HELENSBURGH WATERFRONT DEVELOPMENT

SCREENING OPINION UNDER, REGULATION 10 OF THE MARINE WORKS (ENVIRONMENTAL IMPACT ASSESSMENT) (SCOTLAND) REGULATIONS 2017 (as amended)

09 FEBRUARY 2018

Report Title	**SCREENING OPINION UNDER, REGULATION 10 OF THE MARINE WORKS (ENVIRONMENTAL IMPACT ASSESSMENT) (SCOTLAND) REGULATIONS 2017 (as amended) 02 FEBRUARY 2018**
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Job	Helensburgh Waterfront Development

	Name	Signature	Date
Prepared by	E.Simoes D.Hillis A. MacBride		01/02/2018 09/02/2018 09/02/2018
Checked by	E.Simoes D.Hillis A. MacBride		09/02/2018 09/02/2018 09/02/2018
Approved by	Arthur McCulloch		09/02/2018

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A	Ownership Boundary, overall site co-ordinates, southwest slipway and other minor revisions	Elsa Simoes	Arthur McCulloch	21/02/2018

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Appendix A – Drawings

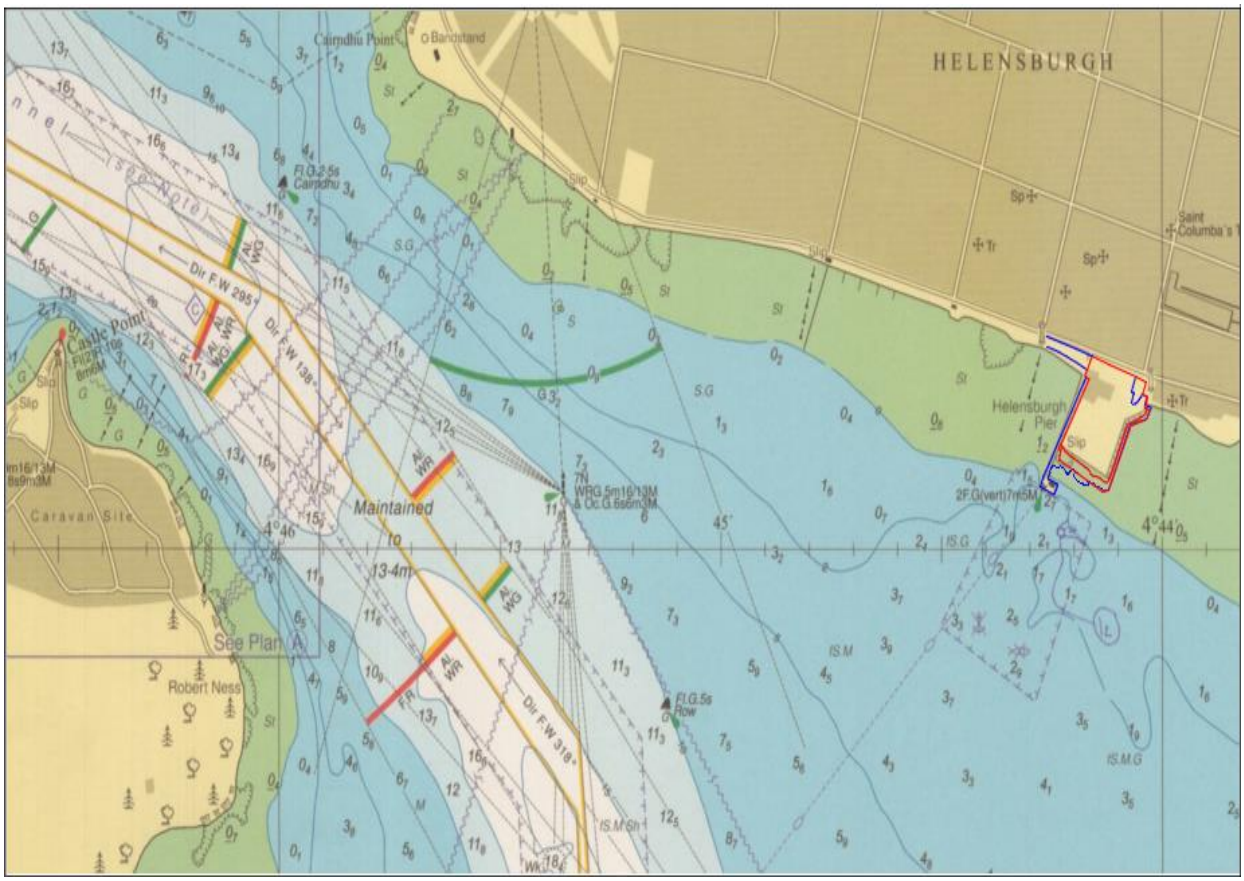
The marine licensing requirements as Part 4 of the Marine (Scotland) Act 2010:

The proposed Waterfront Development includes maritime activities and the following report presents the requirements in the Part 2, Regulation 10.

SCREENING OPINIONS

The requirements for requesting screening opinions as set out in Regulation 10 are presented below.

1.0 Site Location



Extract of ©ordnance survey – Helensburgh Waterfront Development

2.0 Existing Helensburgh Pier

Existing Helensburgh Pier
Helensburgh Pier: an aerial view

The current Helensburgh Pier facilities (Figure above) consists of a Pier with access to two slipways used for leisure activities, a car par with 417 number car parking space, an indoor swimming pool and access to a timber pier.

2.1 Background and key decisions to date

Proposals for the Development of Helensburgh Waterfront have been subject to various studies and community consultations over a number of years. The initial Masterplan for the site, prepared by Turley Associates in December 2009, was subsequently reviewed and a revised Masterplan, prepared by Gareth Hoskins Associates, was approved in May 2012. This Masterplan concluded that a new swimming pool and leisure facility with a 2,250 sqm (24,200 sq ft) footplate was the best use of this area. The study also developed proposals for the introduction of a reduced scale retail use, public space and associated car parking for 250 cars; coach and taxi drop off facility. The approved revised Masterplan was then progressed to further explore the feasibility of the proposals, estimated costs, phasing options and potential programme.

The Project was developed to RIBA Stage C Report and Option Appraisal was carried out by AECOM in 2015 which identified a Preferred Option for the flood defences.

At the Argyll and Bute Council Policy and Resources Committee on 18th August 2016, members approved the Helensburgh Waterfront Project Initiation Document and the drawdown of up to £1m development funding from the Helensburgh Waterfront capital allocation to allow the development of the project to Full Business Case.

In September 2017 an external consultant team led by Darnton B3 were appointed by Argyll and Bute Council to lead on the design of the new leisure facilities and public realm design with Argyll and Bute Council Development and Infrastructure Roads and Amenities team leading on the design of the new car park and flood defences.

Proposals have been developed with the aim of submitting a planning application in June 2018.

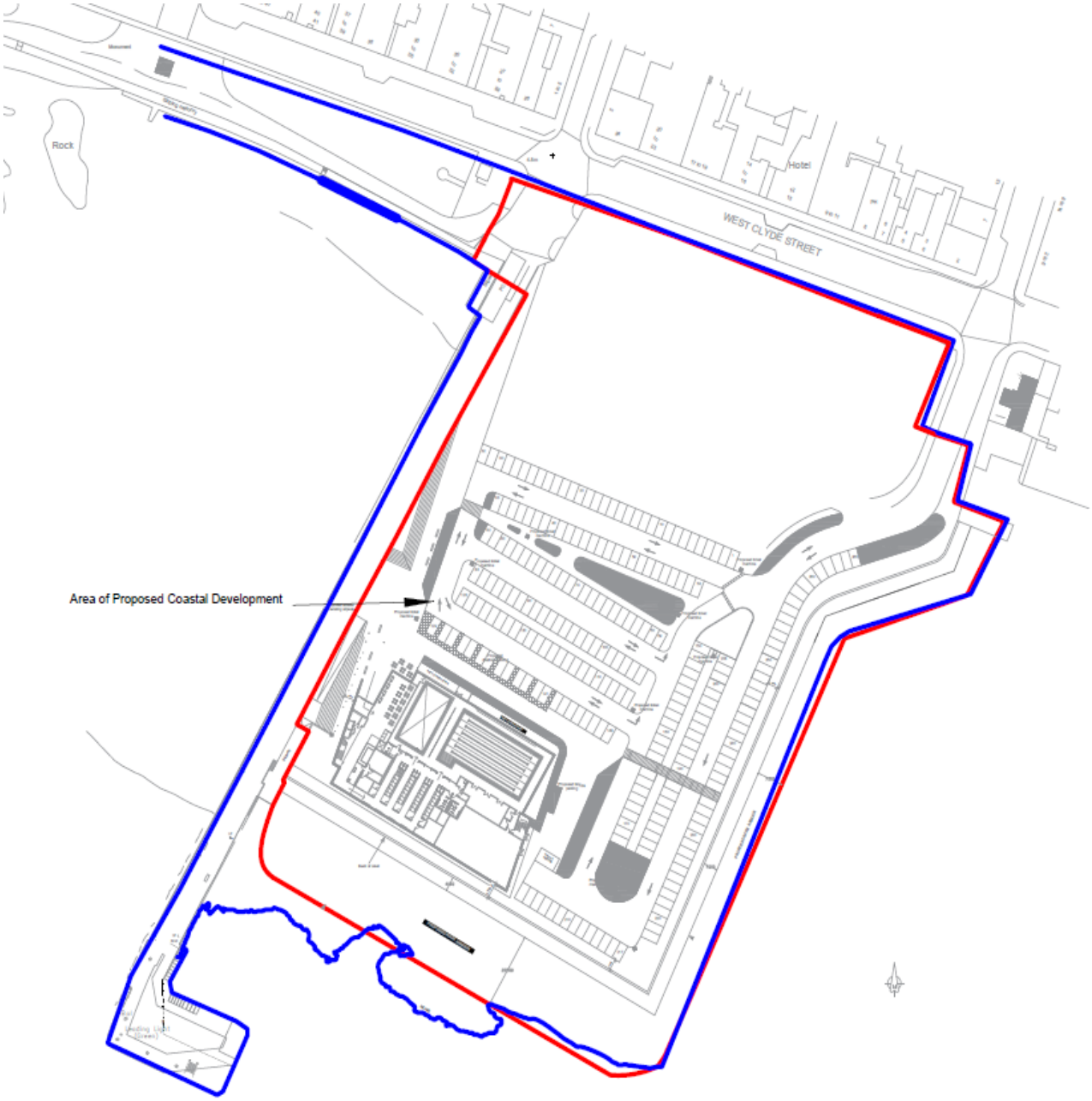
On January 30th and 31st, informal Stakeholder meetings were held with Focus Groups to gather initial comments on the proposals before the commencement of formal Pre-Application Consultation commencing in March 2018.

Future Context

The brief for the proposed works consists of:

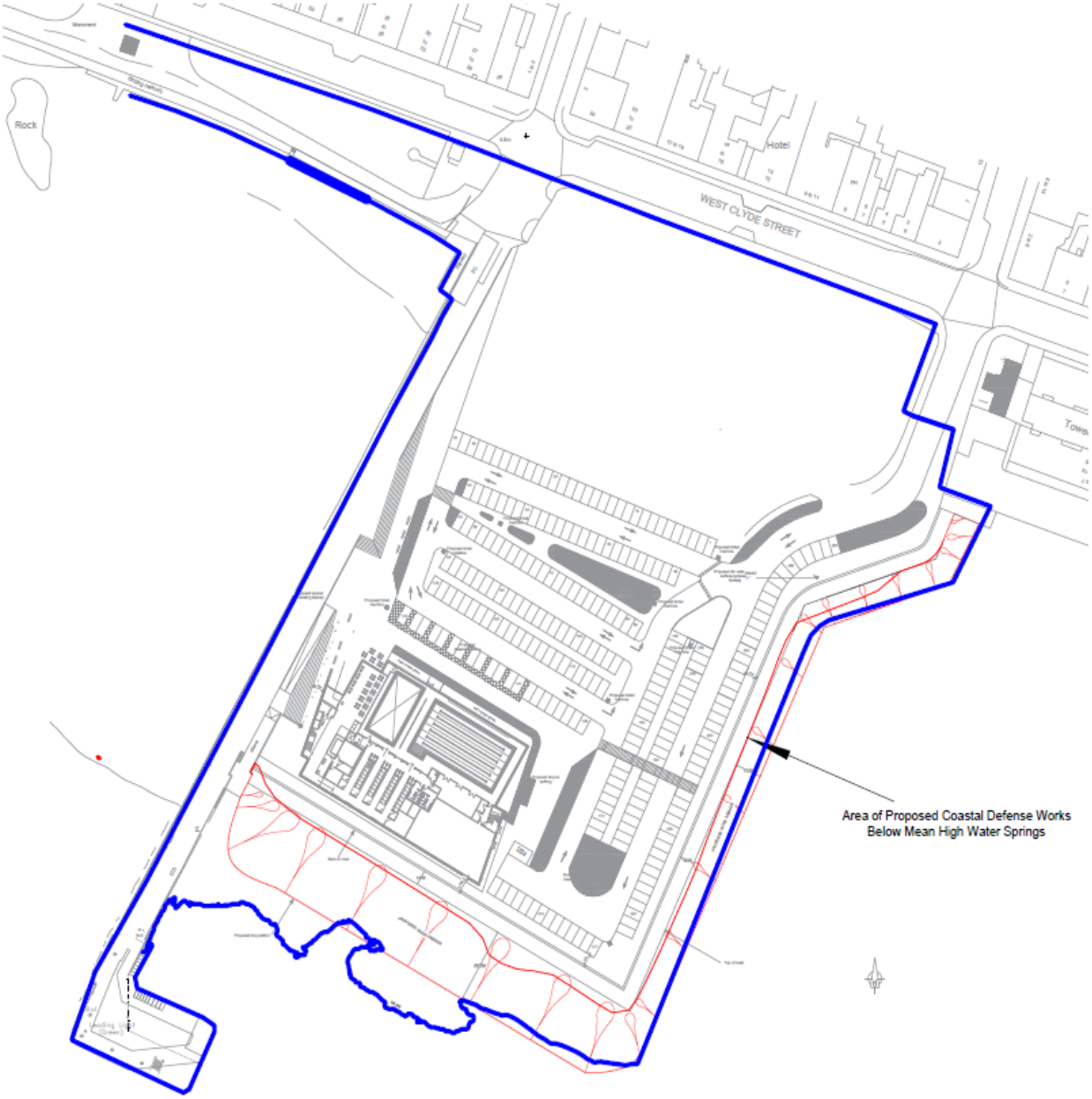
- Installation of flood defence;
- ~~Extension of existing slipway (SW)~~
- Construction of new leisure facilities building to include 25m 6 lane swimming pool and learner pool;
- Installation of new utility services
- Formation of 265 space car park;
- Formation of public realm space;
- Demolition of former swimming pool and making good of site
- Future retail development (not part of this proposal)

Plan of Proposed Helensburgh Waterfront Development



Helensburgh Waterfront Development - Proposed Full Development Arrangement
Scale 1:1250

Plan of Proposed Helensburgh Works Below MHWS



Helensburgh Waterfront Development -Area of Works Below MHWS
Scale 1:1250

2.2 Installation of flood defence

Provides the best and most practical flood defence solution with a practical rock armour revetment and does not displace existing slipways activities and delivers the likely economic and aesthetic benefit of the development.

The flood defence consist of raising the existing level of the pier to 4.7m AOD with infill clean material, construction of a reinforced concrete wall along south and east perimeter of the pier, construction of a rock armour revetment following the profile of the exiting revetment including raising the crest to 5.4m AOD. The existing surface drainage outfall is to be removed. New potential outfalls will be discussed with SEPA and are to be installed between MHWS and HAT. **However, should the outfall fall below MHWS, Marine Scotland will be consulted.**

2.3. Extension of the slipway

North East slipway

The west slipway is in a good condition, **but is presently not in use.** No repair works are currently required. **This slipway is not part of these works, however some form of flood protection will be provided, either by extending the rock armour up to the boundary or by installing a removable gate at the top.**

South West slipway

The south west slipway is in good condition but is not fully used because of the limited turning area at the top of the slipway gradient.

Following recent public consultations with the disable group, this slipway is required to provide greater access to the water. **The slipway will be only extended back in land.**

2.4 Construction of new leisure facilities building

The new leisure centre will provide an indoor swimming pool.

2.5 Formation of 265 space car park

While there will be existing car parks available during the construction stages, approximately 150 number, the final number of car park spaces will be 265. This figure will include 13 number disabled access spaces, a bus drop off area adjacent to the leisure centre and two numbers long stay bus parking bays.

2.6 Demolition of former swimming pool and making good of site

The method statement for the demolition of the existing building will be presented if required under a separate document.

2.7.1 Formation of public realm space

The design of the public realm areas will link to recent development in Helensburgh as part of Argyll and Bute Council CHORD project, in particular works to Colquhoun Square and the esplanade.

2.8 Future retail development (not part of this proposal)

The approved Masterplan from 2012 identifies are area and proposed footprint for a potential future retail development. Whilst the proposals for the Helensburgh Waterfront Development do not include the design of a retail development, the public realm and car park design have taken cognisance of the potential for a future development.

2.9 Other specified operations

- Connection to public water supply
- Connection to Scottish energy

3.0 Method Statement

The method of construction is likely to be:

- Site welfare facilities and site compound established on shore **within the full development site**

  The flood defence activities are to be undertaken from land in sections such that the toe of the revetment is not exposed to waves for too long.
- Formation of the revetment toe
- Rock armour delivered by road to the site and lifted into position using a crane
- Construction of the reinforced concrete retaining wall
- Installation of the revetment crest
- Infill material delivery to the site and compact as per specification to specified level
- Construction of the swimming pool building (Detail Method Statement under separate document)
- Installation of the services (Detail Method Statement under spared document)
- Construction of the car park (Detail Method Statement under separate document)
- Demolition of the existing building (Detail Method Statement under separate document)
- Landscape (Detail Method Statement under separate document)
- All works tested and commissioned in accordance with the specification
- Contractor demobilisation

4.0 Planning Policy and Environmental Designations

This section sets out relevant planning policy and details of environmental designations.

These policies have been outlined to provide context and to set the project in the context of local and national planning policy.

National planning policy is set out in Scottish Planning Policy (SPP). The relevant policy for Argyll and Bute comprises of the Local Development Plan (LDP) which was adopted in March 2015 and the Local Development Plan Proposed Supplementary Guidance (SG) which was adopted in June 2015.

The policy SG LDP TRAN 8 (Piers and Harbours) provides specific detail on LDP4 (Supporting the Sustainable Development of our Coastal Zone and Policy). SG LDP TRAN 8 states that 'development of new harbour infrastructure is to be encouraged provided that such development promotes the retention or expansion of commercial marine uses'. It also states that 'whilst economies of scale have reduced activity at some smaller piers and harbours they are still considered to have potential for leisure, recreation and tourism uses, especially with regard to small scale pleasure/yacht craft'.

SPP notes that increasing sustainable economic growth is the overall purpose of the Scottish Government. SPP states that this includes creating a supportive business environment and infrastructure development.

SPP states that improving the natural environment and the sustainable use of natural resources is a key national priority. The preservation of National and European designated sites is a duty of planning authorities and other public bodies.

SPP notes that the importance of archaeological remains should be taken into consideration when determining planning applications, and where preservation in-situ is not possible, appropriate excavation, recording, analysis, publication and archiving should be undertaken before or during works.

Designations

The Historic Environment Scotland (HES) and Scottish Natural Heritage (SNH) interactive website portals were accessed in order to identify potential designations in the vicinity of the site. It was shown that there are currently no designations which cover the proposed site.

There are no listed buildings on the Pier. Proposals are currently being developed to demolish the existing swimming pool.

The maritime activities for the proposed rock armour revetment given an approximate land takes of 0.3874ha below Mean High Water Springs, it is unlikely that small scale maritime activities will have any notable widespread impacts on wildlife across the Clyde.

Summary

The national and local planning policies above have identified that sustainable future growth is a key priority for Helensburgh Pier and Waterfront. An important aspect of sustainable growth is the protection of natural and archeological resources in accordance with designations. It has been shown that the proposed development has the potential to provide improved public facilities provision, and economic benefits via recreation and the expansion of commercial users.

5.0 Land Use

5.1 Construction

There will be minimal intrusion on the sea bed associated with discrete revetment toe along the south and east side of the development. During construction, space will be required on the pier to provide

general access for machinery, material deliveries and laydowns, contractor compound and contractor's staff.

The contractor will employ the necessary mitigation measures required to minimize any residual impacts. Such mitigation measures may include:

- liaison with local businesses and users
- setting a programme and working time criteria for the contractors delivery activities that will avoid during busy periods

5.2 Operational

Surrounding land uses are predominately influenced by the main development. It is therefore considered that proposed facility and its associated access structure are compatible with the surrounding area.

6.0 Landscape and Visual Intrusion

The areas to the south and east of the site are currently open water with 2 slipways, one at each end.

The area to the North is extensively developed, with a main road, commercial and private building. The site is bounded along West with an access to the old timber piers and 1 slipway.

6.1 Construction

Activities during construction will be visible from nearby properties and from the sea for a long period of time.

6.2 Operational

The development will introduce more human activity to the area which is currently degraded. The visual impact of the proposed development will mainly has been tackle by an outstanding Masterplan. The impact on the wider landscape character of Helensburgh seafront will be positive due to the already existing activities.

To ensure that the visual impact of the development is reduced to the minimum that can be achieved, mitigation measures will be implemented. Potential mitigation may include:

- Designing infrastructure with neutral or sympathetic materials and colour profiles to minimise impact

No significant impact is anticipated. The proposed development has the potential to have a positive visual impact, adding to the appeal of the Helensburgh Pier as a bustling public user's location.

7.0 Ecology, Habitat and Species

As mentioned in section 4 the site is not designated for its nature conservation (i.e Sites of Specific Interest, SACs or Ramsar sites). Some sensitivity species have been identified in the area.

An Ecology Survey is in the process of being undertaken and this will include:

- Otter survey of all suitable water courses and water bodies within the site plus a buffer of up to 250m around the site, where access permits
- Bats activity surveys

Ecological Appraisal Report, will include all the necessary protected species surveys (bats and otters), an impact assessment on protected species and habitats and will detail any proposed mitigation, which will then be add to the construction designs.

Relevant stakeholders have been notified of the proposals and provided with proposed layout drawings. Stakeholders included the Royal Society for the Protection of Birds (RSPB), SEPA and SNH. **These Stakeholders were also present at the Planning Pre-Application meeting dated 14th February 2018.**

7.1 Construction

Loss of Habitat above tidal areas

The construction does not require dredging and therefore no inter-tidal and sublittoral habitat will be lost to dredging operations. Pile construction is limited to land and it is not expected that disruption caused by the piling will significantly impact on any habitats or species.

The overall impact of the proposed development is expected to be small and best management practices will be implemented during construction.

Birds

In support of the planning application for development in Helensburgh, a bird survey will be carried out as part of the Ecology Survey. The survey will identified any most significant birds present in the site and any form of mitigation if necessary.

Otters

Otters are legally protected species. There is a report survey being undertaken which focus on the Bay and assess the potential impact on otters of a proposed marina development. The report will find if:

- There are evidence of current use of the area by otters or not
- Otters have been observed in the bay in the past and hence it's likely that they still pass through the area on occasion

The report will identified any potential impact to otter movements which would be increased disturbance levels during construction. However, as the revetment will be constructed from land and in sections, it is concluded that the potential impacts would be temporary and have a negligible impact.

Fish

Helensburgh is not a recognised fishing ground due to ferry and other sea borne traffic in the area. No impact is expected on fishing resources from the proposed development during construction.

Seals and other sea mammals are also present at the site. It is anticipated that there will be some degree of disturbance to these during construction however, overall impacts are not considered significant.

7.2 Operational

Loss of Habitat above tidal areas

The re construction and introduction of additional rock armour is not expected to cause significant disturbance due to the existing regular marine traffic in the area.

Birds

Constant noise in the summer months (associated with additional public movement) could keep the birds away from their nesting sites at crucial times in the breeding season. However, as discussed in section 11, additional noise generated by the proposed development is not considered significant when compared to existing vessel movement along the Clyde and the existing car park and swimming poll users.

Any potential mitigation measure will be detailed in the Ecological Report

Otters

A potential impact during the operational phase of the proposed development was identified as an increase in the level of human activity; however, similar for the construction phase, any impacts would be temporary and have a negligible impact on the otters.

Fish

No impact is expected on fishing resources from the proposed development during the operational phase.

7.3 Summary

The overall impact of the proposed facility on ecology, habitats and species is expected to be neutral, however, responses from the relevant stakeholders are expected shortly which will identify any potential impacts. The Ecological Report being undertaken will assist on any potential mitigation.

Best management practices will be implemented during construction and any residual impacts will be minimised by appropriate mitigation measures, developed through consultation with the stakeholders.

8.0 Water Environment/Hydrology and Flood Risk

8.1 Construction

Water Quality

There are a number of potential pollution risks associated with construction due to the presence of vehicle oils and lubricants, site waste and debris on the contractors' facilities. These potential pollution risks will be minimised through the implementation of best practice procedures throughout construction.

Prior to construction a Construction Environmental Plan (CEMP) will be produced by the appointed contractor and submitted to Marina Scotland and SEPA. The CEMP will include instructions on good

construction practices, and a draft schedule of mitigation and emergency response measures. This will include detailed information on relevant SEPA Pollution Prevention Guidelines (PPGs).

There is also some potential for localised sediment disturbance and dispersion during the limited period of the rock revetment toe trench formation and placement of rock armour. The size of the impact is likely to be localised due to the small land take area (0.4630 ha) of the maritime works below mean high water springs. A set of suitable mitigation and response measures will be included in the CEMP in order to minimise the short term impact of sediment movement during these activities.

8.2 Operational

Water Quality

Given that there is no dredging activity and very small bed profile changes required on site there is unlikely to be any resulting increased risks associated with the circulation of water and tidal currents at the site. The wave modelling report states that there is no change in the water circulation and no impact on the near structures.

There are potential pollution risks associated with the operation of the car park. In areas where there is a high density of cars park spaces there may be potential issues with detecting sources of pollution. The management will be required to inform users on the prohibition of pollution discharges and on the legal implications served by statutory bodies in such cases. Staff members will also be informed on the relevant Pollution Prevention Guidelines, so that best practice is complied with at all times.

Flood Risk

SEPA have classified coastal flood event likelihood into three classifications; an event which occurs on average once in ten years (High likelihood), an event which occurs on average once in two hundred years (Medium likelihood), an event which occurs on average once in 1000 years (Low likelihood). The SEPA online interactive flood map has defined Helensburgh as having a high likelihood of coastal flooding.

Therefore although it is acknowledged that the proposed development is in an area of high coastal flood risk, it is accepted that the risk can be managed through design and management procedures. The presence of the flood protection system will also help reduce localised wave action effects along the waterfront. The site ground level will be raised by **1.4m and it will be** coastal protected with a reinforced concrete wall and rock armour revetment with the crest **approximately** 1.9m higher than the existing crest.

9.0 Geology & Hydrogeology

Ground investigations have been carried out in support of the development. These have been focused in land and along the perimeter of the exiting revetment.

The investigation provides information on the thickness and properties of the superficial deposits, the properties of bedrock and the depth to sea bed.

Laboratory testing of samples for geotechnical and chemical testing has also been carried out which has indicated there are no contamination present.

The proposed site is not designated for its geological interests and therefore will be no impact on any features of particular geological interest.

No groundwater abstraction points will be affected by the proposals.

10.0 Waste

10.1 Construction

Construction of the proposed development will generate waste material, excess construction materials and domestic waste from the contractor's staff. However, the quantities of waste are not expected to be significant.

The contractor is required to appropriately dispose of any waste materials generated by the works prior to, and during construction. Additionally, any waste generated by the contractor during contractor demobilisation must be disposed of appropriately. Recycling of waste materials should be considered and where this is not practical, disposed of at an approved waste disposal site. The contractor will be required to provide full details of their recycling and disposal for all waste items.

Additionally to ensure construction phase impact mitigation, it is anticipated that the contractor will prepare a CEMP.

10.2 Operational

Unlike the construction phase, it is expected that significant quantities of waste will be generated by the users of the proposed facility.

Waste disposal will be incorporated into the proposed development. A Tri-cycle Triple Recycling Bin system, primarily for the use of the development users, will be placed in an area at the entrance of the bridge access way. The system will be provided for the following waste types:

- Domestic waste
- Plastic and cardboard
- Glass

The development are intended as a short stay swimming pool user and public walking along the river /seafront and as such are not intended for long term occupation. The building will have its own proposed disposal of sewage. Car park drainage will be in accordance to SEPA guidelines and Regulation.

A Waste Management Plan is in the process of been created which specifies methods for containment, collection and disposal of all operational waste materials, including the management and disposal of all domestic waste.

The objective of the Waste Management Plan is to highlight the importance of efficient waste handling and processing to the Swimming pool, car park users and general public visiting the waterfront. This will ensure the protection of the environment and promote the sustainable use of the Helensburgh Pier in general.

11.0 Noise and Vibration

A noise control plan is in the process of been created which identifies the possible sources of noise that could inconvenience the local community. The plan will set out measures to avoid or mitigate such disturbance.

11.1 Construction

The use of plant and machinery has the potential, if not properly controlled, to result in adverse impacts at residential and commercial locations close to the proposed site.

Sound is produced by mechanical vibration of a surface, which sets up rapid pressure fluctuations in the surrounding air. The ambient environmental noise at any location will vary according to the activities in progress around a location.

The Swimming pool building will be most likely be founded on piles which will require to be driven by vibrating hammer into soft material. It is recognised this will generates a source of potentially intrusive noise. However, the short duration of its use and the masking effect of background road and marine traffic noise will minimise the level of noise pollution.

As a precautionary measure, those activities such as piling should be scheduled to avoid early and late timings, when ambient noise levels are lower and locals are more sensitive to noise.

There are no dredging operations required for the construction of the proposed development and therefore there will no resulting noise impacts.

The rock revetment construction will be from land and the most significant impact will be the rock armour Lorries deliveries. A Traffic Management Plan will be included in the CEMP.

11.2 Operational

Given the ambient noise of land-based and sea-borne traffic, the noise levels created by the presence of the Swimming Poll building and associated car park during the day over the operational period is unlikely to be markedly higher than those during construction.

12.0 Air Quality

12.1 Construction

There are no activities identified on the proposed site which are expected to generate notable concentrations of dust. However, while the infill specification must not include very fine soil, the infill and compaction activities to raise the site level is likely to raise some dust. Dust is a generic term used to describe a wide range of particulate materials that are generated from the disintegration of solids.

An adverse dust event will only occur if necessary conditions are present. It is necessary to have a fine material available that can be picked up, carried and then deposited by the wind. While it is unlikely that these conditions will be present at this site, the appointed contractors would be required to implement best management practices to reduce dust impacts to a minimum.

12.2 Operational

Pollution sources of air quality during operation are expected to be insignificant and only due to car park users. Since the overall capacity of the car park is being reduced from 417 spaces to 265 spaces there is unlikely to be any increase above existing levels.

13.0 Archaeology and Cultural Heritage

No archaeological sites have been identified which will be directly affected by the works.

13.1 Construction

The contractors will be required to report any archaeological finds during the works, such as during excavation activities and in the event that any historical artefacts are identified, the developer will ensure an appropriate mitigation strategy is agreed with an appointed archaeologist as required.

A photographic record of any identified building remains will be made by an archaeologist. The records will be logged with Historic Environment Scotland.

13.2 Operational

No archaeological sites have been identified which will be directly affected by the works.

14.0 Summary and Conclusion

This statement has assessed the potential environmental effects associated with the proposed Helensburgh Waterfront Development, which would be located to Helensburgh Pier.

The assessment has identified where the construction and operational phases of the development has the potential to have adverse impacts on important receptors.

Land Use/ Landscape and Visual Intrusion

The existing setting is predominantly land in nature, and therefore the marine use will have minimal impact from a landscape and visual perspective. The land use impact will be also minimal as there is an existing old swimming pool building. Indeed, the visual impact will be improved by a new dynamic building with friendly materials.

Ecology, Habitats and Species

The overall impact of construction and operational activities on ecological species and habitats is expected to be insignificant.

The relevant stakeholders have been notified of the proposals. Potential impacts will be reduced to acceptable levels though appropriate mitigation developed through consultations and following receiving the Ecology Appraisal Report.

Water Environment/ Hydrology and Flood Risk

The potential pollution risks to water quality will be minimised during construction through the production and compliance with a CEMP. During operation the management will instruct users on

their legal obligations to minimise pollution risks. The potential for increased coastal flood risk will be mitigated through the use of the construction of a flood prevention system.

Geology and Hydrogeology

The proposed site will not have an impact on any features of geological interest or groundwater abstractions.

Waste

The generation of waste will be minimised onsite by the contractor during construction through the provision of adequate disposal facilities and guidance to inform staff members on their location. During operation the implementation of the Waste Management Plan will also effectively help reduce waste.

Noise and Vibration

The noise generated by piling will be short term and masked by ambient noise from surrounding traffic. As mitigation piling should be scheduled to avoid early and late timings. During operation overnight the potential noise from rigging will be minimised through appropriate tightening instructions from management to users. The construction of the rock revetment will generate no significant noise.

Air Quality

Potential adverse effects on air quality are unlikely due to the lack of dust availability expected on site.

Archaeology and Cultural Heritage

During excavation the appointed archaeologist (if necessary) will take appropriate records and follow an appropriate mitigation strategy. During operation there will not be any direct impacts or material changes affecting any designated sites in the vicinity.

Construction Activities

An outline of a construction method statement has been provided, however a detailed method will be provided by the contractor on appointment.

No significant impacts are anticipated during the construction phase or the operational phase. Where potentially negative impacts are identified, the provision of suitable best practice mitigation measures will help minimise potential environmental impacts to an acceptable level.

15.0 Additional Information on Planning Consent

- Planning Application is in the process of being submitted.
- The planning department are currently considering whether an EIA may be required.
- A Statutory Public Consultation (SPC) is potentially likely to be required. The requirement depends on the nature and scale of the project. The total development area is above than 2 hectares so may automatically trigger an SPC.
- Planning policy is that Helensburgh Pier should be maintained as a commercial and Public Pier. Consequently, there will be no displacement of car parks, retail development, and leisure by the new proposed Facilities.

- **A Planning Pre-Application meeting took place in Helensburgh on the 14th February 2018. Stakeholders included the Royal Society for the Protection of Birds (RSPB), SEPA, SNH, Sottish Water and others. All to be include in the Planning Pre-Application.**

16.0 Technical surveys that will confirm design certainty

Site investigation has been undertaken – to assist in the rock revetment design assessment. Building, car park and future retail buildings designs.

Wave analysis for the full coastal protection scheme is presently being undertaken – Overtopping to meet the design standard for: (1 in 200 yr. return period event) and under an extreme event (1 in 50 yr. return period).

Ground conditions

A ground investigation was commissioned and completed by Patrick Parsons in November 2017. The aim of the investigation was to provide information on the thickness and properties of the superficial deposits, the properties of bedrock and the depth to sea bed.

Information was obtained by intrusive investigation (vertical boreholes and machine dug trial holes). Laboratory testing of samples for geotechnical parameters was also carried out.

The final report and laboratory results are pending.

Flood Risk

Previous advice has been received from SEPA regarding flood risk and design levels in the area of Helensburgh Pier. SEPA advised an approximate 1 in 200 year water level for the area of 4.7m AOD, based on extreme still water level calculations. A Flood Risk study has been undertaken and levels of flood considered in the designs. It was noted that the levels take into account the potential effects of wave action, funnelling or local bathymetry at this location. The top of the crest is 5.4m AOD to accommodate vertical fluctuation in water level, including extreme sea levels.

Bathymetry

A bathymetric survey is the submerged equivalent of an above water topographic map. These surveys present accurate, measurable descriptions and visual representation of the submerged terrain. A multi beam bathymetry survey of Helensburgh bay (covering the site boundary) was carried out in 2017 by Aspect Land and Hydrographic Surveys.

Waves

An investigation of wave climate was undertaking in 2018 by KAYA to predict (by computer modelling) the likely wave climate in Helensburgh in the most extreme conditions. The study itself was undertaken by KAYA who are highly experienced in this field. Prediction of wave climate was sought at both the South and East of the Pier.

The current site is at risk from flooding caused by extreme tides and storm surges as well as waves. The estimated present 200 year still water level at the site is 4.03m above ordnance datum (AOD),

rising to 4.45m AOD in 2080 and 4.62m AOD in 2100. This indicates that the site would flood up to a depth of 0.73m during a 200 year event, increasing in the future due to the effects of climate change. It is predicted that the site would be flooded on average once every five years, and therefore the site must be raised and defended to allow new development.

The mathematical modelling work assumes that the flood defences will be in the form of rock armour revetment with a crest level of 5.4m AOD as recommended by the previous AECOM report.

The results of the model indicate that the proposed development will not have a significant impact on flooding risk elsewhere.

The model also shows that local flow velocities are low, even during a 200 year storm event, and therefore significant longshore drift is unlikely. This assumption is supported by the shape and stability of the existing beachline.

The low local velocities are likely to result in deposition of suspended sediment within the navigation channel adjacent to the pier. The proposed development should have no significant impact on the present siltation mechanism of the navigation channel or its frequency of dredging.

Wave overtopping calculations have shown that a 200 year risk resulting from the combination of still water and waves would be unlikely to cause overtopping exceeding 0.1l/s/m. Guidance provided in Eurotop Manual suggests that such levels of overtopping would be acceptable. The wave overtopping calculations are based on empirical equations which are bases on underlying assumptions.

Tidal Information

Some relevant Ordnance Datum information is presented below.

Constant	Level to Ordnance Datum (OD)	Level to Chart Datum (CD)
Highest Astronomical Tide (HAT)	+2.48 m OD	+4.1 m CD
Mean High Water Springs (MHWS)	+1.78 m OD	+3.4 m CD
Mean High Water Neaps (MHWN)	+1.18 m OD	+2.8 m CD
Mean Sea Level (MSL)	+0.23 m OD	+1.85 m CD
Ordnance Datum (OD)	0.00 m OD	+1.62 m CD
Mean Low Water Neaps (MLWN)	-0.62 m OD	+1.0 m CD
Mean Low Water Springs (MLWS)	- 1.32 m OD	+0.3 m CD
Lowest Astronomical Tide (LAT)	-1.72 m OD	0.10 m CD
Chart Datum (CD)	-1.62 m OD	0.00m CD

17.0 Requesting a screening decision from Marine Scotland Authority

Confirmation on to whether the proposed development requires EIA and a PAC.

Appendix A

Drawings

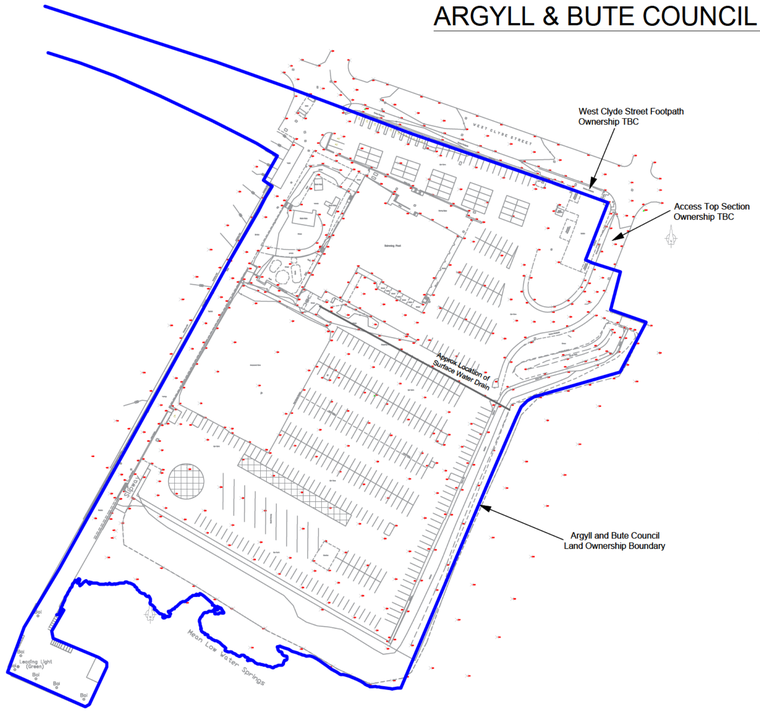
ARGYLL & BUTE COUNCIL --- DEVELOPMENT AND INFRASTRUCTURE SERVICES

NOTES :

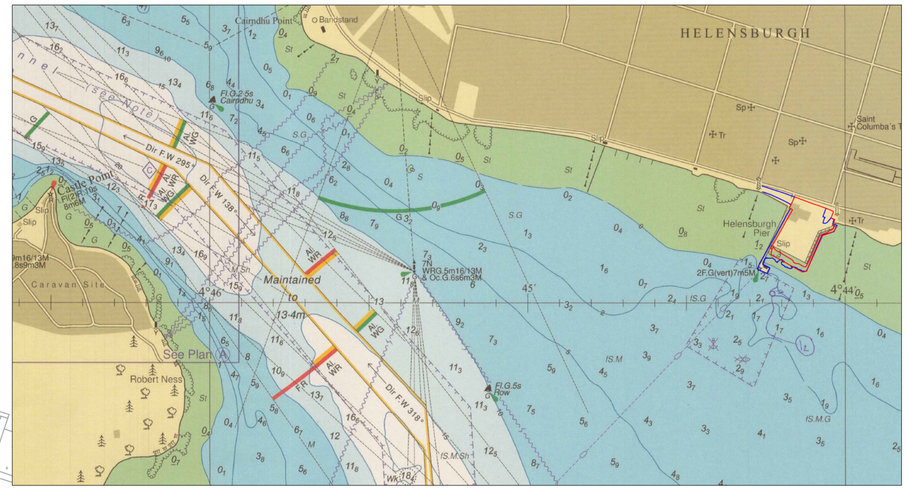
1) ALL DIMENSIONS ARE IN MILLIMETRES UNLESS NOTED OTHERWISE.

2) ALL LEVELS ARE IN METRES RELATIVE TO A ORDANACE DATUM UNLESS NOTED OTHERWISE.

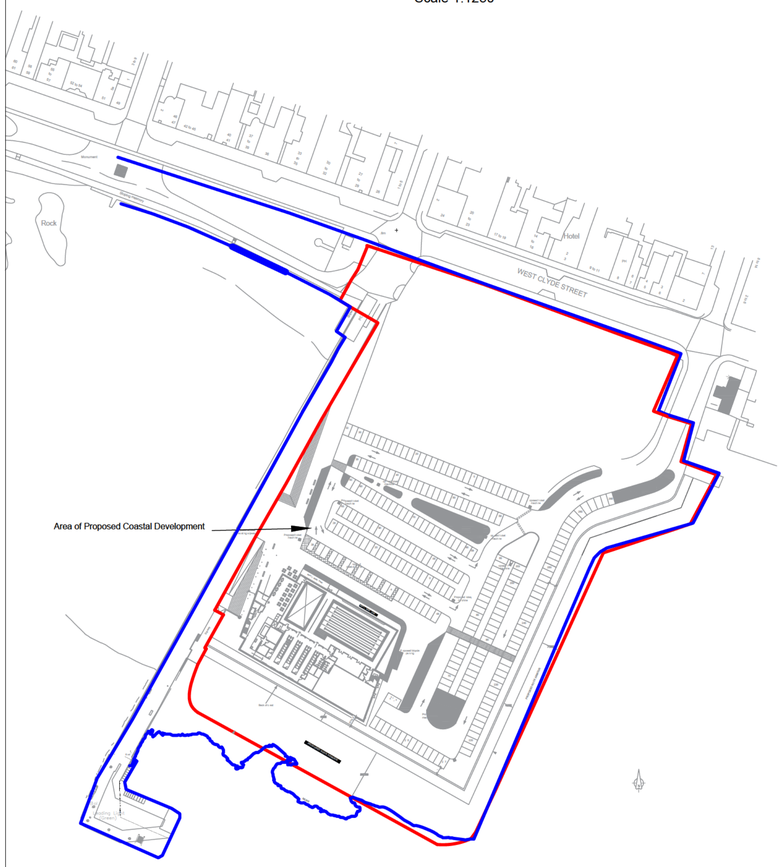
3) EXISTING SURFACE DRAINAGE OUTFALL TO BE MADE REDUNDANT.



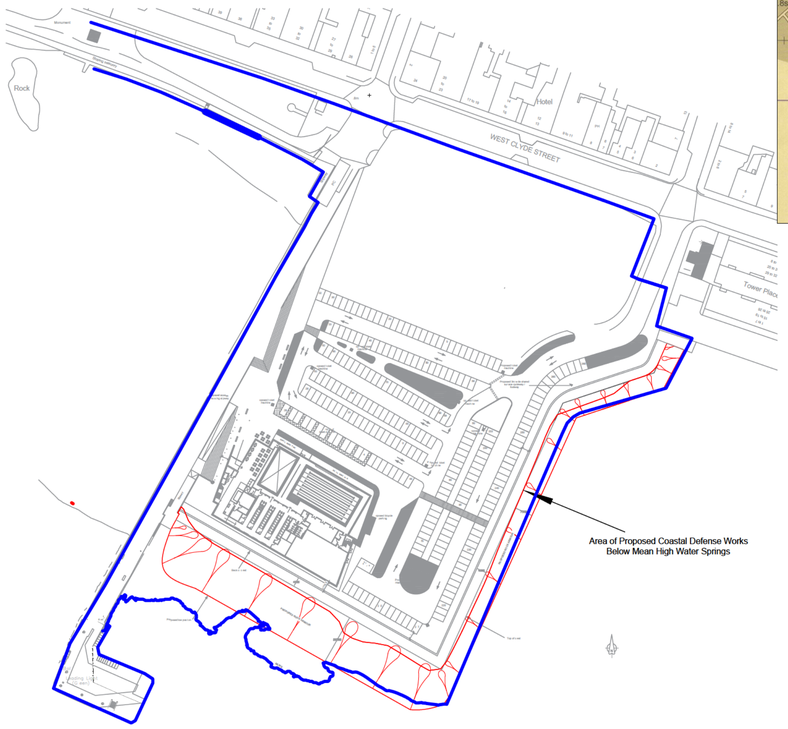
Helensburgh Waterfront Development - Existing Arrangement
Scale 1:1250



Extract of Admiralty Chart Number 2000
Scale : 1:10,000



Helensburgh Waterfront Development - Proposed Full Development Arrangement
Scale 1:1250



Helensburgh Waterfront Development -Area of Works Below MHWS
Scale 1:1250

Constant	Level to Ordnance Datum (OD)	Level to Chart Datum (CD)
Highest Astronomical Tide (HAT)	+2.48m OD	+4.1m CD
Mean High Water Springs (MHWS	+1.78m OD	+3.4m CD
Mean High Neaps (MHWN)	+1.18m OD	+2.8m CD
Mean Sea Level (MSL)	+0.23m OD	1.85m CD
Ordnance Datum (OD)	0.00m OD	+1.62m CD
Mean Low Water Neeps (MLWN)	-0.62m OD	+1.0m CD
Mean Low Water Springs (MLWS)	-1.32m OD	+0.3m CD
Lowest Astronomical Tide (LAT)	-1.72m OD	0.10m CD
Chart Datum (CD)	-1.62m OD	0.00m CD

Tidal Information

Legend

- Argyll and Bute Council Land Ownership Boundary
- Area of proposed coastal defense works below MHWS
- Area of works below MHWS 3874m^2 or 0.3874ha
- Site Location: Easting: 229488, Northing: 682140 Latitude: 56.002 Longitude: -4.736
- Area of proposed development above MHWS 25,773m^2 or 2.5773 ha

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Director of Development and Infrastructure Services
Pippa Milne

DESIGN OFFICE,
MANSE BRAE, LOCHGILPHEAD, ARGYLL, PA31 8RD

TITLE

Helensburgh Waterfront Development
Site Location Plan

SCALES 1:1250, 1:10000

SUFFIX	REVISION	INIT.	DATE	INIT.	DATE
A	Land Ownership Boundary Updated and South West Slipway	KH	21/02/2018	ES	21/02/2018
	Issued to MS Screening Opinion	KH	09/02/2018	ES	09/02/2018
	Issued to SEPA for comments	DH	05/02/2018	ES	05/02/2018
		CHECKED BY		APPROVED BY	

DESIGNED BY	ES	DRAWING No.	00045-02/001/A
DRAWN BY	DH		
CHECKED BY	KH		
APPROVED BY	WAM	DATE ISSUED	21/02/2018
DATE	21/02/2018		

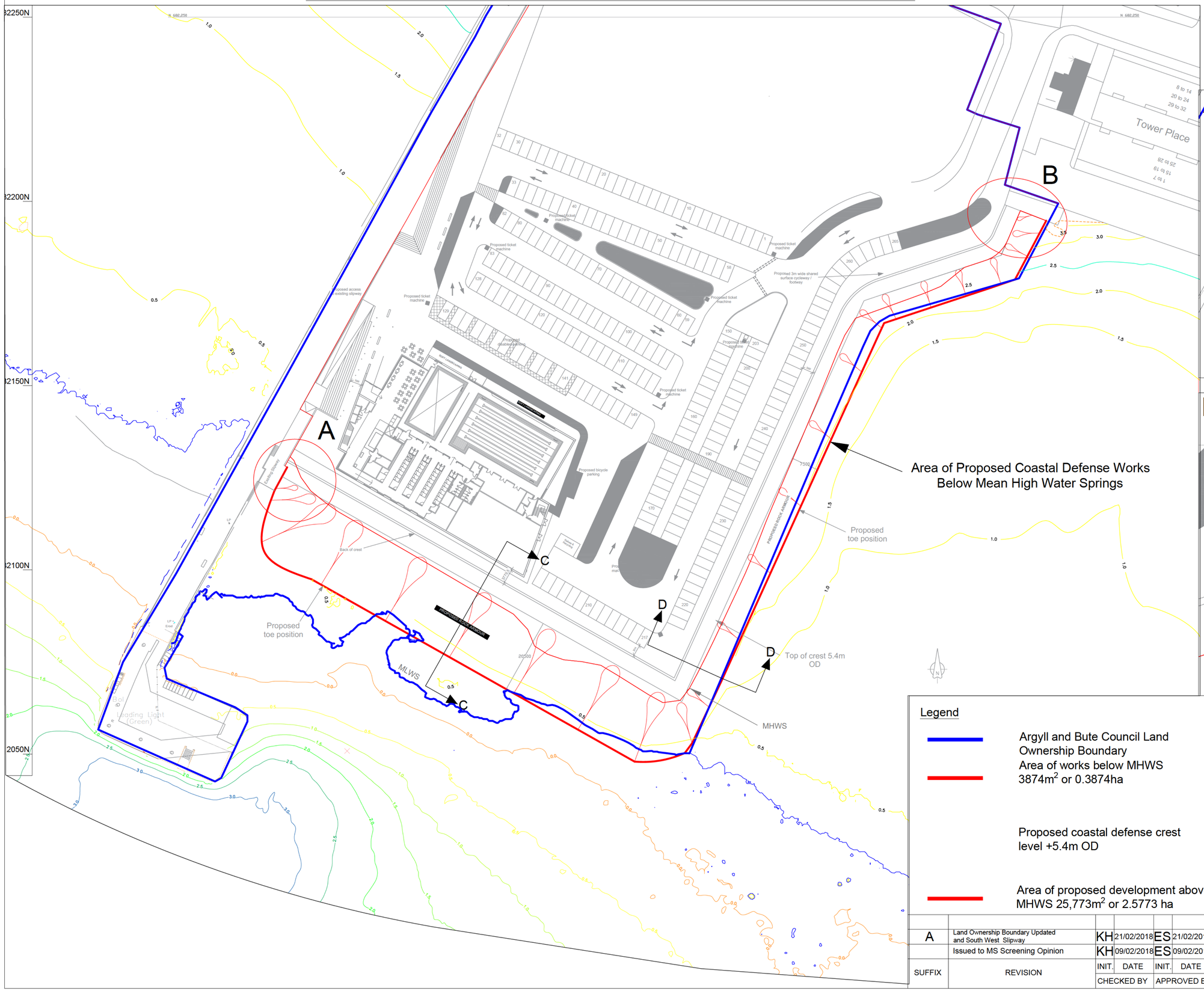
Argyll Bute COUNCIL

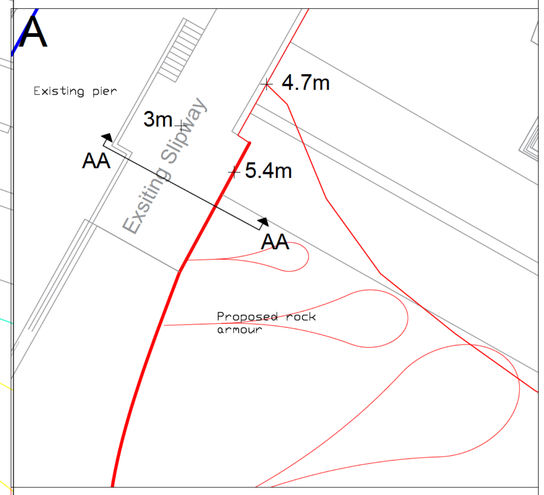
ARGYLL & BUTE COUNCIL --- DEVELOPMENT AND INFRASTRUCTURE SERVICES

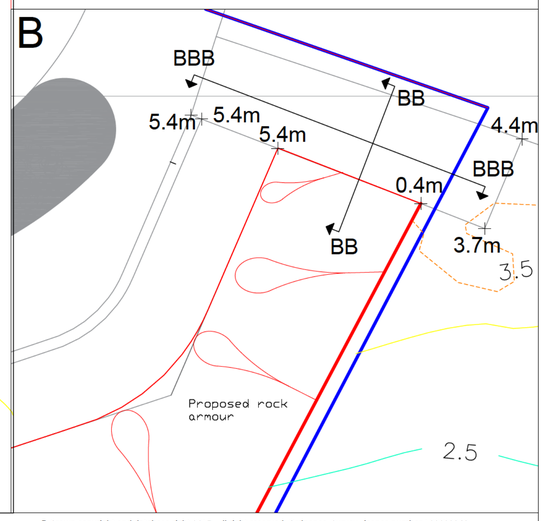
NOTES :

1) ALL DIMENSIONS ARE IN MILLIMETRES UNLESS NOTED OTHERWISE.

2) ALL LEVELS ARE IN METRES RELATIVE TO CHART DATUM.







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Legend

- Argyll and Bute Council Land Ownership Boundary
- Area of works below MHWS 3874m^2 or 0.3874ha
- Proposed coastal defense crest level +5.4m OD
- Area of proposed development above MHWS 25,773m^2 or 2.5773 ha

Director of Development and Infrastructure Services
Pippa Milne

DESIGN OFFICE,
MANSE BRAE, LOCHGILPHEAD, ARGYLL, PA31 8RD

TITLE

Helensburgh Waterfront Development Proposed Site Plan

SCALES 1:500, 1:150

SUFFIX	REVISION	INIT.	DATE	INIT.	DATE
A	Land Ownership Boundary Updated and South West Slipway	KH	21/02/2018	ES	21/02/2018
	Issued to MS Screening Opinion	KH	09/02/2018	ES	09/02/2018
		CHECKED BY		APPROVED BY	

DESIGNED BY	ES
DRAWN BY	DH
CHECKED BY	KH
APPROVED BY	WAM
DATE	21/02/2018

DRAWING No. 00045-02/003/A

DATE ISSUED 21/02/2018

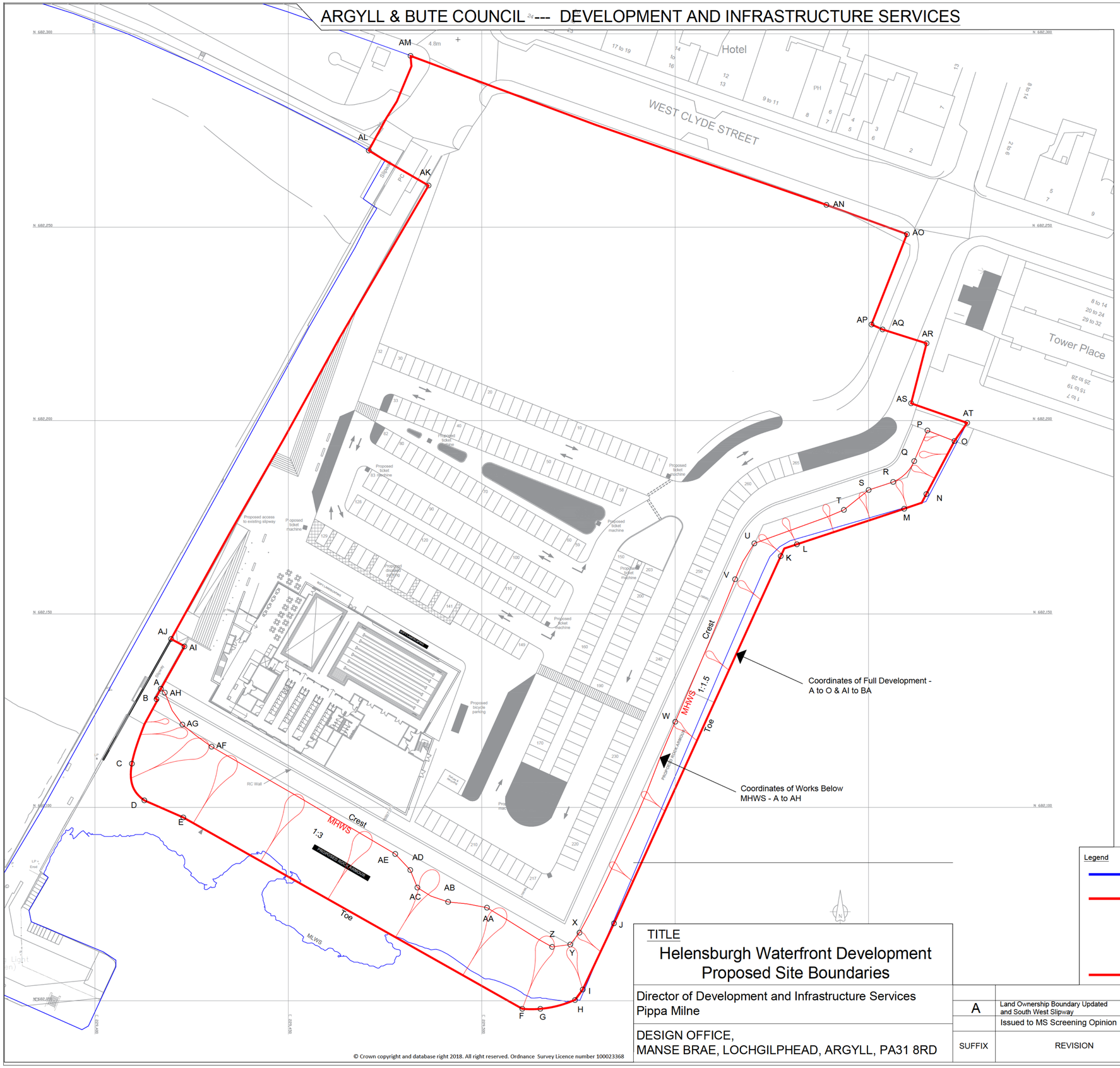
Argyll & Bute COUNCIL

ARGYLL & BUTE COUNCIL --- DEVELOPMENT AND INFRASTRUCTURE SERVICES

NOTES :

1) ALL DIMENSIONS ARE IN MILLIMETRES UNLESS NOTED OTHERWISE.

2) ALL LEVELS ARE IN METRES RELATIVE TO A ORDANACE DATUM.



Co-ordinates (WGS84)						
	Point	Eastings	Northings	Latitude	Longitude
Site Boundary	A	229417.1	682130.1	56.001684	-4.7371175
	B	229415.9	682128.0	56.001665	-4.7371354
	C	229410.3	682112.6	56.001524	-4.7372153
	D	229410.2	682104.6	56.001453	-4.7372118
	E	229422.9	682097.4	56.001393	-4.7370039
	F	229510.5	682047.9	56.00098	-4.7355692
	G	229515.2	682047.9	56.00098	-4.7354946
	H	229524.1	682050.2	56.00101	-4.7353527
	I	229526.1	682052.9	56.00103	-4.7353222
	J	229534.2	682070	56.00119	-4.7352037
	K	229577.3	682165	56.00205	-4.7345732
	L	229581.5	682168	56.00208	-4.7345082
	M	229609.2	682177.2	56.00218	-4.73407
	N	229615	682181	56.00221	-4.7339805
	O	229622.3	682194.7	56.00234	-4.7338728
	P	229615.3	682197.5	56.00236	-4.7339866
	Q	229611.8	682189.6	56.00229	-4.7340363
	R	229606.4	682184.2	56.00224	-4.7341202
	S	229600.1	682182.1	56.00222	-4.7342201
	T	229593.7	682176.9	56.00217	-4.7343195
	U	229570.5	682168.3	56.00208	-4.7346848
	V	229565.5	682159	56.002	-4.7347585
	W	229550.1	682122.2	56.00166	-4.7349831
	X	229525.3	682067.6	56.00116	-4.7353449
	Y	229522.9	682064.6	56.00113	-4.7353813
	Z	229518.2	682063.9	56.00113	-4.735456
	AA	229501.4	682074.1	56.00121	-4.7357323
	AB	229491.3	682075.6	56.00121	-4.7358942
	AC	229483.4	682079.3	56.00125	-4.7360237
	AD	229481.5	682083.8	56.00129	-4.7360561
	AE	229477.7	682088	56.00133	-4.7361208
	AF	229430.2	682115.7	56.00156	-4.7368989
	AG	229422.6	682121.4	56.00161	-4.7370234
	AH	229418.1	682129.7	56.00168	-4.7371016
Site Boundary	AI	229423.1	682141.7	56.001790	-4.7370288
	AJ	229419.7	682143.6	56.00181	-4.7370843
	AK	229486.3	682260.8	56.00288	-4.7360926
	AL	229470.8	682269.9	56.00296	-4.7363461
	AM	229481.6	682294.3	56.00318	-4.7361887
	AN	229589.1	682255.8	56.002873	-4.7344418
	AO	229610.0	682248.2	56.002812	-4.7341030
	AP	229600.8	682224.9	56.002600	-4.7342355
	AQ	229603.7	682223.6	56.002589	-4.7341889
	AR	229615	682220	56.002561	-4.7340044
	AS	229611	682204.5	56.00242	-4.7340585
	AT	229625.5	682199.4	56.00238	-4.7338232

Legend

- Argyll and Bute Council Land Ownership Boundary
- Area of proposed coastal defense works below MHWS
- Area of works below MHWS $3874m^2$ or 0.3874ha
- Site Location: Easting: 229488, Northing: 682140 Latitude: 56.002 Longitude: -4.736
- Area of proposed development above MHWS $25,773m^2$ or 2.5773 ha

TITLE

Helensburgh Waterfront Development Proposed Site Boundaries

Director of Development and Infrastructure Services
Pippa Milne

DESIGN OFFICE,
MANSE BRAE, LOCHGILPHEAD, ARGYLL, PA31 8RD

SUFFIX	REVISION	INIT.	DATE	INIT.	DATE
A	Land Ownership Boundary Updated and South West Slipway	KH	21/02/2018	ES	21/02/2018
	Issued to MS Screening Opinion	KH	09/02/2018	ES	09/02/2018
		CHECKED BY		APPROVED BY	

SCALES	1:500		
DESIGNED BY	ES	DRAWING No.	00045-02/002/A
DRAWN BY	DH		
CHECKED BY	KH		
APPROVED BY	WAM	DATE ISSUED	21/02/2018
DATE	21/02/2018		

Argyll & Bute COUNCIL

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UPDATED METHODOLOGY STATEMENT

[redacted]

From: Simoes, Elsa <Elsa.Simoes@argyll-bute.gcsx.gov.uk>
Sent: 23 March 2018 14:29
To: Hay J (Jessica); MS Marine Licensing
Cc: [redacted]
Subject: HWD - Proposed Site Boundary for potential revetment construction from sea [OFFICIAL]
Attachments: HWD 00045-02-006 Indicative Method of Construction-A1 PDF 23.3.18.pdf

Classification: OFFICIAL

Dear Jessica,

Following our recent telephone conversation with regards to the potential construction of the south revetment from a barge, I have attached our drawing showing the Proposed Site Boundary for potential revetment construction from sea. The drawings also addresses constrains encountered up to this date.

Below is the Outline Method Statements for the East and South sides.

South Revetment – Construction from a barge

The works are to commence from the West end and the sections length to be confirm by the successful contractor and subject to Engineer's approval.

Estimated duration of then works: 7/8 weeks

- Site welfare facilities and site compound established on the barge.
- The flood defence activities are to be undertaken from a barge in sections starting on the west side such that the toe of the revetment is not exposed to waves for too long.
- Installation of safebuoys (allowing for emergency access via the west end slipway throughout full duration of the works and Waverley manoeuvres once per week)
- Formation of the revetment toe
- Rock armour delivered by sea to the site and lifted into position using a crane
- Construction of the reinforced concrete retaining wall **(from land)**
- Installation of the revetment crest
- Infill material delivery to the site and compact as per specification to specified level **(from land)**
- All works tested and commissioned in accordance with the specification
- Contractor demobilisation

For information I have included the East side outline method statement as follows:

East Revetment – Construction from land

Estimated duration of the works: 10/12 weeks

- Site welfare facilities and site compound established on shore in an area within the full development site as marked up in the Drawing N0.xxxx (in progress)

- The flood defence activities are to be undertaken from land in sections starting at the South East corner such that the toe of the revetment is not exposed to waves for too long.
- Formation of the revetment toe
- Remove Gabions, clear steel mesh and dispose.
- Install rocks from the gabions as a secondary layer
- Rock armour delivered by road to the site and lifted into position using a crane
- Construction of the reinforced concrete retaining wall
- Installation of the revetment crest
- Infill material delivery to the site and compact as per specification to specified level
- All works tested and commissioned in accordance with the specification
- Contractor demobilisation

In addition, I will consult with The Crown Estates shortly.

I trust this is in order to allow you to make a decision but otherwise should you need any further information please let me.

Thanks
Regards
Elsa

Elsa Simoes CEng MICE
Senior Engineer (Structures)
Infrastructure Design
Argyll and Bute Council
[redacted]
www.argyll-bute.gov.uk

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