



Cullivoe Pier, North Yell Marine Screening Report



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Cullivoe Pier, North Yell

Marine Screening Report

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Author: Scott Milligan
Reviewer: Craig Potter

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Glasgow

Craighall Business Park
8 Eagle Street
Glasgow
G4 9XA
0141 341 5040
info@envirocentre.co.uk
www.envirocentre.co.uk

Aberdeen

Banchory Business
Centre
Burn O'Bennie Road
Banchory
AB31 5ZU
01330 826 596

Inverness

Alder House
Cradlehall Business Park
Inverness
IV2 5GH
01463 794 212

Edinburgh

1st Floor, Sirius
Building, The
Clocktower Estate,
South Gyle Crescent,
Edinburgh, EH12 9LB

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1 INTRODUCTION

1.1 Context

EnviroCentre has been commissioned by Arch Henderson on behalf of North Yell Development Council to produce a Screening Report to seek a Formal Screening Opinion from Marine Scotland as outlined within Part 2, Regulation 10 (1) of the Marine Works (Environmental Impact Assessment) Scotland Regulations 2017 (As Amended) (hereby referred to as “the EIA Regulations”) for a new marina to be constructed at Cullivoe Pier, Shetland Islands as shown within Figure 1, contained within Appendix B.

This report contains a desk based assessment of the environmental baseline in order to present an EIA Screening Opinion to Marine Scotland for marine based elements, drawing upon the planning application history of the proposed development. The site is located at Cullivoe Pier, Shetland.

The proposed development has been granted planning consent for the terrestrial elements (reference number 2018/330/PPF, with planning conditions attached), and granted a works licence (reference number 2018/026/WL, again with conditions attached) by the Shetland Islands Council in July 2019. Consultation responses, in relation to these planning applications, from statutory and non-statutory bodies are included within Appendix A.

1.2 Scope of This Document

This Screening Report provides a desk based study of the potential for the development to have effects on the site and surrounding environment. It has been compiled through a desktop review of readily environmental information and an additional otter survey, undertaken by Shetland Nature on 21 December 2019.

In accordance with Regulation 10 of the Marine Works (Environmental Impact Assessment) (Scotland) Regulations 2017, a request for a screening opinion must be accompanied by “*a brief description of the nature and purpose of the development and of its possible effects on the environment*”. The purpose of this document is to provide this information and to focus the amount of information necessary to support a planning application.

1.3 Approach and Method

Baseline conditions have been outlined throughout the report and, using competent expertise, an evaluation of the likely significance of impacts is provided in order to reach a conclusion on whether or not EIA is merited.

The specific topic areas which have been considered within this report, in relation to it being a marine based assessment, are as follows:

- Marine Ecology;
- Water Environment and Coastal Processes;
- Landscape and Visual;
- Noise;
- Air Quality;
- Cultural Heritage and Archaeology;
- Traffic and Transport (including vessel movements); and
- Cumulative Effects.

Climate change and risk of natural disasters are not considered further in this report. The site is not deemed to be at risk of natural disaster (such as major landslides, earthquakes, tsunamis or hurricanes). While it can be predicted that increases in the water height may overflow parts of the development, such as the pier, the very nature of the marina is to allow boats to moor on the water, therefore climate change is not considered further.

2 PROPOSED DEVELOPMENT CONTEXT

2.1 Introduction

Competent Authorities have a statutory duty to consider whether any project they are responsible for authorising, is a project that should be subject to the EIA process, by virtue of having likely significant effects. EIA Screening is the process by which the Competent Authority decides whether an EIA is required.

As some of the construction/operation works of the proposed development are below Mean High Water Springs (MHWS), the Competent Authority for determining the development is Marine Scotland. All works above MHWS are considered by Shetland Islands Council under the Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2017, as described in Section 1. The terrestrial elements have already been consented and given a Works Licence, and were not accompanied by an EIA.

Under Schedule 2, 12 (a) of the EIA Regulations, the proposed development meets the threshold of *“The area of the enclosed water surface exceeds 1,000 square metres.”*

This Screening Report comprises of a comprehensive desk-based review of the environmental constraints, with the purpose to assess the proposed developments likely effects on the environment.

EnviroCentre, on behalf of Arch Henderson, are seeking a Formal Screening Opinion from Marine Scotland in relation to the proposed development, as outlined within Part 2, Regulation 10 (1) of the EIA Regulations.

2.2 Location and Site Description

The proposed development is located in the Cullivoe pier area on the east coast of North Yell, at National Grid Reference HP546018 and shown in Figures 1 and 2 within Appendix B. The proposed development will be constructed and located to the south of the existing Cullivoe Pier and Business Park complex. As part of granting planning consent for Planning Reference 2018/330/PPF, it is the intention that boats presently using the existing marina (located approximately 200m north of the site) will use the proposed development, and cease using the existing marina.

The surrounding topography of the land is relatively flat, which currently helps screen the business park located immediately north of the proposed development. The locality of the site is fairly rural, with the B9082 running north-to-south through the landscape to the west of the site and a business park immediately north of the site.

2.3 Proposed Development

The proposed development will comprise of a 210m long breakwater arm and approximately 125m reclamation along the foreshore. This will shelter eight 10m long marina pontoon units, providing an estimated 34 berths. The reclamation and breakwater area is to be constructed using surplus rock fill from an adjacent Business Park extension project (described within Section 9.5), with further rock armour to protect the integrity of the structure.

2.3.1 Construction Phase

Moored marker buoys will be placed on the perimeter line to clearly mark the total extent of works.

Only inert stone fill free of all fine clay and organic material from adjacent industrial site excavation will be used for forming the proposed marina access and breakwater core bund construction. As the core filling commences and advances inside moored marker buoys, the completed core bund exposed slope profiles will have geotextile membrane placed and secured to slopes between MHWS and seabed toe to reduce migration of sediment as far as possible. The advancing head of the breakwater will be protected by the silt boom moored and advanced in front as core bund works progress. Cross sections of the proposed development are included within Figures 5 and 6 within Appendix B.

Inert secondary and primary stone armour will be placed over the protective geotextile slope membrane to permanently secure the structure.

It is the intention that the proposed development be used by local resident to keep their boats, as well as providing pontoons for small commercial fishing vessels, local boat tour operators and spare berth for visiting yachts.

The location of the Nova Innovation¹ marine cables will also be marked with buoys and the critical 25m offset physically checked. A diver survey will also be used to check seabed accuracy as required. With the proposed SSE North cables being some 215m away from works and with a maximum 50m on shore deviation line working corridor then there is no risk of disturbance.

At present, the pier will be accessed from the Existing Business Parkway Road, which connects to the B9082 north-west. The Existing Business Parkway Road is to be extended towards the proposed bund, as shown in Figure 2 within Appendix B. There is currently a planning application in place, decision pending, with the Shetland Islands Council (Planning Reference 2019/358/VCON) which proposes either road improvement works to road B9082 Cullivoe Road including link road to Cullivoe Pier or proposal to transport material or plant to Cullivoe Pier by sea, both for construction phase of approved development – the approved development being the terrestrial elements of the proposed development.

A Construction Environmental Management Plan (CEMP) will be put in place during the construction phase of the works which will outline best practice methodology and look to minimise the environmental effects of construction as far as practicable.

2.3.2 Operational Phase

Once constructed, the marina will be used as berths for pleasure boats and small commercial fishing and tourist boats. Additionally, the existing marina to the north will cease operation and all boats currently berthed will relocate to the proposed development.

¹ Nova Innovation are tidal turbines that generate electricity with the ebb and flow of the tide. These turbines have cables which transfer electricity to generators.

3 ECOLOGY

3.1 Context

This section provides a description of the known baseline conditions and identifies the likely effects of the construction and operation of the marina on the ecology of the area. The baseline information has been extracted from several sources including:

- Scottish Natural Heritage (SNH) Sitelink²;
- The Joint Nature Conservation Committee (JNCC)^{3,4};
- Seawatch Foundation⁵;
- Estimates of cetacean abundance in European Atlantic waters in summer 2016 from the SCANS-III aerial and shipboard surveys⁶;
- SNH^{7,8};
- National Biodiversity Network (NBN) Atlas⁹;
- Marine Scotland Interactive Map¹⁰
- Whale and Dolphin Conservation (WDC)¹¹;
- The Hebridean Whale and Dolphin Trust (HWDT) Whale Track sightings (citizen science) database¹².
- Special Committee on Seals population data¹³;
- Scottish Government Designated Sites: Seal Haul out Sites¹⁴; and
- Shetland Nature Otter Report.

3.2 Baseline

3.2.1 Disclaimer

It should be noted that the baseline is limited by the availability and reliability of third party information and the geographical availability of biological and/or ecological records and data. The absence of species from biological records cannot be taken to represent actual absence. Species distribution patterns should be interpreted with caution as they may reflect survey/reporting effort rather than actual distribution. Multiple records of species sightings could also represent the same animal on different occasions.

² SNH Sitelink available at: <https://sitelink.nature.scot/map> last accessed 20/01/2020

³ JNCC Statutory Nature Conservation Agency Protocol for Minimising the Risk of Injury to Marine Mammals from Piling Noise (2010) available at: http://jncc.defra.gov.uk/pdf/JNCC_Guidelines_Piling%20protocol_August%202010.pdf last accessed 21/01/2020

⁴ Reid, J B, Evans, P G H, and Northridge, S P. JNCC Atlas of Cetacean Distribution in north-west European waters (2003) available at: <http://jncc.defra.gov.uk/page-2713#download> last accessed 21/01/2020

⁵ Seawatch Foundation Cetaceans of Western Scotland available at: <http://seawatchfoundation.org.uk/wp-content/uploads/2012/07/WesternScotland.pdf> last accessed 21/01/2020

⁶ SCANS-III available online at: <https://synergy.st-andrews.ac.uk/scans3/2017/05/01/first-results-are-in/> last accessed 21/01/2020

⁷ SNH About Scotland's Nature: Marine Mammals available at: <https://www.nature.scot/plants-animals-and-fungi/mammals/marine-mammals> last accessed 21/01/2020

⁸ SNH Seals in Scotland available at: <https://www.nature.scot/plants-animals-and-fungi/mammals/marine-mammals/seals> last accessed 21/01/2020

⁹ NBN Atlas (commercially available records only) available from: https://records.nbnatlas.org/explore/your-area#55.9341301|-3.3103042000000187|12|ALL_SPECIES last accessed 21/01/2020

¹⁰ Marine Scotland Interactive Map available at: <https://marinescotland.atkinsgeospatial.com/nmpi/> last accessed 21/01/2020

¹¹ WDC species guides available at: <http://uk.whales.org/species-guide> last accessed 21/01/2020

¹² HWDT sightings data available at: <https://whaletrack.hwtdt.org/sightings-map/> last accessed 21/01/2020

¹³ Special Committee on Seals (2018) Scientific Advice on Matters Related to the Management of Seal Populations available online at: <http://www.smru.st-andrews.ac.uk/files/2019/05/SCOS-2018.pdf> last accessed 21/01/2020

¹⁴ Scottish Government seal Haul-out maps available at: <http://www.gov.scot/Topics/marine/marine-environment/species/19887/20814/maps> last accessed 21/01/2020

3.2.2 Statutory Designated Sites

The following sites and associated qualifying features have been identified as having the potential to be affected by the proposed works:

- Bluemull and Colgrave Sounds Proposed Special Protection Area (SPA), adjacent to the site, designated for:
 - An important foraging area for breeding Red-throated Diver (*Gavia stellata*)
- Fetlar to Haroldswick Marine Protected Area (MPA), approximately 2km south of the proposed development designated for:
 - Black Guillemot (*Cepphus grylle*);
 - Circalittoral sand and coarse sediment communities;
 - Horse mussel beds;
 - Kelp and seaweed communities on sublittoral sediment;
 - Maerl beds;
 - Marine geomorphology of the Scottish shelf seabed; and
 - Shallow tide-swept coarse sands with burrowing bivalves.
- Fetlar SPA, approximately 4.4km south of the proposed development designated for:
 - Arctic Skua (*Stercorarius parasiticus*);
 - Arctic Tern (*Sterna paradisaea*);
 - Dunlin (*Calidris alpina schinzii*);
 - Fulmar (*Fulmarus glacialis*);
 - Great Skua (*Stercorarius skua*);
 - Red-necked Phalarope (*Phalaropus lobatus*);
 - Whimbrel (*Numenius phaeopus*); and
 - Seabird assemblage, breeding.
- North Fetlar Site of Special Scientific Interest (SSSI), approximately 8km south of the proposed development designated for:
 - Arctic skua;
 - Arctic tern;
 - Great skua;
 - Red-necked phalarope (*Phalaropus lobatus*);
 - Whimbrel;
 - Breeding bird assemblage;
 - Calaminarian grassland and serpentine heath;
 - Grey seal (*Halichoerus grypus*); and
 - Harbour seal (*Phoca vitulina*).
- Yell Sound Coast Special Area of Conservation (SAC), approximately 25km south (as the crow flies) of the proposed development designated for:
 - Harbour seal; and
 - Otter (*Lutra lutra*).

One seal haul-out site, which is designated under The Protection of Seals (Designation of Haul-Out Sites) (Scotland) Order 2014, is present in the vicinity of the proposed development. Westwing seal haul-out is located on the west coast of the Island of Unst, approximately 4km north east of the proposed development. The site features both grey and harbour seals.

3.2.3 Marine Mammals

3.2.3.1 Cetaceans

Table 3.1 below provides an overview of cetacean population density estimates, taken from the survey block including The Shetland Islands, from SCANS III (animals not recorded during the survey period have not been included).

Table 3.1: SCANS III Cetacean Population Density Estimates

Cetacean Species	Estimated Density (animals per km ²)
Harbour porpoise (<i>Phocoena phocoena</i>)	0.402
White beaked dolphin (<i>Lagenorhynchus albirostris</i>)	0.037
White sided dolphin (<i>Lagenorhynchus obliquidens</i>)	0.021
Minke whale (<i>Balaenoptera acutorostrata</i>)	0.032

Additionally, the following citizen science sightings records were submitted to Seawatch Foundation between August 2019 and the time of reporting, from a survey area covering The Shetland Islands:

Cetacean Species	Number of sightings
Killer whale (<i>Orcinus orca</i>)	112
Humpback whale (<i>Megaptera novaeangliae</i>)	6
Long-finned pilot whale (<i>Globicephala melas</i>)	126

Harbour porpoise are the most likely species to be encountered in the vicinity of Cullivoe. They are seen all year round with a peak in summer when they are known to breed and produce young. All cetaceans are European Protected Species (EPS).

3.2.3.2 Seals

Figures 3.2 and 3.3 show the distribution of harbour and grey seals across Scotland between 2013 and 2017.

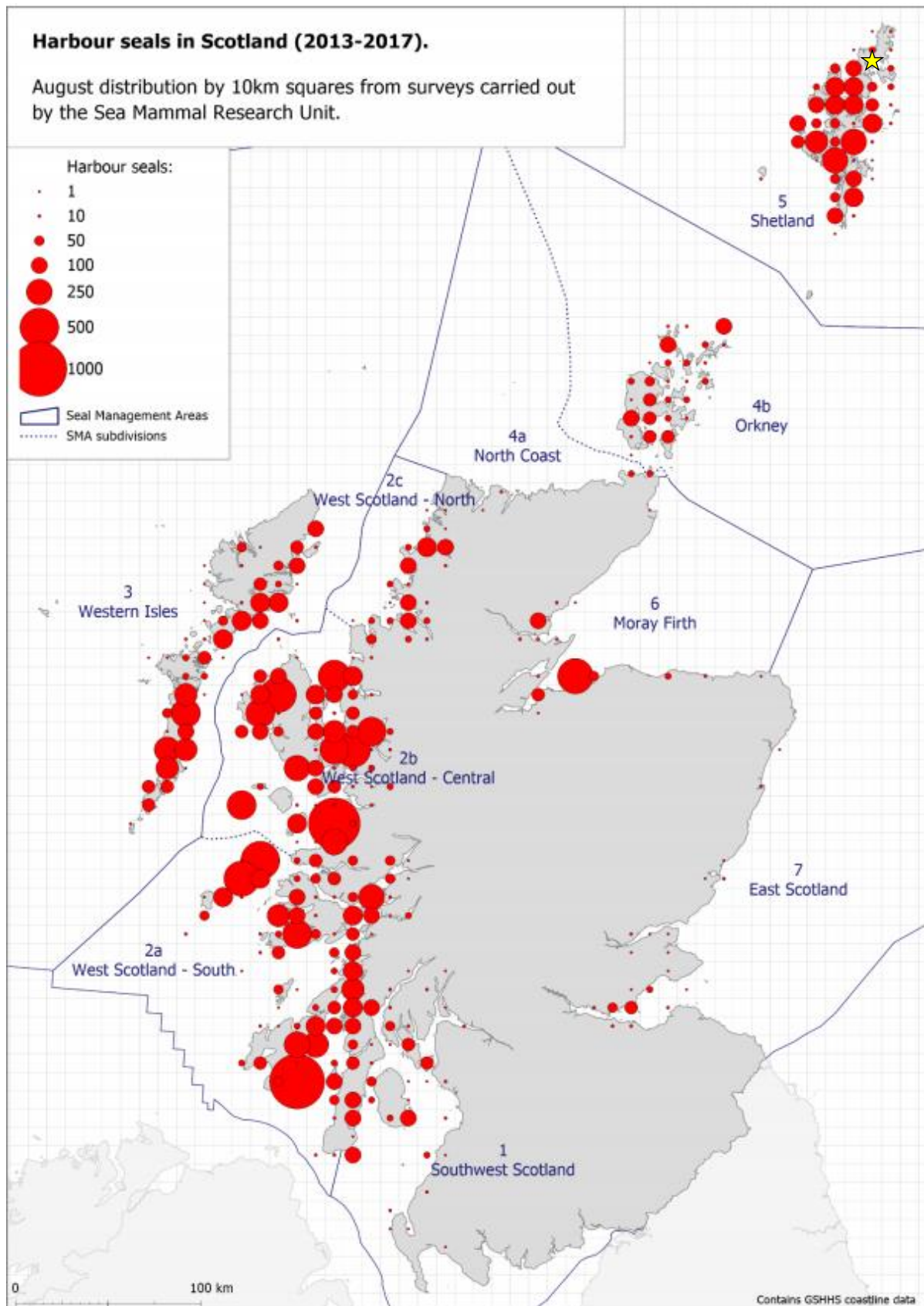


Figure 3.1: August Distribution of Harbour Seals in Scotland.
The approximate location of the site has been added, represented by the yellow star.

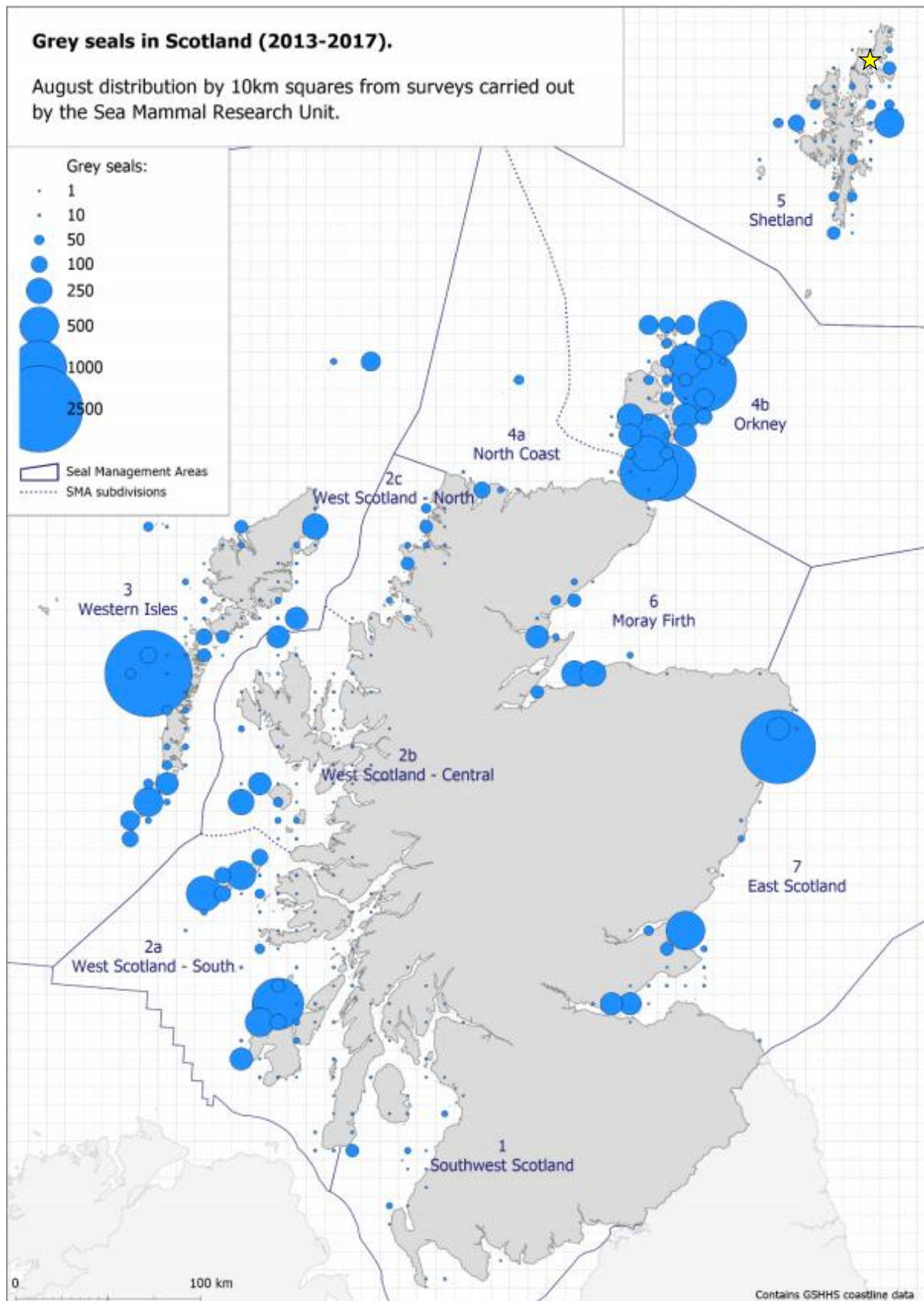


Figure 3.2: August Distribution of Grey Seals in Scotland.
The approximate location of the site has been added, represented by the yellow star.

Both species of seal travel large distances to forage, however harbour seals prefer more sheltered waters and are faithful to a more restricted range, routinely travelling 40-50km from their haul out site to forage for food, whereas grey seals prefer offshore feeding areas. Harbour seals are therefore more likely to be encountered in the waters off Cullivoe. The nearest haul-out site for seals, which features both species, is approximately 4km from the site. Therefore animals using this site could utilise the harbour to forage.

3.2.4 Birds

Figure 3.3 below shows the predicted usage of the Bluemull and Colgrave Sounds Proposed SPA by pairs of red throated diver:

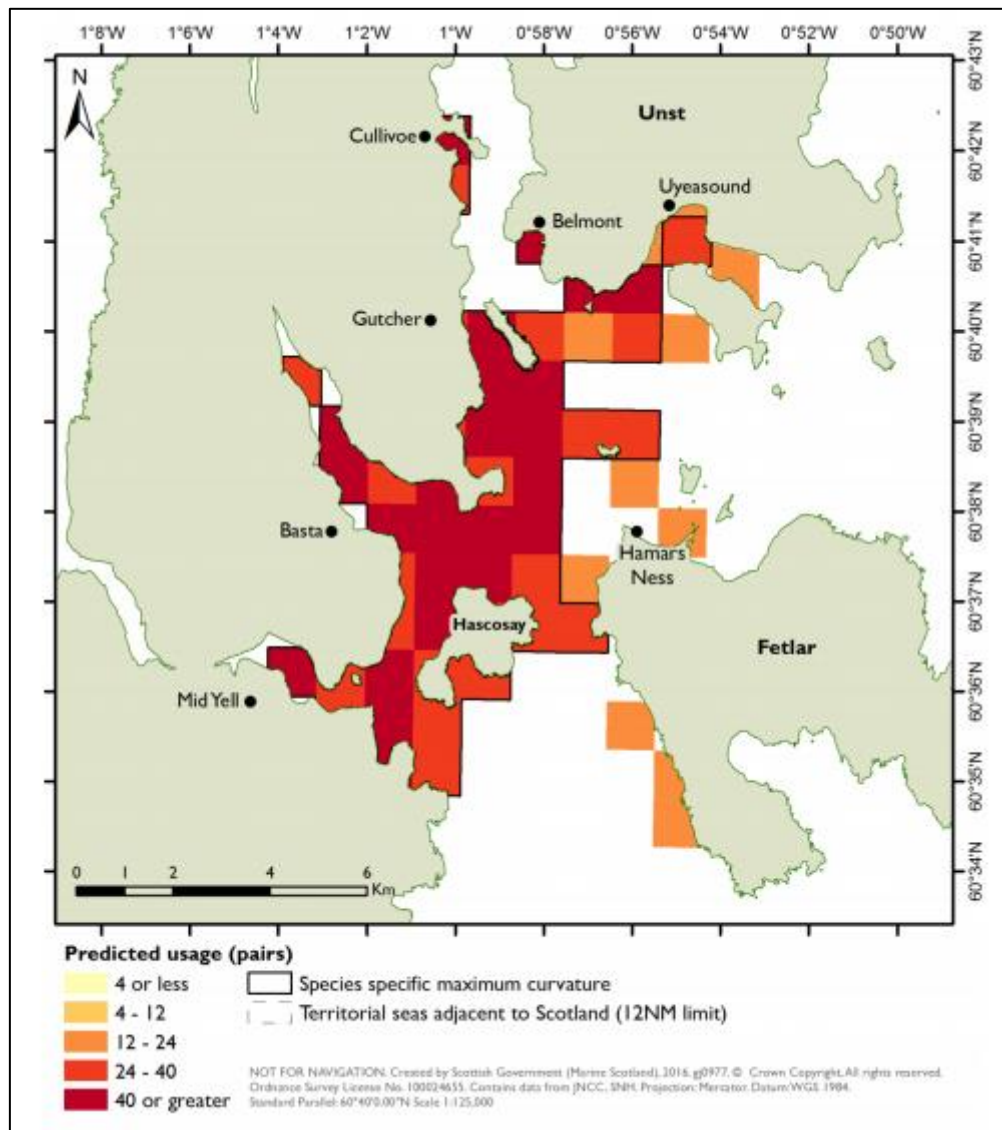


Figure 3.3: Predicated usage (pairs) of red throated diver within the Bluemull and Colgrave Sounds Proposed Special Protection Area

The waters between the islands of Unst, Yell and Fetlar provide important feeding grounds for over 190 pairs (15% of the British population) of breeding red-throated divers. The breeding range of red-throated divers in Great Britain is restricted to Scotland and within Shetland their numbers are particularly high on Unst and Yell. The Bluemull and Colgrave Sounds SPA is proposed because it supports this important breeding population of

red-throated diver. Most red-throated divers leave Shetland waters by mid-September to migrate south for winter.

Red throated divers are listed on the Birds of Critical Concern¹⁵ (BoCC) list as Green.

3.2.5 Fish

There are historic records (~1990) of Atlantic salmon (*Salmo salar*), sea trout (*Salmo trutta*) and European eel (*Anguilla Anguilla*) from the Database for the Atlas of Freshwater Fishes. There is one record of sea lamprey (*Petromyzon marinus*) from 2005 from the National Lamprey Survey of Scotland. All of these fish feature on the UK Biodiversity Action Plan (BAP) as priority species. There are no statutory designated sites in the vicinity that feature fish.

The Burn of Cullivoe provides a migration route from the sea, upstream. Salmon may enter Scotland's rivers at any time of the year; like salmon, the seasonal timing of the return of Sea trout from the sea can also vary. In east coast (Scotland) rivers, Sea trout heading for the upper reaches come in from the sea from April to June.

It is however widely accepted that mature adult European eels migrate to the Sargasso Sea to reproduce, with the juvenile elvers returning to mature within UK Rivers between the months of April and May annually.

Sea lamprey migrate between May and July.

3.2.6 Otter

The otter survey, undertaken by Shetland Nature in December 2019 (as shown in Appendix C) identified seven fresh spraints/sprainting sites, indicating that there is an otter active in the wider landscape. One resting site was identified approximately 50m south of the site boundary, which is assessed as being a couch/lay-up rather than a holt (underground shelter) as it is exposed to the elements. Spraints are often absent from natal holts, therefore the high sprainting activity suggests the resting site is not suitable for breeding.

3.2.7 Intertidal Habitats

There will be a loss of approximately 1.3 ha of intertidal habitat within the footprint of the proposed development. This habitat does not include any Priority Marine Features (PMFs) or any feature of a statutory designated site.

3.2.8 Proposed Development and Potential Impacts

The proposed development is adjacent to the Bluemull Sound. A full description of this area and the proposed development can be found in Sections 2.1 and 2.3. The key elements of the construction and operation of the proposed development that could impact upon the ecological receptors relevant to the site include:

- Loss of inter-tidal habitats;
- Increased sedimentation within the water column as a result of the movement of materials within the marina during construction;
- Pollution from fuels, oils etc. into the marine environment during both construction and operation; and

¹⁵ BoCC list available at: https://www.bto.org/sites/default/files/shared_documents/publications/birds-conservation-concern/birds-of-conservation-concern-4-leaflet.pdf last accessed 21/01/2020 red throated

- Increased vessel numbers during construction and operation causing disturbance and/or collision related injury to marine mammals including otter and red-throated diver.

3.3 Mitigation

3.3.1 Cetaceans and Seals

Underwater noise producing activities such as impact piling, blasting and/or dredging have the potential to cause injury and disturbance to marine mammals, particularly cetaceans. There are currently no plans to undertake underwater noise producing activities during construction, therefore the risk of injury to marine mammals is considered to be negligible. As per Marine Scotland and Joint Nature Conservation Committee (JNCC) guidance^{16,17} there is no requirement to undertake underwater noise modelling and/or design a Marine Mammal Protection Plan and/or include a Marine Mammal Observer (MMO) protocol.

Mitigation to prevent pollution during construction and operation, which has the potential to impact marine mammals both directly and via their prey, will be included in the Construction Environmental Management Plan (CEMP).

The increase in berths within the new marina will be minimal (from ~14 to 33), and the number of vessels required during construction is likely to be low. Therefore it is considered that the increase in vessel movement will cause negligible additional collision risks with marine mammals in the vicinity.

3.3.2 Birds

It has been agreed, between the client, SNH and The Royal Society for the Protection of Birds (RSPB), that the works will be undertaken outside of the key breeding months for red throated diver (June to September inclusive); and that once the development is being used as a marina the existing Cullivoe marina members will move their vessels to the new marina as soon as possible, and no longer use the old Cullivoe marina. These measures will be put in place to mitigate for the potential disturbance to breeding red-throated diver and protect the integrity of the Bluemull and Colgrave Sounds proposed Special Protection Area (SPA). SNH have stated within the Bluemull and Colgrave Sounds pSPA Advice to Support Management report¹⁸ (produced to support initial discussions with stakeholders about potential future management of activities associated with the pSPA) that: *Red-throated divers are sensitive to disturbance associated with vessel movements and show a clear avoidance of areas with high shipping intensity. However, current patterns and levels of vessel movement associated with ports and harbours activities are not anticipated to pose a risk to the conservation objectives.* The increase in berths within the new marina will be minimal (from ~14 to 33), and the number of vessels required during construction is likely to be low. Therefore it is considered that the increase in vessel movement will cause negligible additional disturbance risks to red throated divers.

3.3.3 Fish

During construction, measures will be put in place to prevent pollution of the water environment, such as the installation of a silt boom to minimise the amount of fine sediment put into suspension in the water column. Additionally a banksman would be observing any marine, sediment and material movement including further

¹⁶ JNCC Statutory Nature Conservation Agency Protocol for Minimising the Risk of Injury to Marine Mammals from Piling Noise (2010) available at: http://jncc.defra.gov.uk/pdf/JNCC_Guidelines_Piling%20protocol_August%202010.pdf last accessed 22/01/2020

¹⁷ Marine Scotland Guidance for Scottish inshore waters on the protection of marine European Protected Species from injury and disturbance available at: <https://www2.gov.scot/Topics/marine/marine-environment/species/19887/20813/epsguidance> last accessed 22/01/2020

¹⁸ <https://www.nature.scot/sites/default/files/2017-11/Marine%20Protected%20Area%20%28Proposed%29%20-%20Advice%20to%20Support%20Management%20%20-%20Bluemull%20and%20Colgrave%20Sounds.pdf>

mitigation as required due to changing weather, wave and tidal action. Mitigation to prevent pollution during construction and operation, which has the potential to impact fish species directly and via their prey, will be included in the Construction Environmental Management Plan (CEMP).

Fish species resident to the UK often reside in turbid waters, therefore additional siltation as a result of construction works is unlikely to have a significant impact upon migratory fish species. The works will be undertaken outside of the migratory period of European eel and sea lamprey.

3.3.4 Otter

As otter are known to be active in the wider landscape, and a resting site was identified, a Species Protection Plan (SPP) containing site specific mitigation relating to the results of the otter survey will be produced. This will be implemented during construction and will inform an SNH EPS licence for disturbance. At the least, prior to the commencement of development, a pre-construction otter survey shall be carried out no more than 3 weeks prior to works commencing, the results of which shall be submitted to the Planning Authority for written approval along with any further mitigation measures required to ensure that no otters or their holts are disturbed during the construction of this development.

3.3.5 Inter-tidal Habitats

The habitat that will be lost as a result of the proposed development is not of significance. It is anticipated that habitat will be created via the installation of the rock armour and structures which will provide an increased surface area for colonising species to utilise.

Experiments on cement structures (i.e. breakwaters, sea walls) have been ongoing to determine assess species colonisation on different cement surfaces. Initial findings indicate that rough surfaces are colonised quicker than smooth, and by a more diverse range of species.

There are several ways smooth cement structures can be enhanced that are relatively easy to implement and cost effective, such as:

- Drilling/coring rock pools into rock armour in order to create water-retaining features;
- Scoring grooves and/or drilling holes into rock armour to create a larger surface area and a rough texture for colonising species;
- Millimetre-scale grooves applied manually using a wire brush to concrete during casting/curing, designed to improve the rate of settlement and abundance of barnacles and associated species; and
- Artificial mudflat habitat creation via sheet piling being removed and the replacement defence being set back by ~6 meters with rip-rap toe to create a new mud flat habitat on the banks of tidal rivers.

3.4 Cumulative Effects

Planning application 2018/014/WL (to install two replacement 33kV submarine electricity cables, Point Of Grimsetter (Yell) To Ness Of Wadbister (Unst), Bluemull Sound), as detailed further in Table 10.1, has the potential to provide in combination ecological effects in conjunction with the proposed development. The cable route is situated approximately 2km south of the proposed development and also has the potential to cause disturbance to red throated diver and the integrity of the pSPA.

SNH's consultee response in relation to red throated divers was as follows:

'In terms of the appropriate assessment for the Bluemull and Colgrave Sounds pSPA, SNH has stated that "as the works are to be carried out between October and March, outwith the breeding season for redbreasted divers, there is no risk of disturbance, displacement or mortality of breeding divers resulting'

As the proposed development will also implement such mitigation measures, it is considered there will be no cumulative effects as a result of the proposed development.

3.5 Likely Significant Effects

It is considered that there will be sufficient mitigation designed into the proposed development in order to reduce the risks on the above ecological receptors to tolerable levels. Therefore it is considered that a full EIA will not be required on grounds of significant effects upon ecological receptors.

4 WATER ENVIRONMENT AND COASTAL PROCESSES

4.1 Context

This report provides a review of the water environment and existing coastal processes at the site, and an appraisal of the likely implications of the proposed development. For the purposes of this review the water environment is considered to be the coastal waters of the Bluemull Sound and coastal processes are considered to encompass tides, waves and associated sediment transport. This desk based review draws upon the following existing assessments and key published reports, in addition to other relevant opensource datasets:

- Shetlands Islands Wave and Tidal Resource¹⁹
- Yell – Unst Marine Licence Application²⁰ - Xodus Projects
- Coastal Cells in Scotland: Cell 11 – Shetland²¹
- Marine Scotland Online Mapping²².

The terrestrial elements of the proposed development were granted planning permission by Shetland Council in February 2019 (as discussed in Section 2), and a summary of the relevant consultation responses received relating to the proposed development are detailed in Table 4.1 Consultation Responses. A full record of consultation responses is included within Appendix A.

Table 4.1 Consultation Responses

Consultee	Response	Comments
SEPA	Cullivoe is a Shellfish Water Protected Area and this would influence the approach to discharges from the development. SEPA would not allow discharge of chemical waste water which would require a suitable storage facility and disposal arrangement.	Mitigation measures to reduce the potential for pollution will be detailed in the CEMP. No chemical discharges are proposed and surface water runoff will be managed in line with SuDS principles as detailed in the Construction Method Statement (CMS).
Shetlands Islands Council (SIC) – Flooding, Drainage & Coastal	The proposed development is below the full 1 in 200 year coastal flood level, however the proposal does not include any infrastructure that would be vulnerable to coastal flooding.	As noted in the consultation response, the proposed development is considered to be water compatible under SEPA's land use vulnerability guidance.
SNH	Highlight that the proposed development is partly within Bluemull and Colgrave Sounds proposed Special Protection Area (pSPA). The regulatory authorities can only give consent if it can be demonstrated the development will not have an adverse effect on the pSPA.	The impact of the proposed development on the pSPA is discussed in Section 3. Mitigation measures to reduce the potential for pollution will be detailed in the CEMP.

¹⁹ Natural Power (2011)

²⁰ Planning Application 2018/014/WL; Shetland Islands Council

²¹ Ramsay, D.L. & Brampton, A.H., (2000)

²² Scottish Government, accessed in January 2020

A number of conditions were attached to the terrestrial consent in order to protect the water environment. The primary condition relating to the water environment is detailed below:

'(4) No development shall take place until a full site specific Construction Environmental Management Plan (CEMP) has been submitted to and approved in writing by the Planning Authority in consultation with SNH. The CEMP shall address all phases of the development and shall include, yet is not limited to, the following:

- Mitigation measures to be implemented to ensure the release of sediment and other pollutants entering into the water column and marine environment are minimised during the construction phase of the development to safeguard the integrity of the pSPA.*
- Details of any proposed blasting and/or concrete batching on site and associated mitigation measures proposed to safeguard the surrounding environment;*
- Measures to be undertaken to ensure that mud, silt or other loose material is not trafficked onto the public road as a result of the development.*

Thereafter the approved CEMP shall be implemented in full by the developer unless otherwise approved.'

4.2 Baseline

4.2.1 Site Description

The site is located on the eastern shores of Yell on the Bluemull Sound, to the south of the Ness of Cullivoe headland. The proposed development is located approximately 66m south of the existing Cullivoe Harbour which was constructed in 1991. Review of aerial photography and available mapping shows the coastline in the vicinity of the site to be generally hard in nature with a mixture of shingle beaches, engineered structures and an existing harbour. The existing harbour breakwater is oriented roughly west to east, north of the proposed development. The site location and proposed development are shown in Figures 1 and 2 within Appendix B of this document.

A full description of this area and the project can be found in Sections 2.1 and 2.3.

The key elements of the construction and operation of the proposed development that could impact upon the water environment receptors relevant to the site include:

- Increased sedimentation within the water column as a result of the movement of materials within the marina during construction, dredging and construction of the breakwater;
- Modification of existing coastal processes: and
- Pollution from fuels, oils etc. into the marine environment.

The sensitive receptors to potential impacts on the water environment and coastal processes from the proposed development have been identified as:

- The coastal waters of the Bluemull Sound; and
- Bluemull and Colgrave Sounds proposed Special Protection Area (pSPA) designated for their ornithological interest.

4.2.2 Tidal Levels

The astronomical tidal range for Cullivoe is shown in Table 4.2.

Table 4.2 Tidal Levels

Tide Condition	Chart Datum (mCD)*	Ordnance Datum (mOD)**
Highest astronomical tide (HAT)	2.8	1.43
Mean high water springs (MHWS)	2.4	1.03
Mean high water neaps (MHWN)	1.9	0.53
Mean sea level (MSL)	1.48	0.11
Mean low water neaps (MLWN)	1.1	-0.27
Mean low water springs (MLWS)	0.6	0.77
Chart Datum (CD)	0	-1.37

*Admiralty Tide Tables (UKHO, 2019)

**Chart Datum correction for Ordnance Datum is -1.37 (relative to OD at Newlyn)

4.2.3 Tidal Currents and Waves

The main flood tidal stream flows to the south on the east coast of Shetland and ebb tides flow to the north. Tidal streams are typically less than 0.25 ms/s in velocity however it is noted that velocities within the Bluemull Sound are greater (Ramsay & Brampton, 2000). Hydrodynamic model results for Bluemull Sound indicate that maximum tidal velocities in the vicinity of the proposed development may range between 0.2 to 1.0m/s, whilst in the deeper waters towards Unst maximum velocities may be in excess of 2.0m/s (Natural Power, 2011).

The offshore wave climate to the east of the Shetland Islands is dominated by waves from two sectors, between 120°N and 240°N and between 340°N and 40°N (Ramsay & Brampton, 2000). It is not possible to generalise on inshore wave conditions due to the natural geographic variation (Ramsay & Brampton, 2000). Wave modelling previously undertaken for the Shetland Islands Council indicates that mean annual wave heights in the vicinity of the proposed development may range between 0.2 and 0.6m, with larger wave heights generally occurring during winter months (Natural Power, 2011).

The presence of the existing harbour breakwater to the north of the site is likely to influence the wave climate within the vicinity of the proposed development.

4.2.4 Bathymetry and Sediment Transport

Review of available bathymetry data on the Marine Scotland website (Scottish Government, 2019) shows depths increasing to approximately -5m at the outer arm of the existing harbour breakwater and increasing to a depth of -38m in the centre of the Bluemull Sound. Bathymetric surveys were undertaken as part of the cable route assessment in 2018 (Xodus, 2018) which did not include the site. The study was undertaken in relation to a marine licence application by Scottish Hydro Electric Power Distribution plc for a Yell to Unst cable route and involved an appraisal of seabed conditions within the Bluemull Sound, determining a lack of seabed sediment and bedrock present at the seabed. Review of the Marine Scotland online mapping (Scottish Government, 2019) also indicates seabed sediment to be absent in the vicinity of the proposed development.

Due to the nature of the seabed substrate in the vicinity of the development site, and the lack of fine sediment, it is not anticipated that there are significant local active sediment transport processes.

4.2.5 Flooding

A review of Ordnance survey mapping indicates that there are no fresh-water inflows to the site, and no watercourses in the immediate vicinity, the SEPA flood maps do not show the site to be at risk of surface water or fluvial flooding.

SEPA flood mapping shows that the site is at High risk of coastal flooding representing a 10% Annual Exceedance Probability (AEP) of coastal flooding, whilst the Flooding, Drainage and Coastal team at the Shetland Islands Council (SIC) – hereby referred to as the Council - highlight that the 0.5% AEP coastal flood level is 4.43mCD (Cullivoe) in comparison to the proposed hardstanding level of 4.0mCD with the peak of the breakwater armour at 4.9mCD.

4.3 Mitigation

No mitigation, other than good practice measures and the use of a CEMP during the construction phase is required for this site. The terrestrial conditions attached to the consent for the development of the project will ensure these measures are in place, and these will ensure there will be no significant impacts on the water environment during construction, and further into operation.

4.4 Cumulative Effects

It is not predicted that there will be any cumulative effects in regard to the water environment for this proposed development. The larger breakwater to the north of the site will help protect the proposed development in terms of tidal currents, wave climate and sediment transport. The proposed development will also not impact upon any foreseeable projects as described in Table 10.1.

4.5 Likely Significant Effects

Tidal Currents

The proposed development is to be located directly south of the existing, larger, harbour breakwater. Given that the predominant tidal flows are to the north and south it is considered that there will be no significant impact to tidal currents from the smaller proposed development.

Wave Climate

Due to the position of the site within the Bluemull Sound with the shore to the west and the larger existing harbour breakwater and Ness of Cullivoe to the north it is not anticipated that any significant impacts on wave climate will arise from the proposed development.

Sediment Transport

Given the presence of existing larger structures in the vicinity, the lack of predicted significant impact on tidal currents and wave climate, along with the absence of fine sediment and significant sediment transport processes, as detailed in section 4.2.4, no significant impacts on sediment transport are predicted.

Flood Risk

Given the water compatible nature of the proposed development it is considered suitable for development within this zone of flood risk as detailed within the Council's Flooding, Drainage and Coastal teams consultation response (see Table 4.1).

Sensitive Receptors

Sensitive receptors identified in section 4.2.1 have the potential to be impacted by the proposed development. As discussed above, no significant impacts on coastal processes are anticipated to result from the

proposed development. Therefore, no significant impacts are anticipated on sensitive receptors as a result of changes to coastal processes.

The construction of the proposed development has the potential to generate pollutants with potential to impact water quality. It is considered that best practice will be implemented during the construction phase, with control measures being applied through a CEMP to minimise the risk of pollution of the water environment.

As such, with the implementation of appropriate mitigation it is considered that the potential impact to the water environment and coastal processes would not constitute grounds for an EIA to be carried out.

5 LANDSCAPE AND VISUAL

5.1 Context

The primary purpose of this exercise is to undertake a sufficient level of assessment to identify any environmental effects of the proposed development associated with landscape and visual resources of the site and surrounding area, which could be significant and which should, therefore, be taken forward for more detailed assessment.

5.2 Baseline

5.2.1 Desktop Information

The area surrounding the proposed development is predominantly marine to the east and south, with the land immediately to the north being used for industrial purposes. The surrounding topography is relatively flat and is limited to land-based views to the north, west and south. The proposed development would be visible from the water to the east.

The business park is consented for expansion, with five spaces for caravans.

Potential receptors of the proposed development include the commercial users of the business park. The nearest existing residential receptor lies 225m to the north.

Transient receptors will include those who use the water for travel/commercial fishing purposes – these users would also have access to the proposed development.

The nearest landscape designation to the proposed development is the Belmont House Garden and Designed Landscape, which is listed as High Scenic Interest, approximately 1.7km from the proposed development.

There are no National Scenic Areas within 10km of the proposed development.

The Coastal Character Assessment (CCA) of the Shetland Islands (2017)²³ was carried out by the North Atlantic Fisheries College (NAFC) Marine Centre with guidance from Scottish Natural Heritage (SNH) as part of ongoing development of the Shetland Island's Marine Spatial Plan (SIMSP). This aimed to gather information about the various coastal types across the islands.

The proposed development is located within a Low Rocky Shore environment, facing out onto Developed Island Sound. The Low Rocky Shore is described as '*A stretch of coastline that is exposed to the severe storms Shetland is subjected to. Common occurrence to find some large rocks thrown far inland.*' The Developed Island Sound is described as '*Stretch of water between two islands or an island and the mainland which has an onshore settlement and/or aquaculture development*'.

²³<https://www.nafc.uhi.ac.uk/t4-media/one-web/nafc/research/document/marine-spatial-planning/scca/shetlandcoastalcharacterassessmentsummary.pdf> Last accessed January 2020.

5.3 Mitigation

It is not anticipated that any mitigation is required in terms of landscape and visual for the proposed development, as there are few visual receptors and the nature of the development does not lend itself to visual mitigation.

5.4 Cumulative Effects

The proposed development will be screened by the business park for the nearest visual receptor. Additionally, from Belmont House, the proposed development will have a backdrop of the business park, so again will not impact viewpoints.

5.5 Likely Significant Effects

The residential property 225m north to the site currently have a view of the existing marina. The intention is the existing marina will no longer be used once the proposed development is in operation. Given the relatively flat topography of the land, as well as the intervening business park screening the proposed development from view, it is not predicted the proposed development will have a significant visual impact.

Belmont House is located approximately 1.7km across the Sound to the south-east of the proposed development. Given the visual break of the water in-between the designed landscape and the proposed development, as well as the existing view of the business park that exists, it is unlikely this will have any perceived significant impact.

As there are no visual significant impacts predicted, an EIA is not required.

The proposed development will not directly or indirectly impact upon any designated landscapes and no significant effects are predicted, therefore does not merit an EIA to be carried out.

6 NOISE

6.1 Context

The primary purpose of this section is to assess whether any significant adverse environmental effects will arise within the site and surrounding as a result of the proposed development.

6.2 Baseline

6.2.1 Desktop Information

A desktop study was undertaken to gain a baseline understanding of noise generation on the site. The site is located within a developed area – given the proximity to the business park. The area surrounding the proposed development is predominantly marine to the east and south, with the land immediately to the north being used for industrial purposes. The surrounding topography is relatively flat and is limited to land-based views to the north, west and south. The proposed development would be visible from the Sound to the east.

6.3 Mitigation

The CEMP will outline best practice guidelines for reducing noise during the construction phase, including specified working hours. No mitigation is required for the operational phase of the proposed development as there are no discernible increases in noise levels.

6.4 Cumulative Effects

The proposed development has the potential to cumulatively increase noise during the construction phase, if works are carried out in conjunction with construction works predicted within the business park (Shetland Islands Planning Reference 2018/331/PPF). As the extension of the business park is intrinsically linked to the extension of the pier/road for the terrestrial elements of the proposed development, it is expected a works programme will be developed to reduce cumulative impacts.

6.5 Likely Significant Effects

There is the potential for noise to be generated by the proposed development during the construction and operational phases to impact on surrounding noise sensitive receptors.

The closest noise sensitive receptors are located within the business park, approximately 200m to the north.

Certain construction activities have the potential to impact upon existing and proposed noise sensitive receptors. The assessment of construction noise requires detailed information on activities, items of plant, locations, operating times etc. At present, the construction methodology does not include any piling works, which will help mitigate against noisy construction activities. Timing of works will be considered in line with works within the business park (as described in Section 6.4), to help prevent cumulative noise impacts, and with best practice guidelines followed within the CEMP, it is predicted that construction activities will not have a significant impact on noise sensitive receptors, and therefore does not require an EIA to be undertaken.

It is anticipated that boats currently moored at the existing marina to the north will move to the new proposed development. Given the proximity to the existing marina, and the similar usage predicted, it is not predicted the operation of the proposed development will increase noise generation significantly, and therefore does not require an EIA to be undertaken.

7 AIR QUALITY

7.1 Context

The development has the potential to impact local air quality in a number of ways with the key issues in relation to air quality being traffic emissions from the local road network both surrounding and accessing the site and dust emissions during the construction phase.

7.2 Baseline

7.2.1 Desktop Information

In order to inform the screening request a, 1km background air quality concentration maps were obtained from the Scottish Air Quality²⁴ and DEFRA²⁵ websites. The 2020 measured annual average concentrations of NO₂²⁶, PM₁₀²⁷ and PM_{2.5} are 2.25µg/m³, 5.57µg/m³ and 3.29µg/m³ respectively for background square (454500, 1201500). This indicates the good air quality within the area of the site with the concentrations well below the relevant National Air Quality Objectives of 40µg/m³, 18µg/m³ and 10µg/m³ respectively.

There are no Air Quality Management Areas in effect at the site.

7.3 Mitigation

Other than following best practice guidelines which will be included within the CEMP, no further mitigation is required for the site.

7.4 Cumulative Effects

The proposed development has the potential to cumulatively impact air quality during the construction phase, if works are carried out in conjunction with construction works predicted within the business park (Shetland Islands Planning Reference 2018/331/PPF). As the extension of the business park is intrinsically linked to the extension of the pier/road for the terrestrial elements of the proposed development, it is expected a works programme will be developed to reduce cumulative impacts.

7.5 Likely Significant Effects

Potential exists for an increase in traffic in the vicinity of the surrounding road network and in turn increases in the pollutants NO₂, PM₁₀ and PM_{2.5} which are most commonly associated with traffic emissions. It is estimated that the development will not lead to a significant increase in road traffic on the surrounding roads. Additionally, increasing the berth numbers from 14 to an expected 34 berths will not increase emissions – it is expected that the vast majority of these will be pleasure boats and small commercial fishing vessels. Further to

²⁴ <http://www.scottishairquality.scot/data/mapping?view=data>

²⁵ <https://uk-air.defra.gov.uk/data/laqm-background-maps?year=2017>

²⁶ Nitrogen dioxide, in high levels, has the potential to inflame airways in human lungs and over time, how well lungs work. The higher the concentrations, the larger the potential impact on air quality.

²⁷ PM; Particulate Matter is classified according to its size. PM₁₀ is a concentration of particles that are less or equal to 10 µm in diameter. PM_{2.5} described the concentration of particles that are less than or equal to 2.5 µm in diameter. These particles have the potential to cause serious health problems to those suffering pre-existing lung or heart conditions. It is preferable these concentrations are as low as possible to minimise risk.

this, with data indicating that air quality is good in the vicinity of the site (as this is not within an AQMA) it is anticipated that any increase in exhaust emissions would have a negligible effect on air quality at sensitive receptors.

Potential exists for certain construction activities to generate dust and impact existing residents. Impacts can arise at various construction phases including preparatory earthworks, general construction and have the potential to cause dust soiling, human health and ecological impacts if not managed appropriately. CEMP) will be in place during the construction phase of the works, which will include best practice methodology to ensure any construction effects are mitigated against as far practicable. There are no predicted air quality effects predicted during the operational phase of the proposed development.

It is considered no significant environmental impacts will arise in regards to air quality, and an EIA will not be required.

8 CULTURAL HERITAGE AND ARCHAEOLOGY

8.1 Context

The primary purpose of this section is to undertake a sufficient level of assessment to identify any environmental effects of the project associated with the marine-based Cultural Heritage and Archaeology of the site and surrounding area, which could be significant and which should, therefore, be taken forward for more detailed assessment.

8.2 Baseline

8.2.1 Desktop Information

The area surrounding the proposed development is predominantly marine, with the land immediately to the north being used for industrial purposes. The surrounding topography is relatively flat and is limited to land-based views to the north, west and south. The proposed development would be visible from the water to the east. As such, a 500m survey area was considered appropriate when considering potential impacts.

There are no Scheduled Monuments, Garden & Designed Landscapes, Conservation Areas, Battlefield sites, World Heritage Sites or Historic Marine Protected Areas.

The following marine-based heritage assets are found within 500m of the proposed development:

Table 8.1 - Heritage Assets Within 500m of the Proposed Development

HES/HER Reference	Category	NGR	Description
290396	-	HP 55008 01996	Unknown: Atlantic (Canmore)
174694	-	HP 54785 02099	Yell, Cullivoe, Pier (Canmore)

8.3 Mitigation

No mitigation is required to protect the marine-based historical assets; no heritage features are within the red line boundary of the site, and given the nature of the proposed development, it is not predicted to affect any assets outwith the red line boundary either (directly or indirectly).

8.4 Cumulative Effects

No cumulative effects on marine-based heritage features are expected during the construction and operational phases of the proposed development.

8.5 Likely Significant Effects

It is considered there will be no significant impacts on marine-based cultural heritage assets and therefore will not require an EIA.

9 TRAFFIC AND TRANSPORT

9.1 Context

A desktop study was undertaken using information pertaining to the terrestrial elements of the proposed development which has been granted planning consent, subject to conditions. As this proposal is intrinsically linked to the terrestrial elements, the data obtained remains valid. This section is included to provide context given the proposed development has already been granted terrestrial planning consent.

9.2 Baseline

9.2.1 Desktop Information

At present, the proposed development would be accessed via the Existing Business Parkway Road, which connects to the B9082 north-west. The Existing Business Parkway Road is to be extended towards the proposed bund as part of the approved development (Shetland Islands Council, Planning Reference 2018/330/PPF).

There is currently a planning application in place, decision pending, with the Shetland Islands Council (Planning Reference 2019/358/VCON) which proposes either road improvement works to road B9082 Cullivoe Road including link road to Cullivoe Pier or proposal to transport material or plant to Cullivoe Pier by sea, both for construction phase of approved development – the approved development being the terrestrial elements of the proposed development.

9.3 Mitigation

Mitigation has formed part of the planning permission granted to the terrestrial elements. No mitigation is expected as part of the expected increase in boat traffic in and around the proposed development.

9.4 Cumulative Effects

As the terrestrial planning consent is intrinsically linked to the development of the business park, road traffic data has been considered for both cumulatively. Boat traffic will not have any cumulative effects – the existing marina will be closed and all boats currently berthed will be moved to the proposed development once operational.

9.5 Likely Significant Effects

It is currently envisioned that the bulk of material required for the proposed development will arise from a nearby development (extension to business park, Shetland Islands Planning Reference 2018/331/PPF). This business park is adjacent to the proposed development therefore it is not predicted that there will be any increase in construction traffic on public roads. The quantity of excavated material is expected to balance with the volume required for infilling for this proposed development, so no waste is expected to arise.

There will be a requirement for rock armouring to be imported to site – for primary armour, this is predicted to be 6431 tonnes required (for 2625m³). A 15t load can be transported at a time, so would require 429 truck

journeys. It is estimated a single truck can do 10-12 loads per day, taking 40 days/8 working weeks during the construction phase.

For the secondary armour, up to 2450t would be required (for 1000m³). A 15t load would require 163 truck loads. This would require 15 days during the construction phase.

Delivery of construction plant at the beginning of the works will also be required.

Consultation with the Shetland Islands Council has put in place Planning Condition:

“No development shall take place until a suitable proposal has been put in place by the developer which has been agreed in writing by the Planning Authority in relation to: a proposal for road improvement works to a section of the B9082 Cullivoe Road from the junction of the A968 Gutcher crossroads (Point A) to the junction with the Cullivoe Pier (Point B) including the link road into the Cullivoe Pier (Point C) to access the site (as identified in plan reference 2018/330/PPF-SIC-001 attached to this permission); and liability for the repair and maintenance of those parts of the road network that are likely to suffer significant and identifiable wear, loading and other impacts during the construction phase of the development.”

In regard to boat traffic, berths at the existing marina will no longer be functional once the proposed development is operational. This will increase the berths within the area from 14 to an estimated 34. It is expected these berths will largely be used by small pleasure boats and commercial fishing and tourism boats – which will not have a significant impact on the environment.

Once the terrestrial condition has been fulfilled, no significant environment effects are predicted and therefore does not constitute an EIA.

10 CUMULATIVE EFFECTS

10.1 Context

Cumulative effects can be described as impacts that arise from incremental changes caused by past, present and reasonably foreseeable projects, which will have a detrimental impact on the environment.

10.2 Baseline

10.2.1 Desktop Information

A desktop study was undertaken to look at current environmental conditions at the proposed development and any foreseeable projects which may impact this development.

A review of the Shetland Islands Council Planning Portal, at the site and adjacent proposals showed the following planning applications within the last 2 years:

Table 10.1 - Planning Applications within the Locality of the Proposed Development

Project	Planning Reference Number	Decision
New 5 pitch Caravan Site, including amenity building, plus an extension to existing Cullivoe Pier Business Park to provide 10 plots for Class 4 & 5 use	2018/331/PPF	Granted subject to conditions
Proposed variation of Condition 3 of Planning Permission 2018/331/PPF, to enable the developer to put forward proposal for either road improvement works to road B9082 Cullivoe Road including link road to Cullivoe Pier or proposal to transport material or plant to Cullivoe Pier by sea, both for construction phase of approved development	2019/358/VCON	Pending Consideration
Proposed variation of Condition 3 of Planning Permission 2018/330/PPF, to enable the developer to put forward proposal for either road improvement works to road B9082 Cullivoe Road including link road to Cullivoe Pier or proposal to transport material or plant to Cullivoe Pier by sea, both for construction phase of approved development	2019/359/VCON	Pending Consideration
To construct a new marina to the south of the existing, this involves construction of a 210m long breakwater arm and approx. 125m of reclamation along the foreshore, providing shelter to eight 10m long marina pontoon units which would provide approx. 34 berths ²⁸	2018/330/PPF	Granted subject to conditions
To vary an existing works licence 2018/002/WL by changing condition number 12 by changing the distance allowed to deploy turbines of the array from existing cables from 250m to 200m	2018/021/WL	Granted subject to conditions

²⁸ This is the terrestrial planning application related to this proposed development

Project	Planning Reference Number	Decision
To vary existing works licence 2016/025/WL for a subsea tidal array by increasing number of turbine devices from five to six, provision to relocate three of the devices within the approved mooring containment area after a period of operation, provision to deploy a subsea electrical hub, associated sensor equipment and additional cabling, and to extend the expiry date of the licence by an additional three years	2018/002/WL	Superseded
To install two replacement 33kV submarine electricity cables Point Of Grimsetter (Yell) To Ness Of Wadbister (Unst), Bluemull Sound	2018/014/WL	Granted subject to conditions
Installation of a public electric vehicle charge point and shelter, and includes an additional cable to be laid at the same time for a potential connection of the pier electricity supply.	2019/285/PPF	Granted subject to conditions
Siting of larger GRP housing with additional subsea cables	2019/355/PPF	Pending Consideration
To construct a new marina with breakwater ²⁹	2018/026/WL	Granted subject to conditions

10.3 Likely Significant Effects

Planning Reference 2018/331/PPF, the extension to the business park, is linked to the construction of this proposed development. It is predicted that excavated material from this development can be used to form the bund elements of this proposed development, thus reducing the impact of increased traffic on local public roads. This is further discussed in Section 9.5 of this document.

Taking into consideration the currently foreseeable planning applications (those that have been granted planning consent), no significant cumulative environmental impacts are predicted between the proposed development and those developments.

²⁹ Works license related to the Planning Application 2018/330/PPF

11 CONCLUSIONS

The terrestrial elements of the proposed development have been granted planning consent, with conditions in place to ensure there are no significant effects on the environment. Through using consultation responses received during the planning process, desk-based assessments of the site, and an otter survey undertaken by Shetland Nature, and with potential mitigation outlined (where appropriate), it is not predicted there will be any significant environmental effects in regard to the topics outlined within this report and therefore we conclude that an EIA will not be required.

APPENDICES

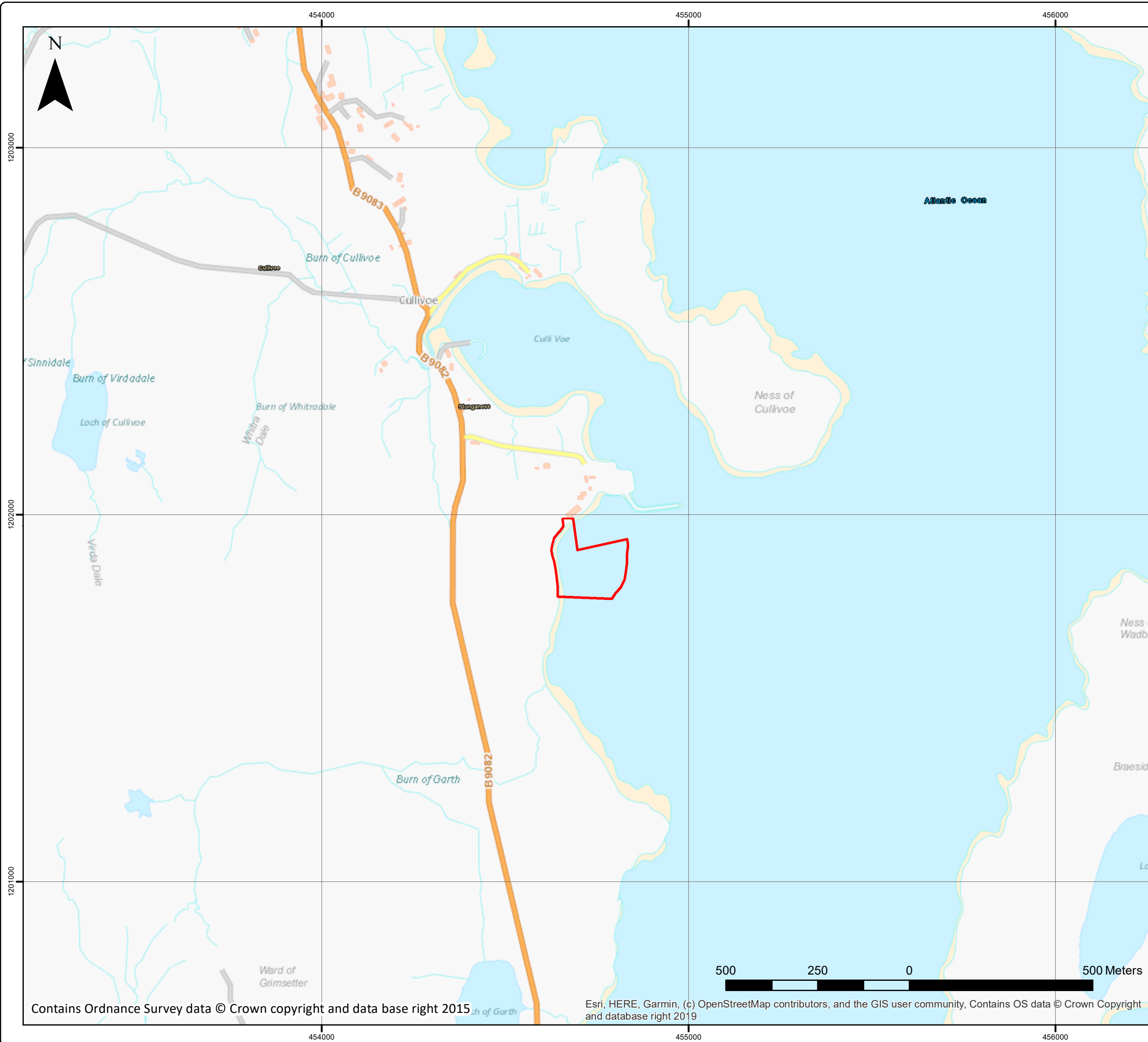
A CONSULTATION RESPONSES

As discussed in Section 1, the following consultation responses have been received in relation to the terrestrial elements of the proposed development, prior to being granted (terrestrial) planning consent

Table A - Consultation Responses in Relation to the Works Licence and Planning Application for the Terrestrial Elements

Consultation Body	Date	Response
Scottish Natural Heritage (Nature.Scot)	18.12.2018	Progress with mitigation and undertake an Appropriate Assessment with reference to breeding red-throated divers of Bluemill and Colgrave Sounds pSPA.
	21.02.2019	Do not object, with specific conditions outlined.
SEPA	20.12.2018	Object to Works Licence through lack of information.
	22.01.2019	Removal of objection as further information received.
RSPB	22.01.2019	Object
	29.01.2019	Require assurances that the existing marina will cease operation once new marina constructed
Scottish Hydro Electric Power Distribution (SHEPD)	20.12.2018	Objection to proposal.
	14.02.2019	Objection removed if SHEPD agree their interests are not impacted upon by the development.
Northern Lights Board (NLB)	13.12.2018	No objections.
Marina Users Association	25.01.2019	No objections.
The Roads Service	Ongoing	Linked to Planning Permission 3 of conditions.

B FIGURES



Legend

Application Boundary

Do not scale this map

Client
Arch Henderson on behalf of North Yell Development Council

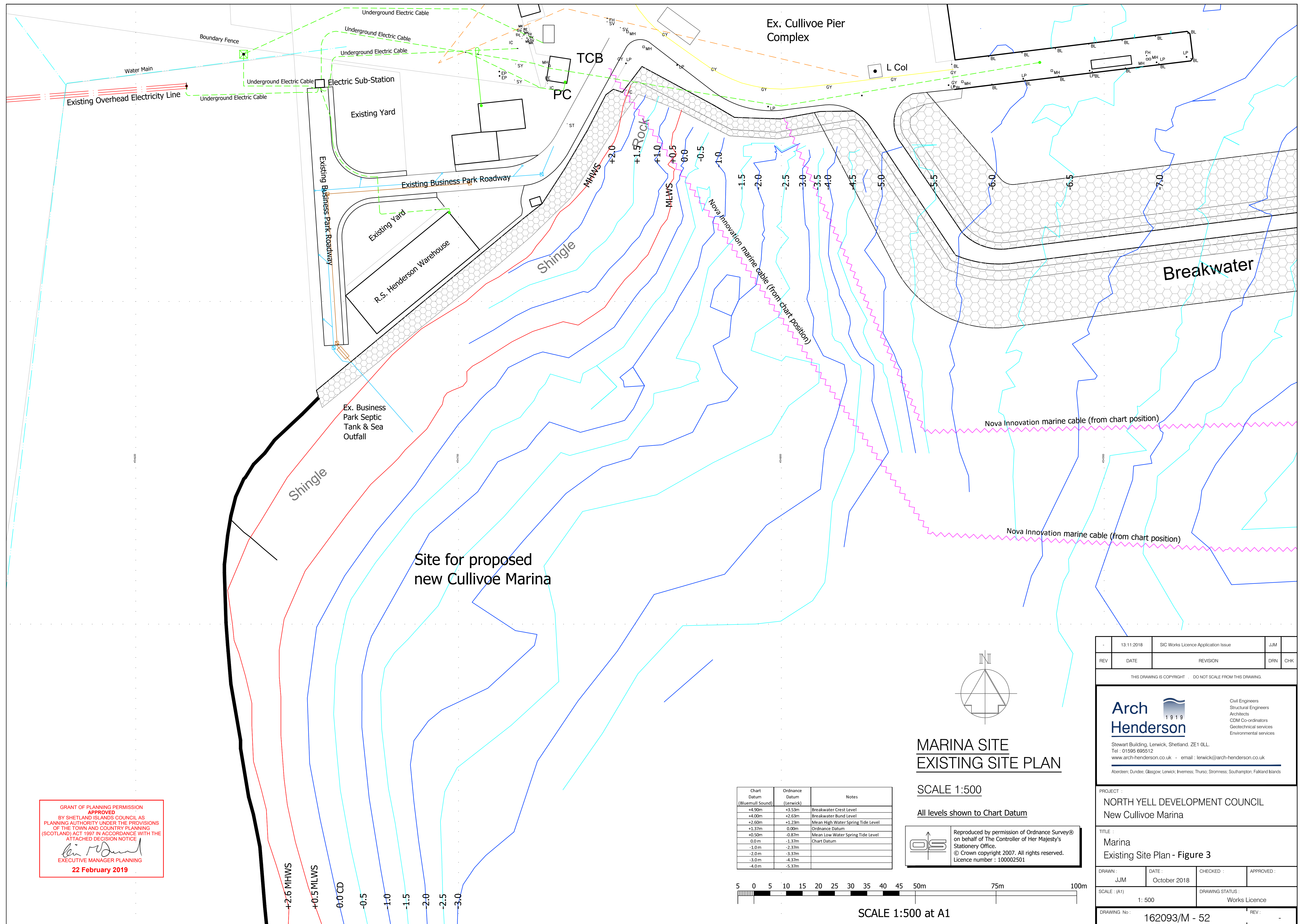
Project
New Cullivoe Marina

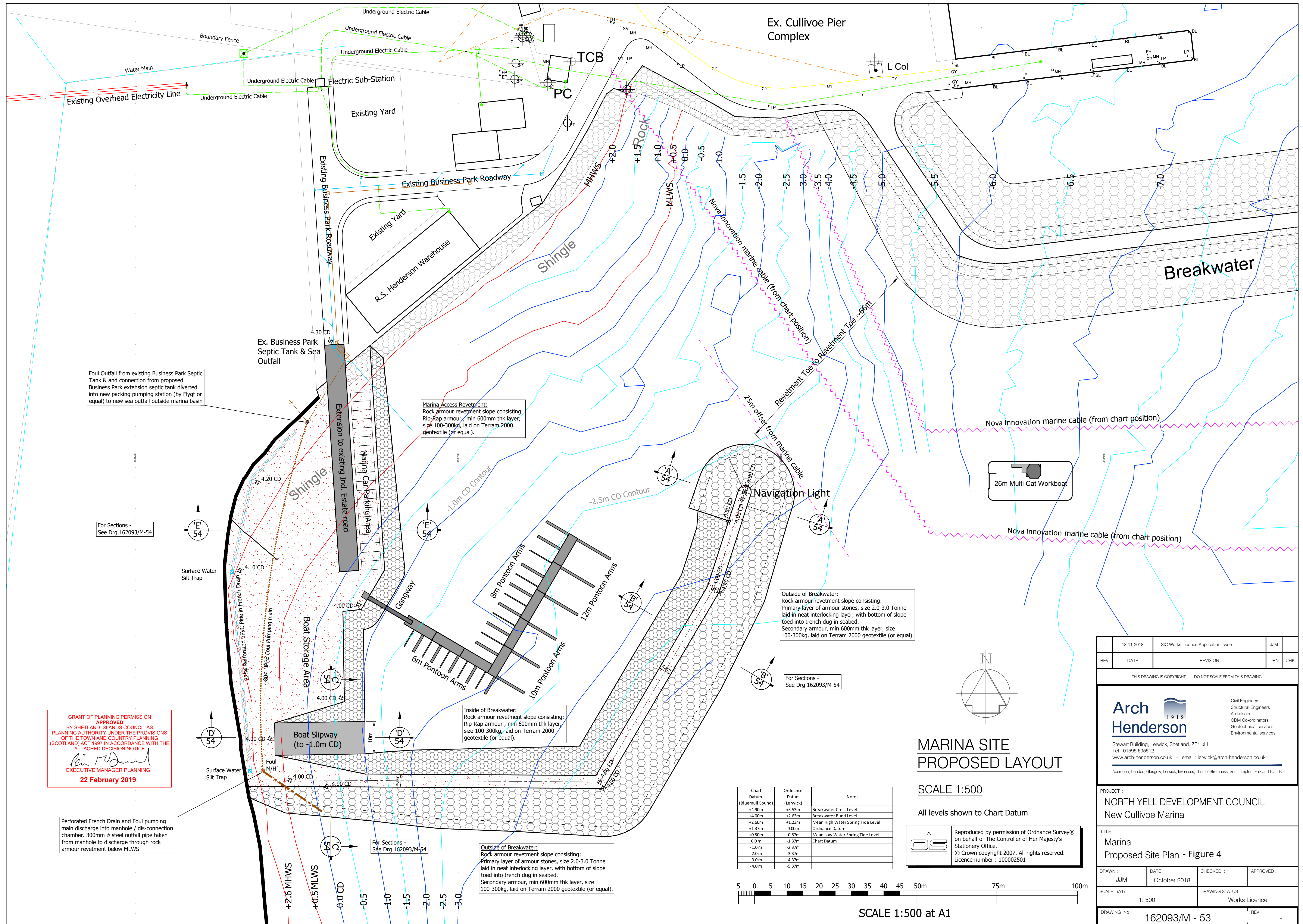
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Site Location - Figure 1

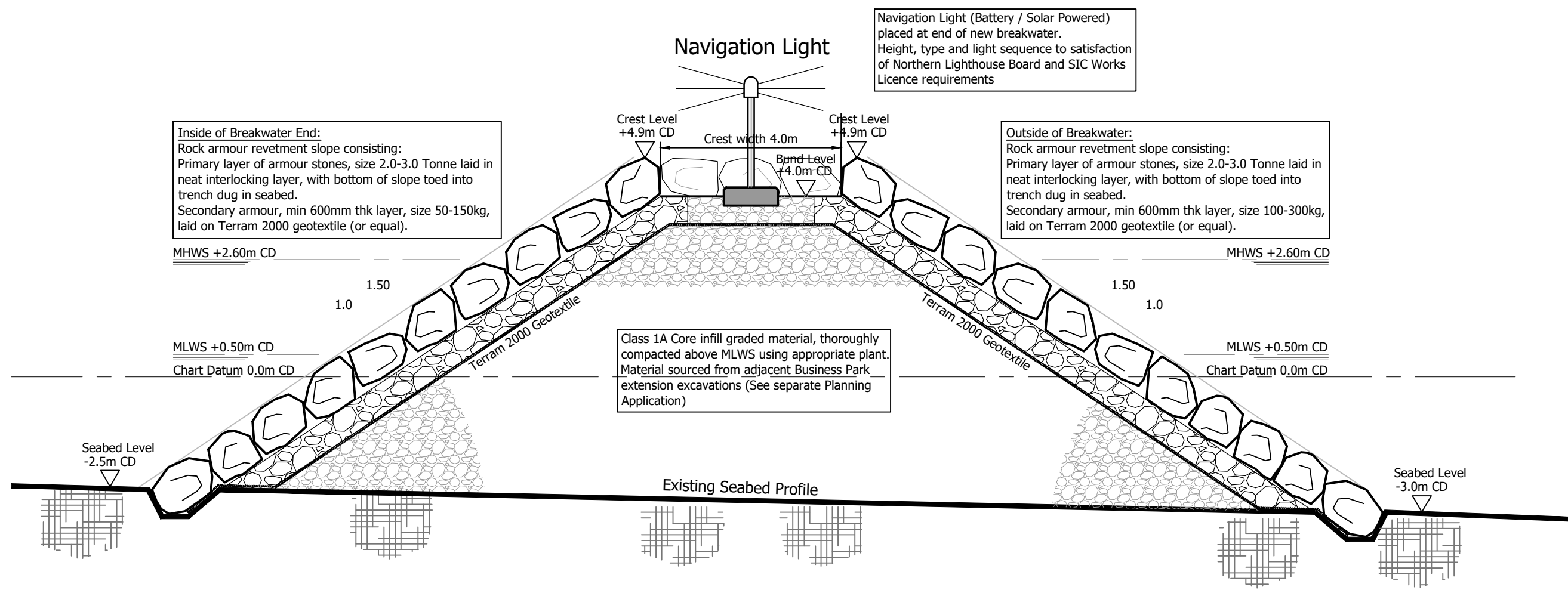
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Scale	A3	Date
1:10,000		28 Jan 2020
Drawn	Checked	Approved
SWM	EQ	CP

Craighall Business
Park, Eagle Street,
Glasgow, G4 9XA
Tel: 0141 341 5040
Fax: 0141 341 5045

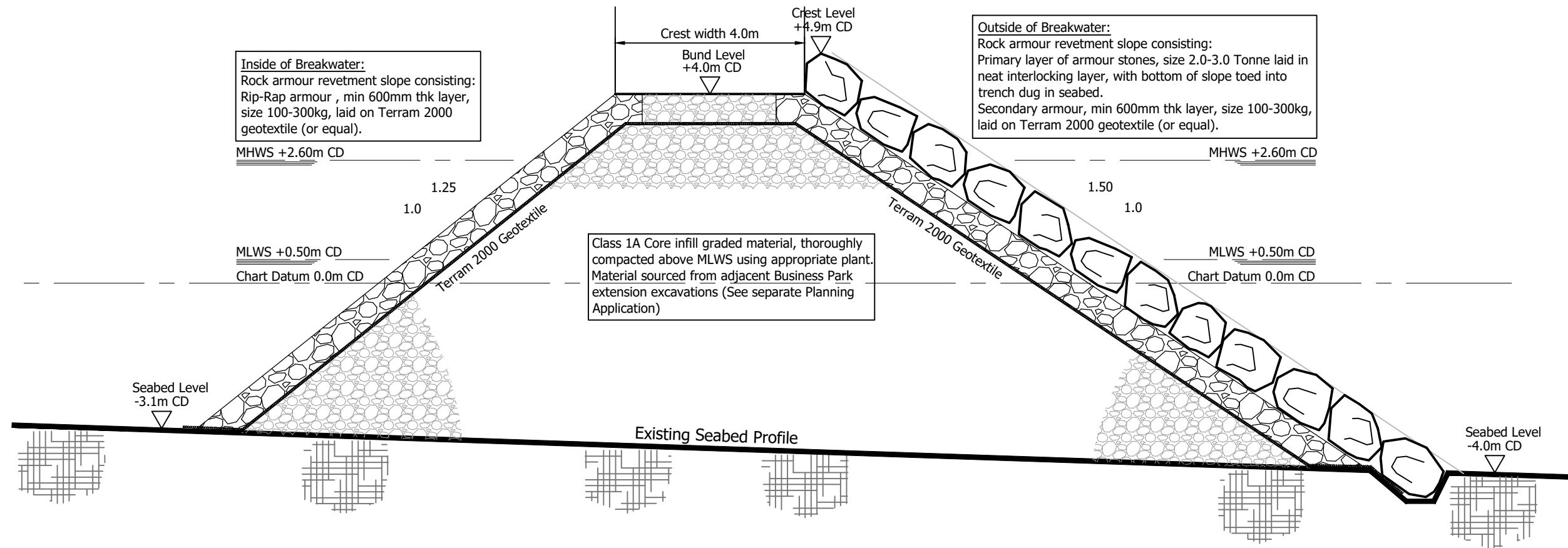






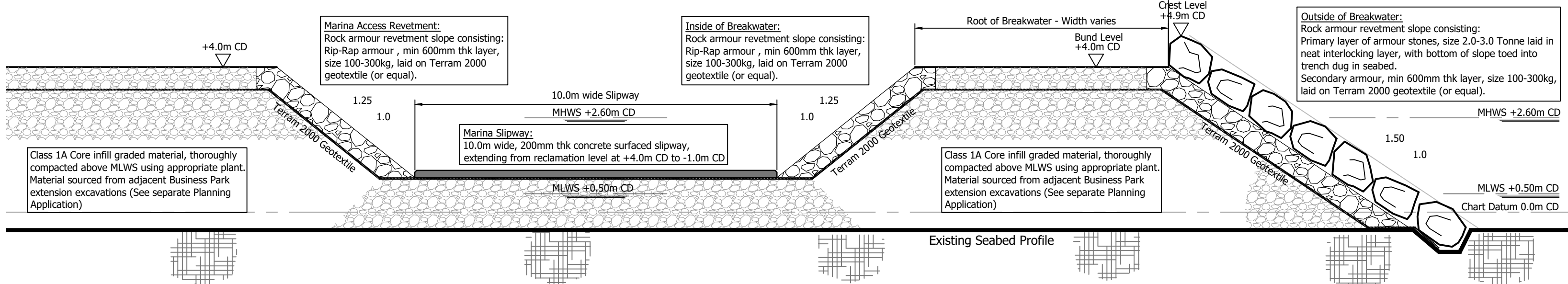
SITE CROSS SECTION 'A-A'

For Location - See Drg 162093/M- 53



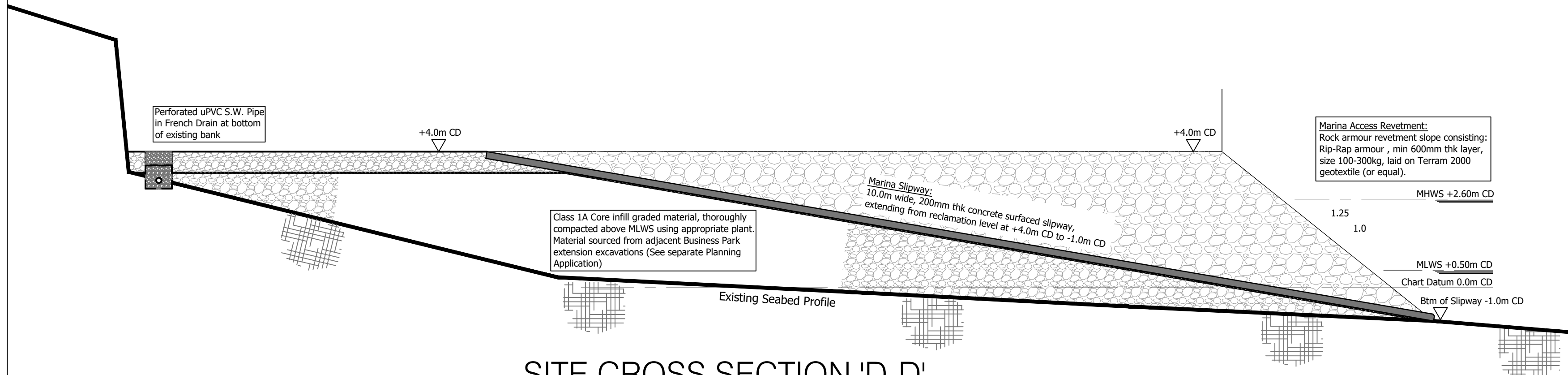
SITE CROSS SECTION 'B-B'

For Location - See Drg 162093/M- 53



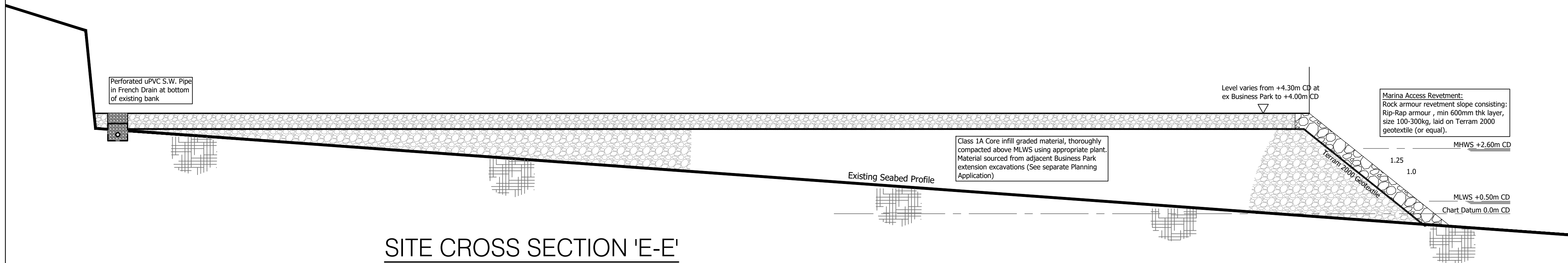
SITE CROSS SECTION 'C-C'

For Location - See Drg 162093/M- 53



SITE CROSS SECTION 'D-D'

For Location - See Drg 162093/M- 53



SITE CROSS SECTION 'E-E'

For Location - See Drg 162093/M- 53

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EXECUTIVE MANAGER PLANNING
22 February 2019

MARINA SITE CROSS SECTIONS

For location of sections - see Drg No 162093/M- 53

SCALE 1:100 (A1)

All levels shown to Chart Datum

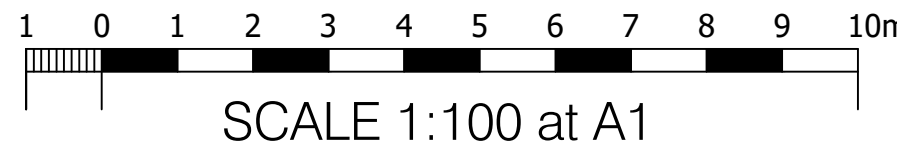


Chart Datum (Bluemull Sound)	Ordnance Datum (Lerwick)	Notes
+4.90m	+3.53m	Breakwater Crest Level
+4.00m	+2.63m	Breakwater Bund Level
+2.60m	+1.23m	Mean High Water Spring Tide Level
+1.37m	0.00m	Ordnance Datum
+0.50m	-0.87m	Mean Low Water Spring Tide Level
0.0 m	-1.37m	Chart Datum
-1.0 m	-2.37m	
-2.0 m	-3.37m	
-3.0 m	-4.37m	
-4.0 m	-5.37m	

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Tel : 01595 695512
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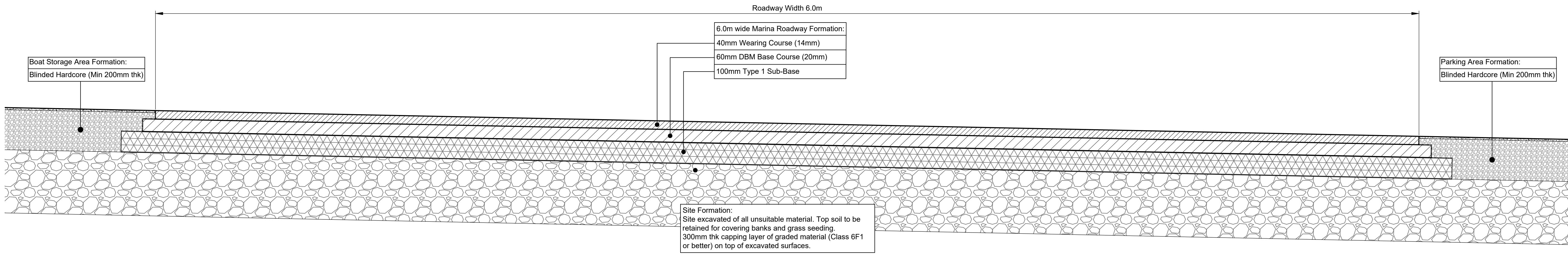
PROJECT :
NORTH YELL DEVELOPMENT COUNCIL
New Cullivoe Marina

TITLE :
Marina
Site Sections - Figure 5

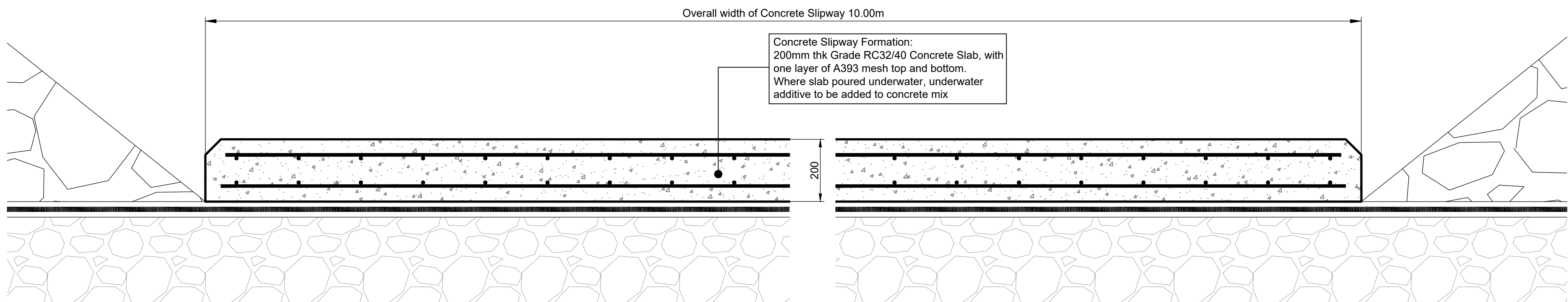
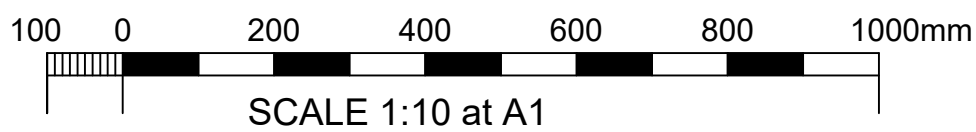
DRAWN : JJM	DATE : October 2018	CHECKED : 	APPROVED :
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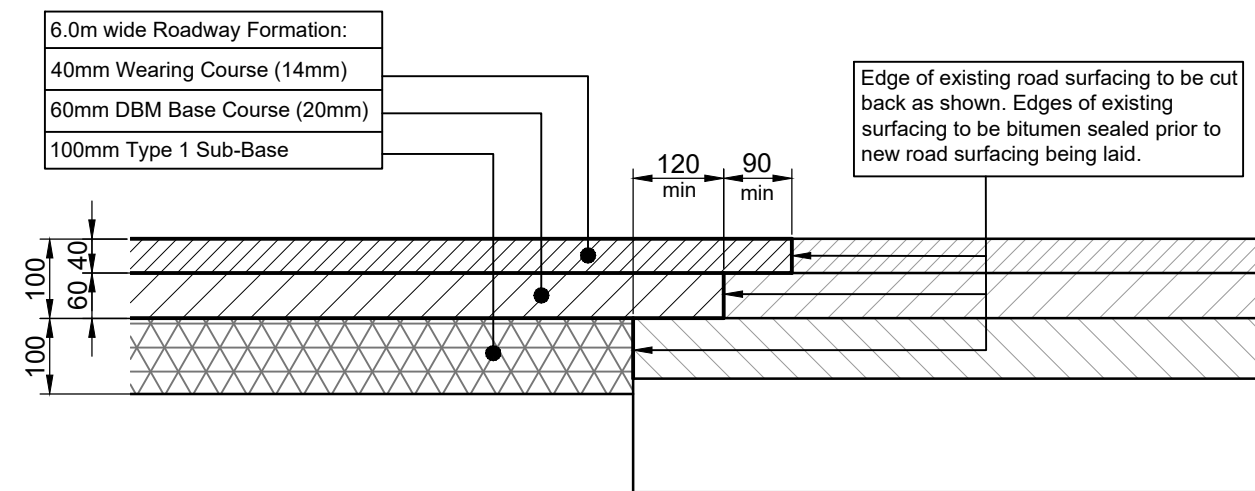
DRAWING No : 162093/M - 54	REV : -
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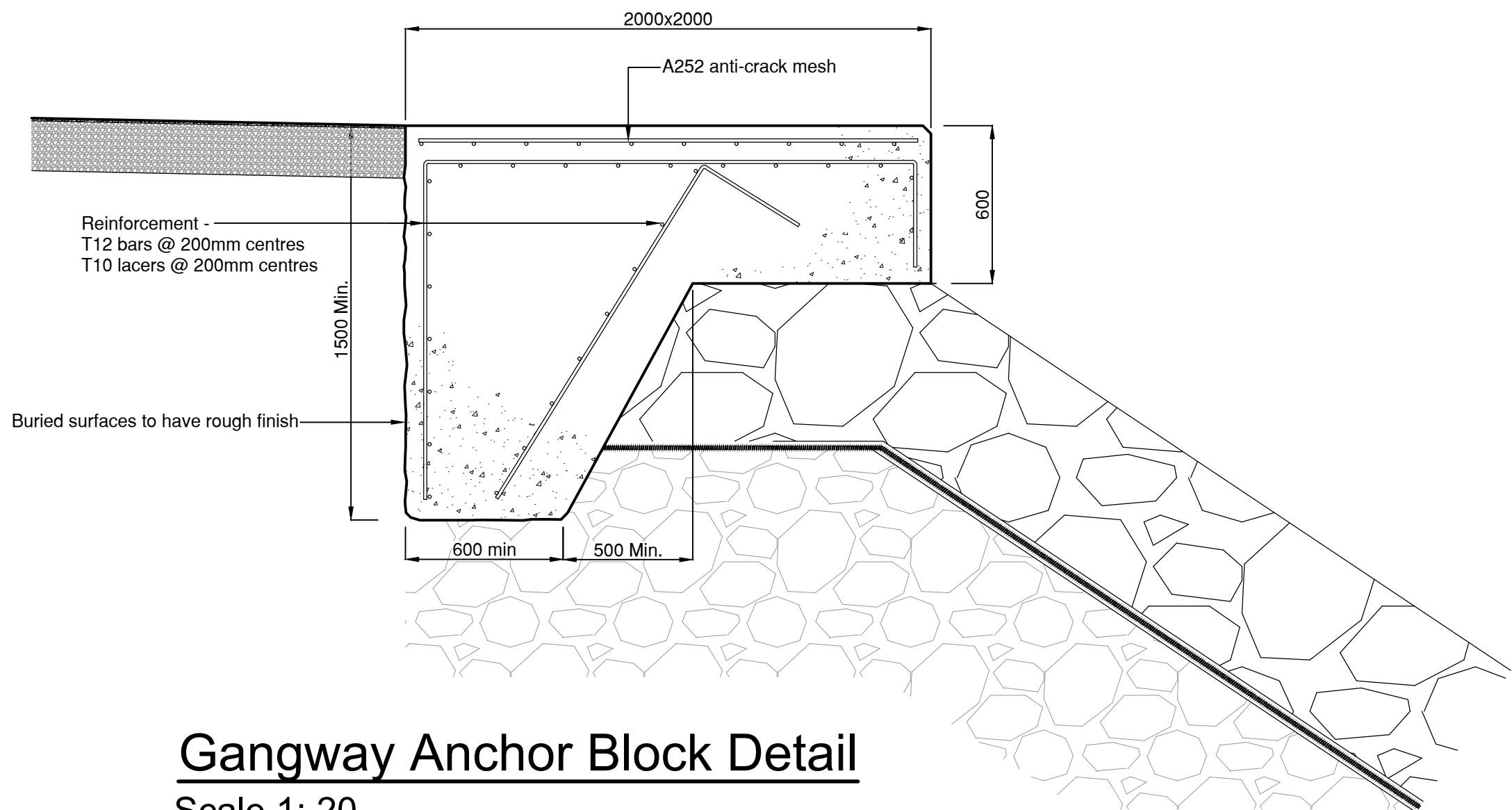
Typical Section Through Marina Access Roadway Scale 1: 10



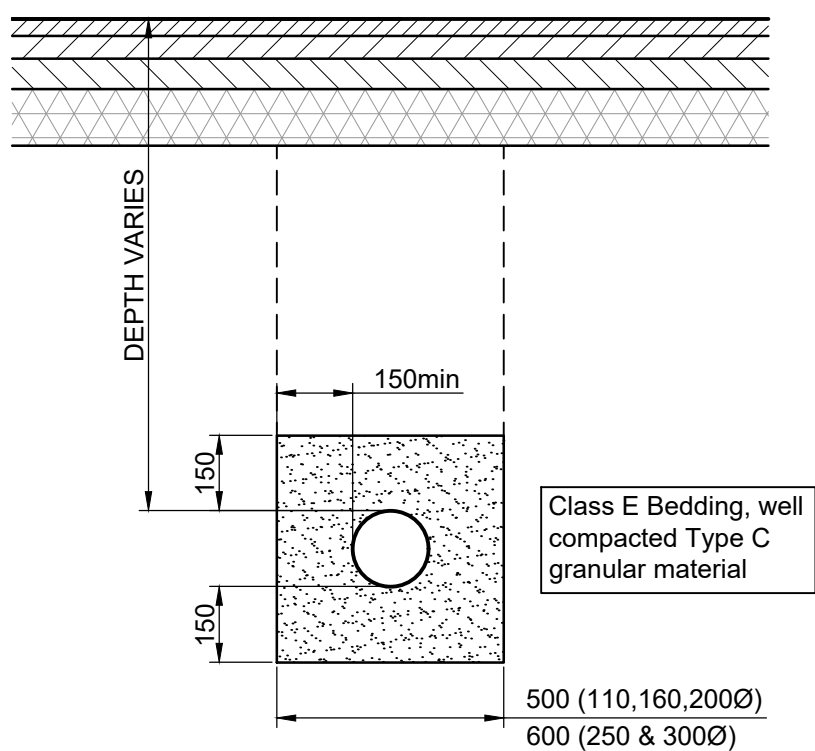
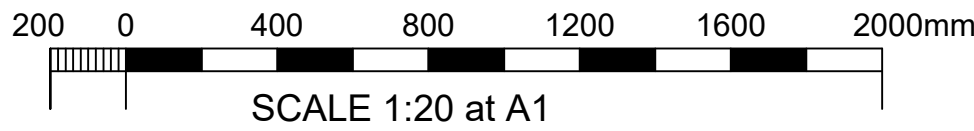
Typical Section Through Marina Slipway Scale 1: 10



Tie-In with Existing Roadway Scale 1: 10



Gangway Anchor Block Detail Scale 1: 20



Pipe Surround Detail Scale 1: 20

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John R. Brown
EXECUTIVE MANAGER PLANNING
22 February 2019

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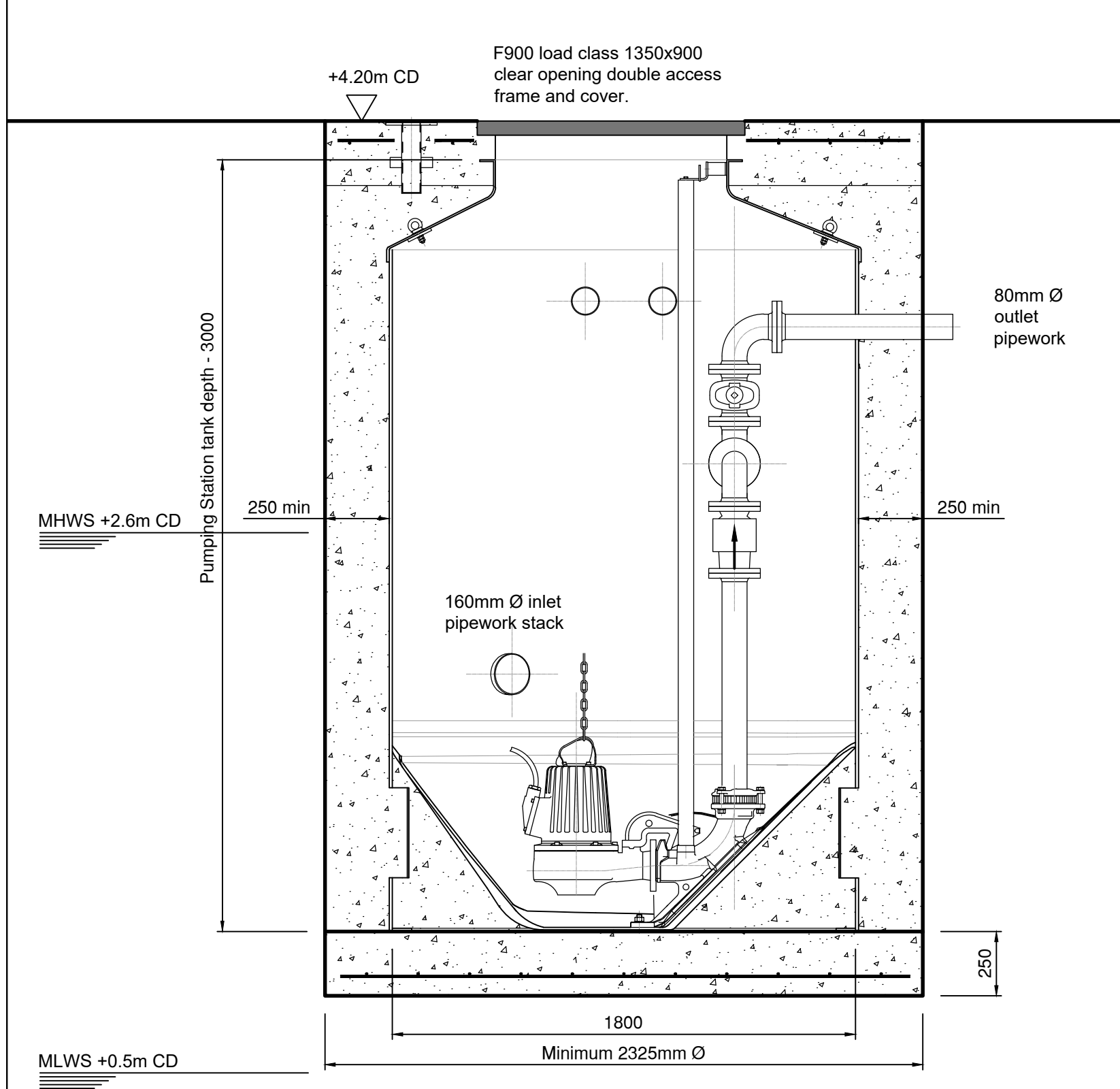
PROJECT :
NORTH YELL DEVELOPMENT COUNCIL
New Cullivoe Marina

TITLE :
Marina
Miscellaneous Details - Figure 6

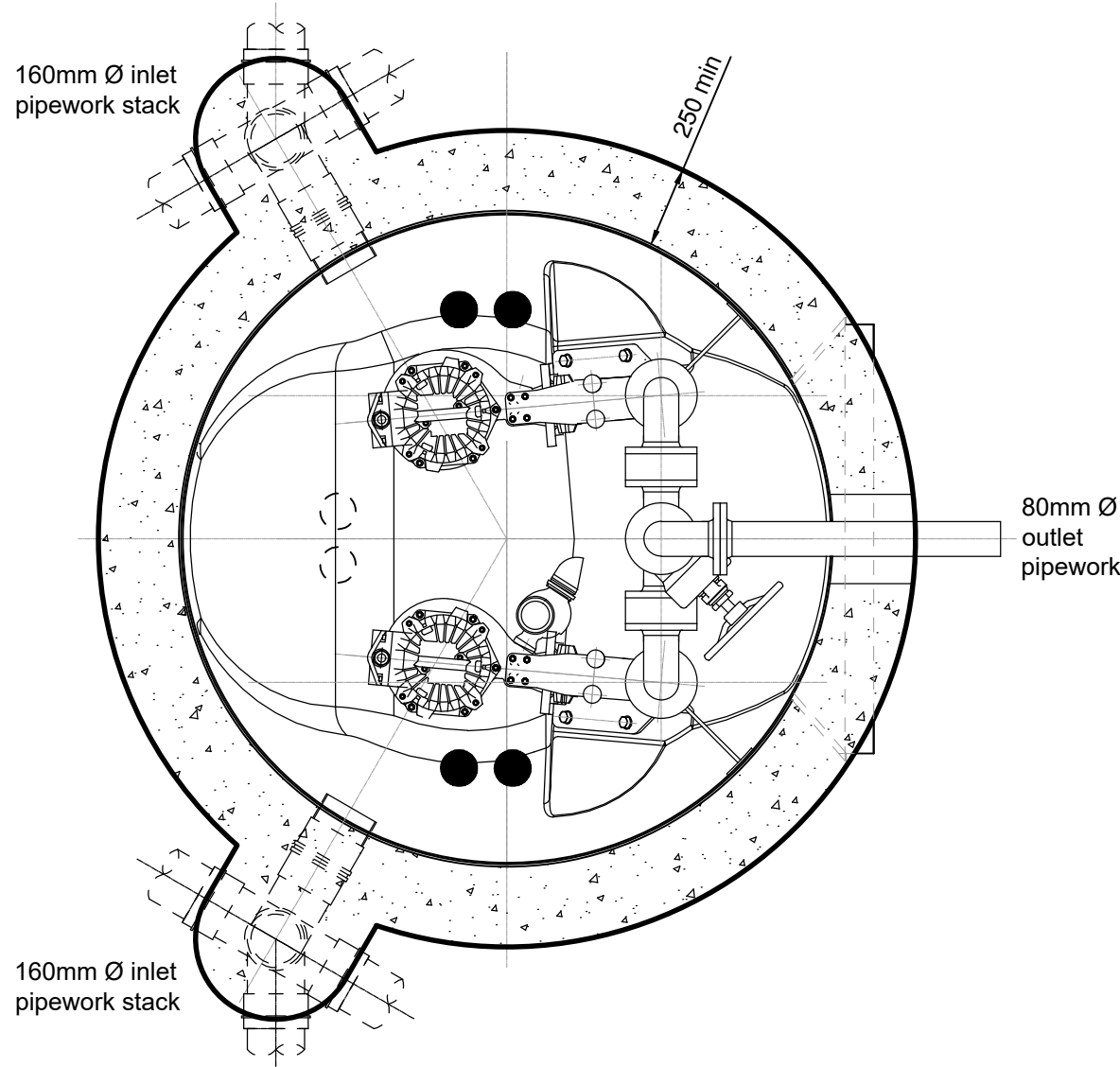
DRAWN : JJM	DATE : October 2018	CHECKED : 	APPROVED :
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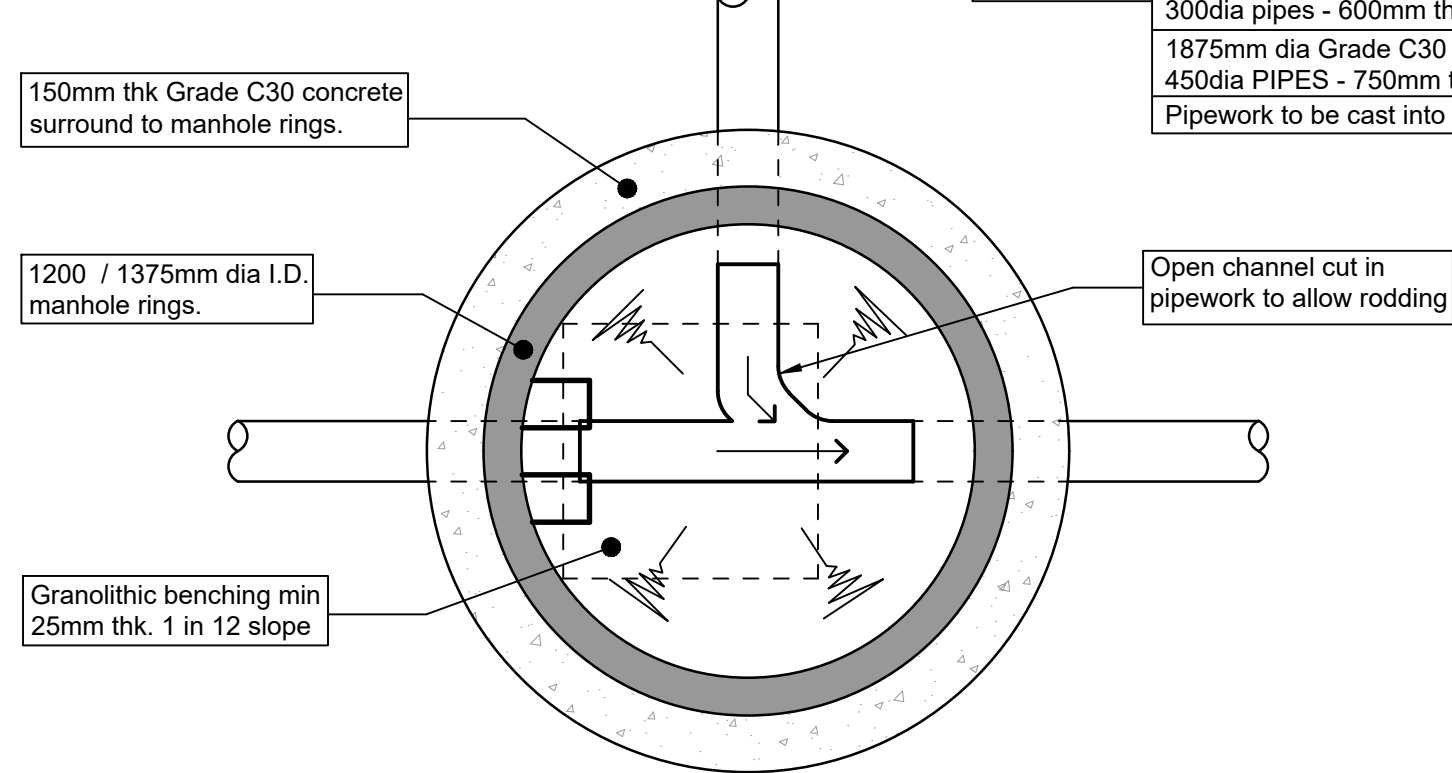
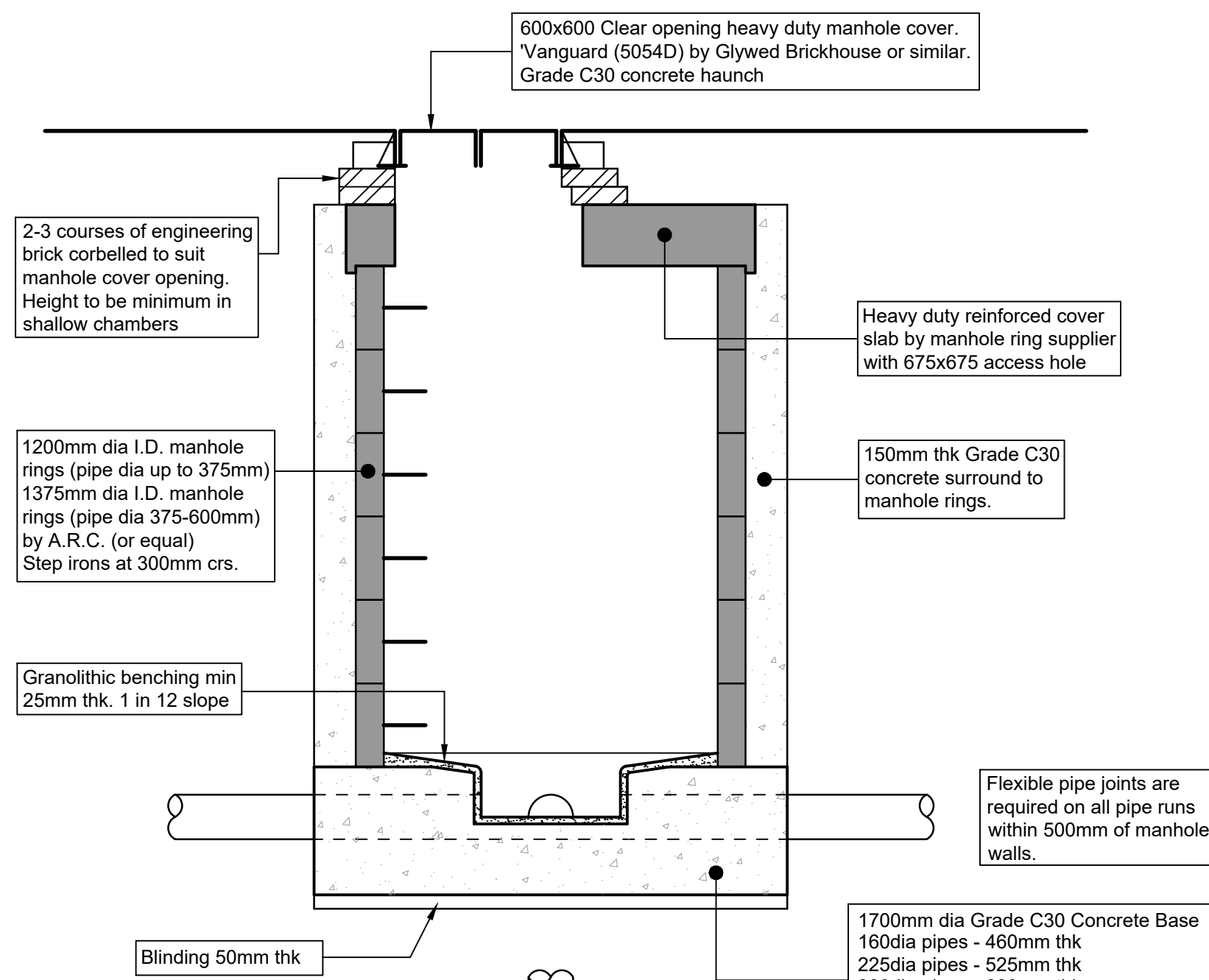
DRAWING No : 162093/M- 55	REV : -
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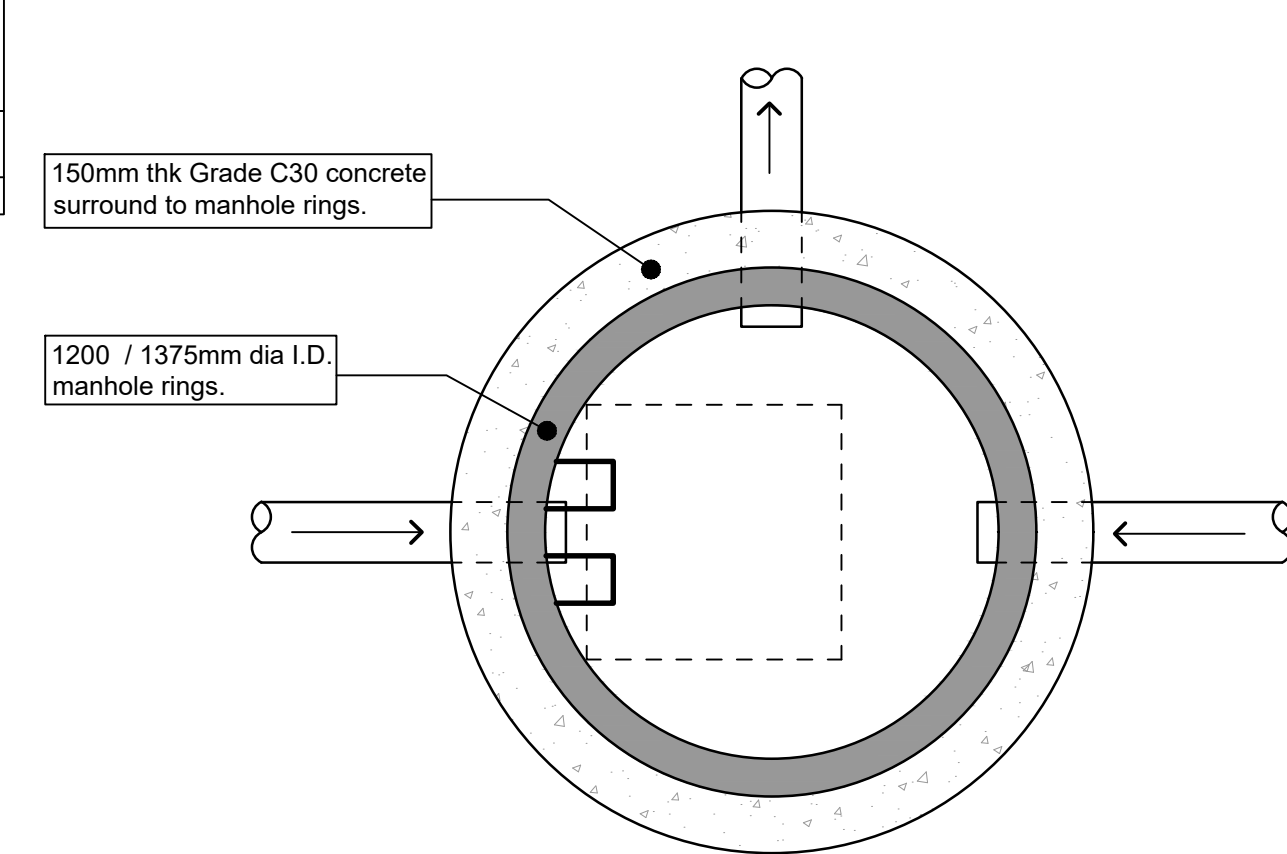
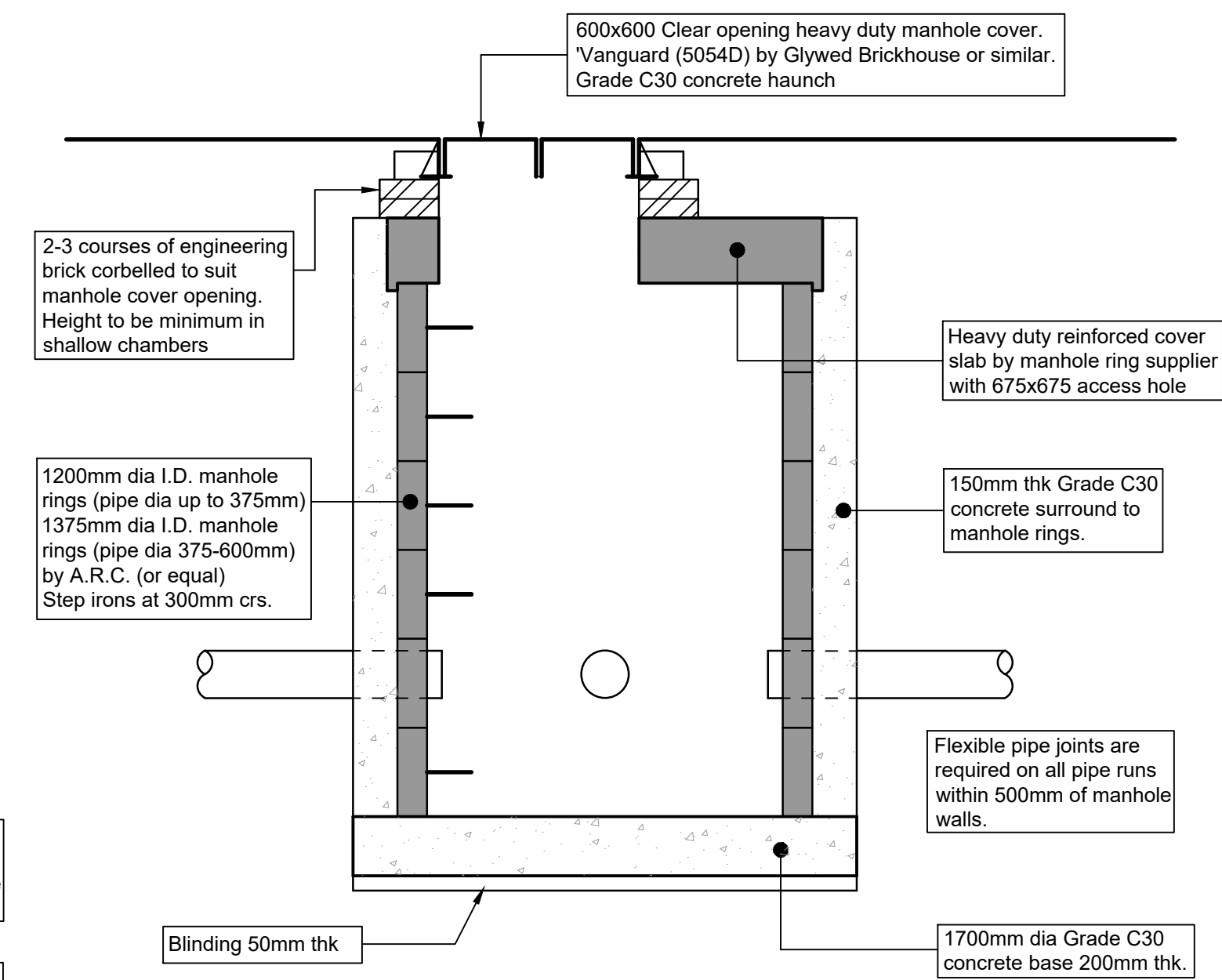
Flygt (Xylem) Top150 packaged pumping station, with 80mm internal pipework. Pumping Station to be installed fully in accordance with manufacturers drawings (F2.75212) and written installation instructions. Station to have min 2.325m Ø x 250mm thk grade C35 concrete base with A393 mesh, and be encased with min 250mm thk grade C35 concrete surround. 110mm uPVC vent pipe taken from station.



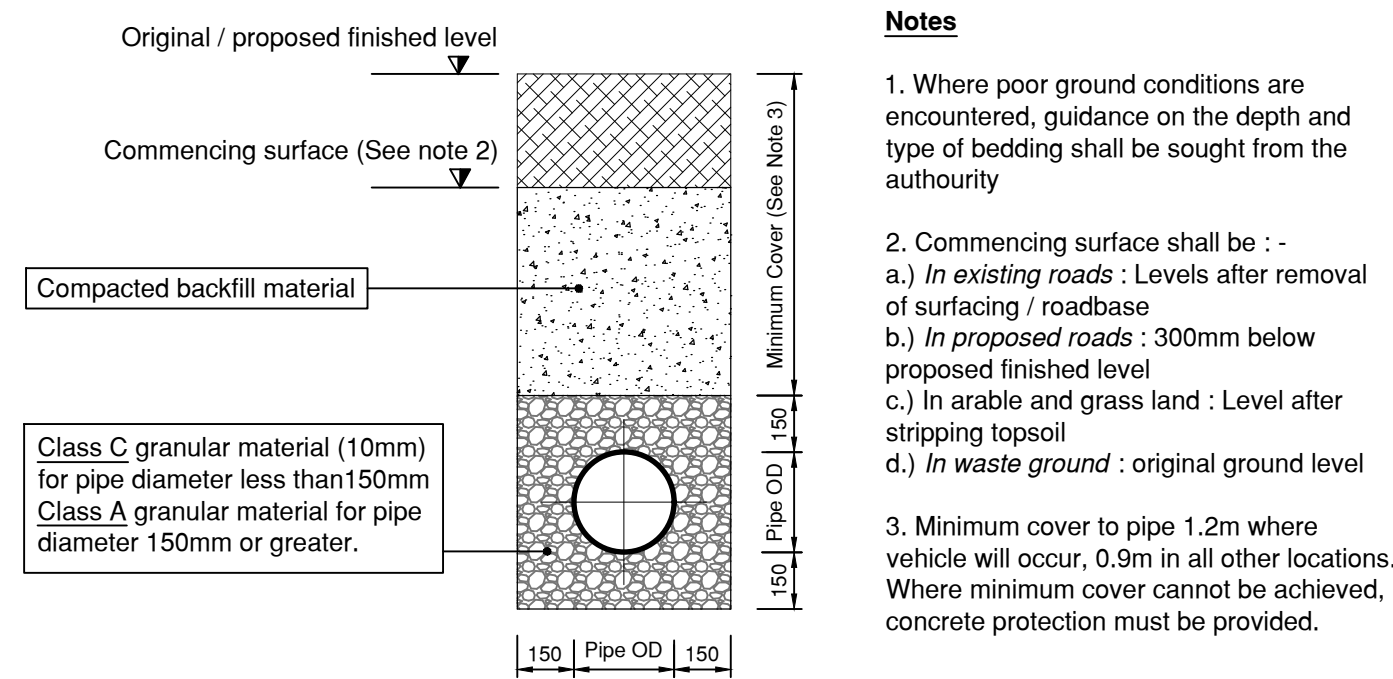
Foul Sewer Pumping Station Detail
Scale 1: 20



Manhole Detail Scale 1: 20

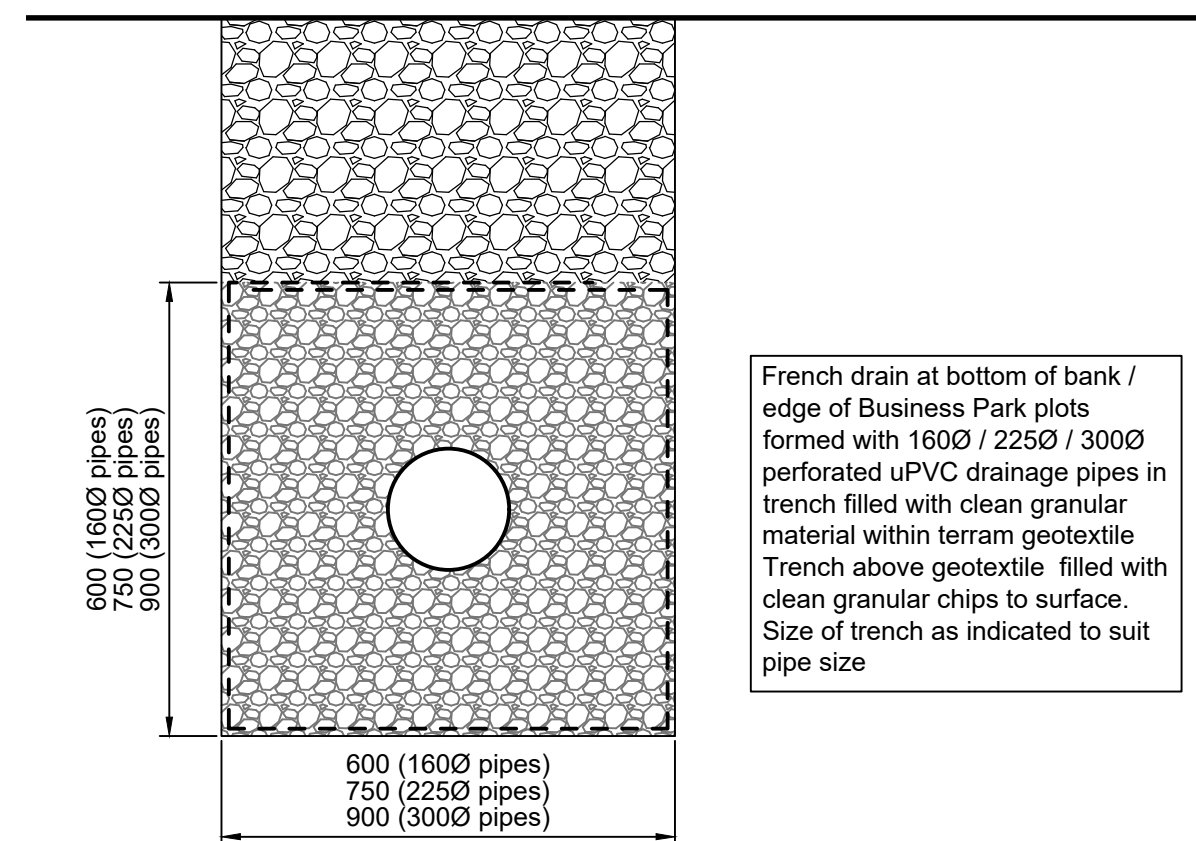


Silt Trap Detail Scale 1: 20



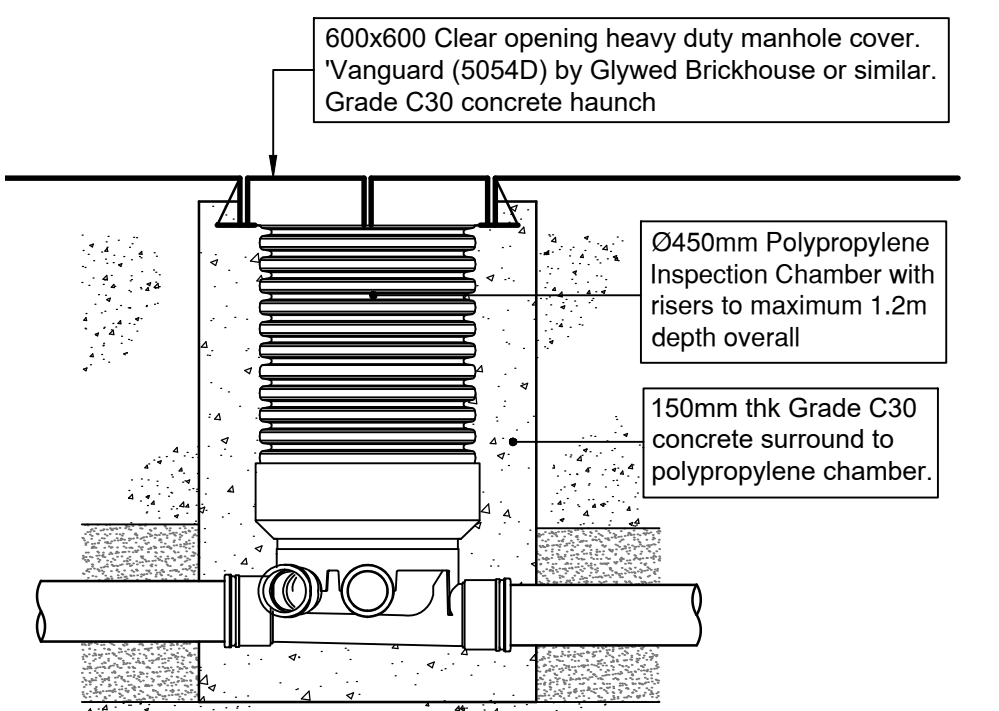
Bedding Details for all Pipework Scale 1: 20

200 0 400 800 1200 1600 2000mm
SCALE 1:20 at A1

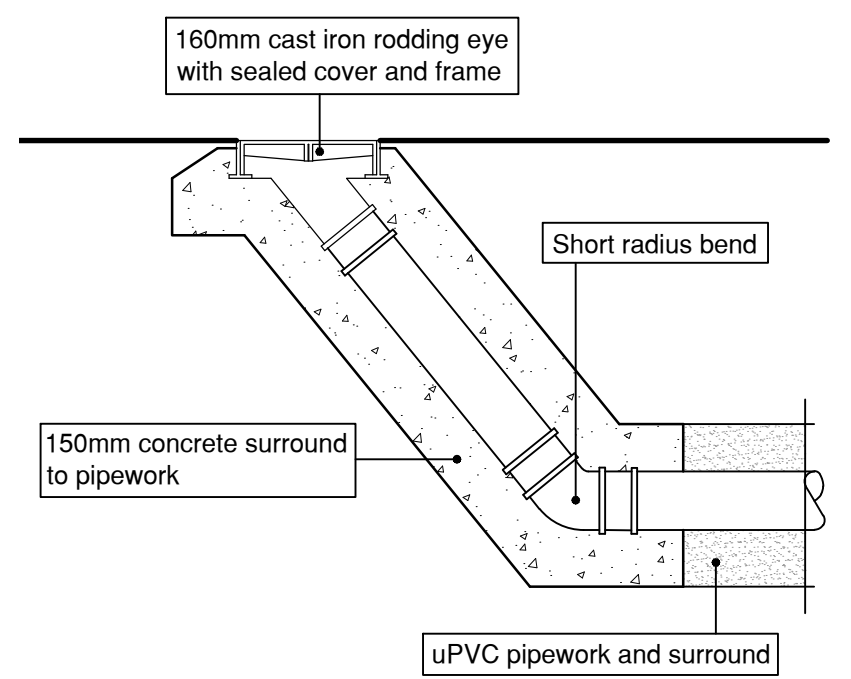


French Drain Details
Scale 1: 10

100 0 200 400 600 800 1000mm
SCALE 1:10 at A1



Inspection Chamber Detail Scale 1: 20



Rodding Eye Detail
Scale 1: 20

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22 February 2019

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PROJECT :
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New Cullivoe Marina

TITLE :
Marina
Drainage Details - Figure 7

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C OTTER SURVEY

Otter Survey Report summary for Cullivoe Pier Development

Survey date: 21/12/18

Summary of methods used:

It was helpful that I already had a reasonable familiarity with the site, and encouraging that I found nothing unexpected.

A thorough inspection of all areas where possible signs of otter activity might be expected to be found round development area and out to and in places beyond 100m buffer zone. This included all coasts, streams, ditches, flooded moorland pools, etc with particular attention around the existing rock armouring and harbour buildings and yards.

If any runs were found leading inland from the coast, even if not following stream or ditch I followed to investigate in search of holts.

Where likely or potential sites for otter activity was suspected within 50-100m of the buffer zone then that was included however recorded as 'probably outside buffer zone/study area'.

I used the 'Avenza Maps' App on my iphone to plot and record each point of interest with GPS coordinates along with brief description of the activity.

Points of note

Although I was particularly vigilant around rock armour of existing pier, yard and harbour buildings I didn't identify a definite anything that suggested an active holt site. There were a few active spraint points however and one area of note was on the shore facing side to the rock armour outside the southernmost shed, at southernmost end where fresh spraints were found. Despite really looking, I didn't feel there was a holt in the armour however could not 100% rule out that possibility.

The only holt structure I identified was about 50m south of the site boundary marker. This area is clearly active however they did not appear to be a 'core holt', more of a 'sub-holt'. At this same site there are two entrances (about 5m apart, but not connected) resembling holts, both clearly active with fresh spraint however the upper one is merely a scrape, only a couple of foot deep under an open overhang scraped out of peat bank. The seaward facing entrance does not appear significantly deep enough although it was hard to tell because of how peat was eroded.

Survey summary

It was clear that the survey and surrounding area of coast is predictably is active both within the existing harbour and yard and especially further south, the further beyond the development boundary, the busier it appeared to get. Asides from the spraint site at the rock armouring I found no signs of activity on the moor stretching south behind and south of



existing shed. I half expected some signs at least of use of the flooded moorland pool above the yard but did not.

The only area I felt would potentially be affected was the sub-holt which was situated just c50m south of the boundary marker.

In my opinion however given it did not show sufficient enough evidence to be a core holt, I don't think it would be too disrupted, especially given it sits just outside the boundary.

I am happy to discuss this particular site further or visit again should the need arise.

Please see below for all data, coordinates and otter activity and information.

Coordinates for otter activity;

454721, 1202088 Small fresh spraint outside back Green Store (known to be used as holts under building)

454741, 1202147 Spraint point behind container next to flip way- fairly active

454595, 1201640 Very active spraint site where free running ditch meets shore

454621, 1201645 active Spraint site and lay up area behind old rock armour

454611, 1201708 Drying green/active spraint site on sphagnum moss

454640, 1201717 Active spraint site and peat bank claw scratch point

454638, 1201762 Active spraint site/drying green sphagnum moss

****Between the above and below points (which are barely 10m apart is the only potential holt site in the survey area (see above description).**

454636, 1201762 Run from spraint points to flooded squeeze hole

454674, 1201986 Fresh spraint on shore side of rock armour behind shed- presumed potential holt site

