildings structure reference numbers 7.01, 7.05, 17.01, 18.01
- Nine billet buildings are to be maintained to a suitable safety standard structure reference numbers 7.02, 7.03, 7.04, 7.06, 7.08, 7.09, 8, 10 and 19.
- Maintenance of four existing brick buildings structure reference 18.03, 26.04, 26.05 and 13. This involves H&S works i.e. remove dangerous debris, fix loose roof tiles, install doors to restrict access and so forth
- Full restoration of four existing brick buildings structure reference 5.01, 6.01, 20 and 29.
- Two billet building which have already collapsed are to be removed structure reference 7.07 and 24.02.

The welcome Buildings (5.01 and 6.01) will facilitate a ticket/pay station (66 sq m) and souvenir shop (100 sq m), toilets (129 sq m), retail store (9 sq m), cleaning store (10sq m) and changing places facilities (12 sq m).

The former Gymnasium (20) will be made structurally sound and fit for purpose. This will continue to be used for storage by the Fort Dunree staff.

The existing Cafeteria(29) will see an upgrade and extension to increase the capacity and an extended external area of hard standing (230 sq m).

If further funding is sought, 27.01 will be refurbished for staff accommodation. Client to confirm.

To further note structures 3.16, 11, 12, 14 and 15, re not part of these works. Suitable fencing, hoarding etc. are required to restrict access.

Where repair works are exactly ‘like for like’, these don’t require planning permission as they won’t affect the ‘character of the structure’.

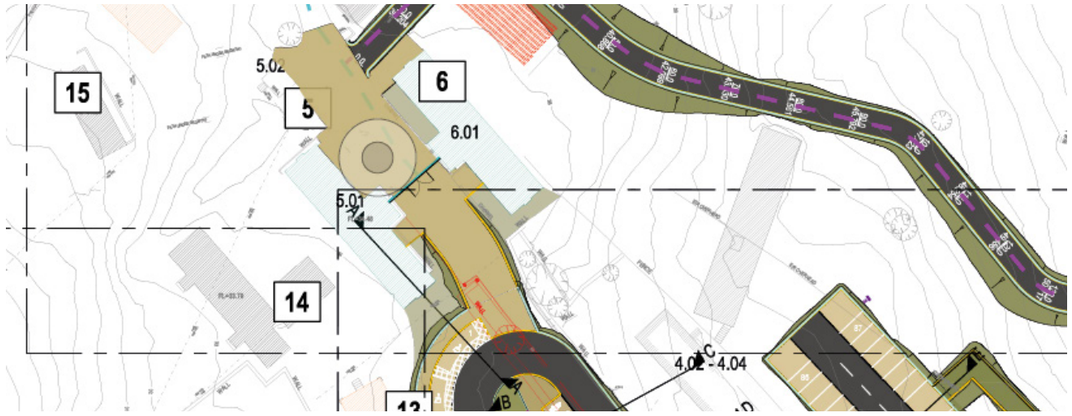
View from the High Fort Ditch

4.0 The Vision / Proposals

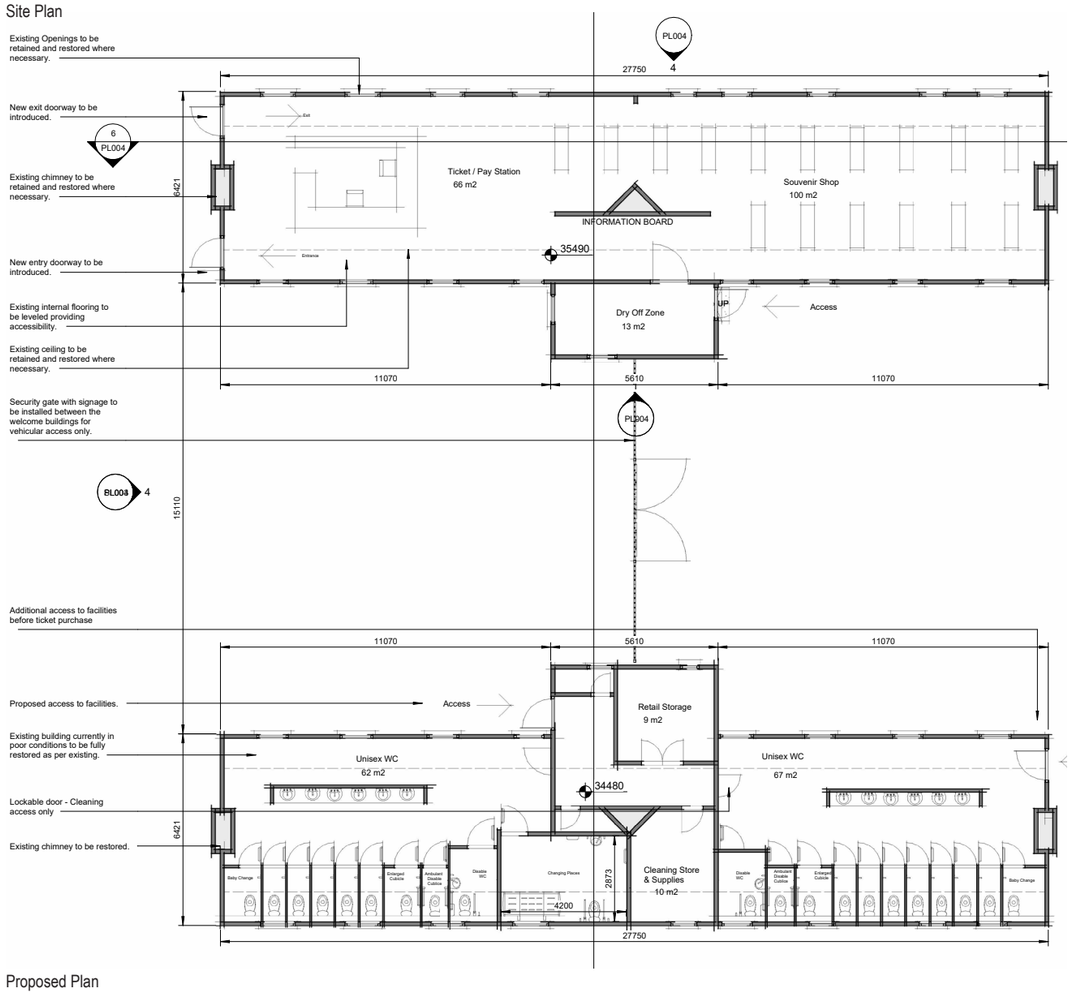
4.1 The Proposals

Welcome Buildings (5.01 & 6.01)

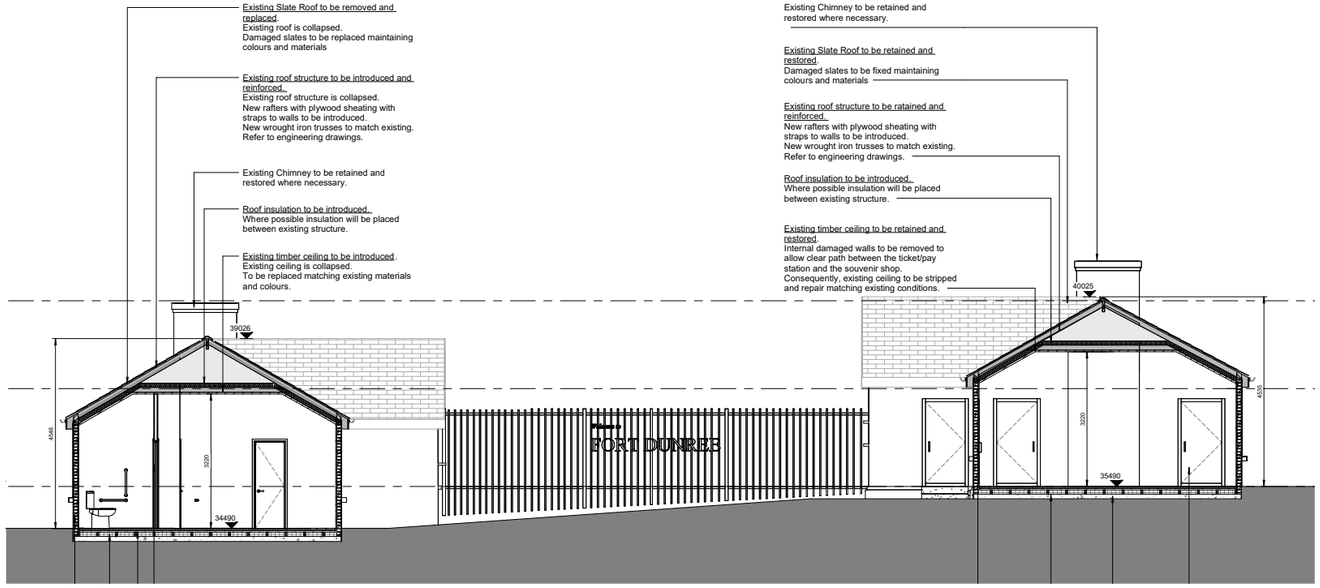
The two welcome buildings act as a bookend to the entry and exit of the site. The necessary facilities to operate a tourism site such as a ticket desk, retail shop and WC's are located within these.



Site Plan



Proposed Plan



Proposed Section

Existing Rear Elevation of Structure 5.01

Existing Front Elevation of Structure 5.01

4.0 The Vision / Proposals

4.1 The Proposals

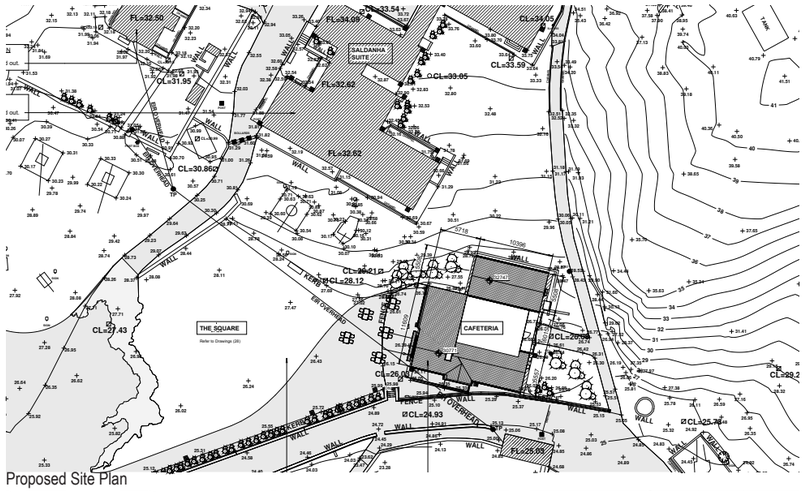
The Cafeteria

The existing cafeteria is in fairly good condition and is suitable in size for today's operation. To allow for the expansion of visitor numbers to the site the proposal increases the footprint and includes the reinstatement of structure behind the existing cafe.

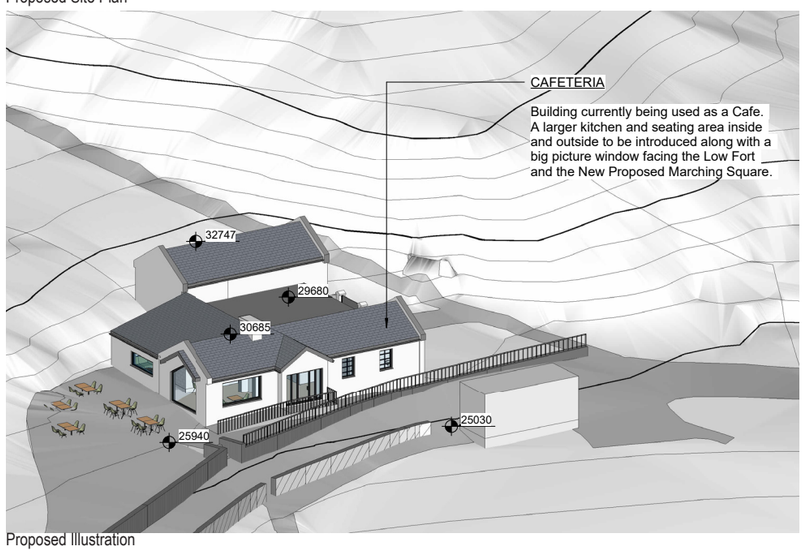
Based on technical guidance and tested margins, the Client outlined the area that we must achieve for the cafe. 1.5m2 should be achieved per person for 75+ visitors. The split of overall space is 60 / 40; 60% being front of house and 40% for the kitchen, storage and toilets. To account for 75 covers along with the associated back of house spaces, a minimum area of 157.5m^2 must be achieved.

75 x 1.5m2 = 112.5m^2 (60%) 112.5/100 = 1.125 x 40 = 45m^2 112.5 + 45 = 157.5m^2

135m^2 is achieved front of house, along with 73m^2 for the kitchen, storage and toilets. This over and above the requirements set out.

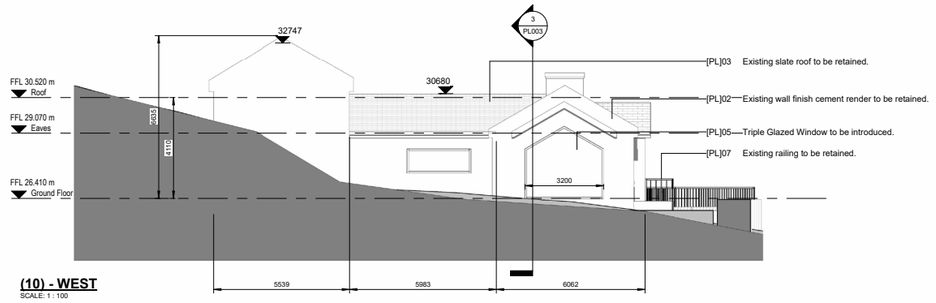


Proposed Site Plan



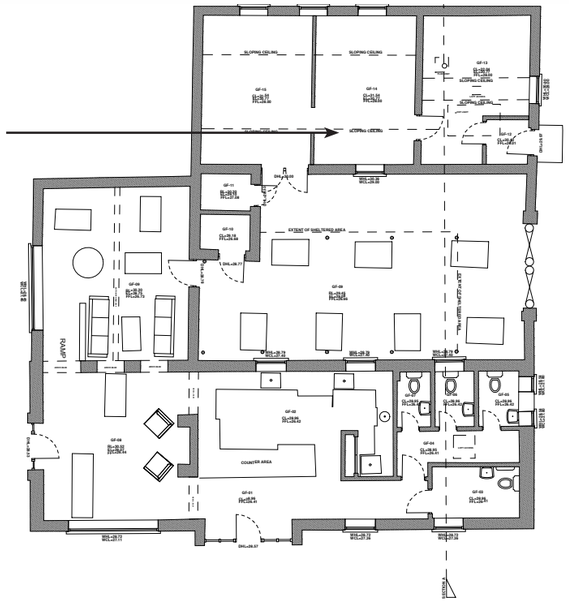
Proposed Illustration

Existing Photographs

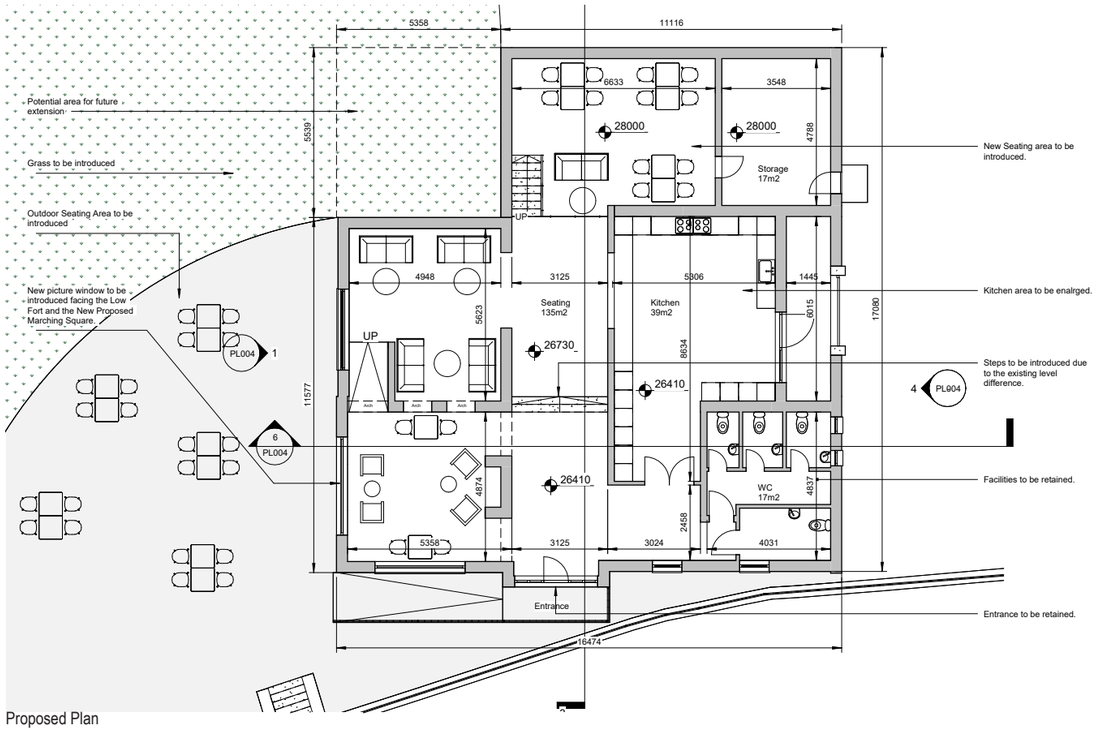


Side Elevation

The rear store is inaccessible to the public. It is currently being used to stores bins associated with the cafe. The roof is in very poor condition causing considerable water damage



Existing Plan

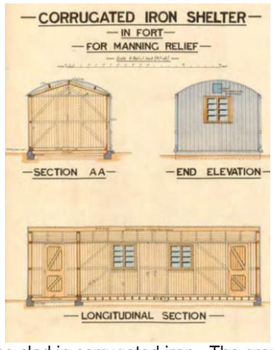


Proposed Plan

4.0 The Vision / Proposals

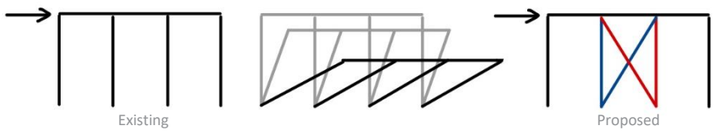
4.1 The Proposals

Stabilization Measures



Structure Overview: The typical hutment structures consist of a timber frame clad in corrugated iron. The ground floor is of timber joist construction, suspended between brickwork piers The roof structure consists of timber rafters spanning onto a ridge beam which in turns spans onto timber trusses at regular spacings. Typically the trusses have elbow haunches which provide some rigidity to the frame. Some of the hutments have brickwork chimney breasts which provide some nominal stability to the frame subject to presence of the corrugated iron diaphragm

Transverse Frame Stability



Longitudinal Frame Stability

Defect 1 Description:

Structural instability - The structures are very lightweight and therefore susceptible to damage under the action of high winds Some of the structure have collapsed in the past with the ruins evident, as is the case of the gymnasium shown above This collapse is due to a lack of lateral stability in the frames, both inherently and also as a result of the degradation of the timber and loss of the corrugated sheets acting as stability diaphragms The diagrams above show how the current framing system could lead to collapse

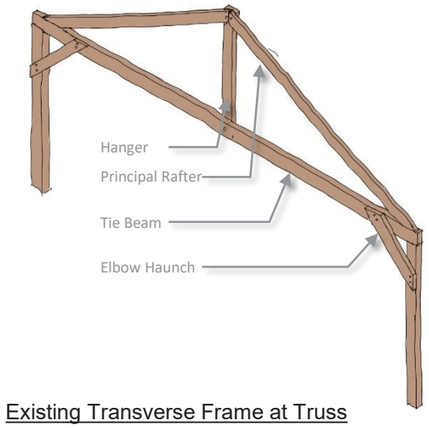
Proposed Solution: Many of these hutments are not intended to be occupied however they make an invaluable contribution to the historical landscape. It is possible that tourists will be able to walk alongside them and so there is a basic safety requirement. For both reasons, it has been deemed necessary to stabilize these hutments to prevent future collapse. The proposed solution involves timber bracing (refer transverse and longitudinal frame strengthening opposite) which will be a relatively cost effective, transparent reversible means of stabilizing the structures.

Defect 2 Description:

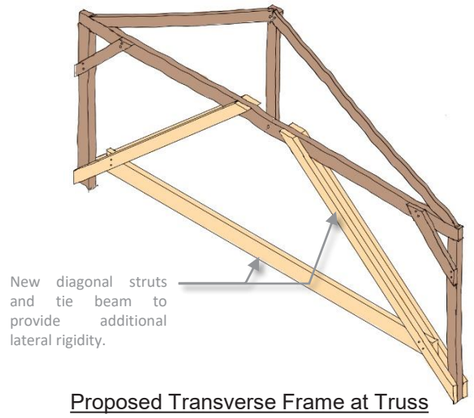
Timber decay - Many of the timber section will be subject to rot decay due to moisture migrating through gaps in the corrugated iron sheeting This will be particularly the case for those unoccupied structures which have lacked basic maintenance for decades The timber decay will have caused a loss of strength of the sections Some timbers have been subject to fire damage

Proposed Solution: Initially a timber survey will be carried out to determine the extent of rot decay or infestation The proposed solution involves partnering timbers as shown opposite. The existing fabric will remain in place (subject to surveyors advice) and new timbers will simply be partnered to the side of existing. Again this means maximum retention of original fabric, as well as a reversible and cost effective solution

Transverse Frame Strengthening



Existing Transverse Frame at Truss

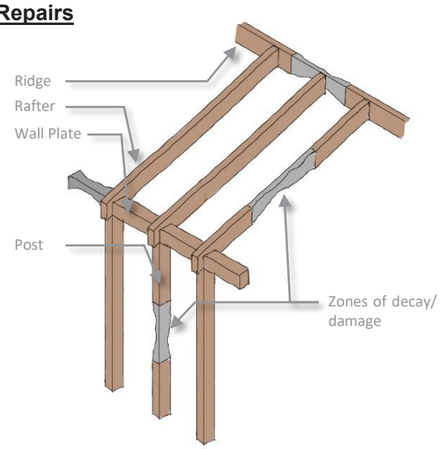


Proposed Transverse Frame at Truss

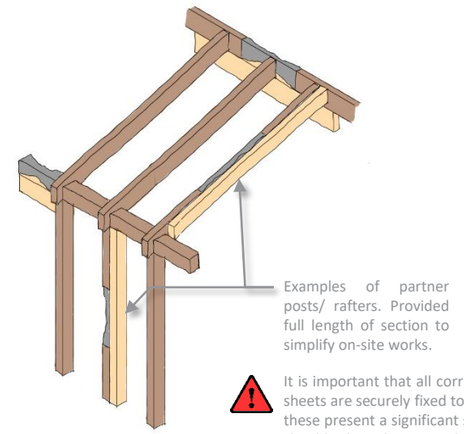
Longitudinal Frame Strengthening

Proposed Longitudinal Frame

Timber Repairs



Typical Existing Timber Frame



Typical Proposed (Partnered) Timber Frame

4.0 The Vision / Proposals

4.1 The Proposals

Barracks Restoration

Structure Overview: The Barracks buildings consist of masonry brick perimeter walls and gables with brick chimney stacks which offer stability to the building. The roof consists of collar tie rafters and steel (possibly wrought iron) trusses. The trusses are supported on columns embedded in the external masonry walls. The ground floor consists of suspended timber construction bearing on brick piers or tassle walls.

Defect Description: The existing roof has collapsed in many locations and is judged to be beyond repair. The ground floor structure is not fully visible but likely subject to significant rot decay.

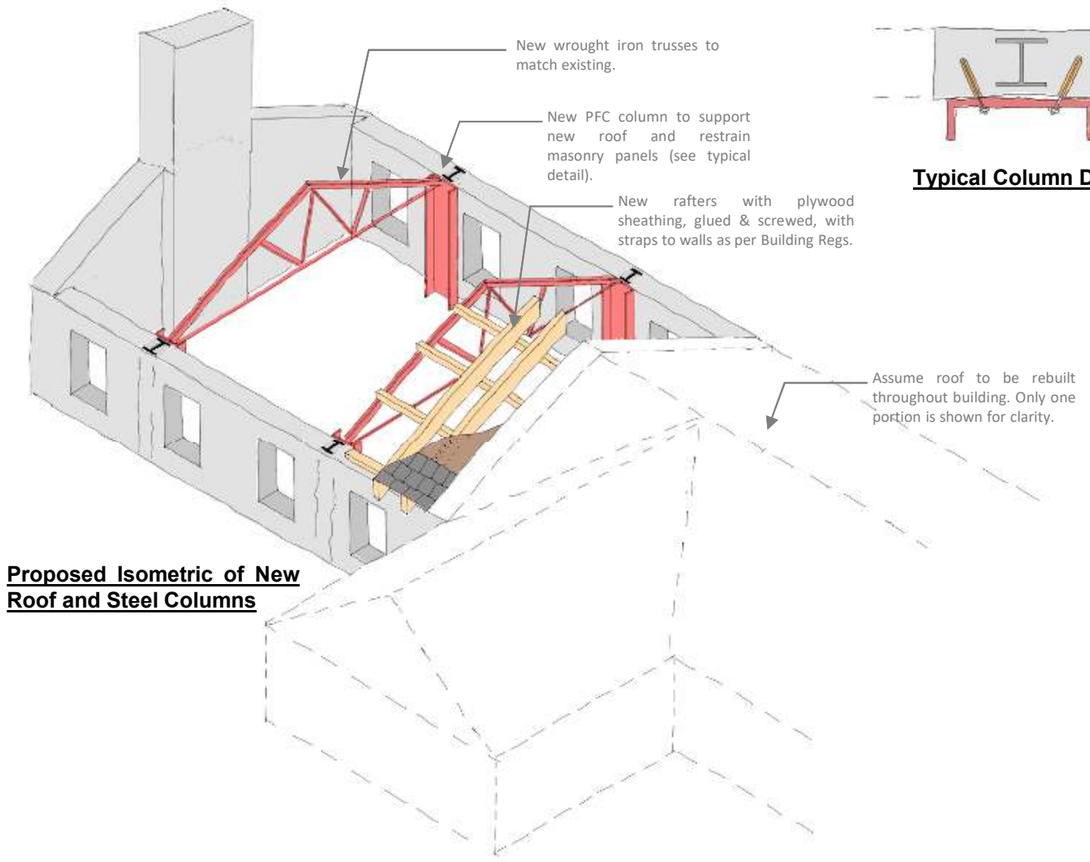
Proposed Solution: It is proposed that a new roof is installed to match existing. The roof should have plywood sarking glued & screwed, and straps between rafters & walls as per Building Regs. The ground floor structure will have to be replaced to match existing where required. New piers are required with pad-stones where new columns are being supported.

Defect Description: The existing steel/iron columns embedded in the external masonry walls are heavily corroded and are causing spalling of the surrounding concrete render.

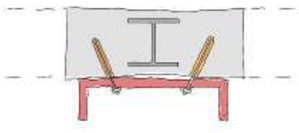
Proposed Solution: In order to maximise retention of the existing fabric and also to ensure reversibility, it is proposed that the existing columns are left in place and the new columns are installed internally to these (new columns will also support the new roof). These columns will be fixed into the masonry panels either side in order to restrain them (acting as wind posts).

Defect Description: The existing brickwork is covered in cement render which is trapping moisture within the walls, leading to freeze thaw-weathering and would cause damp on internal finishes.

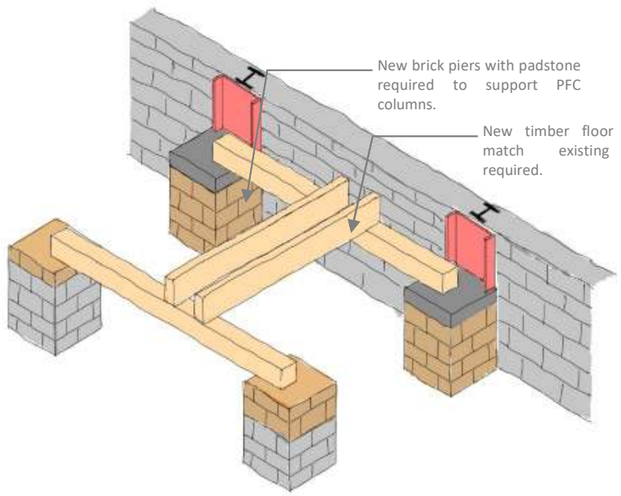
Proposed Solution: Consideration should be given to stripping the cement render and replacement with a lime based render to enable the walls to breathe. Re-pointing will be required where there has been mortar loss, with NHL2 or hot lime (subject to use by experienced mason) lime mortar to be used.



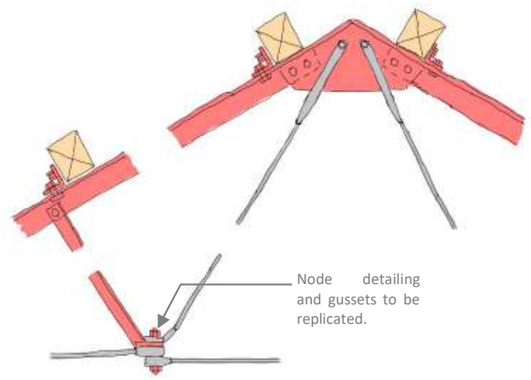
Proposed Isometric of New Roof and Steel Columns



Typical Column Detail



Ground Floor Structure



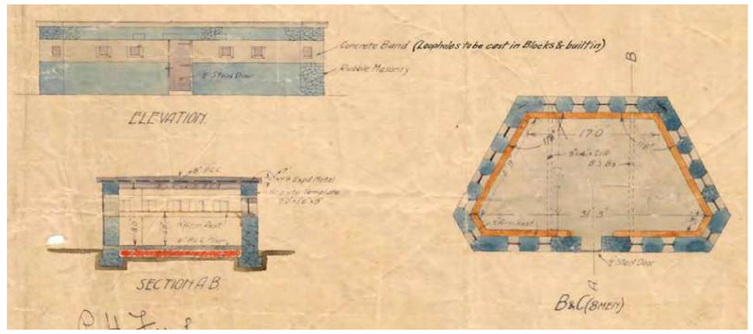
Indicative Wrought Iron Roof Truss Details

4.0 The Vision / Proposals

4.1 The Proposals

The drawing below demonstrates the level of repair proposed depending on the structure type, and

4.0 The Vision / Proposals



Structure Overview: The typical blockhouse watchtower structures consist of a reinforced concrete roof slab supported on steel beams which are in turn supported on either steel columns encased in concrete, or directly off the walls. The walls are of rubble masonry construction, with a concrete block band- at mid-height, and steel loop holes cast into concrete blocks and built-in to the wall.

Defect Description:
Existing steel beams are heavily corroded and in some cases have completely deteriorated. The roof slab has been left unsupported and is in tenuous equilibrium.

Proposed Solution:
New beams to be installed either side of existing beams (refer Cat. A repair detail). New beams to sit on padstones on existing walls, hanger plate provided to minimize required size of hole (refer typical wall section). Flashing required to top of beam to prevent corrosion from water leaching through slab above. Existing beams to be retained as historic fabric. Ends to be cut out of wall to prevent further rust jacking.

Where the concrete roof slab shows signs of distress and corrosion, it will be necessary to add secondary steel support beams (refer Cat. C repair detail).

Defect Description:
Existing concrete encased steel columns are heavily corroded, and rust jacking is causing concrete surround to crack & spall.

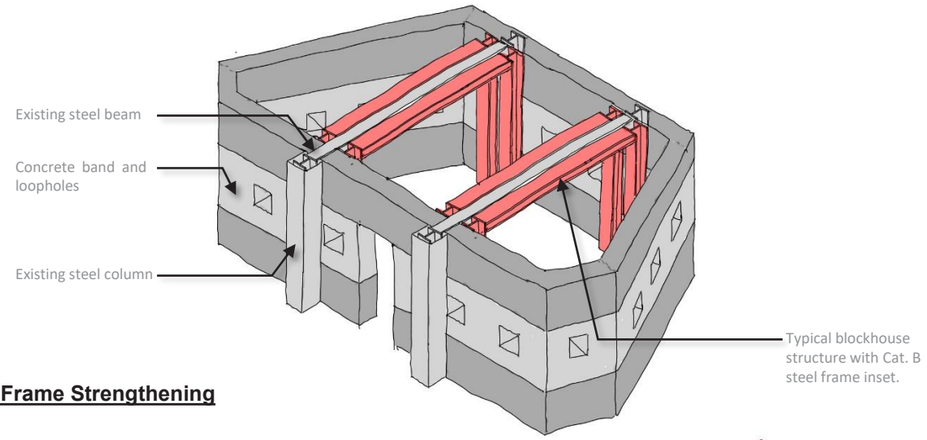
Proposed Solution:
Install new steel columns (refer Cat. B) to support new steel beams and relieve load from the corroded columns. Detail at foundation to be determined upon further investigation.

Discussion required within design team whether reactive measures will be taken to slow down future corrosion in these elements, or to let nature take it's course. Reactive measures would involve removing spalled concrete, coating the reinforcement in a primer, and recasting the concrete surround. Further cracks will develop during the life of the structure, requiring a maintenance strategy.

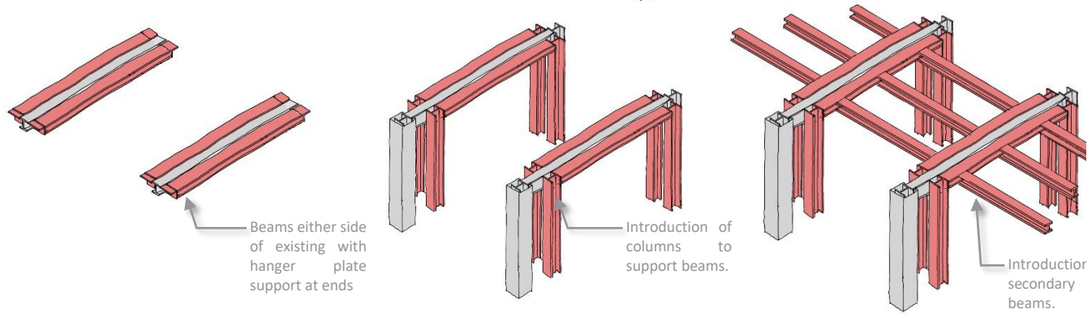
Defect Description:
The steel loopholes are heavily corroded and rust jacking has caused severe cracking in the concrete surround. This has caused bowing in some walls, and if allowed to continue will jeopardise the stability of the walls.

Proposed Solution:
Install beams along the side walls as per Cat A repair to relieve the load of the roof slab. Remove the concrete from one face of the band to allow the steel plate to rust and expand freely. The concrete outer leaf could be recast allowing a permanent cavity and enabling the steel loophole to continue to rust/expand uninhibited (refer Steps 1-3).

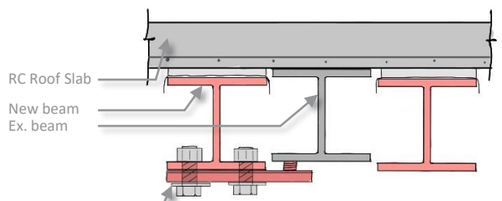
Alternatively the loophole could be completely exposed on both sides and coated in an anti-corrosion primer, however this would mean an increased loss of fabric.



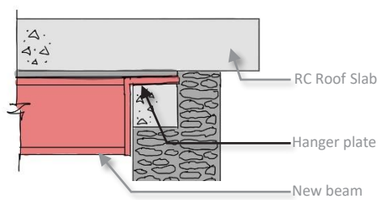
Steel Frame Strengthening



Category A | Category B | Category C

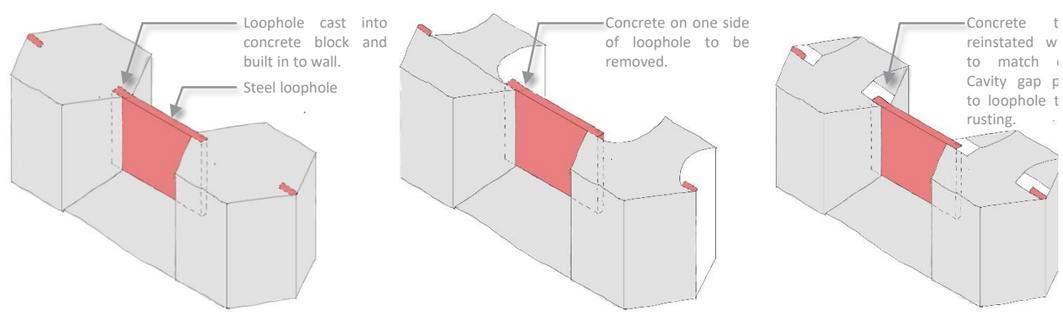


Typical Beam Section



Typical Wall Section

Concrete Band & Steel Loophole Repair



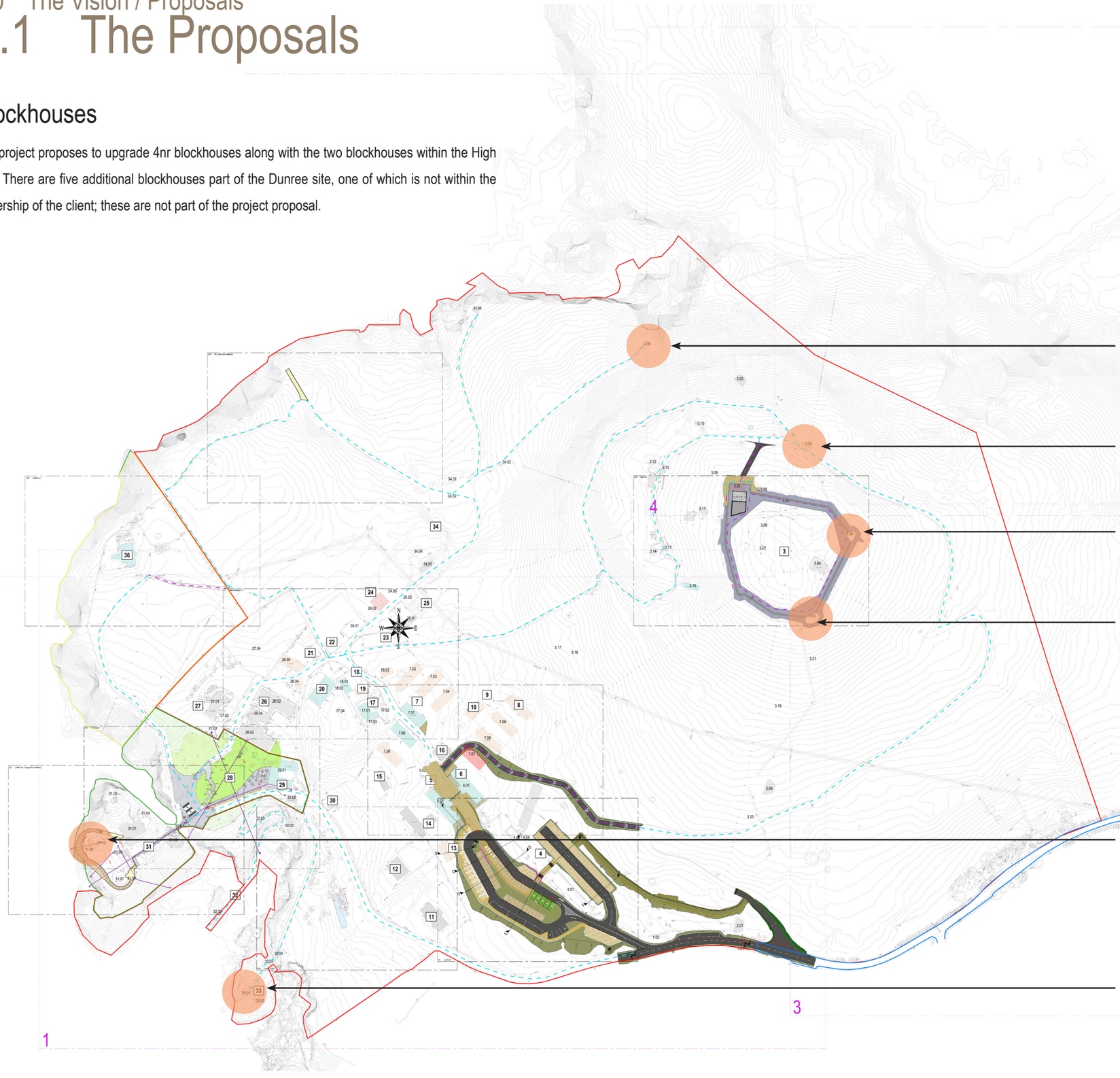
Existing | Step 1 | Step 2

4.0 The Vision / Proposals

4.1 The Proposals

Blockhouses

The project proposes to upgrade 4nr blockhouses along with the two blockhouses within the High Fort. There are five additional blockhouses part of the Dunree site, one of which is not within the ownership of the client; these are not part of the project proposal.



Blockhouses to be stabilised

N

KEY PLAN

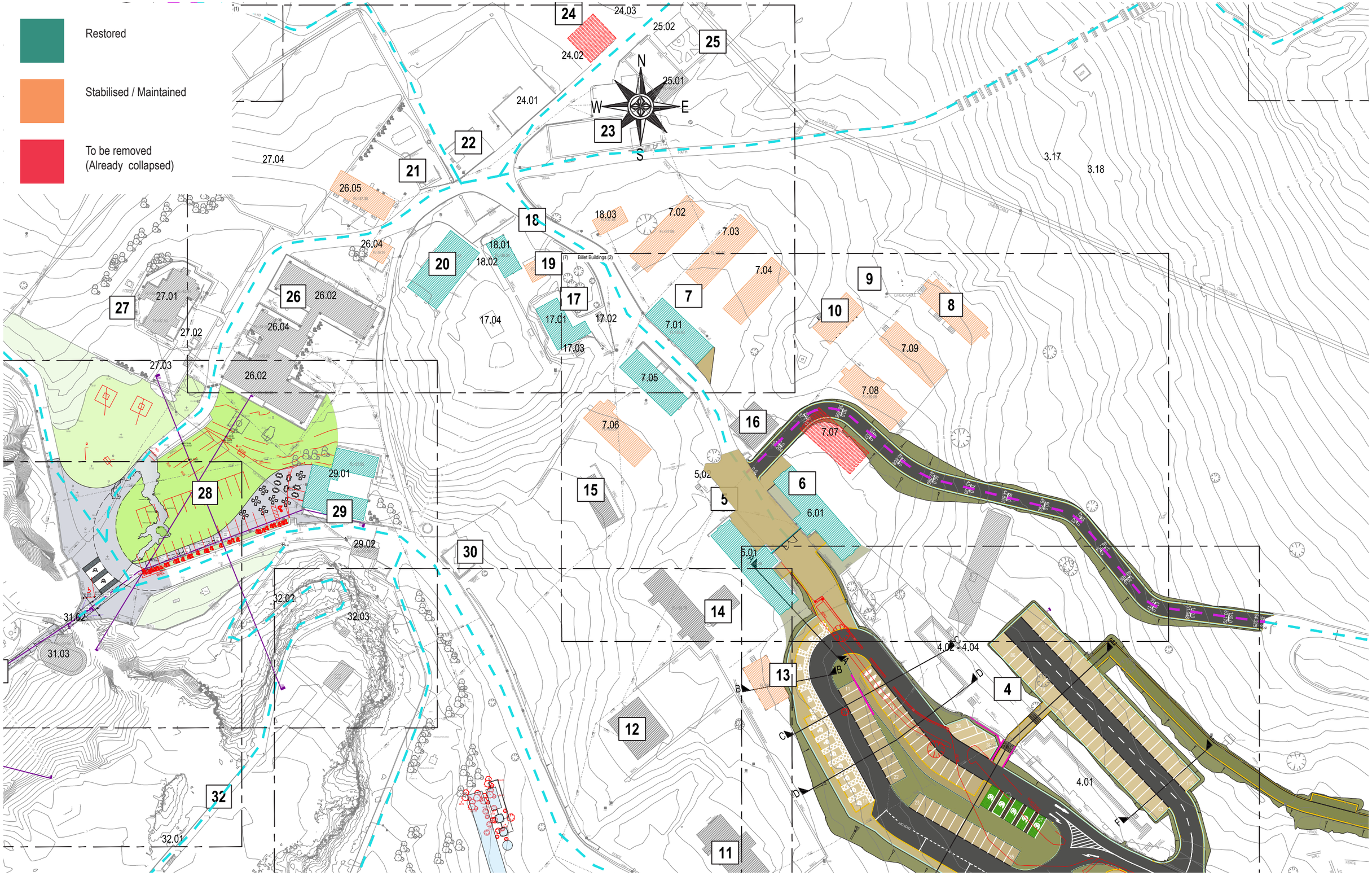
N.T.S.

0m 50m 100m 150m 200m

SCALE 1:1000

4.0 The Vision / Proposals

4.1 The Proposals



4.0 The Vision / Proposals

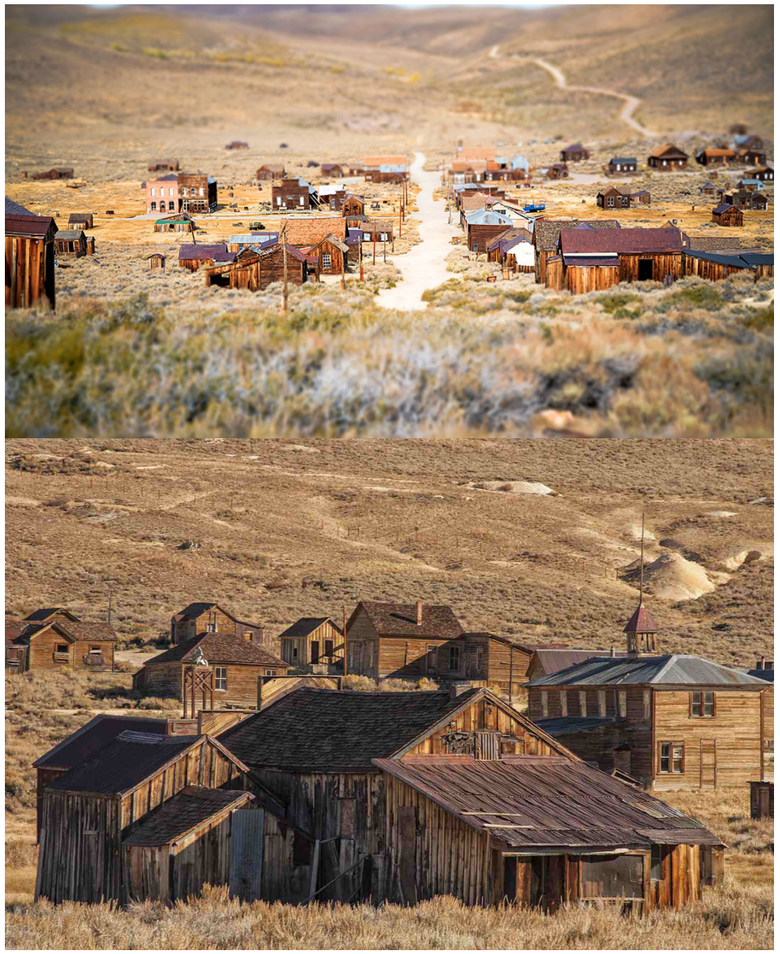
4.1 The Proposals

Existing Buildings | References

Bodie State Historic Park – Bodie, California

Bodie, California is a town frozen in time, and preserved by California State Parks in a state of “arrested decay.” Bodie became a State Historic Park in 1962, and maintains the buildings just as they were found when the State took over the town, simply preserving the buildings in their aged and weathered 1880s appearance.

Similar to Bodie, a long term maintenance strategy will be required for Fort Funree in order to protect this unique setting. A conservation plan has been put together which in inform and advise future developments.



4.0 The Vision / Proposals

4.1 The Proposals

Blcokhouses | References

Orkney Hoxa Battery (1)

Firstly we note the implications of not implementing temporary works measures. A fitting example of this is the gun emplacements in Orkney Hoxa Battery, they have deteriorated to the extend were the roofs of both structures have collapsed.

Project name: Dunluce Castle (2)

Architect: Unknown

Description: A series of low key Heath and Safety temporary works

Project name: Bank Buildings, Belfast (3)

Architect: Hall Black Douglas Conservation Architect

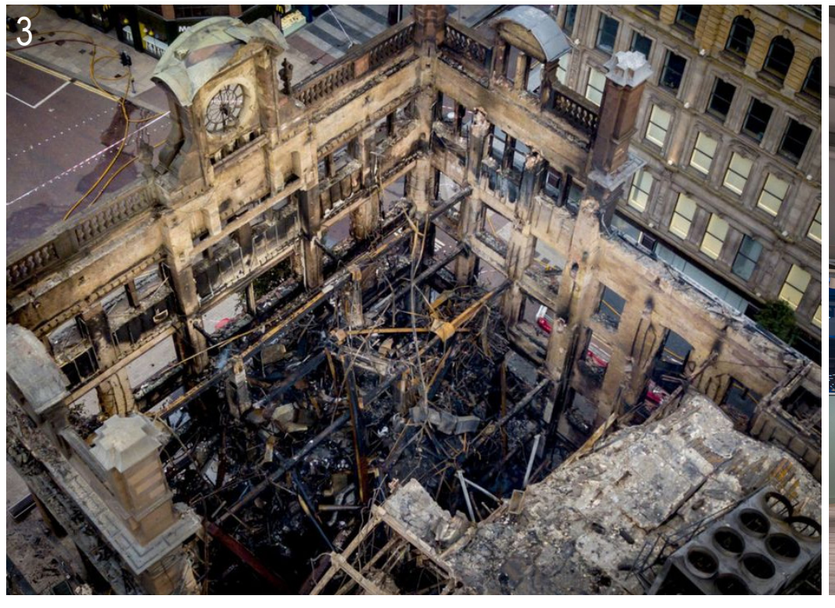
Byrne Looby, Conservation Structural Engineers

Description: More commonly known as the Primark building, the Bank Buildings were destroyed by fire in 2018 virtually only the external walls remained. Initially, shipping containers were used to temporarily stabilise the existing walls, after further works, survey and investigations steel truss supports where installed internally to brace and support the external walls.

Project: Crumlin Road Gaol (4)

Architect: Like Architects* Design ID Structural Engineers

Description: Installation of steel supports to strengthen and stabilise the existing structure.



4.0 The Vision / Proposals

4.1 The Proposals

Existing Buildings | Materiality

No new materials are proposed to the billet or brick buildings. The existing materials are to be retained and restored where necessary.

Painted Metal

Structural Timer

Stone

Corrugated Sheeting

Brick & Render

Timber Floor Boards

Cast Concrete

Cast iron

Timber Wall Panelling

4.1 The Proposals

Car park

View West from the High Fort Walls

4.0 The Vision / Proposals

4.1 The Proposals

Car Park

The existing car park is to be relocated from (28) to location (4). The new location is appropriate for the visitor journey and site access control. The area in front of the Officers Mess is presently tarmac. This is a brownfield development.

The constraints in this location are significant, as such they have been carefully analysed and the design has developed accordingly. These are listed below;

1. Limit cut and fill due to the rock: Ground conditions are mainly Quartzite Formation and upon receipt of the topographical survey, the levels of the site are steeper than initially expected. Cut and fill is inevitable, the design presented is the optimum solution. This will reduce costs as much as possible and minimise the risk of programme extension on site.

2. Architectural heritage: The proposed car park adjoins structures 13 (Squash Court) and structures 4.01, 4.02, 4.03 and 4.04 (Officer's Mess & Officer's Quarters). To mitigate any conservation impact, the design will "keep a safe distance" from the existing structures

3. Gradients: The design must comply with national standards. Although there is some scope to increase, 10% is recognised as the maximum vertical profile gradient for access roads.

4. Accessible route: The accessible spaces must comply with Technical Guidance Document Part M. To ensure comfort for visitors with limited mobility and eliminate the requirement for handrails, the gradient in this location will be a maximum of 1.21.

5. Limit or omit retention: Retention is very achievable however it can and does come with a fairly high price-tag. The aim to limit or omit retention is an exercise to reduce the costs where possible.

6. Provide a safe route for visitors accessing the site on foot or by bicycle.

Following extensive traffic survey analysis and 10 year projections, it was determined that a minimum of 110 spaces should be provided. The developed design achieves the requirement. The general layout includes the main car park and an overflow car park which will be utilised during peak season. The car park capacity is as follows;

- 110 car parking spaces including 11 accessible spaces and 5 EV charging spaces,
- 5 minibus /camper-van spaces
- 5 coach spaces, one of which is an accessible drop off point

Legend

Existing Car Park

Proposed Car Park

Restricted Access Barrier

Car Park Ticket Barrier

Pedestrian and Cycle Route

Existing Road that is restricted to the public to form the access route to the new car park

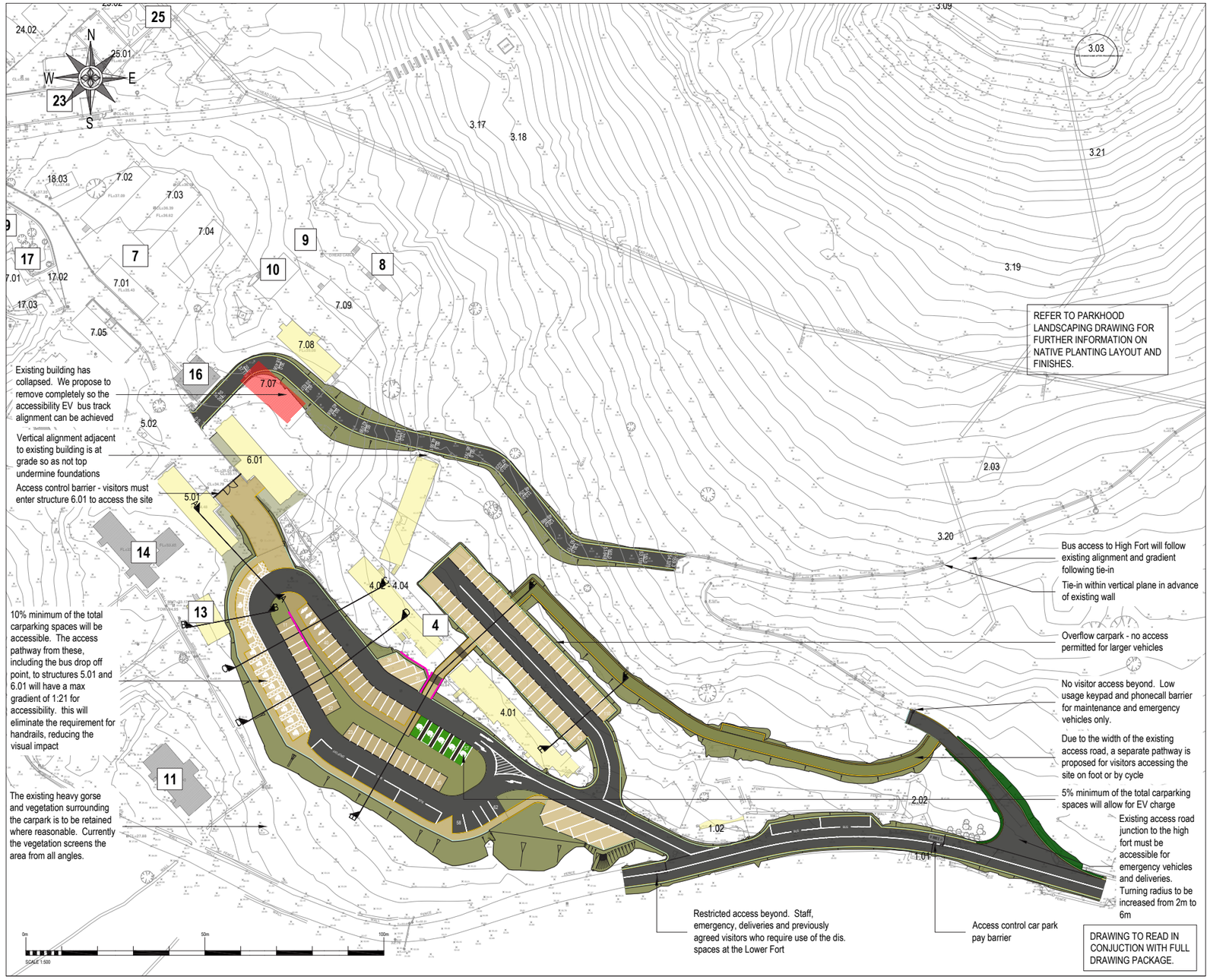
Existing access road into the site

4.0 The Vision / Proposals

4.1 The Proposals

Sustainable approaches been considered for example, the Local Link community bus service. The Design Team have engaged with them and they are keen to get involved with the project. Visitors will then have the option to park in Buncrana spreading the economic benefit of the The Fort Dunree Project to the local shops, restaurants and hotels. Their engagement however cannot be confirmed until the facility is open, and generating visitor numbers.

All are in agreement that car parking availability should be maximised while maintaining the integrity of the site. Fort Dunree is part of the Wild Atlantic Way and the design should reflect that; wild, integrated and not detracting from the historical setting. It is vital that the sense of 'wildness' and desolation is maintained. Patch repairs and upgrades to the internal access roads will also be carried out.



Proposed New Car Park Layout

Existing Structure Remains In The Proposed Car Park To Be Retained.

Proposed car park location, already partially of tarmac construction

Proposed car park location, already partially of tarmac construction

4.1 The Proposals

Walkways

View from 3.03

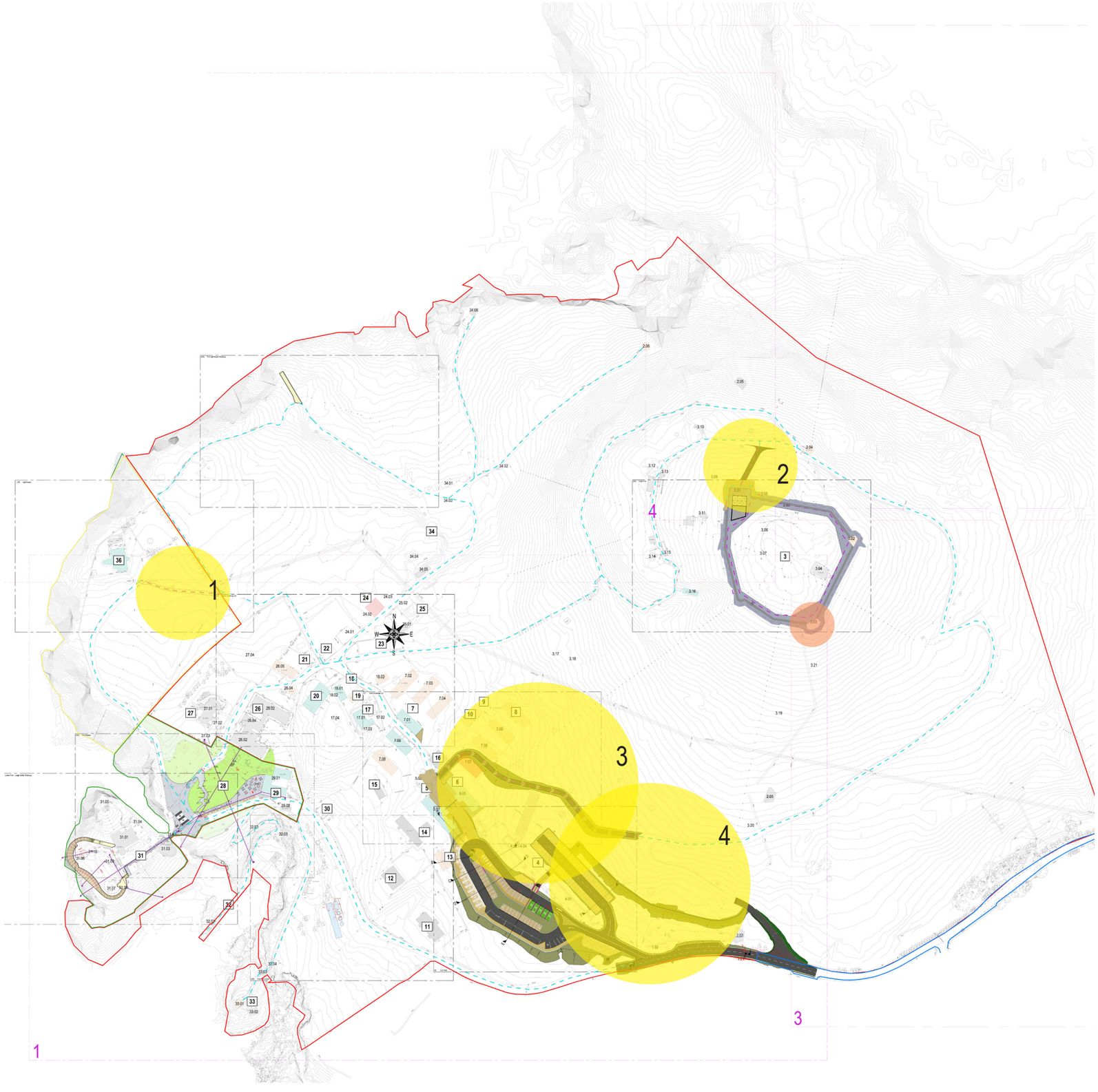
4.0 The Vision / Proposals

4.1 The Proposals

Walkways

New connecting pathways and the provision of repairs to the existing pathways is also proposed. The new connecting pathways atr highlighted and illustrated on the map below.

1. New pathway to form a looped walk from the lighthouse
2. Reinstate pathway up to the High Fort (See 'Access for All to the High Fort' for further details)
3. New pathway connecting the Welcoming building and the existing High Fort Acess Road (See 'Access for All to the High Fort' for further details)
4. Pathway for visitors arriving to site on foot or by cycle (See 'Car Park' for further details). The proposed Buncrana to Carndonagh Greenway Project will run past the Fort Dunree site - This pathway will futureproof the site whilst also promote and encourage sustainable transport.



4.1 The Proposals

Access for All to the High Fort

Aerial View of the North Coast Off Dunree

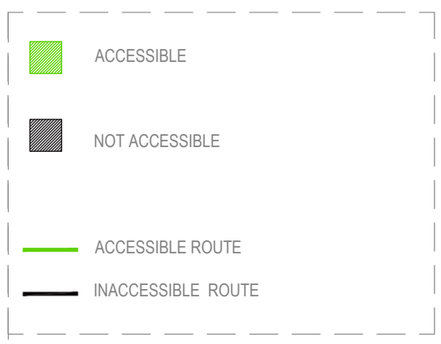
4.0 The Vision / Proposals

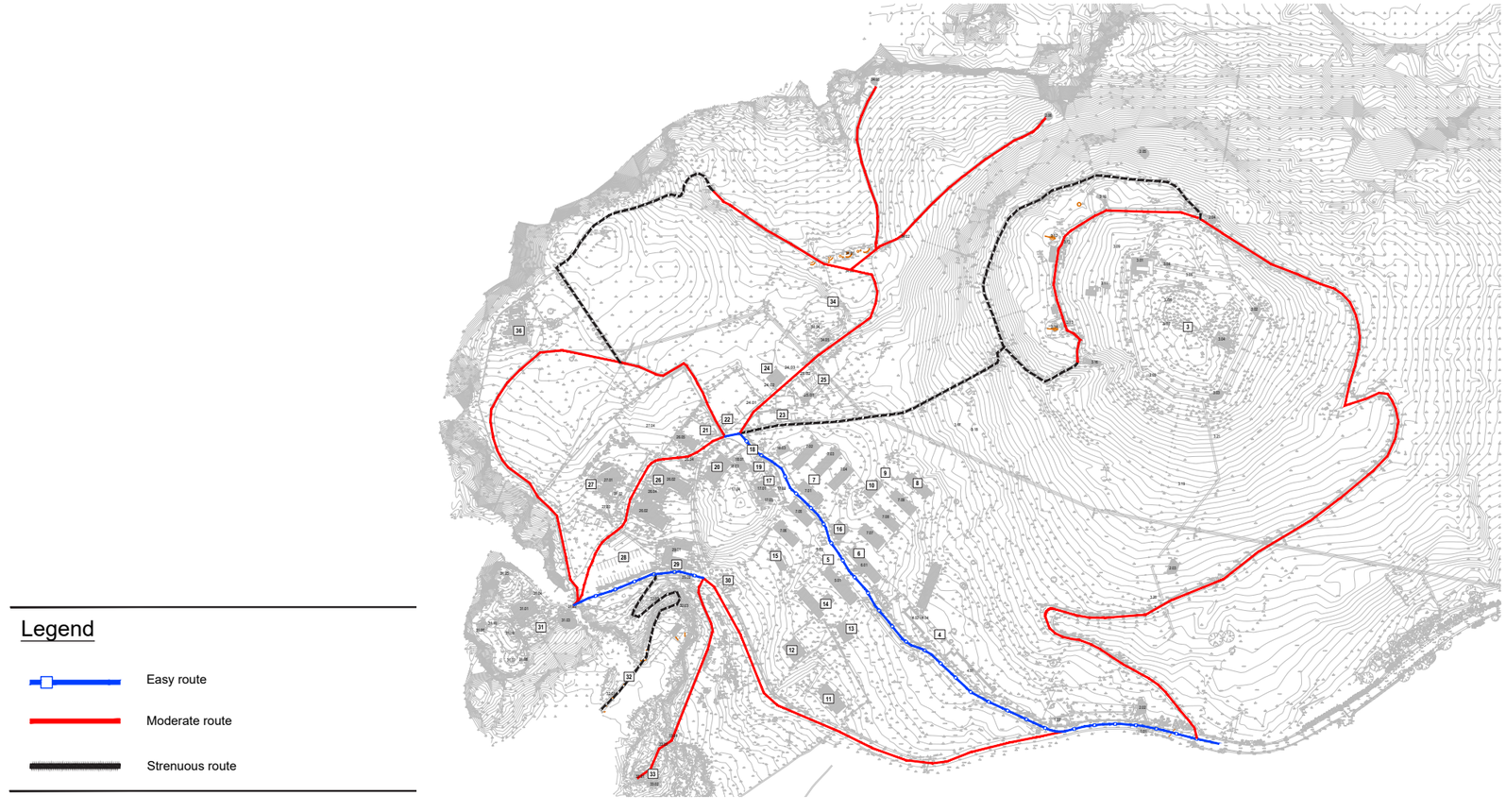
4.1 The Proposals

Existing Character

This existing accessibility of Fort Dunree according to Part M of the Technical Guidance Regulations is extremely poor. As shown on the map to the right, only the cafe is wheelchair accessible due to the adjacent accessible car park space.

The accessibility of the site and external trails has been assessed using the Sport Ireland Classification. This is recognised throughout Ireland to communicate the difficulty of access along outdoor trails. The blue trail intends to be accessible for all however some, help from a carer may be necessary on parts of the path, and the trail may have surfaces that may require more strength from wheelchair users. The existing accessible trails can be viewed on the site map below.





4.0 The Vision / Proposals

4.1 The Proposals

Access for All to the High Fort

The High Fort is currently inaccessible to visitors of limited mobility due to the existing topography. At Platforms for growth stage and Stage 1 an inclined elevator was proposed, however, through increased capacity requirements from a 14 person lift to a 25 person lift and current inflation, the cost of the installation was not sustainable for the project. Eliminating this element reduces the potential environmental and visual impact on the landscape It is now proposed that an EV mobility bus will transport visitors from the Welcome buildings to the High Fort and Low Fort, stopping at the Saldanha Suite along the way.

To implement the EV bus, works to the existing access roads are required, along with new road sections and providing accessibility to and from the pick up / drop off points.

- 'A': A new road section is required from the Welcome buildings to the existing High Fort access road.
- 'B': The existing path to the High Fort will require widening, on the existing Kew maps this path is currently 3.2m wide. It is proposed that this will be increased by 400mm to allow a separation zone between pedestrians and the bus (see analysis on next page). The existing path is purposely not maintained and overgrown to restrict public access to an unsafe area.
- 'C': Due to the road incline outside the Saldanha Suite some adjustments are needed to provide a drop off zone.
- 'D': An accessible route from the lower Fort Drop off point to the Cafe must be implemented (See 'The Square' proposals for further details).
- 'E': An accessible route from the lower Fort Drop off point to the Lough Swilly Walkway must be implemented (See 'The Lough Swilly Walkway' proposals for further details). The includes the necessity of a new drawbridge as the existing incline is 1.7 over c. 3.3m.

Improving the sites accessibility is crucial to the success of the project. This proposal balances improved accessibility and the character of the site.

Legend

Pick Up / Drop Off Point

EV Bus Route

New Accessible Route from the Lough Swilly walkway to the EV Bus to the Cafeteria

New Road / Pathway Section

4.0 The Vision / Proposals

4.1 The Proposals

Visitors with limited mobility (and their travelling companions or carers), along with families with young children will be given priority access to the EV bus. It is not intended that all that visitors to the site particularly during peak season will be given access to the facility for the following reasons.

1. Higher capacity requirements will mean an increased number of vehicles on the shared surface roads. The aim is to keep the site pedestrian friendly.

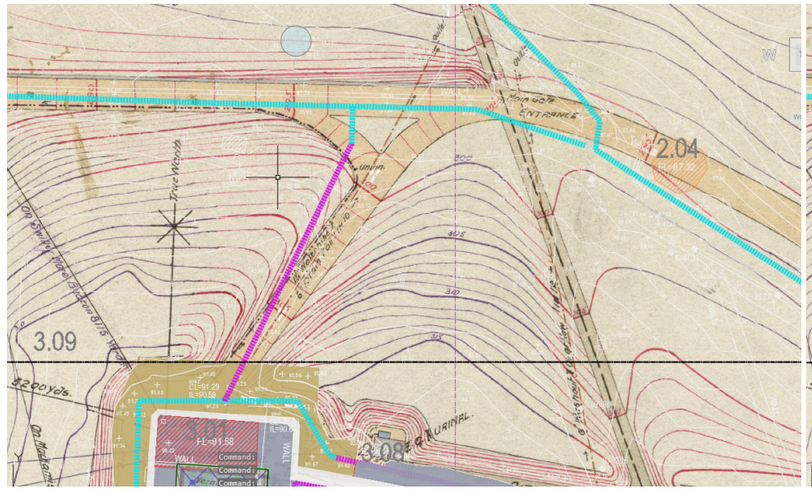
2. The expected capacity of the site is high in comparison to a 14 person bus. To accommodate all visitors will require a constant flow of buses throughout the day.

3. The existing road network is single lane and limited to where passing places are possible. If more buses are provided schedules and timings would have to be closely managed. Glenveagh National Park have similar challenges, each driver uses pocket radios to overcome this.

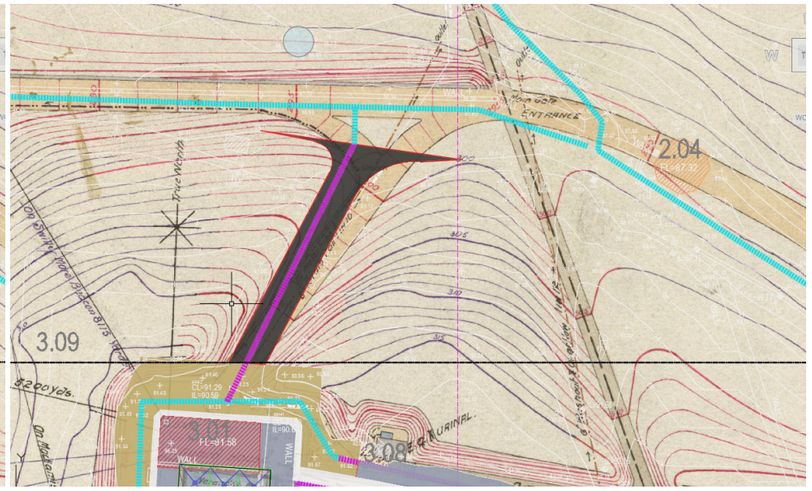
4. According to the Market Testing carried out by Fáilte Ireland, visitors to the site are looking for adventure and to explore; an EV bus does not fit into this target audience.

5. Management will be required to prioritise those who need it.

Access Routes: General repairs throughout the site to the existing pathways and steps (3.17) with the provision of handrails, is included in the proposal.



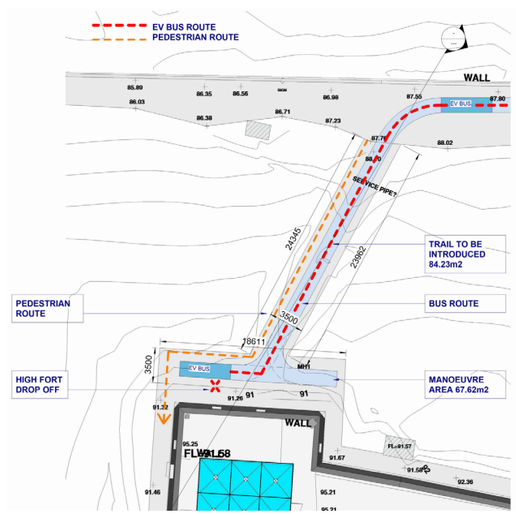
Access road to the High Fort as shown on Kew Drawing WO 78_4911_017



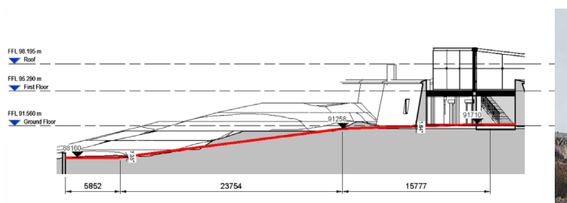
The proposed pathway to the High Fort. As shown from the alignment of the proposed pathway, the contours from the topographical survey deviates from the existing drawings. The alignment will be confirmed during detailed design stage by clearing the existing vegetation and resurveying the area.

Indicative Location Of The Ev Mobility Bus Access Path To The High Fort

EV Mobility Bus



Proposed Pick Up / Drop Off and turning Area at the High Fort

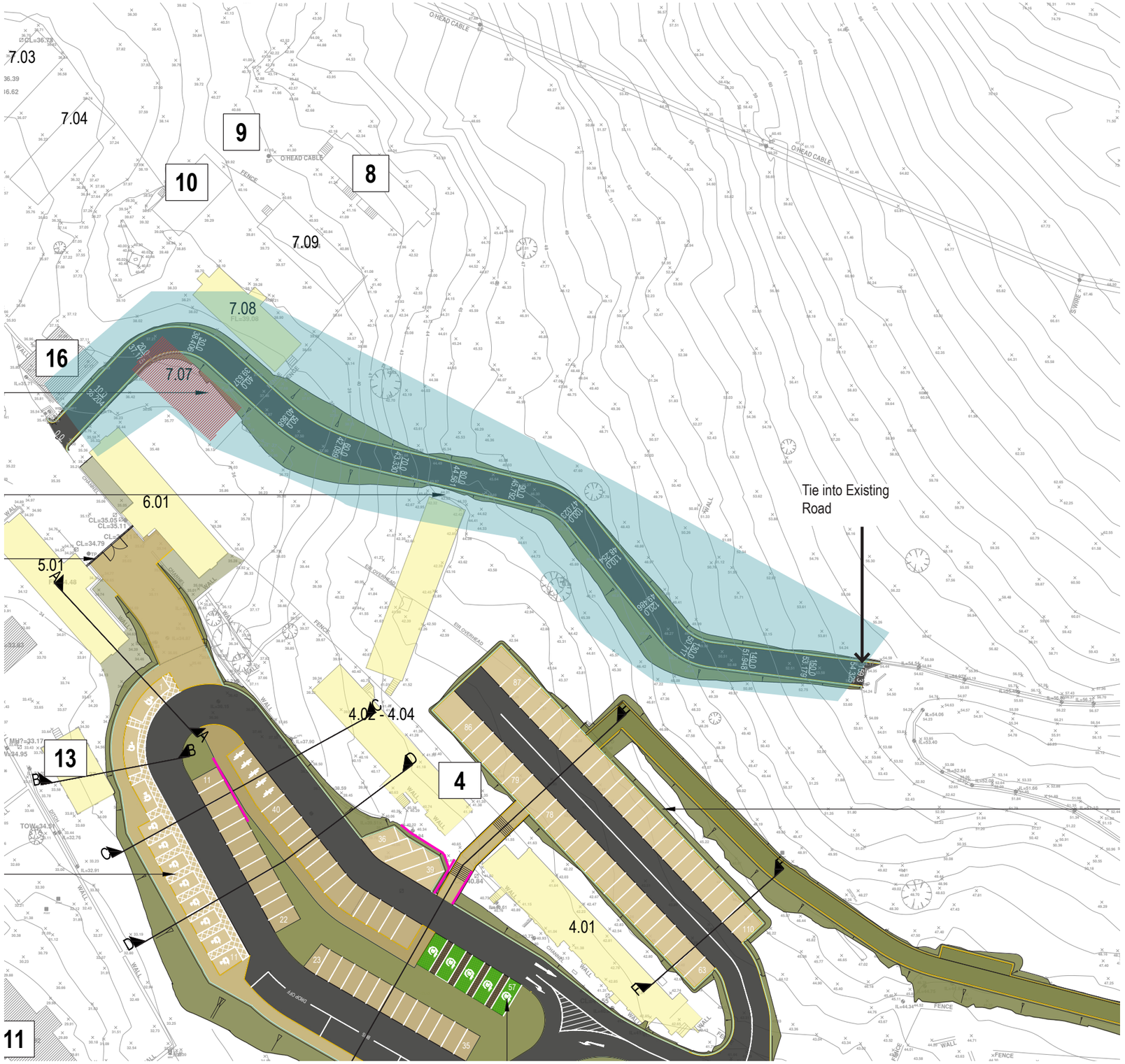


Proposed Pick Up / Drop Off and turning Area at the High Fort

Access road to the High Fort as shown on Kew Drawing WO 78_4911_017

4.0 The Vision / Proposals

4.1 The Proposals



A new road section is required from the Welcome buildings to the existing High Fort access road (blue)

Structure 7.07 collapsed - to be removed and the new road section installed

New road section to arrive north west of structure 6.01

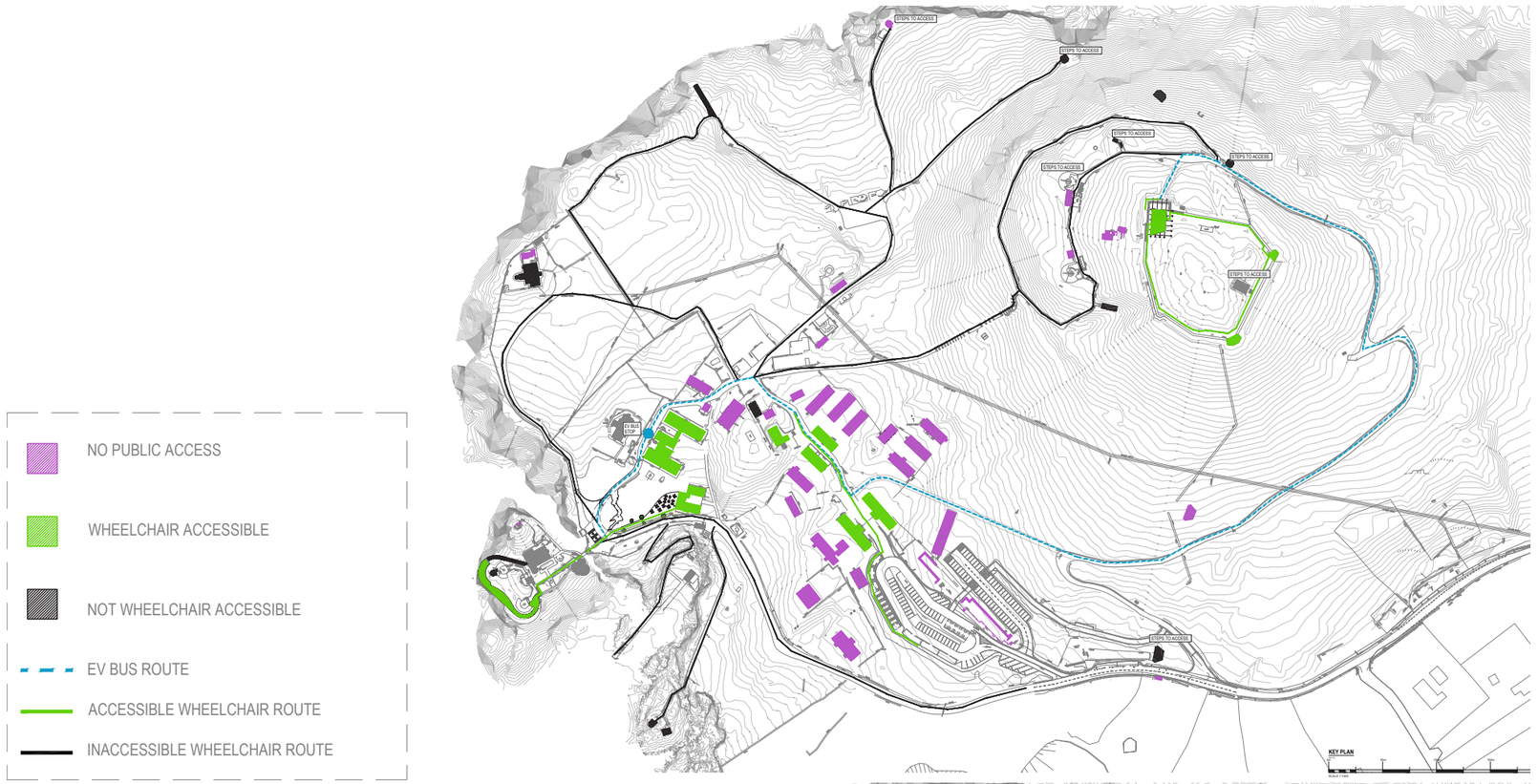
4.0 The Vision / Proposals

4.1 The Proposals

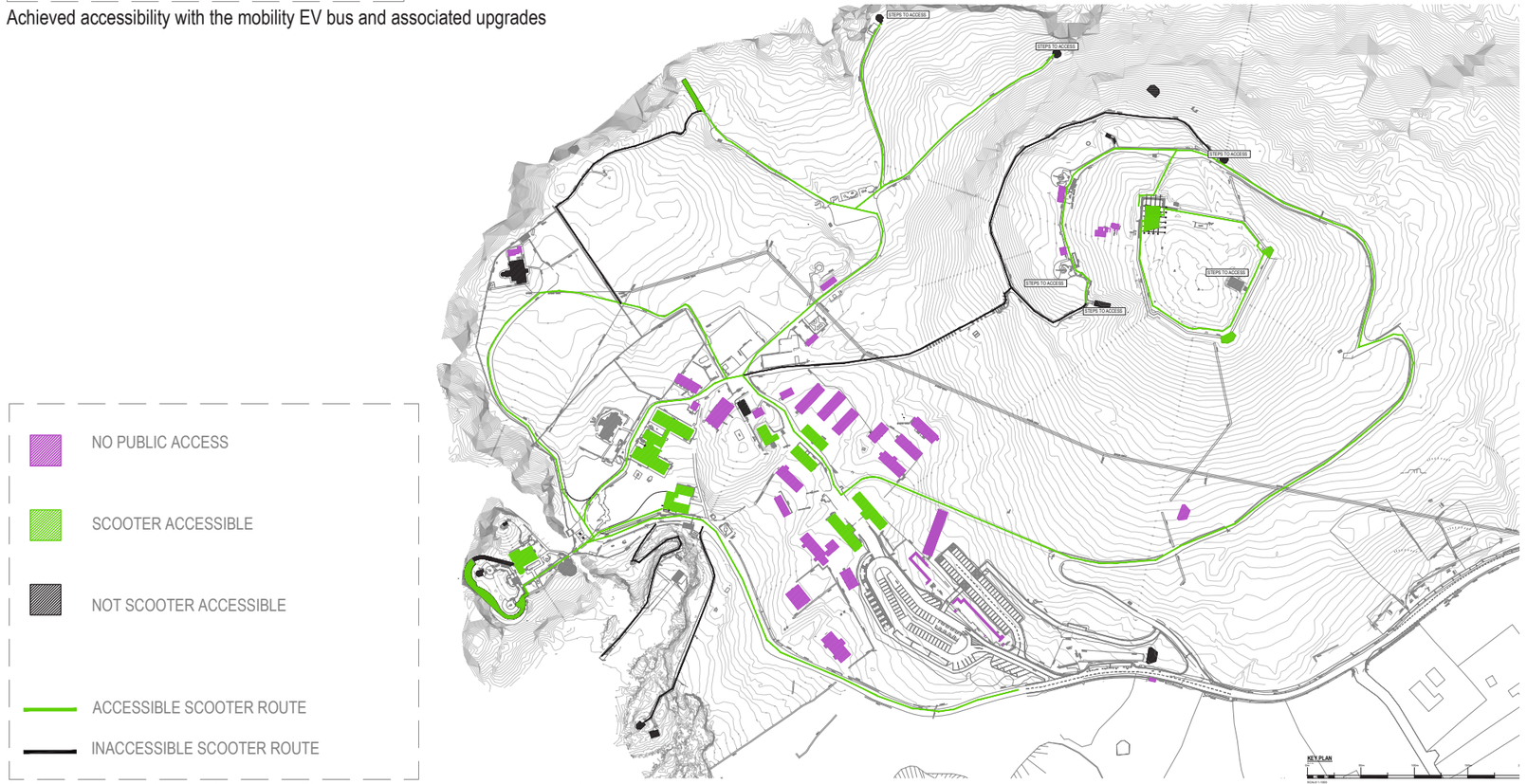
Accessibility Achieved

The map to the right demonstrates the accessibility achieved throughout the site along with the structures that can be accessed through the use of the EV mobility bus.

In addition to this, it is proposed to implement mobility scooters for even further exploration of the site as shown on the map bottom right.



Achieved accessibility with the mobility EV bus and associated upgrades



Achieved accessibility with the mobility EV bus, associated upgrades and mobility scooters

4.1 The Proposals

The Square

Photo from 1963 showing the original green space - the design sets out reinstating this.

4.0 The Vision / Proposals

4.1 The Proposals

Existing Character

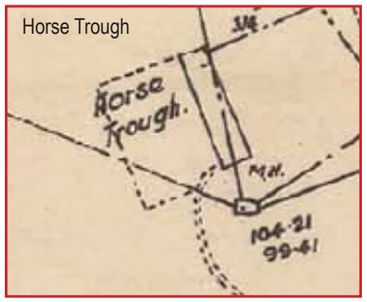
This space is currently used as the carpark, and the large surface of tarmac is visually very impactful..

To install this provision the levels were striped away to to create a suitable sloped flat surface.

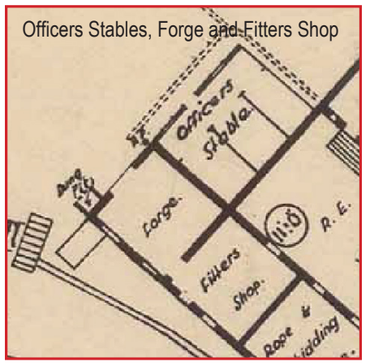
History

This space used to be a green area for the officers horses. The stables, Forge, Fitters Shop and a Horse Trough are indicated on the 1932 Ordanence Survey Military map.

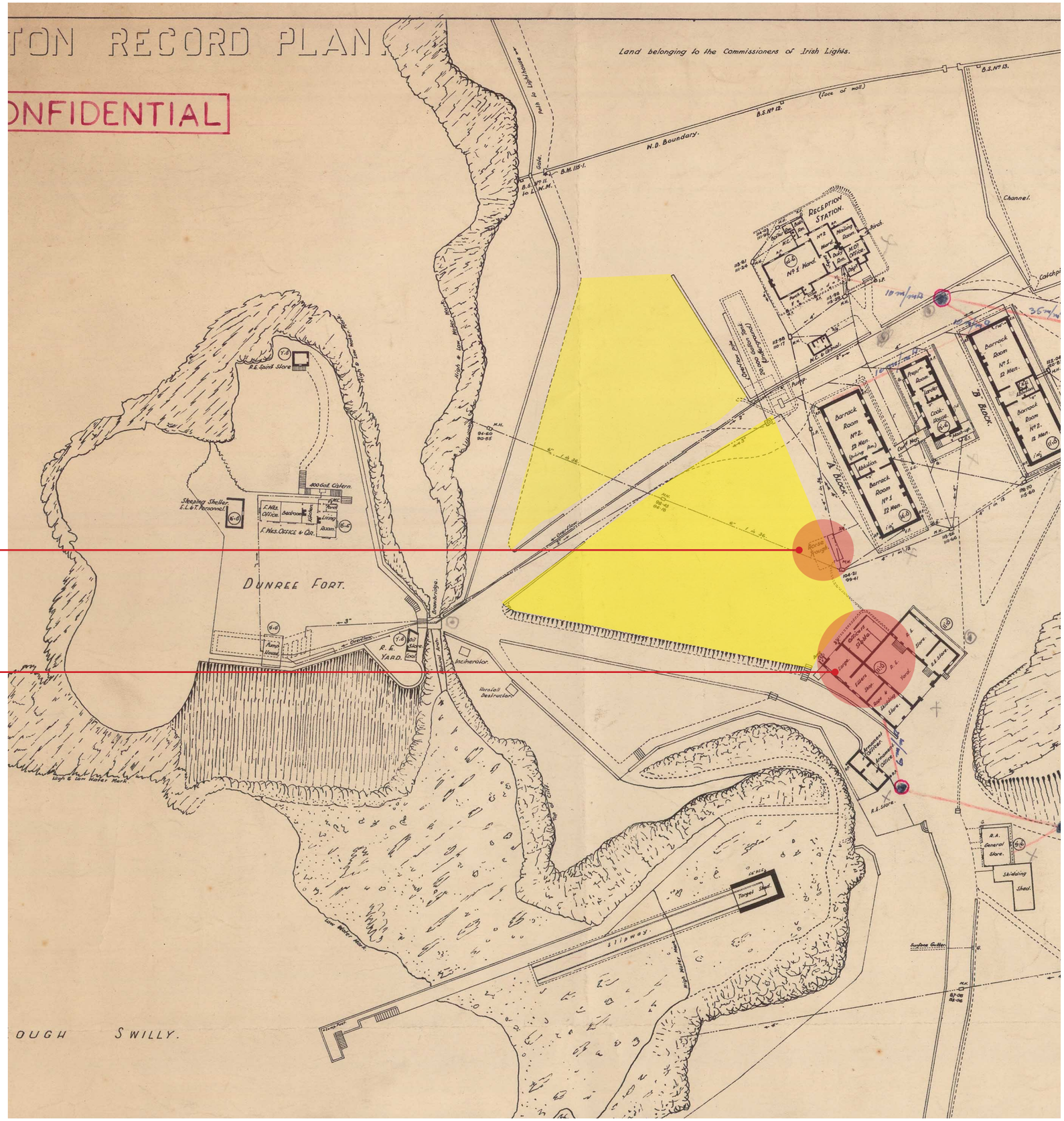
Horse Trough



Officers Stables, Forge and Fitters Shop



Existing tarmac / gravel area. Green space to be reinstated



4.0 The Vision / Proposals

4.1 The Proposals

Proposal

The existing car park is to be relocated closer to the site access entrance and re-purposed for use as an information and orientation space for visitors, a spill out space from the cafe, a possible location for the playground and a green space to sit and enjoy the view on a summers day. This space will be known as 'The Square'.

The visual intention of the proposal is to reinstate the green area when the officers horses were houses in the Cafeteria.

Any excavated material generated and unused from the individual projects throughout the site is to be used as fill for the green.

An accessible route will be formed from the accessible spaces to the Cafeteria and the Lough Swilly Walkway.

Note the existing retaining wall between the private access road and existing car park. There is currently no guarding here to prevent falls. A maximum level difference of around 1.5m. It is proposed that the ground will be built up here and fall away greatly there is no level difference between the road and great surface.

Area to be filled and sloped gently.

Indicative soft landscaping proposed. Note the risk of fall is eliminated with this proposal.

View from the Lower Fort: The visual impact of the hard surfacing is high and it detracts from the existing heritage site and structures. Soft landscaping will be more appropriate.

4.0 The Vision / Proposals

4.1 The Proposals

DRAFT

Rev	Date	Description	Issued by

REFER TO LANDSCAPING DRAWINGS FOR FURTHER DETAILS ON PLANTING LAYOUT AND SPECIES PROPOSED. ECOLOGIST HAS ADVISED ON APPROPRIATE NATIVE VEGETATION SUITABLE FOR AN EXPOSED SITE

EXISTING GUNS ARE NOT NATIVE TO THIS LOCATION. TO BE CAREFULLY RELOCATED TO THE PRACTICE BATTERY CONCRETE BASE TO BE REMOVED

TO BE REMOVED

EXISTING VEGETATION

SALDANHA SUITE
NO WORKS IN THIS AREA

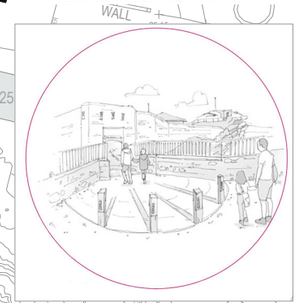
EXISTING GUNS TO BE PROTECTED AND RETAINED DURING CONSTRUCTION

FUTURE WORKS - GRAVEL SURFACE TO BE REPLACED WITH SOFT LANDSCAPING. POSSIBLE LOCATION OF KIDS PLAY AREA

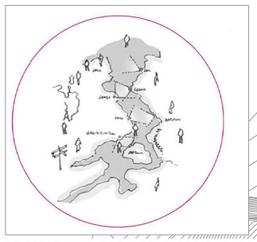
EXTENDED HARD STANDING FOR OUTDOOR DINING FOR INCREASED CAPACITY

CAFETERIA
DRAWINGS REF 29

EXISTING TARMAC TO BE REMOVED AND REPLACED WITH SOFT LANDSCAPING AND INFORMAL STEPPED SEATING. NATIVE VEGETATION TO BE USED THROUGHOUT



INDICATIVE LAYOUT OF HARD LANDSCAPING. TO FACILITATE GUIDED TOURS, WAYFINDING AND CONNECTION LOUGH SWILLY AND THE FORT NETWORK. SEE SKETCH ABOVE



PROPOSED LEVELS TO TIE IN WITH THE EXISTING ROAD LEVELS

EXISTING ACCESS ROAD TO BE MAINTAINED FOR SERVICE / EMERGENCY VEHICLES

ACCESSIBLE ROUTE FROM LOWER FORT LOUGH SWILLY WALKWAY TO CAFE. EXCAVATION IS REQUIRED TO GRADE THE EXISTING LEVELS AS SHOWN.

INDICATIVE LAYOUT OF PAVING REMINISCENT OF A COMPASS ROSE SEE SKETCH ABOVE

CAFE

EXISTING GRASSED AREA

MUSEUM
NO WORKS IN THIS AREA

PROPOSED LOUGH SWILLY WALKWAY
REFER TO DRAWING REF 31

N

0m 10m 20m 30m 40m

SCALE 1:200

4.0 The Vision / Proposals

4.1 The Proposals

4.0 The Vision / Proposals

4.1 The Proposals

Landscaping | References

Car park | The Square | Walkways | Access for All

1. Linjiang Hilla Vintage Hotel complex

Landscape Architect: Z'scape

A natural amphitheater created by rippling mounds of grass, surrounded by native plant varieties that would naturally thrive without needing any maintenance or irrigation, introducing greater biodiversity to the site.

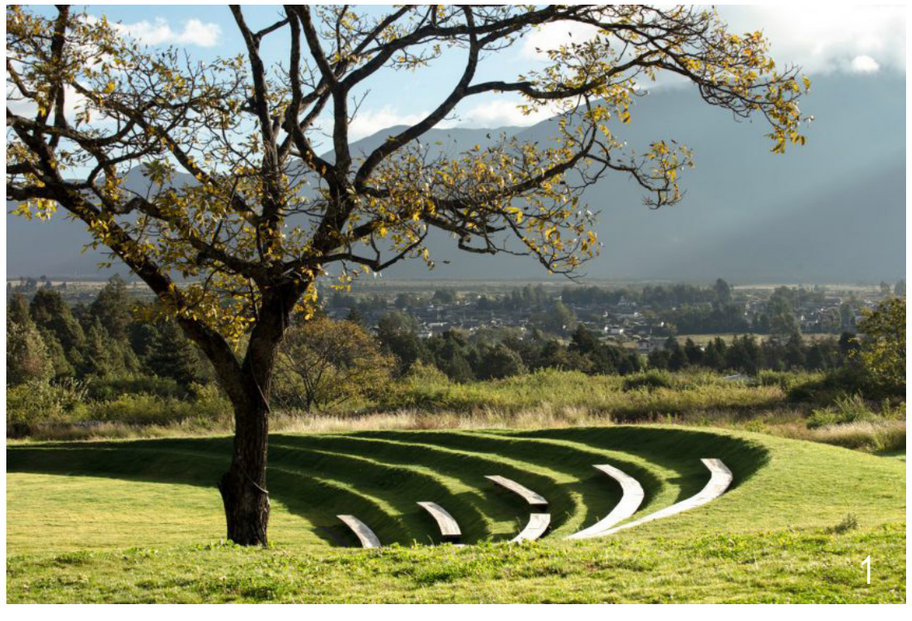
2. The High Line, New York

Landscape Architects: James Corner Field Operations and Diller Scofidio + Renfro

This unique spaces was digitized into discrete units of paving and planting which are assembled along the 1.5 miles into a variety of gradients from 100% paving to 100% soft, richly vegetated biotopes. The paving system consists of individual pre–cast concrete planks with open joints to encourage emergent growth like wild grass through cracks in the sidewalk.

Blending the natural and the man made will work particularly well in Dunree to soften and integrate.

2



1

1

4.0 The Vision / Proposals

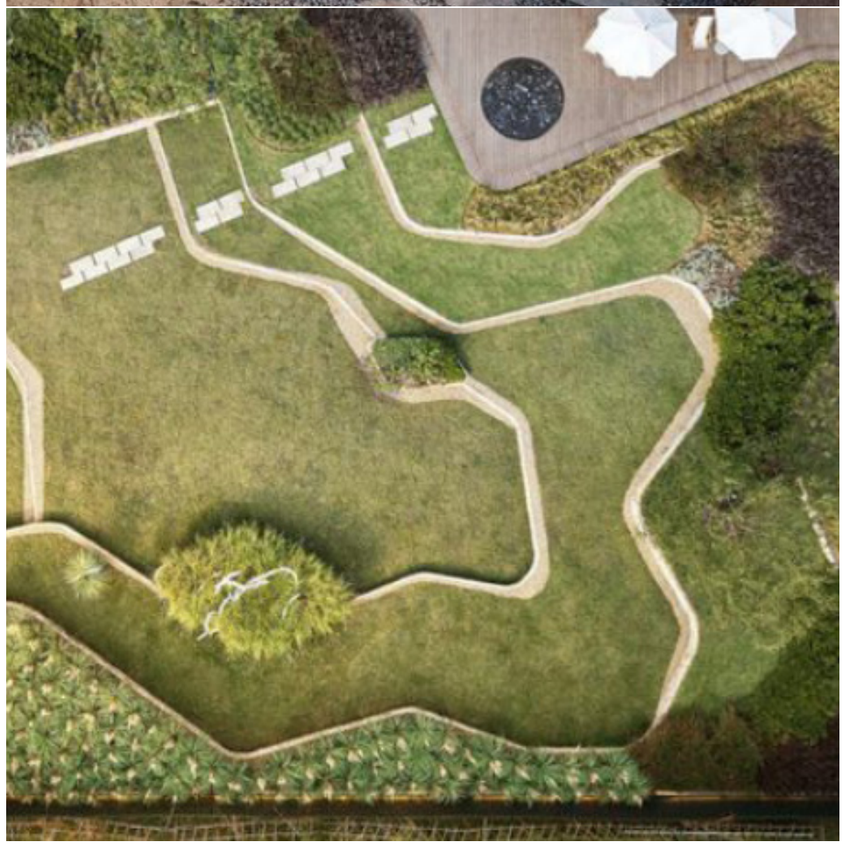
4.1 The Proposals

Landscaping | Materiality

Car park | The Square | Walkways | Access for All

As part of the Wild Atlantic Way and a military historic site the proposals are to reflect these characteristics. New pathways are to be in keeping with the existing site - wild and utilitarian. Proposed materials include gravel and in some cases grass. Where practical, no edging will be installed which will allow the existing landscape to merge and integrate with the man made elements. The carpark bounday will have the same treatments as above. However, a hard surface is required to accommodate the number of vehicles and coaches proposed. The square is a combination of both hard and soft landscaping.

Vitra Architecture Park
Landscape Architect: Piet Oudolf



4.1 The Proposals

General Infrastructure

High Fort Proposed Visual

(13)

SKELETON RECORD PLAN

FOR OFFICIAL USE ONLY.

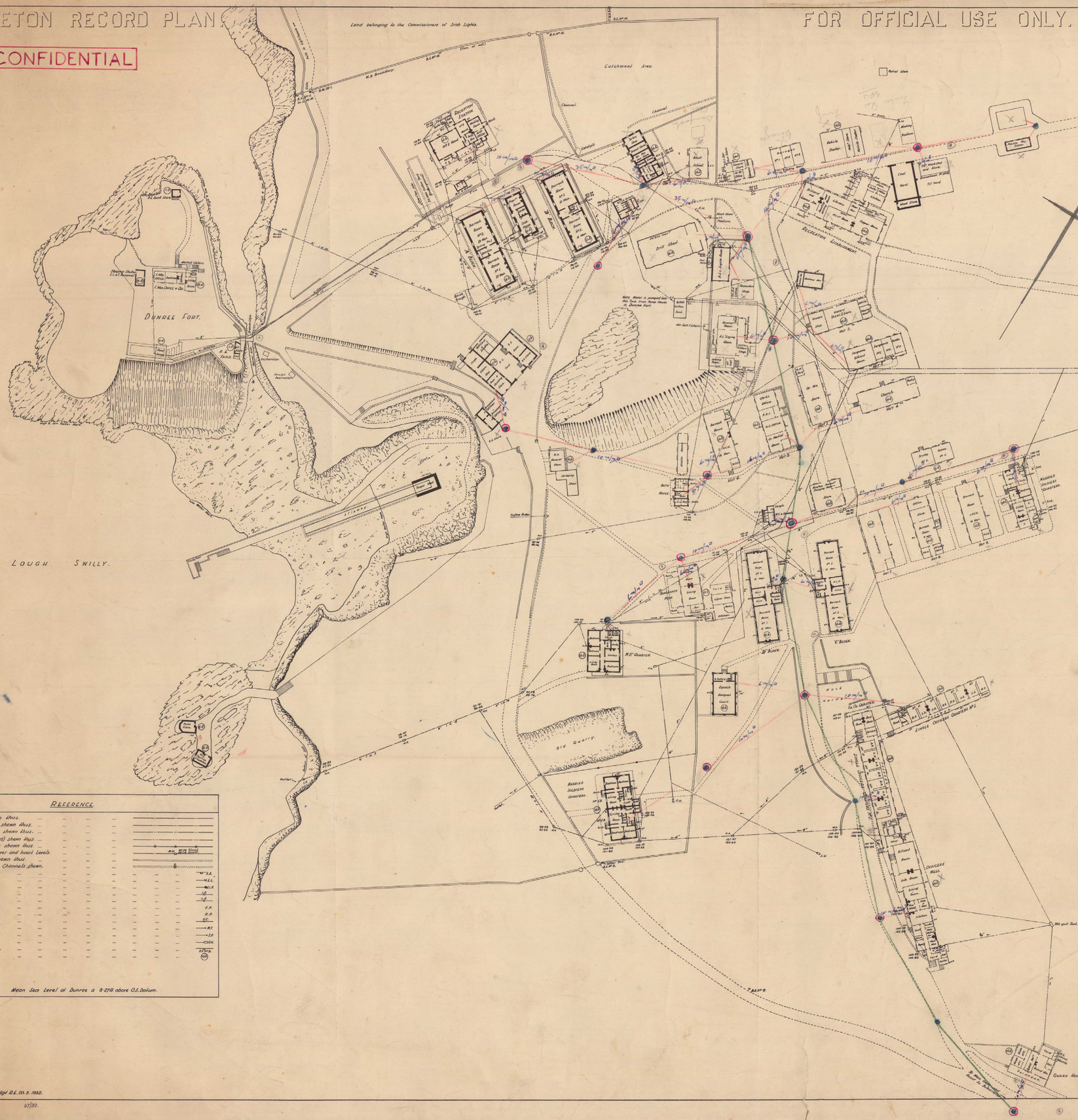
CONFIDENTIAL

NORTHERN IRELAND DISTRICT

DUNREE FORT

(COUNTY OF DONEGAL.)

Scale 1.600 or 10.56 feet to a Mile.



REFERENCE.

Foul Drains shewn thus.
Storm Water Drains shewn thus.
Water Supply Pipes shewn thus.
Fire Mains (unlittered) shewn thus.
Electric Light Mains shewn thus.
Manholes, shewing Cover and Invert Levels.
Surface Channels shewn thus.
Gullys & Gratings in Channels shewn.
Ash Bins.
External Light.
Electric Light Pole.
Inspection Pit.
Cleaning Eye.
Ventilating Pipe.
Rainwater Pipe.
Stop Cocks
Water Taps.
Stand Pipes.
Fire Hydrants.
H.B. Boundary Stones.
Heights of Ceilings.

Mean Sea Level at Dunree is 8·27ft. above O.S. Datum.

Re-drawn & Traced.
Lt. R.E. & D. Sgt. R.E. 20. 5. 1932.

P. 607. D. of W. 67/33.

DETAIL OF CONTRACTS.

Old Fort Built about 1810. Remodelled by 1st Coy, R.E. 1894.

All Hutments were Constructed During the War.

Building.	Contractor.	W.O. Authority.	Date of Commencement.	Date of Completion.	Estimated Cost. £.	Actual Cost. £.
A Barrack Block. B Barrack Block. Cookhouse. Regtl. Shops & Stores. R.E. Stores. N.C.O & Urinals 20,000 Gall. Tank.	Built by 1st Coy, R.E. from demolitions of Old Fort.	W.O. Belfast, 5/1252, dt. 30. 3. 1894	1. 10. 1894.	18. 10. 1897.	4,000.	3,670.
E.L. Engine Room.	Robert Colhoun, Londonderry	Belfast, 5/449, dt. 7. 4. 1902.	1. 7. 1902.	1. 2. 1935.	-	657.
N.C.O.'s Married Soldiers Quarters.	Robert Colhoun, Londonderry.		30. 10. 1908.	8. 11. 1909.	-	1,615.
C. & D. Barrack Block's.	Robert Colhoun, Londonderry.	W.O. Irish 2/653, dt. 5.5. 1910.	26. 9. 1910.	22. 8. 1911.	-	1,477.
Reception Station. (old Canteen.)	Robert Colhoun, Londonderry.	Belfast, £300 [illegible] dt. 16. 6. 1911.	20. 2. 1912.	-	-	505.
Hut N° 12. divided Mst. Establ. Qrs. 3 & C.	Crawford & Lakin, Buncrana.	W/Irish/948, O.K.G.1. 23. 11. 1928.	-	20. 3. 1929.	1,220.	1,201.
Improve Water Supply.	Crawford & Lakin, Buncrana.	W/Irish/276, O.K.G.7. 26. 6. 1926.	-	23. 1. 1930.	899.	896.
Target Stairway.	Crawford & Lakin, Buncrana.	W/Irish/298, O.K.G.8. 30. 4. 1928.	8. 6. 1929.	11. 2. 1930.	700.	736.
Squash Racquets Court.	Crawford & Lakin, Buncrana.	W/Irish/329, O.K.G.7. 21. 3. 1930.	12. 6. 1930.	22. 11. 1930.	600.	602.
Reconstruction of Officers' Mess.	Crawford & Lakin, Buncrana.	W/Irish/274, O.K.G.7. 30. 6. 1930.	15. 8. 1930.	30. 3. 1931.	3,690.	3,822.
B.E.L. Engine Room.						

TABLE OF ACCOMMODATION.

Officers. Field Officers.	Officers. Single Officers.	Officers. Married Officers Qrs.	N.C.O.'s & Men. Married. 1st Type Qrs.	N.C.O.'s & Men. Married. 2nd Type Qrs.	N.C.O.'s & Men. Married. 3rd Type Qrs.	N.C.O.'s & Men. Single. 1 Sgts. & 1 Sgts.	N.C.O.'s & Men. Single. Rank & File.	Horses. Officers.	Horses. Troop.	Vehicles. Guns.	Vehicles. Carts.	Hospital Beds. Officers.	Hospital Beds. Men.	Average Area of Barrack Room per Man. Superficial Feet.	Average Area of Barrack Room per Man. Cubic Feet.	Superficial Area of all Buildings, including Buildings & Encroachments.	Nett Glass Area per 100 cft. of Room Space. Barrack Rooms.	Nett Glass Area per 100 cft. of Room Space. Quarters.
1	8	1	1	2	1	10	143*	3	-	3	26	-	9					
2	1			157				3		2	10½		8	61	671	78,682.	1/16 Sq. Ins.	1/28 Sq. Ins.

* 2 District Gunners in Top Barbette.

I certify that the above Table of Accommodation has been compared with the latest Return of Barrack Accommodation, (A.F.K.1291.) and has been found to be in agreement.

A.G. Wenchton Lieut., R.A.S.C.
Officer i/c Barracks, 20th May, 1932.

N.J. Jackson
Lieut. Colonel, R.E.
Commander Royal Engineers,
Northern Ireland District, 20·5·1932.

Ordnance Survey, 1932.

4.0 The Vision / Proposals

4.1 The Proposals

General Infrastructure | Lighting

Light pollution disrupts wildlife, impacts human health, wastes money and energy, contributes to climate change, and blocks our view of the universe. Fort Dunree and its surroundings is popular location for photography enthusiasts and sky gazers to catch a glimpse of the Aurora Borealis aka the Northern Lights

In order to respect to the Dark Skies, the proposed lighting has followed responsible lighting practices and contained to the lower area of the site only; from the car park through the village road to The Square. The proposed fittings are “dark skies” approved; low level illumination, less than 5 lux and directed downwards to avoid spillage. These will be activated by a movement sensor with an override for management control. Lighting will only be on when absolutely necessary.

As the upper car park will only be used during peak season, the lighting in this location will be on a separate circuit to allow it to be turned off completely when not needed.

Area of Lighting

TYPE A FITTING
8M THORN URBA COLUMN MOUNTED LUMINARIES 19W 4000K (OR EQUIVALENT)

TYPE B FITTING
1M THORN THOR BOLLARD LUMINARIES11W 4000K (OR EQUIVALENT)

W1

TYPE W FITTING
THORN PIAZZA WALL LIGHT LUMINARIES 11W 4000K (OR EQUIVALENT)

4.0 The Vision / Proposals

4.1 The Proposals

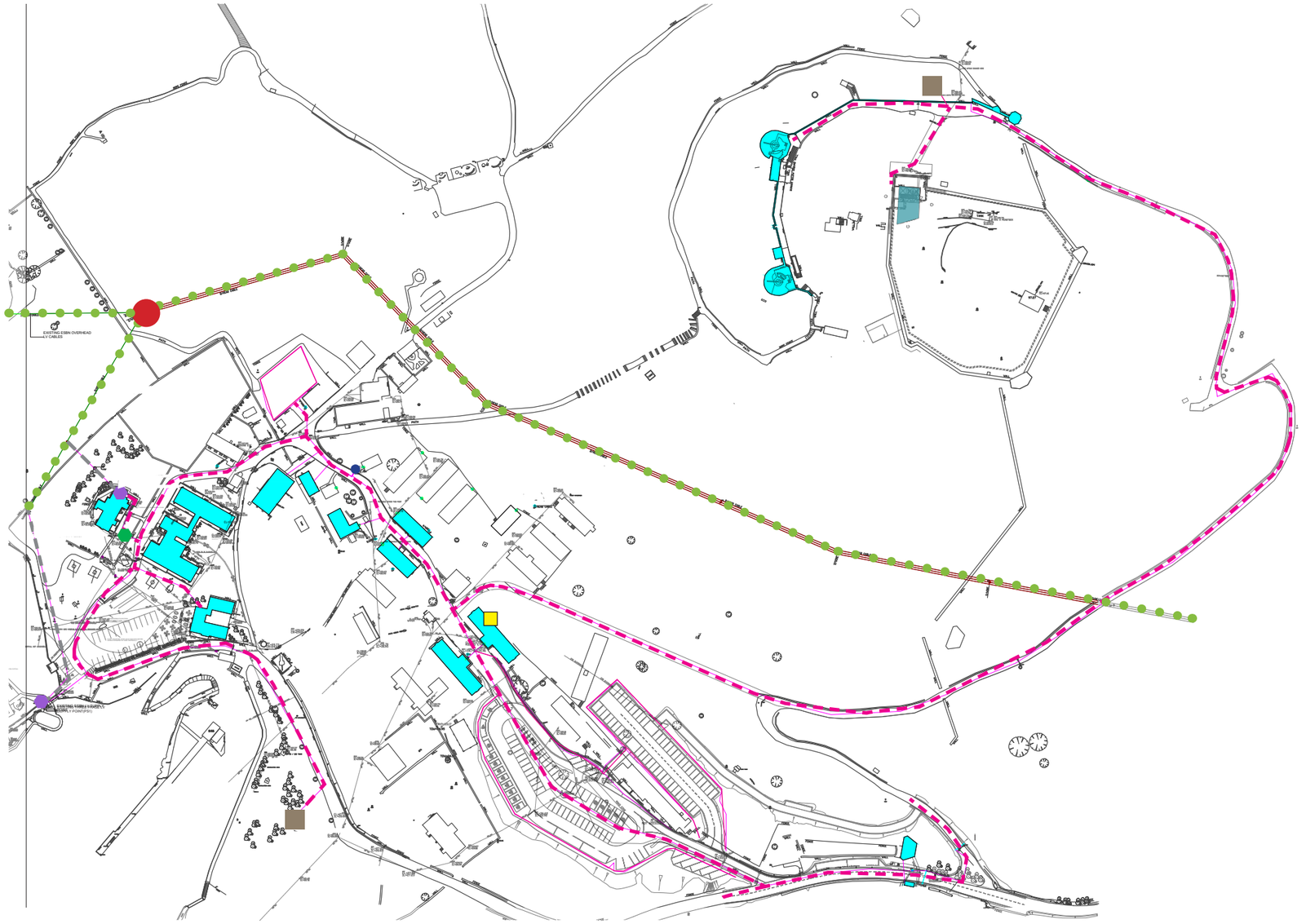
General Infrastructure | Electric

The existing electricity supply is derived from the ESB overhead network. A three pole mounted transformer was installed by ESB at the rear of the Site Office (27). This transformer serves the Light House, the Office, and the Lower Fort. These supply cables run underground to the switch-room in the Lower Fort and to the Site Office (27).

There is a three phase supply serving the Lower Fort with only one phase 28KVA in use. The second single phase 16KVA electricity supply is located at the Office and serves the Site Office, the Saldahna Suite, and the Caféteria.

There is a network of redundant electricity poles around 'the Village' and up to the Redoubt (3).

Due to an increase in capacity a new electricity supply is required from ESB to serve the site. Overhead services were the original method used to supply, however, the entire site is prone to lightning strikes which has caused outages to electricity, data, telephones etc. This would cause ongoing maintenance costs along with a loss of services and experience for visitors, and potential revenue. To reduce the likelyhood of this, all services will be contained underground where possible.



- Proposed Underground Services
- Existing Underground Services (Condition Survey To Be Carried Out)
- Existing Esbn Overhead Cable Supply To Be Retained
- Existing Three Pole Mounted Transformer
- Proposed Comms Cabinet Location
- Distribution Pillar
- Existing Single Phase Lv Supply Point (Ps2)
- Proposed New Esbn Lv Supply Point
- Proposed Treatment Plant (Power Supply Required)
- Existing And Proposed Structure To Have A Power Supply

4.0 The Vision / Proposals

4.1 The Proposals

General Infrastructure | Drainage

Treatment Plant

There are currently two sewage plants on-site; one sewage treatment plant by FM Environmental located south of the Cafeteria (29) and West of the Married Soldier's Quarters (11), the second is a disused septic tank North of the Guard House or Caretaker's Quarters (3.01).

The capacity of the existing treatment plant is not sufficient to support the increase in visitor numbers (refer to Civil Engineers drawings for full details on Population Equivalent). It is proposed that two new treatment plants are installed to comply with the Donegal Council effluent requirements set out below. It is proposed that both plants are located in the same location as the existing.

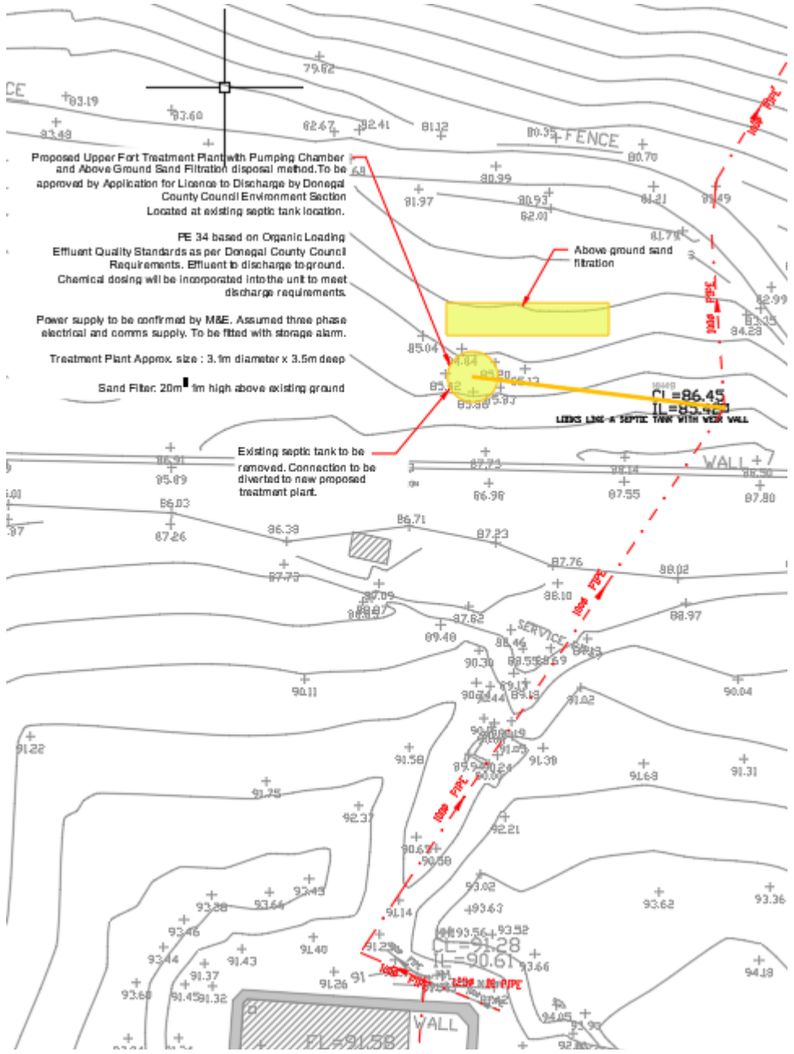
Parameter	Units	Limit(s)
pH	pH units	6 – 8.5
B.O.D. grab sample	mg/litre	20
B.O.D. composite sample	mg/litre	15
C.O.D. grab sample	mg/litre	80
C.O.D. composite sample	mg/litre	70
Suspended Solids grab sample	mg/litre	35
Suspended Solids composite sample	mg/litre	30
Orthophosphate (as P) of grab and composite discharge samples	mg/litre	3
Ammonia (NH_3) as N of grab and composite discharge samples	mg/litre	10
Nitrates (as N)	mg/litre	37.5
Fats, Oils/grease	mg/litre	10

The wastewater treatment plants have been specified as an SBR system to achieve 20:30:20 followed by a sand polishing filter tertiary treatment. By utilizing the sand polishing filter treatment, the disposal area can be reduced in size compared to a traditional percolation bed. The top of the sand filter will sit 1 m above finished ground level and will be planted over. This will allow the system to blend into the environment and minimise obstruction to tourists.

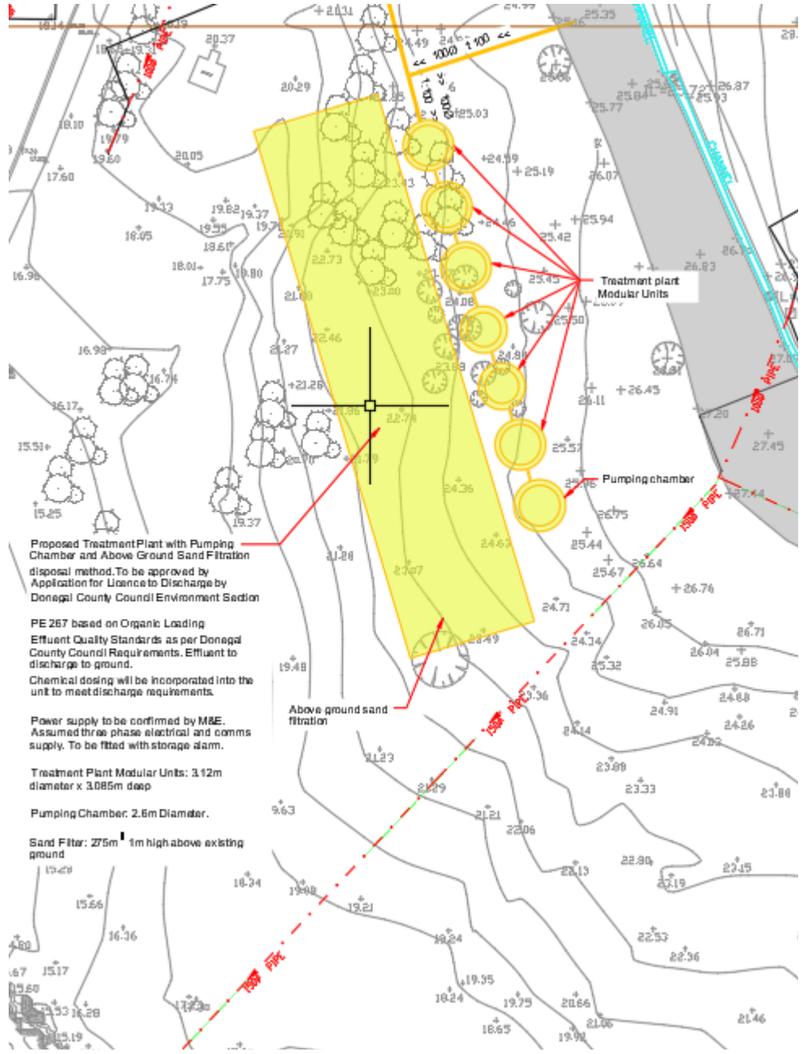
Storm

Due to the nature of the site, the proposed surface water drainage strategy looks to replicate the natural behavior of the surface water runoff. Rainwater from the proposed buildings shall be collected in an underground gravity surface water drainage network and routed towards the existing piped outfalls. The use of permeable pavements shall be implemented in the external car park to help reduce run-off rates and flow volumes from parking areas as well as the circulation routes. The surface water drainage network has been designed to meet recommendations and guidance within The SuDS Manual, CIRIA, C753.

For both the foul and storm draining it is proposed that the existing network of pipes are reused.



Proposed Treatment Plant location at the upper level.
Note this is the same location at the existing Septic tank.



Proposed Treatment Plant location at the lower level.
Note this is the same location at the existing Treatment Plant.

5.0 Conclusions

Aerial from the High Fort towards the SAC

5.0 Conclusions

The proposals outlined in this report successfully deliver the key design objectives set out by Fáilte Ireland and Donegal County Council.

- A successful tourism attraction and layout that enhances the visitor journey.
- Successfully link the 3 unique elements of Fort Dunree: Lough Swilly below the Fort; the Promontory Fort and the High Fort (Redoubt); which allows visitors to access and enjoy the landscape and views
- Immersive heritage and cultural touch-points through imaginative interpretive installations are provided
- Creation of unique viewing installations which embrace Lough Swilly and the lands beyond
- Development of the unique Lighthouse at Dunree as a interpretative centre.
- Re-imagine the visitor experience at this spectacular Fort and Discovery Point along the Wild Atlantic Way and allow visitors to imagine its past and experience its beauty..
- Developed conservation based, sensitive restoration methodologies for the structures
- Maximum capacity of 590 Visitors Per Hour can be accommodated.
- The services and installations are designed to accommodate the projected increase in visitor numbers.
- The proposals are sympathetic and complimentary to the existing architectural heritage of each building
-

The Fort Dunree Project offers great potential to increase employment, drive visitors to the region and lengthen the tourism season beyond the summer. Over the first 5 years of operation it has been estimated that the project will generate €19.5m in direct tourism expenditure supporting 550 jobs in the area, with the creation of new jobs at the attraction.

The investment is an important lever in repositioning Donegal and the Northwest as a destination. It is anticipated that this new experience will attract over 110,000 visitors per annum by year 10 and thereby have a large scale economic activity in the area.

Looking at the overall project proposal, a cohesive, inclusive visitor journey throughout the site is achieved; one which respects its history, the landscape and the local wildlife.

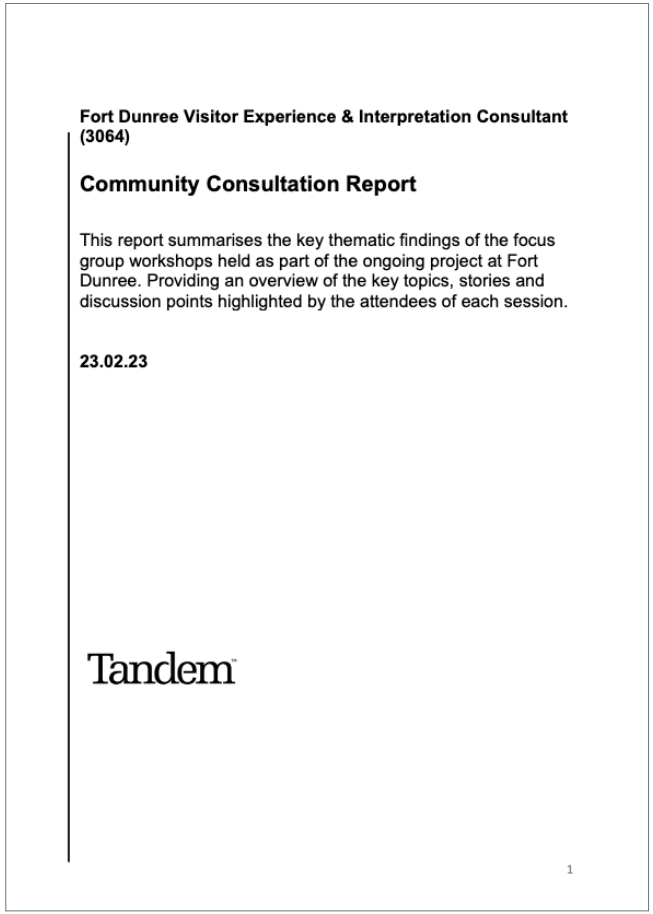
6.0 Appendix

Interpretation objectives:

- Help build a sense of place for the visitor: this story can only be told here.
- Immerse visitors in the experience to build a sense of empathy for the people who once lived and worked here.
- Enhance the arrival and welcome experience to ensure the visitor understands the site's full offering.
- Facilitate a physically accessible, inviting experience that has clear orientation throughout.
- Be engaging and accessible to the widest possible audiences with varying motivations, abilities and learning styles.
- Reveal multiple layers of heritage, with some elements being told at specific locations and others referenced across the site.
- Employ a range of multi-sensory techniques to make stories accessible to a wide range of abilities.
- Ensure Fort Dunree is welcoming to new, returning and diverse audiences from both near and far.
- Stimulate the senses and imagination by encouraging visitors to engage with what they can see, hear, smell and touch.
- Help people to notice, understand and engage with nature and the landscape.
- Include opportunities for mindfulness, reflection and restorative 'simply being present'
- Be sensitive to its environment and not detract from the natural qualities of the site.

Research and Community Consultation:

Ongoing



Fort Dunree Visitor Experience & Interpretation Consultant (3064)

Community Consultation Report

This report summarises the key thematic findings of the focus group workshops held as part of the ongoing project at Fort Dunree. Providing an overview of the key topics, stories and discussion points highlighted by the attendees of each session.

23.02.23

Tandem

1

Site analysis
Learning journey

Members of the Fort Dunree design team and representatives from Fáilte Ireland completed a Learning Journey, organised by Fáilte Ireland, to several sites in England:

- **Cornwall's Tin Coast**
- **Levant Beam Engine**
- **Geevor Tin Mine**
- **Dover Castle**
- **White Cliffs of Dover**
  incl. Fan Bay, Wanstone, South Foreland lighthouse

We visited sites with similar thematic and indoor/outdoor experiences, including casemates and underground tunnels.

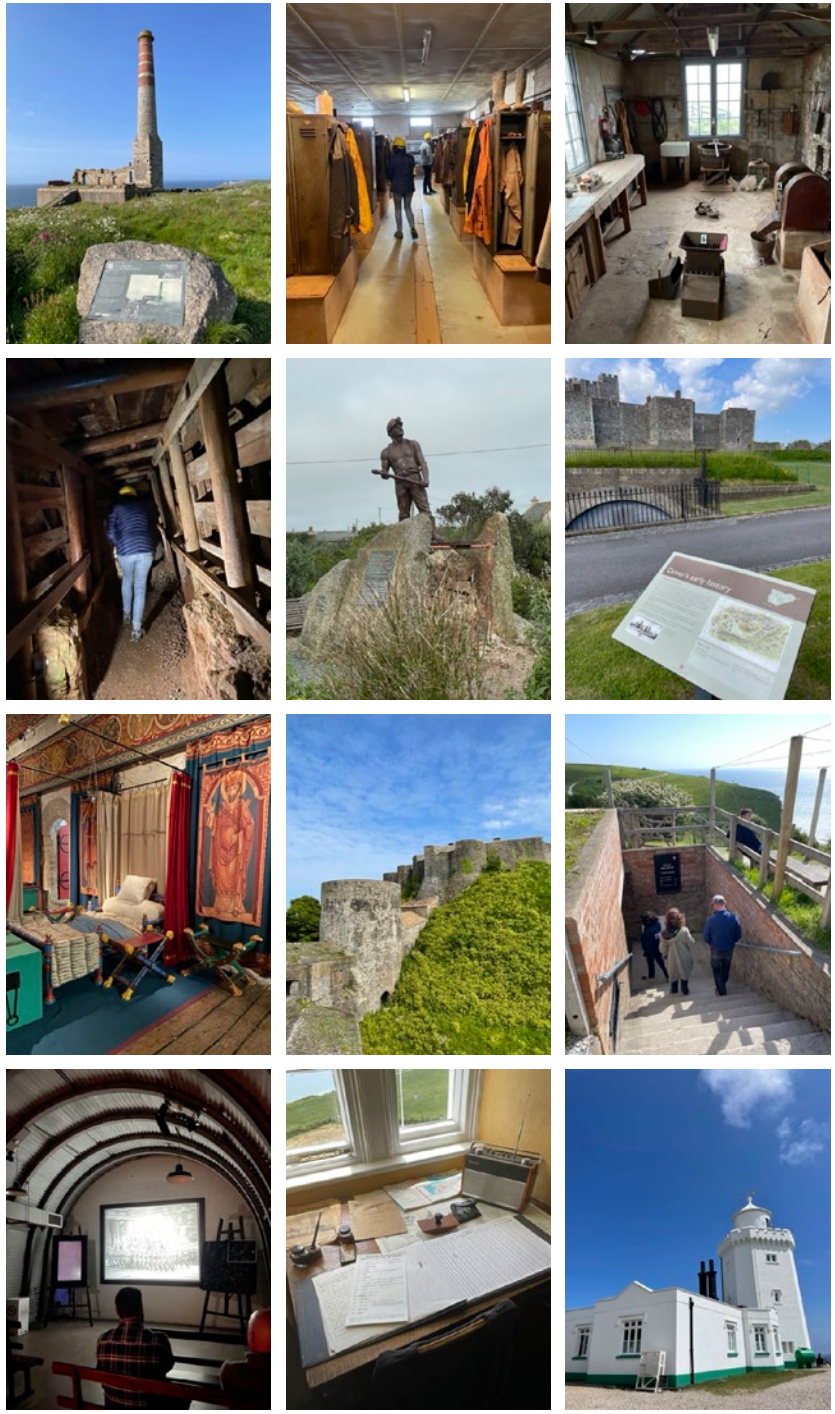
Different degrees of interpretive intervention and technology were found across the sites, from small group guided tours and machinery demonstrations to interactive museums and immersive setwork and AV experiences.

Dover Castle, as a flagship attraction for English Heritage, also employs a live action historical reconstruction company.

Authenticity and sense of place were paramount in these attractions.

The group also visited and heard of the operations of visitor facilities including cafes and shops, and visitor options including membership, peak/ off peak admission, online/in-person bookings.

The use of organised groups of volunteers was also widespread across these attractions.



Fáilte Ireland quantitative research findings

Fáilte Ireland's quantitiative research recommended, as a key consideration for development:

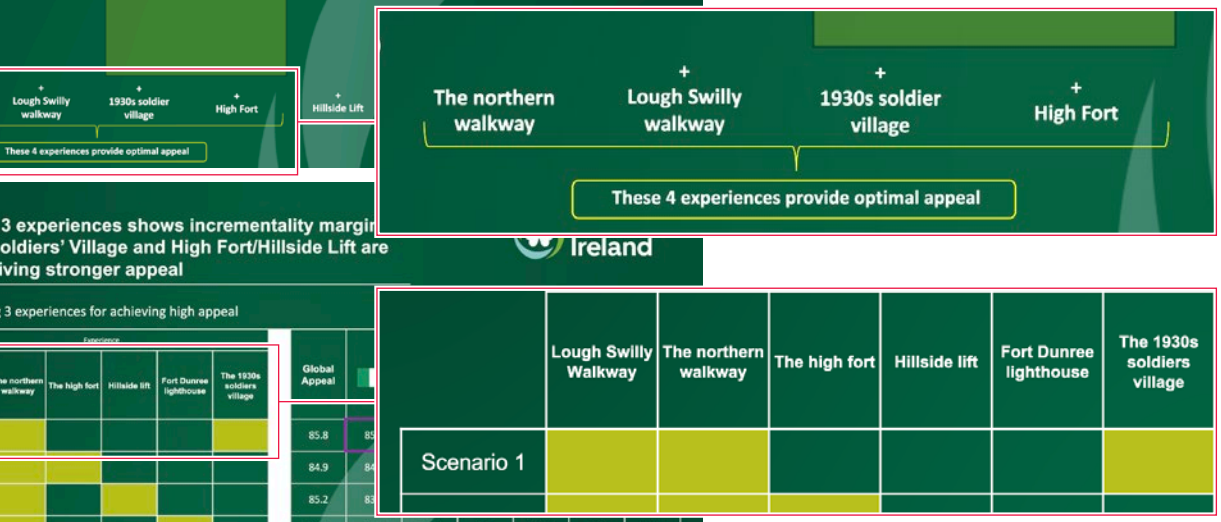
'A coherent blend of experiences that connect people to the landscape and history of Fort Dunree but also offer those immersive moments.'

To that end, it went on to identify aspects of the Fort Dunree visitor experience with the highest likely appeal and an optimum experience combination of:

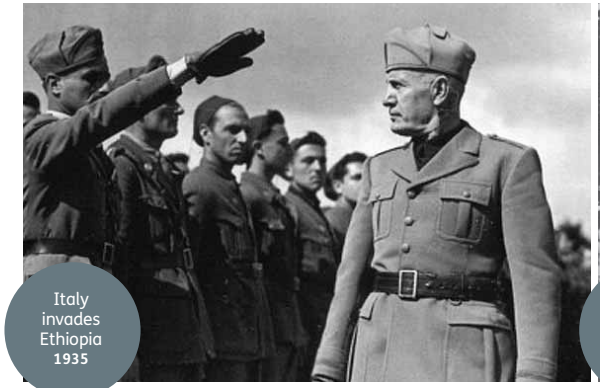
- Lough Swilly Walkway
- The Northern Walkway
- The 1930s Soldier's Village
- The High Fort

These encouraging findings can infuse further developments with informed confidence.

Experience combination with highest appeal:



Monday 3 October
1938

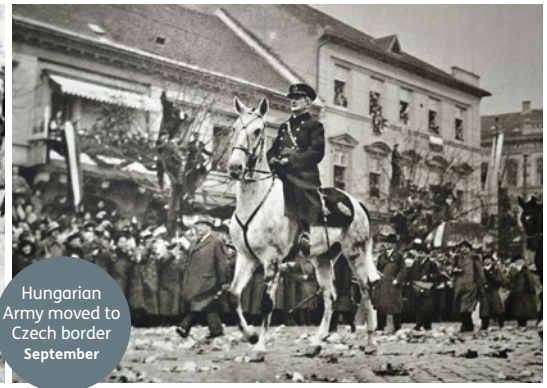

Italy invades Ethiopia **1935**

Last Treaty Port

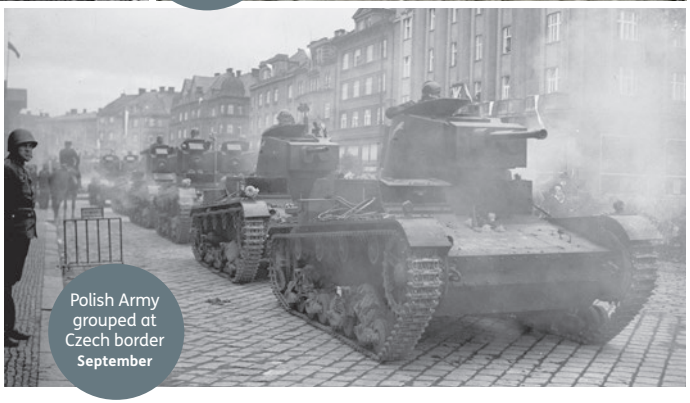
Civil War in Spain **1936–9**

Japan invades China **1937**

Germany annexe Austria **March**

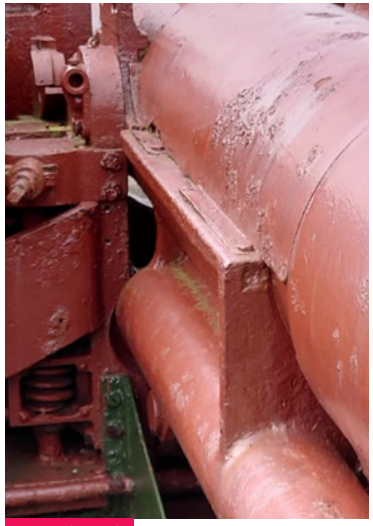

Hungarian Army moved to Czech border **September**

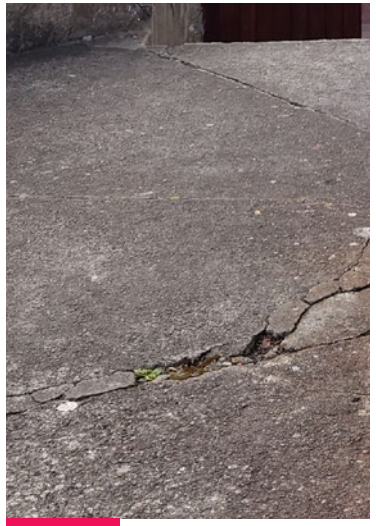
Munich Agreement **September**


Polish Army grouped at Czech border **September**

Materials used in the design of interpretive interventions can be influenced by those already found on site. These include natural materials such as wood and stone alongside manufactured materials such as concrete and rusted and/or painted steel.

As a key location on the Wild Atlantic Way in Donegal, materials may be influenced by those used for tourism products – especially when they also support authentic characteristics of the Fort Dunree experience.


Painted metal


Cast concrete

Rusted steel

Timber

Painted steel

Construction stone

Natural stone

Corten

Interpretation & Interventions
Site Entrance: The Gatehouse

ALL REFERENCE IMAGES ARE INDICATIVE ONLY

Cut-out figures greet the visitor

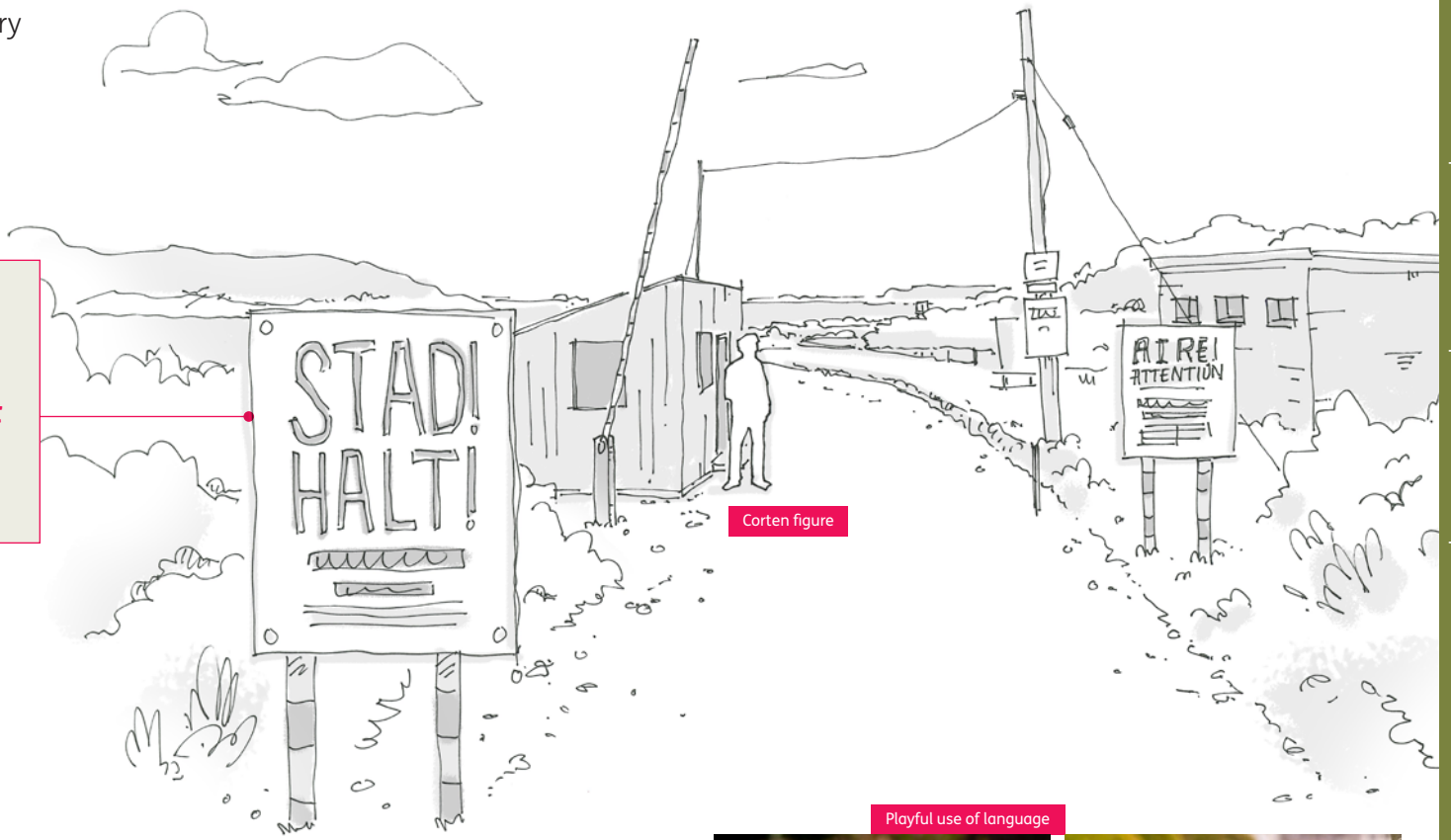
Use signage to set the scene

The visual language of 1930s Fort Dunree

Welcome to Fort Dunree! Visitors will be greeted by messages and signage that places them into the 1930s. The visual language of military signage of the time will begin to instill in the visitor a distinct sense of place and time.

1930s-centric interpretation will be focussed on the Welcome and Village experience only. Other eras will be layered into interpretation.

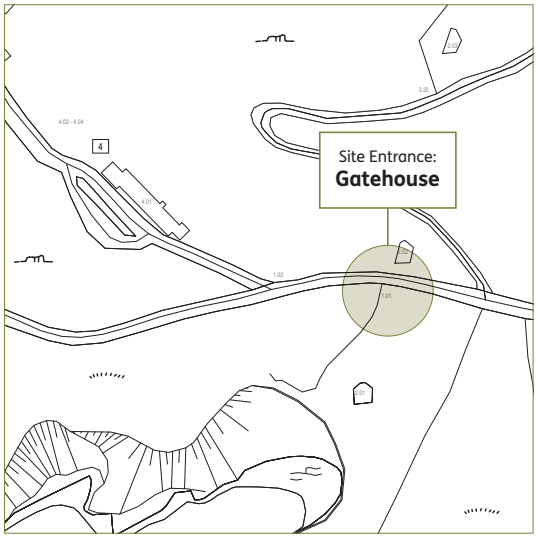
HALT!
Prepare yourself for a great day out
Welcome to Fort Dunree



Corten figure

On-theme signage

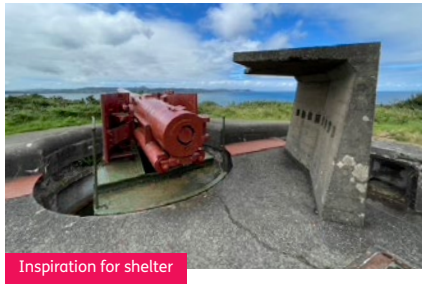
Signage begins to set the scene



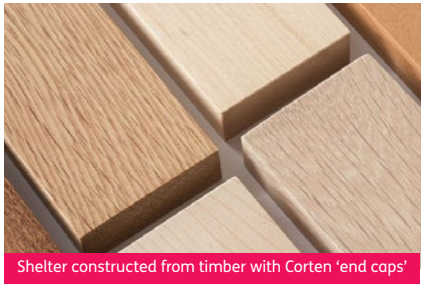
Playful use of language

Interpretation & Interventions
Car Park: Site Overview

ALL REFERENCE IMAGES ARE INDICATIVE ONLY

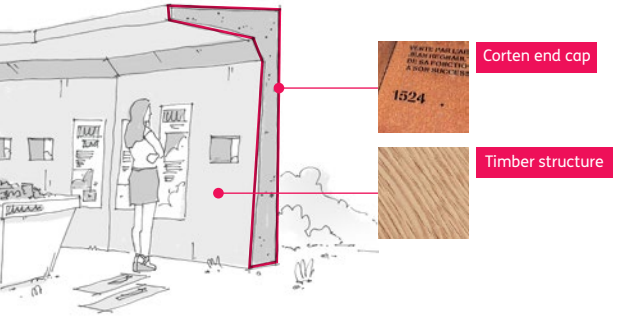

Inspiration for shelter

Integrated welcome message and site overview


Shelter constructed from timber with Corten 'end caps'

At the car park, visitors will encounter a 3D map of the site showing the full extent. This will help establish a sense just how much there is to see and do at Fort Dunree.

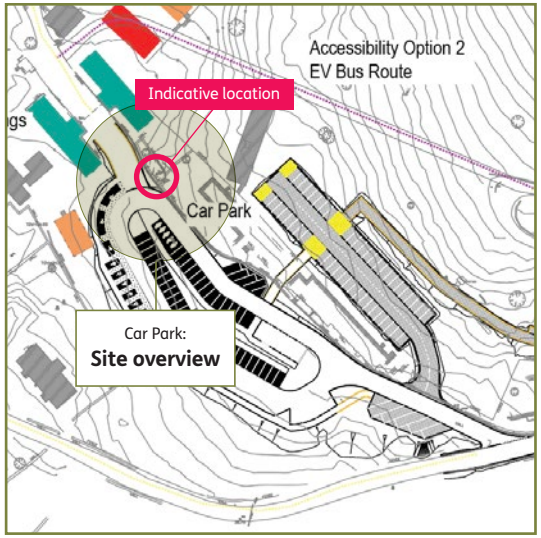
Interpretation can also begin to reveal the stories of the site while clear wayfinding signage directs the visitor towards ticketing.



Timber structure with Corten end caps

Interpretation will begin to reveal the stories of the Fort

Directional ground inlay



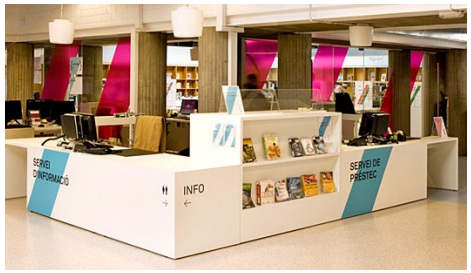
3D model of full site

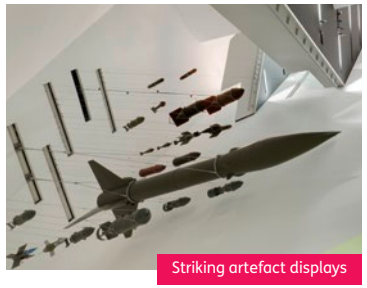
Typographic inlay in hard landscaping

Should the WAW interpretation move?

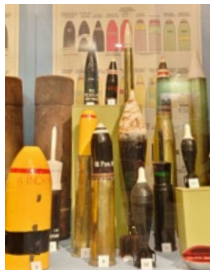
Interpretation & Interventions
Ticketing: Orientation & Interpretation

ALL REFERENCE IMAGES ARE INDICATIVE ONLY



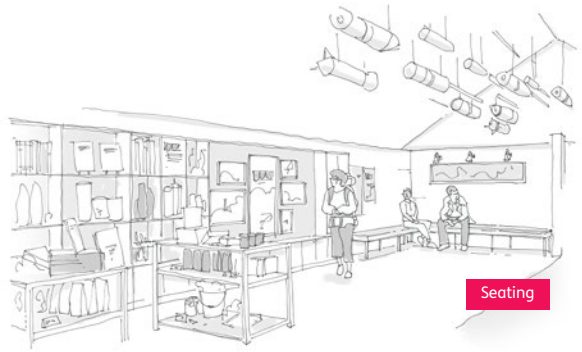


Striking artefact displays

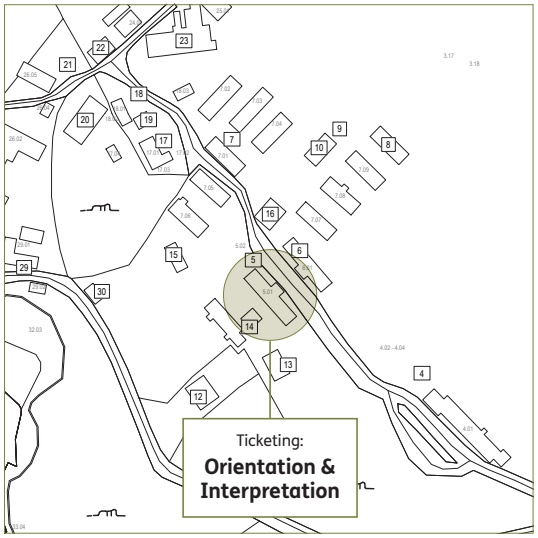


Visitors will purchase tickets from an interpretive welcome space. Here they can discover insights into the site's heritage and come to understand the significance of Fort Dunree.

At high volume times, staff will be able to guide visitors towards the less busy locations.



Seating



Pick-up an adventure pack for younger visitors

Accessible reception desk

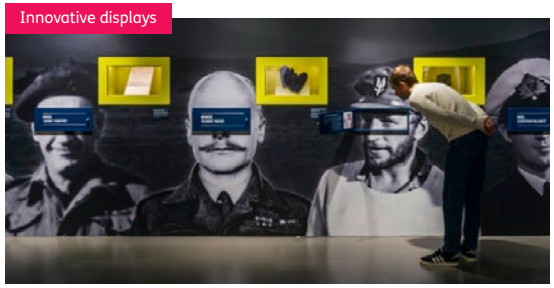
Retail adjacent to ticketing

Digital display

Dynamic site fly over

Bite-size interpretation

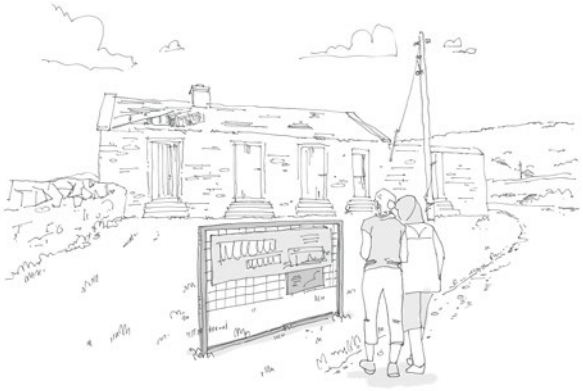
Innovative displays

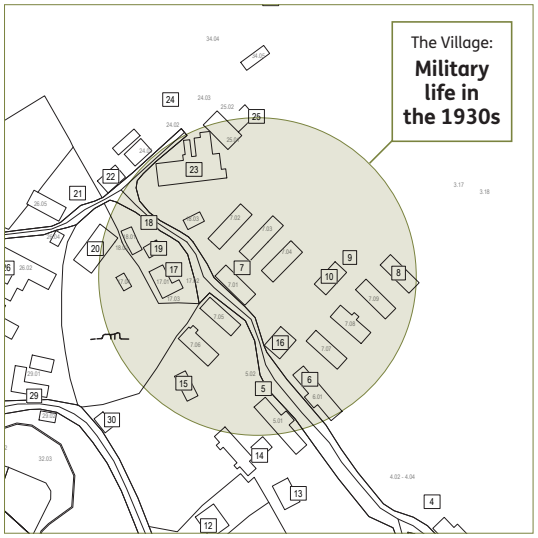


Interpretation & Interventions
The Village: Military life in the 1930s

ALL REFERENCE IMAGES ARE INDICATIVE ONLY

Visitors will encounter restored buildings 'labelled' using a site-wide signage system that provides both consistency and variety (within parameters), helping to imbue the site with a distinct graphic language.

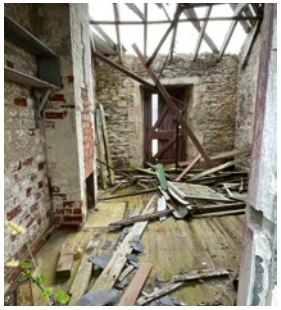




Building 'labels' may be free-standing or mounted

Signage system adapts to original structure

A soundscape of, for example, marching feet



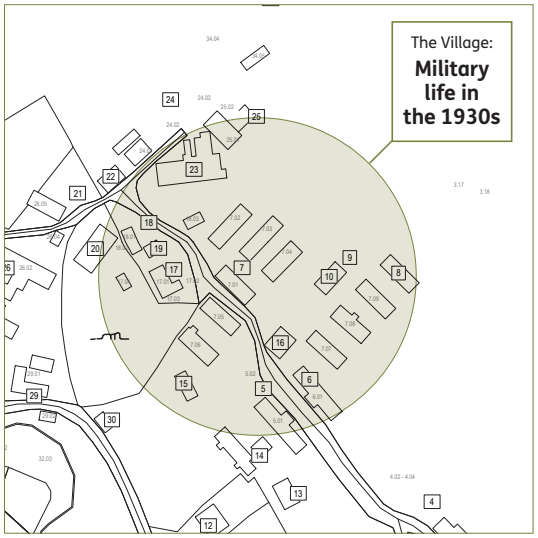
Interpretation & Interventions
The Village: Military life in the 1930s

ALL REFERENCE IMAGES ARE INDICATIVE ONLY

Restored buildings will incorporate setworks that recreate life at Fort Dunree in the 1930s.

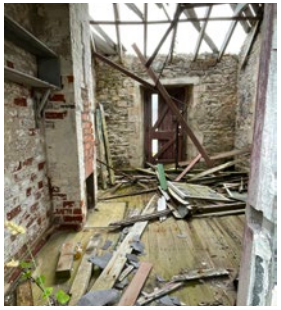
Irish-era (post-1930s) will be layered throughout interpretation.

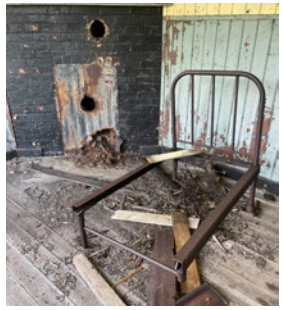
A soundscape of marching feet may permeate the air



Setworks bring restored buildings to life

A glimpse into life at Fort Dunree in the 1930s





Interpretation & Interventions
The Square: Lough Swilly wider context

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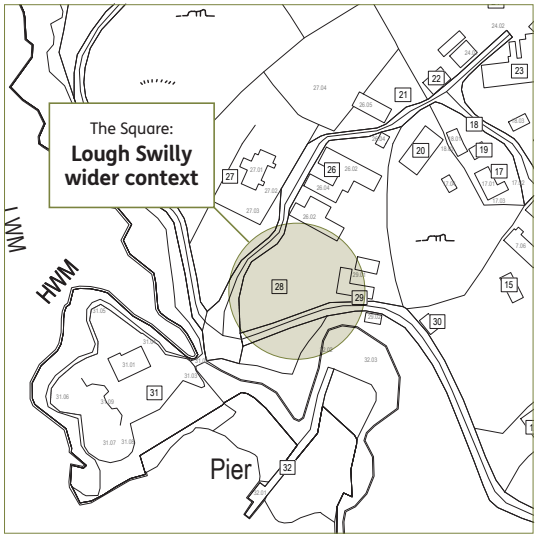
Interventions designed into the fabric of this outdoor space can help visitors understand the network of Forts around Lough Swilly, from pre-Napoleonic to early 20th Century.

Visitors can walk amongst the designed paving scheme or enjoy it from an elevated position. Younger visitors can use the paving to stimulate their imaginations.

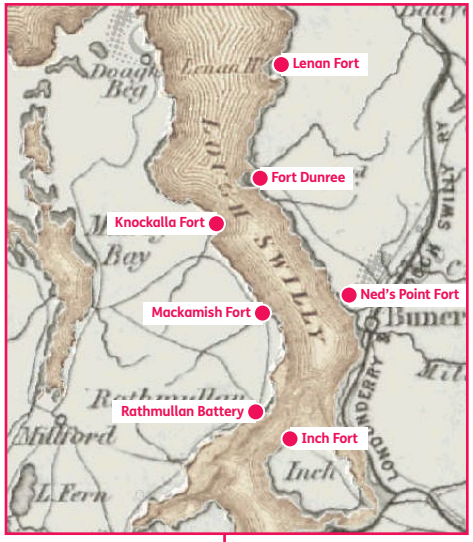


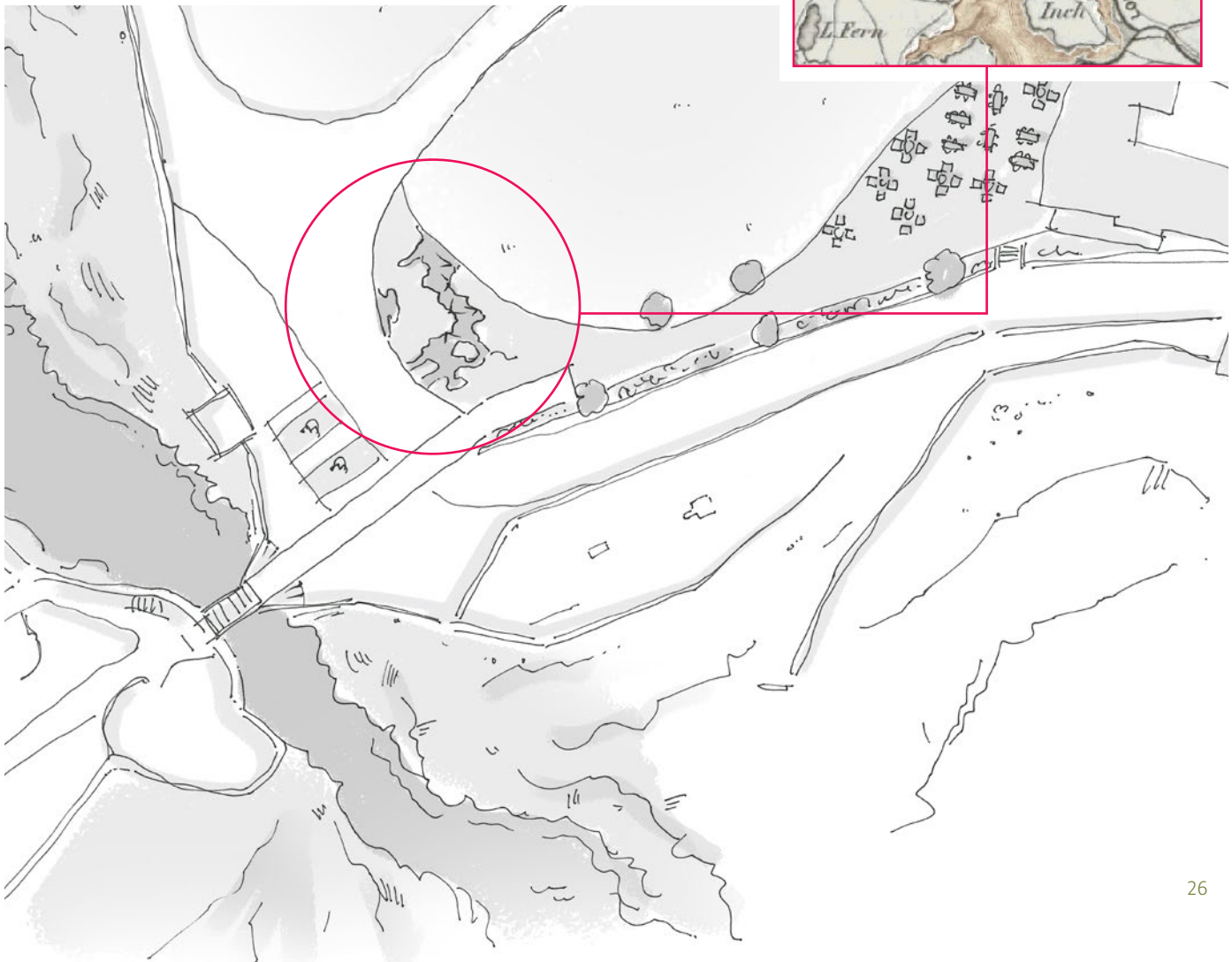
Fort network annotated

with gun and searchlight ranges

Lough Swilly and the Forts in hard landscaping

Orientated to actual topography





Engine Sheds: Powering the Village

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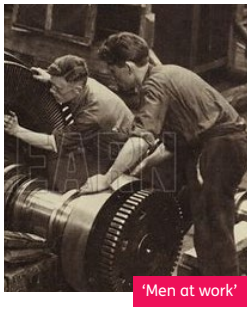


'Men at work'

Clever use of simple animation and projection techniques incorporating light and sound can bring the engine sheds to life.

This will draw attention to the vital 'work horses' of Fort Dunree that brought power and self-sufficiency.

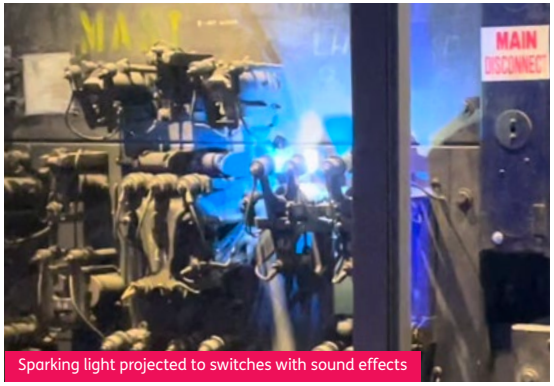
A projected animation with a mechanical soundscape can bring the inanimate engines to life

Rotating light projected onto flywheel

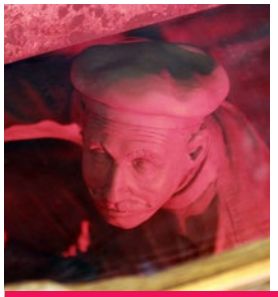
'chug' 'chug' 'chug'

'chugga, chugga, chugga, chugga, chugga...'

'whirrrrrrrrrrrrrrrrrr...'



Sparking light projected to switches with sound effects



Monochrome figures can introduce a sense of the people who worked there

Interpretation & Interventions
Lower Fort – Outer threshold

ALL REFERENCE IMAGES ARE INDICATIVE ONLY

An enhanced threshold can trigger interest

Timber and Corten

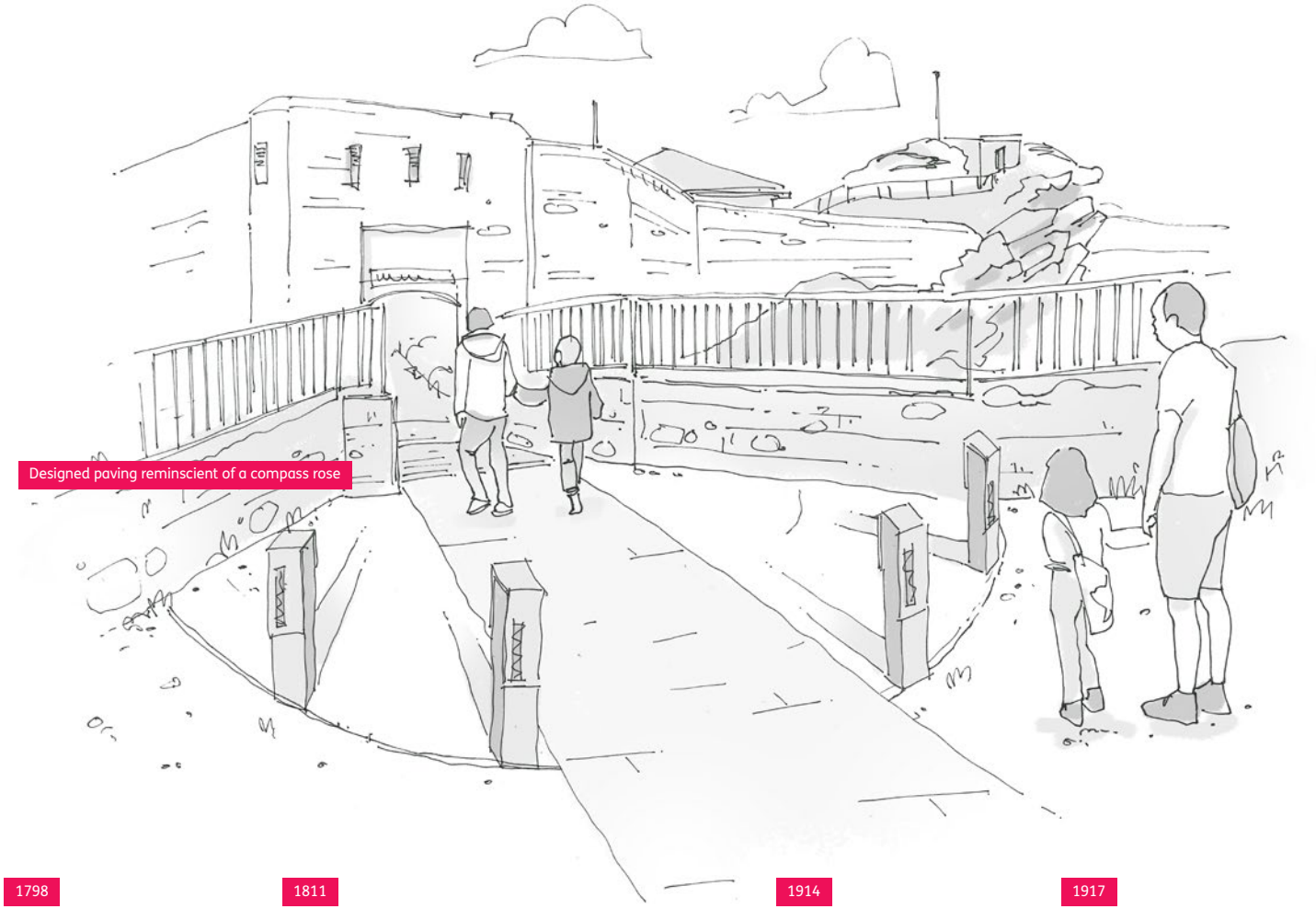
Bronze inlays

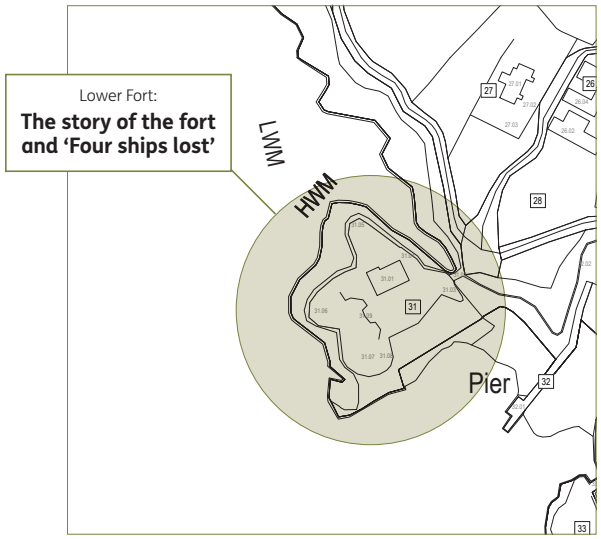
From Napoleonic times to present day, the evolution of the Low Fort can be interpreted alongside the stories of four ships lost or captured, beginning at the threshold.

Four timber posts with Corten caps greet the visitor. Each presents a date with no explanation.

Inlays in designed paving lead the visitor through the gateway. Unbeknown to those passing through, inlaid lines represent the distance from Fort Dunree that each ship sank or was captured.

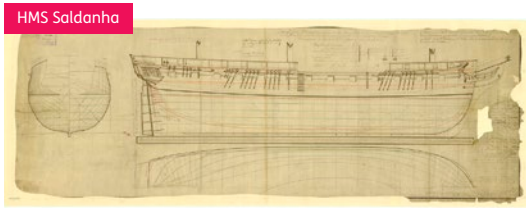
Inside, they will discover more.


Designed paving reminscient of a compass rose

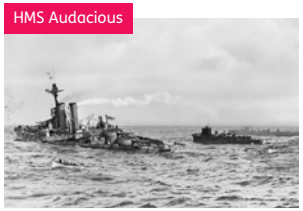


1798
La Hoche

1811
HMS Saldanha



1914
HMS Audacious



1917
HMS Laurentic

Interpretation & Interventions

Lower Fort – Lough Swilly Walkway and Inner courtyard

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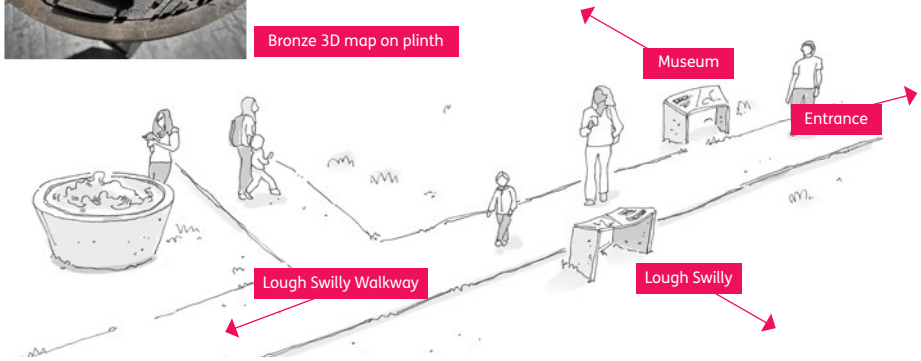
Through the gateway, visitors will encounter a 3D map plinth depicting an earlier Napoleonic iteration of the Lower Fort, complete with Martello Tower.

Interpretation lecterns flanking the path will focus on specific features of the Lower Fort and will facilitate visitor dispersal and flow.

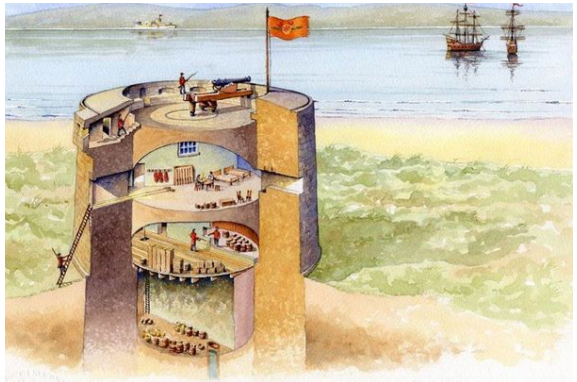
The spectacular Lough Swilly Walkway experience can be enhanced by the audio guide.

Audio guide enhances walkway experience

Bronze 3D map on plinth



Examples of Martello Towers



Interpretation & Interventions
Lower Fort

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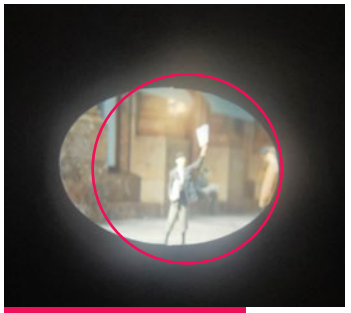
Viewfinders with integrated video

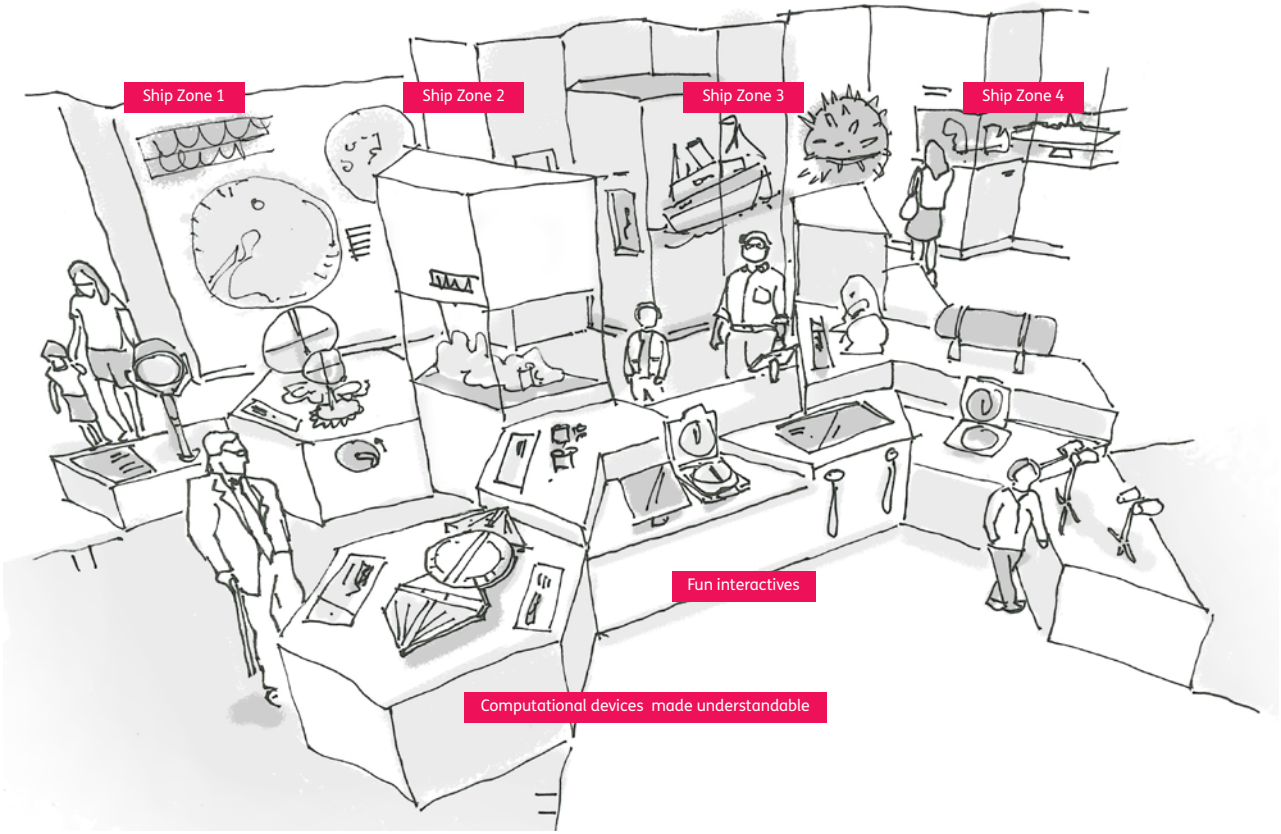

Commissioned video sequence

Heritage image on graphic display

The four most significant ships lost or captured nearby can be interpreted at the Lower Fort.

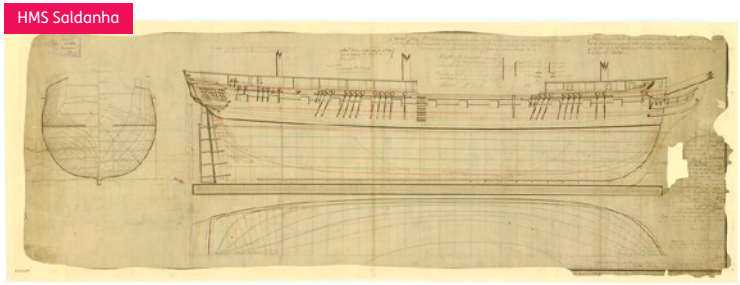
The strategic significance of Lough Swilly will be explored, for example how the British Grand Fleet was securely anchored here in 1914.

Telescope-like viewers with integrated CGI video sequences can bring accompanying graphic displays to life.

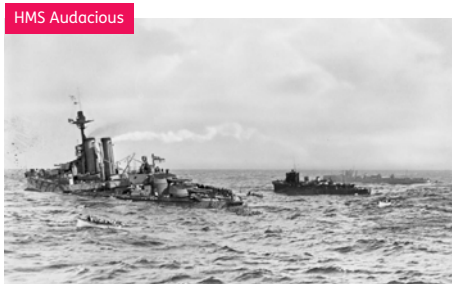


La Hoche

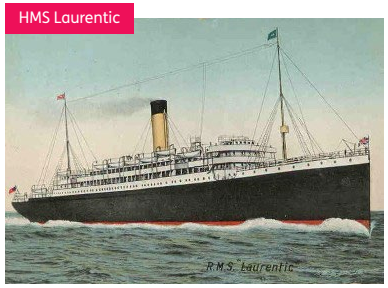
HMS Saldanha



HMS Audacious



HMS Laurentic



Interpretation & Interventions
Lower Fort

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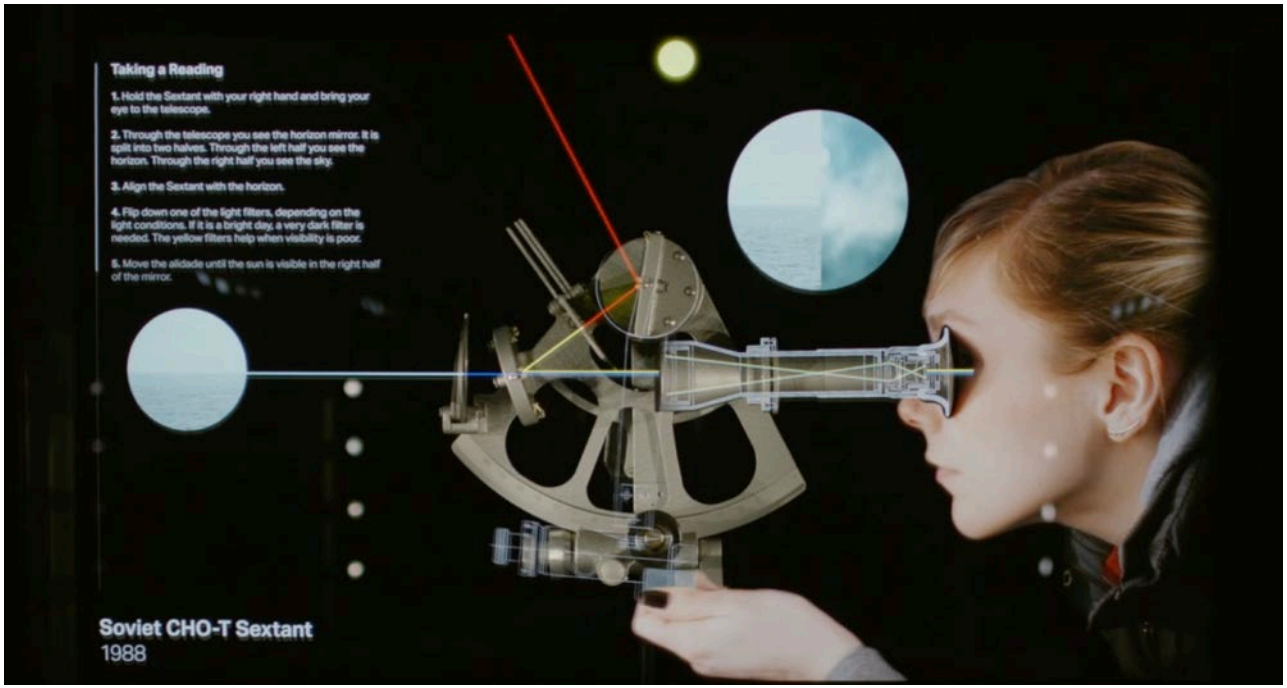
The functionality of these ingenious mechanical computational devices can be explained through thoughtful use of animated touch-responsive projections or digital displays.

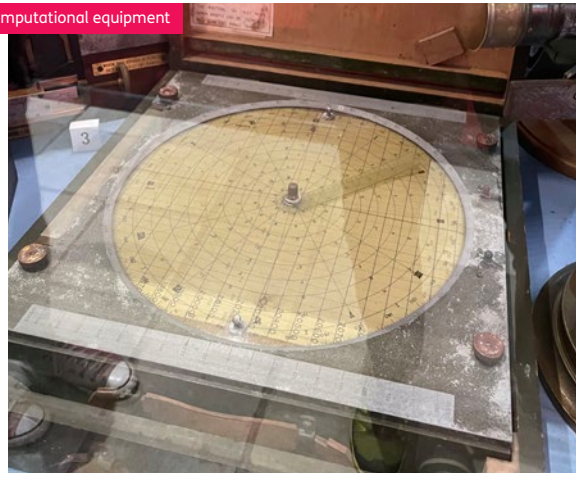
These may be highly creative and fun in their interpretation of complex functions to foster engagement in all visitors.

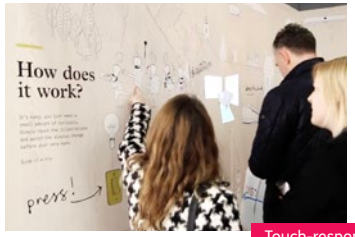
Animated graphic wall

Geometry and illustration can work together to communicate core concepts

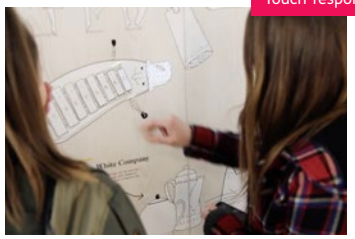


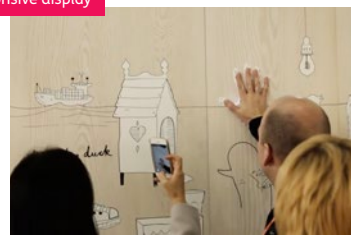
Computational equipment





Touch-responsive display





Interpretation & Interventions
High Fort: Artillery

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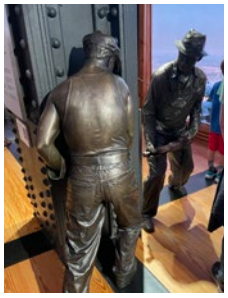
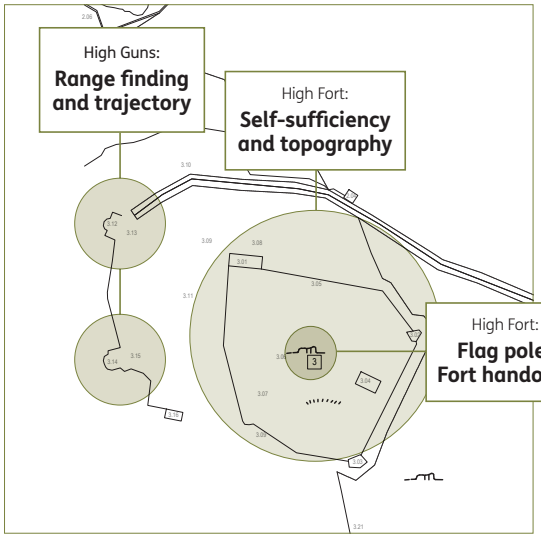
The high guns can be brought to life using demonstrable figures, revealing the extensive built heritage not immediately apparent as well as technical functionality.

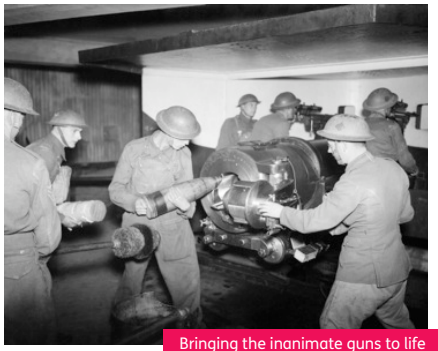
Formal interpretation lecterns can present other facets of the High Fort's story.

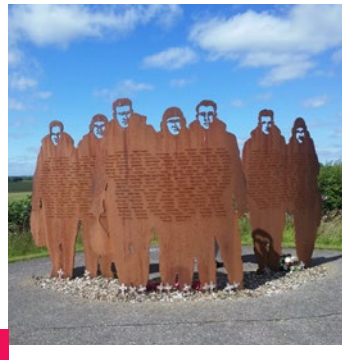
Figures may be 'abstracted' or more realistic



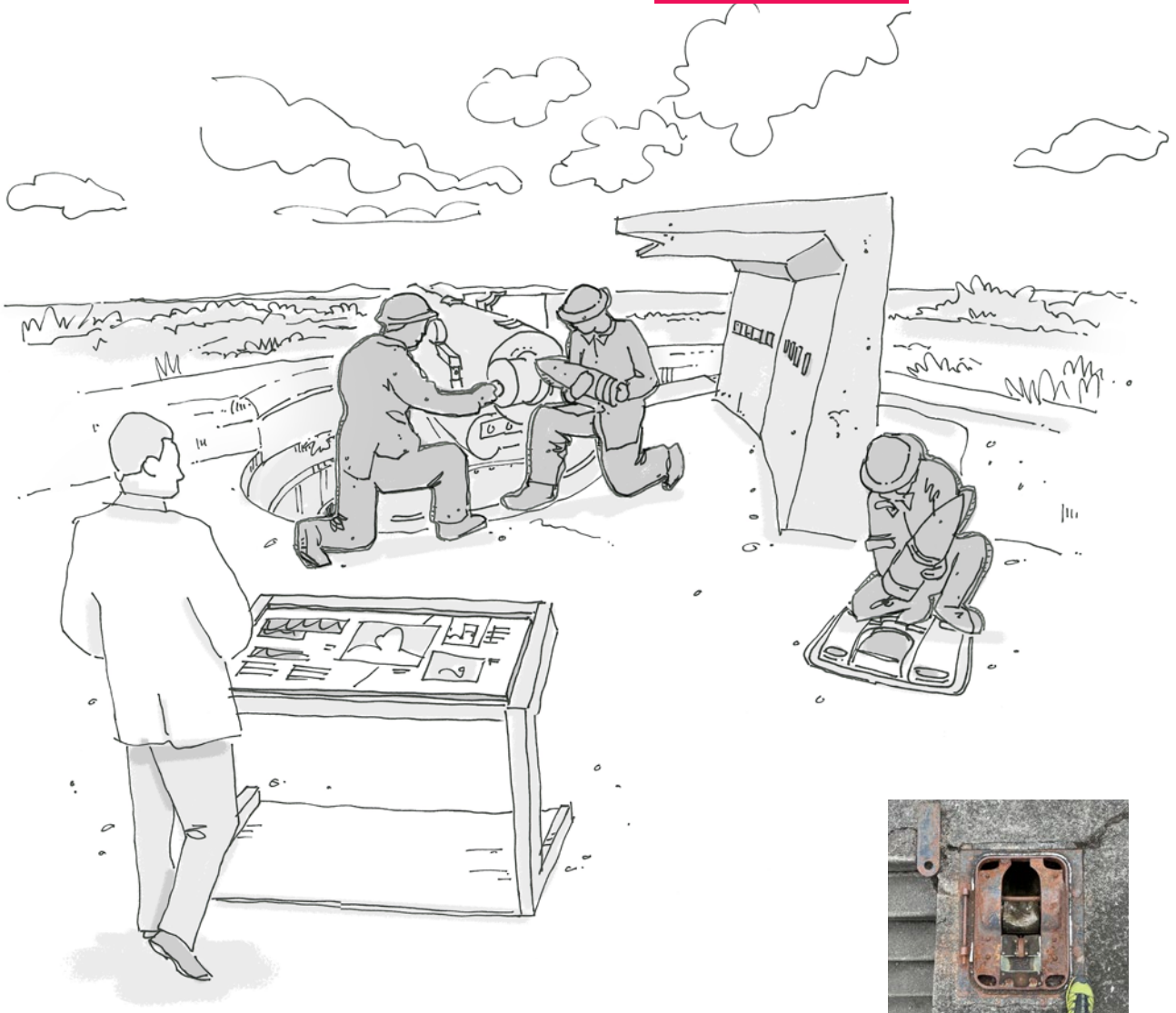


Viewpoints and topography





Bringing the inanimate guns to life



Revealing the secrets of the High Fort guns

Interpretation & Interventions
High Fort: Magazine

The underground magazine, now restored, will provide opportunities to interpret how the guns worked. Putting the 'people' back into the magazine will aid visitors' understanding of the Fort's function.

Access to the magazine will also provide an exciting and special experience.

Interpretation at the top of the access steps

can prepare the visitor for 'what lies beneath'

Etched Corten figures reveal below surface activity

and the ingenuity of the system

Connecting with the surface

Interpretation & Interventions
High Fort: Views

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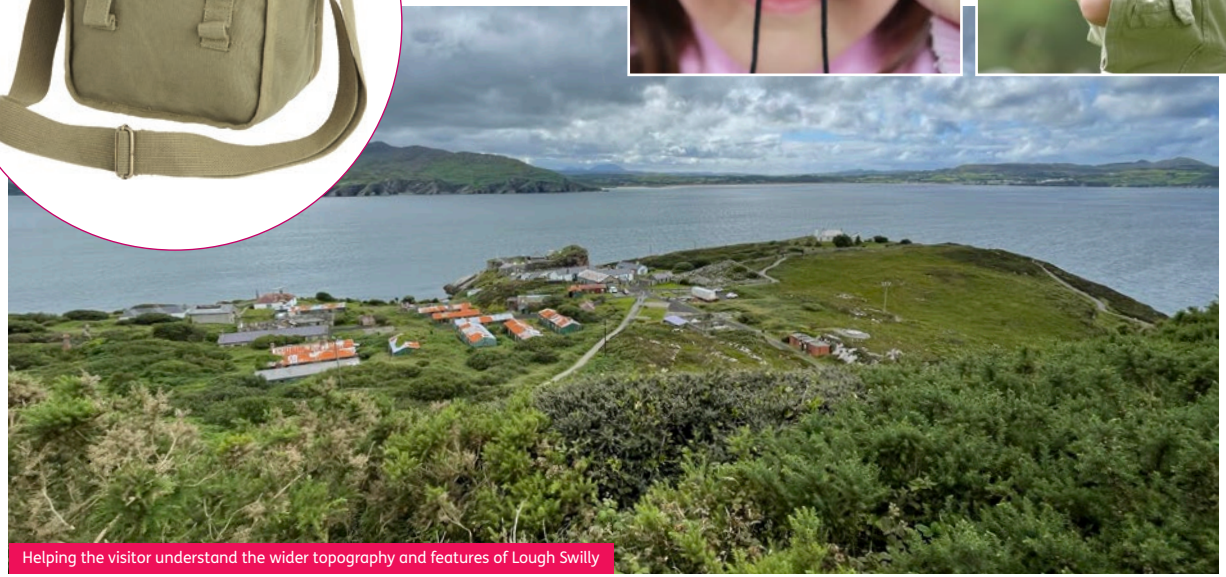
Visitors of all ages can take advantage of Adventure Pack binoculars to spot features and secret codes hidden in the landscape, as well as important points around Lough Swilly, including other forts.

Interpretation can reveal how crosshairs in viewfinders uses spider web for increased the accuracy of an instrument's sighting!

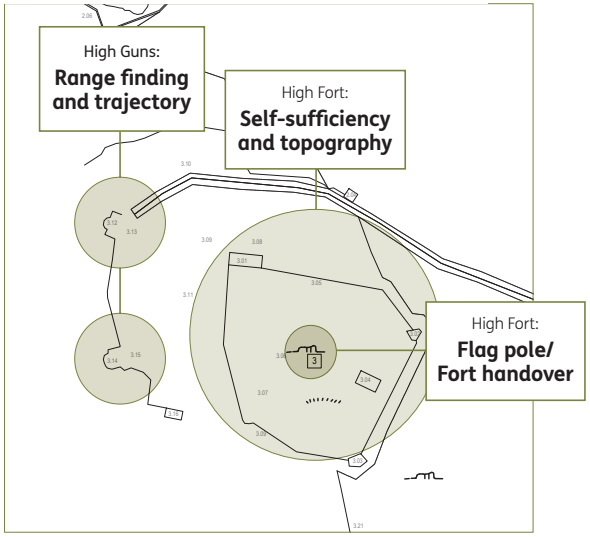
Interpretation lecterns will also be introduced at key points of interest.

Time for your adventure pack!



Helping the visitor understand the wider topography and features of Lough Swilly

Viewpoints located at key high points



Interpretation & Interventions

High Fort: Self-sufficiency, topography and observation

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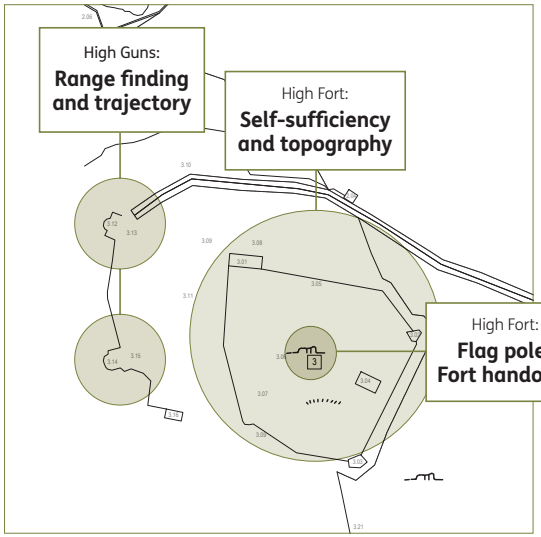
Story of High Fort and The Handover of Fort Dunree from British to Irish control.

From this high vantage point, visitors can look out over the hill and spot elements of 'hidden' interpretation within the landscape, only visible from certain heights or angles.

Interpretation on the walkway will reference what visitors can see from this elevated path.

The fort's self-sufficiency will be explored through exploration of the in-situ water catchment system.



High Fort: The Handover

Visible from High Fort viewpoints, the reinstated flagpole is flanked by two sculptural figure. Related but from different sides.

Extracts from Quarto report:

'On a wet and windy day, 3rd October 1938, a small ceremony attended by just a handful of troops from each side marked the handover of Fort Dunree...

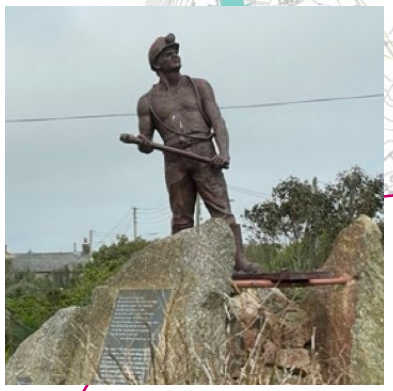
Sergeant King from the British Royal Artillery lowered the Union Jack, and his brother-in-law, Quartermaster Sergeant McLaughlin of the 5th Coastal Defence Battery, raised an Irish tricolour...

The ceremony was over in a matter of minutes...

The British troops marched to the main gate, passed the key to the Irish sentry and boarded a bus for Derry.'

Flagpole site

An artistic sculptural memorial to this understated event



Integrated interpretation paints the picture

LAST UNION JACK IN TWENTY-SIX COUNTIES HAULED DOWN

Swilly Forts Handed Over

British Leave: Irish in Charge

Hoisting of Tricolour

Amid a blinding rain-storm that swept up from the open Atlantic, the British forts on Lough Swilly were formally handed over to the Irish authorities on Monday.

A small party of civilians from Buncrana and the surrounding district witnessed the ceremony of the hoisting of the Tricolour at Fort Dunree, while a number of the local people were admitted to the Leenan Fort for a similar dramatic happening.

It was a historic event, this handing over of Britain's last forts in the Twenty-six Counties. The ceremony marked a notable chapter in the country's history, and while it was simple in itself and occupied only a few minutes it symbolised another step in the march towards complete national sovereignty.

Interpretation & Interventions
Store Hut: Secret Discovery Zone

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A Secret Discovery Zone can provide a sheltered place where younger visitors can enjoy hands-on interactive 'just for them' interpretation. Visitors could use their adventure backpacks with site-specific activities or just enjoy the fantastic views across Lough Swilly.

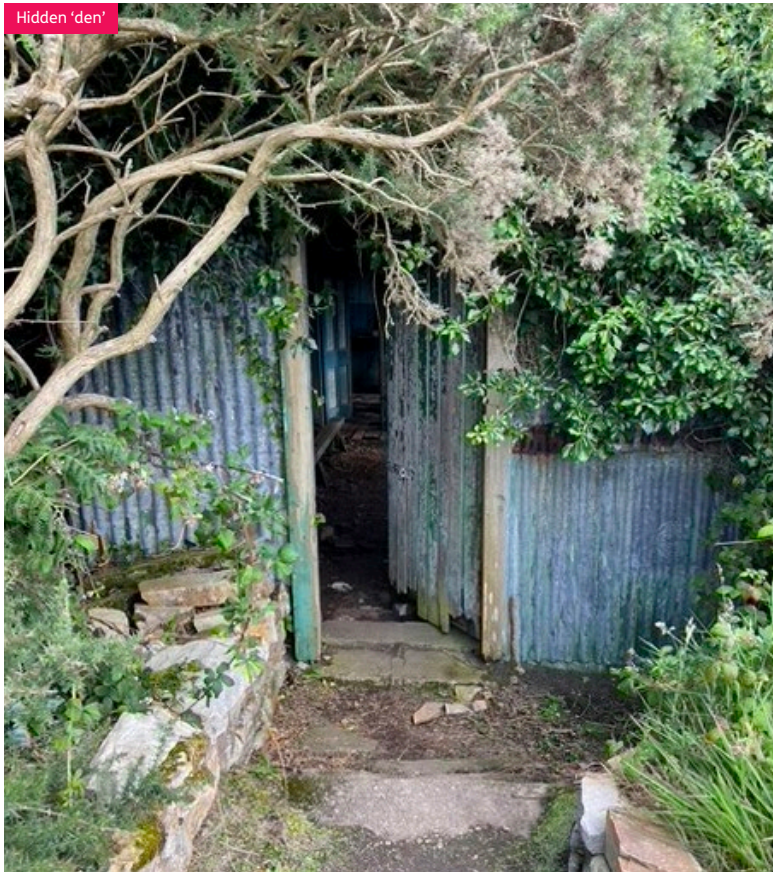
Time for your adventure pack!

Secret tasks

Talking tubes

Spy holes

Hidden 'den'



Interactive play

Nature watch

Interpretation & Interventions
Site-wide: Biodiversity

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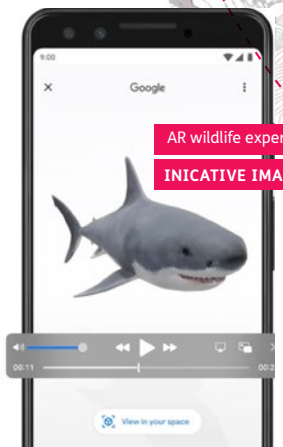
The biodiversity of Fort Dunree will be a layer of content incorporated site-wide. Focus will be raised or lowered depending on location.

There will be a focus on marine and bird life specific to the Lough Swilly area.

Graphic panel interpretation

Graphic panel interpretation

Cut-out Corten



AR wildlife experience

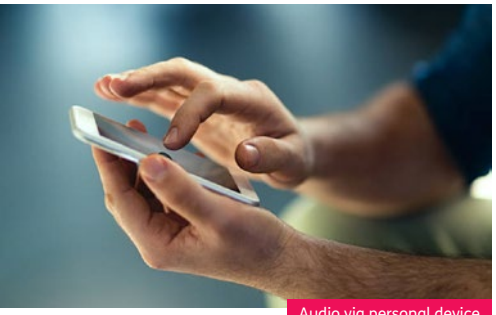
INICATIVE IMAGE ONLY

Interpretation & Interventions
Site-wide: Audio guide

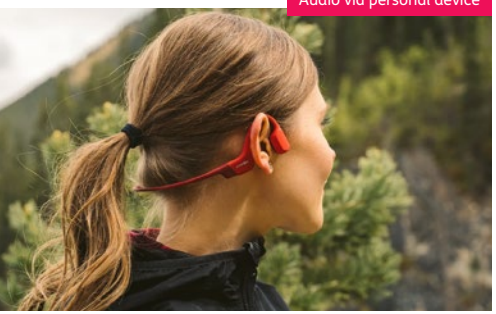
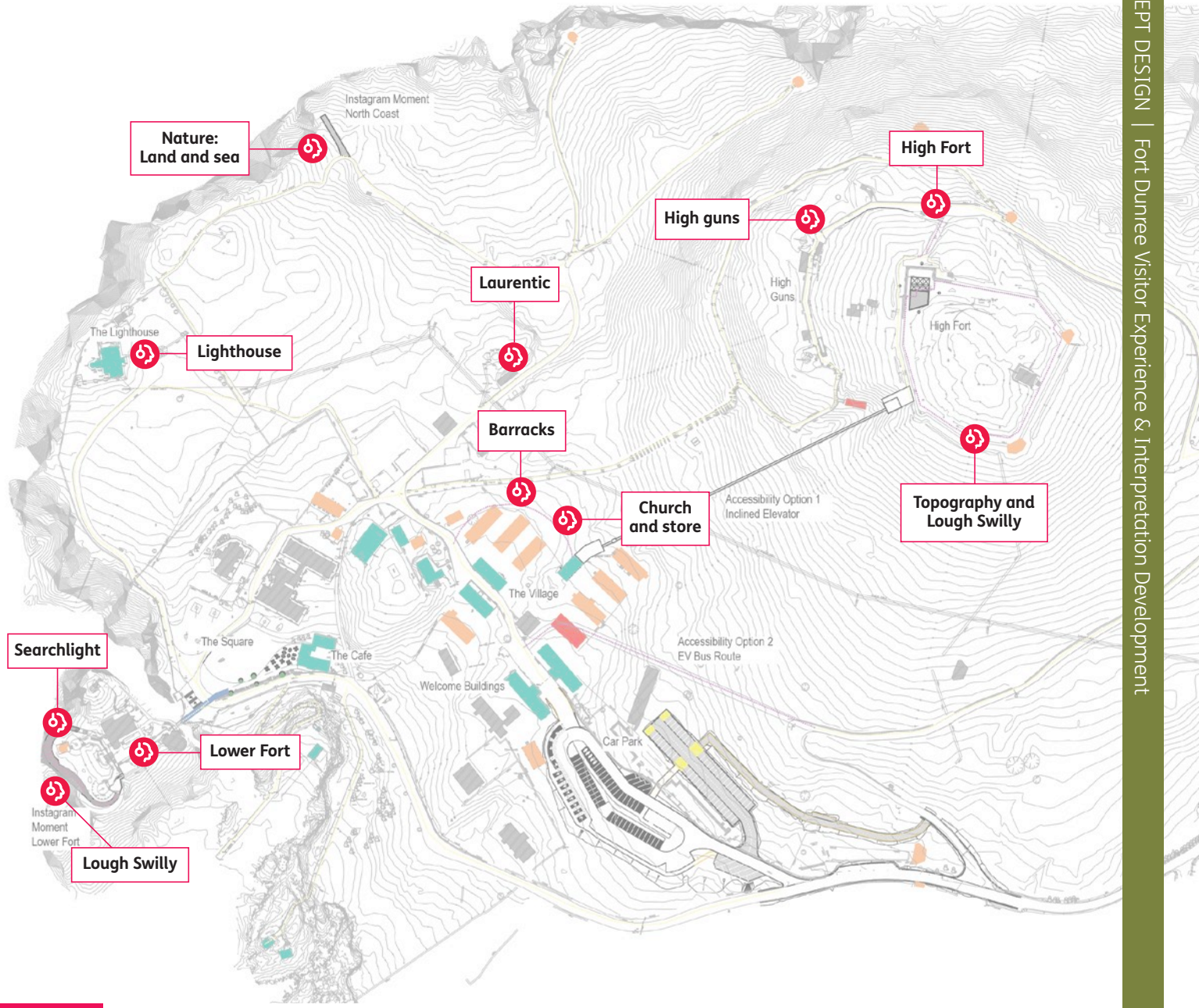
Sound has the power to transport the visitor through time and provide a vivid experience.

An audio guide, delivered online to the visitor's personal device or via on-site audio posts, can add new and exciting layers of interpretation, including soundscapes, reminiscience and aural reconstructions.

Visitors can remain visually engaged with their surroundings while listening.



Audio via personal device



Audio via solar powered post