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Issued by email only

1 July 2020

Dear Sirs,

**Orkney Islands Council Harbour Authority (OICHA) – Enhancements to Scapa Pier
Request for Screening Opinions**

We write on behalf of our Clients above to formally request individual screening opinions under The Marine Works (Environmental Impact Assessment) (Scotland) Regulations 2017 for the above named project.

As required by Paragraph 10 of the above Regulations we have provided a pack of information for this project (attached) which includes:

- a description of the location of the development, including a plan to identify the land;
- a description of the proposed development, including of the physical characteristics of the proposed development;
- a description of the location of the proposed development, with regard to the environmental sensitivity of the area and any potential significant environmental effects; and
- a description of any features of the proposed development, or proposed measures, envisaged to avoid or prevent significant adverse effects on the environment where possible.

The information provided is drawn from the recent Orkney Harbours Masterplan Phase 1 (March 2020), Strategic Environmental Assessment (SEA) Environmental Report (June 2019), and associated Habitat Regulations Assessment (HRA) (January 2020) and Supplementary information for the Habitats Regulations Appraisal Appropriate Assessment (AA) (undated) prepared by Intertek, and additional desk study by EnviroCentre. If copies of these documents would assist your appraisal please contact cfleming@envirocentre.co.uk and copies shall be issued to you.

We have also copied this communication to Orkney Islands Council as there is also a requirement to screen this project under The Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2017. We have also therefore made a separate

request to Orkney Islands Council for a screening opinion which you have also been copied in to.

If you have any questions related to the information provided, please contact the undersigned.

Yours sincerely
for EnviroCentre Ltd

(issued electronically)

Dr. Campbell G. Fleming
Executive Director

Dr. Ian Buchan
Principal Environmental Consultant

Enc: Supporting pack of information for Scapa Pier

CC: Orkney Islands Council

2. Scapa Pier

Information to Support a Screening Opinion

1.1 Plans

The general location of this project within Orkney is shown on Drawing No. 673702-001.

A plan is also provided showing the project location within the local area. This is contained in Drawing No. 673702-003.

An illustrative layout of the planned development prepared by Arch Henderson is also attached.

1.2 Project Description

- Pier extension and deepening.
- Additional shoreside area and marine leisure berths.

1.2.1 Location

Scapa Pier is located approximately 2 miles south of Kirkwall at its southern extent.

1.2.2 Description

Scapa Pier is a key component of Orkney's critical infrastructure. As well as supporting Flotta Oil Terminal activities, STS and semisubmersible rig maintenance; it is the single point of entry for Orkney's entire supply of domestic and commercial hydrocarbon fuels.

Three tugs and one pilot boat are based at Scapa Pier, as well as commercial boats – all service vessels and platforms at anchor in Scapa Flow, as well as the provision of marine services for Flotta (this encompasses towage, pilotage, counter pollution, conservancy, port security, etc.). At present there is only just enough depth of water for tugs – in inclement weather they have to use other port facilities. There is limited availability of berthing and quayside space, impacting on operational safety and efficiency.

Fuels are discharged here using dedicated pipelines running from the pier directly into a tank farm located underground in close proximity to the pier, owned by Highland Fuels. One of the main concerns at present is that tankers are increasing in size: new vessels coming into the James Fisher fleet within the next five to ten years cannot be accommodated at Scapa Pier. At the same time it is unlikely that Highland Fuels would wish to relocate the tank farm until such time that it reaches the end of its usable life.

Another concern is that over time the nature of Orkney's fuel supply may change, particularly as climate change targets focus on reducing carbon footprint: in 20 years time we may be looking at a fuel supply comprising not only petrol, kerosene and diesel, but other fuels, such as LNG, hydrogen or even synthetically produced fuels.

Scapa Pier extension and deepening

The existing Scapa Pier would be lengthened by circa 100m, and dredging would provide deeper water (from -5m CD to -7.5m CD).

The extension is angled with a wider quay. This would enable larger vessels to come alongside and increase berthing space. The quayside would be improved by making it the same level and removing any obstacles, as well as creating some additional laydown area shoreside.

It should be noted that as a design principle it will be attempted to balance any dredging or cut into the land with construction and/or reclamation requirements. Disposal of dredging material will be avoided as far as possible.

Additional shoreside area and marine leisure berths

Through reclamation an area adjacent to the shore would be made available for operational use, storage and/or parking. Several berths for marine leisure, and a small slip to service these would be incorporated – this could be a suitable location for vessels offering marine tours in Scapa Flow, or smaller commercial boats, for example. It is not envisaged that this would be a key location for visiting yachts.

1.2.3 Construction Timing

The Scapa Pier construction will take up to 13 months¹.

1.2.4 Local Sensitivities

This section notes some of the local sensitivities apparent from a high level desk based review. Further information on known sensitivities is provided in Section 1.3 below

Designated Sites

Site of Special Scientific Interest

- Waulkmill (Approximately 8km west)
 - Waulkmill is a sheltered sandy bay contains a wide variety of wildlife habitats including the largest saltmarsh. It also has a distinctive flora of plants and the cliffs support a rich variety of herbs, ferns and shrubs. The only colony of native aspen on the Orkney mainland is found on cliffs on the eastern side of the bay. One species of moth, *Coloephora vigaureae*, has only been seen here. Wildfowl and waders feed where the burn flows into the bay, while the moorland and scrub provide good habitat for a variety of birds including stonechat.

Special Protection Areas

- Orkney Mainland Moors (Terrestrial) (Approximately 4km west)
 - The predominant habitats include extensive areas of blanket bog, acid grassland, wet and dry heath, raised-mire and calcareous valley mire. The presence of extensive moorland provides nesting opportunities for an assemblage of moorland breeding birds, including Hen Harrier and Short-eared Owl. Sheltered river valleys and dales support willow scrub,

¹ Orkney Islands Council - Harbour Authority: Draft Orkney Harbours Masterplan Phase 1 Appropriate Assessment (Intertek 2020)

tall-herb and flush vegetation, and several scattered lochans provide important breeding areas for Red-throated Diver.

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- Hoy (Marine) (Approximately 15km south-west)
 - Cliffs provide important breeding sites for a number of seabird species such as Puffin, Guillemot, Kittiwake, Great Black-backed Gull and Fulmar. Inland moorland areas also support large numbers of breeding birds, in particular Great Skua and Arctic Skua. Red-throated Diver nest on the numerous small lochans found on the moorland. Peregrine are also known to breed in Hoy. The divers and seabirds feed in the rich waters around Hoy, outside the SPA.
- Scapa Flow pSPA (located within the pSPA)
 - The area included within the pSPA supports a population of European importance of the following Annex 1 species: including Great northern diver (*Gavia immer*), Red-throated diver (*Gavia stellata*), Black-throated diver (*Gavia arctica*), Slavonian grebe (*Podiceps auritus*). It also supports migratory populations of European importance of the following species: European shag (*Phalacrocorax aristotelis*), Common eider (*Somateria mollissima*), Long-tailed duck (*Clangula hyemalis*), Common goldeneye (*Bucephala clangula*), Red-breasted merganser (*Mergus serrator*)

Special Areas of Conservation

- Hoy (Approximately 18km south-west)
 - The island of Hoy is located on the west of Scapa Flow and features a range of habitats and species which are found in no other part of Orkney.

Archaeology and Cultural Heritage

There is one Scheduled Monument within the vicinity of the proposed development.

With reference to Historic Environment Scotland², Broch Of Lingro, Broch is designated as a scheduled monument, and is located approximately 1.2km west of the pier (Figure 1).

Figure 1. Broch Of Lingro, Broch Scheduled Monument



The monument is the remains of a broch tower and associated settlement dating probably to the Iron Age (between about 600 BC and AD 400). The broch is no longer visible on the ground surface except as a rise in the field, but a range of significant archaeological deposits and features are expected to be preserved below ground. The site was partially excavated by George Petrie in the 1870s, which produced an exceptionally rich and unusual assemblage of finds. The plans and sections (drawn by Petrie and Dryden) show that the broch has an overall diameter of around 18m, with walls some 4.5m thick enclosing an internal area 9m in diameter. The broch was surrounded by an extensive and complex settlement comprising numerous small buildings of varying shape and size. Petrie excavated an area S of the broch, but the broch village was not fully excavated and the basal courses of the broch itself and some deposits in its interior are also likely to survive. The broch is located on the N side of Scapa Bay, at the head of Scapa Flow, and is around 10m above sea level. The monument was first scheduled in 1938.

Canmore points (terrestrial): Figure 2

Fea

A single unroofed building is depicted on the 1st edition of the OS 6-inch map (Orkney and Shetland (Orkney) 1882, sheet cviii), but it is not shown on the current edition of the OS 1:10000 map (1971).

² <http://portal.historicenvironment.scot/designation/SM1461>

Hillhead

Marshall lists two carved stone balls from Hillhead One, type 9b - 6-knobbed, decorated with concentric circles - is in the Hunterian Museum, Glasgow (B.1914.356). The other, type 5-7-knobbed - is made of diorite, identified as coming from Hillswick in Shetland. The present location of this ball is not stated.

Scapa Pier, Oil Tank Farm

A series of nine oil storage tanks have been constructed into the hillside immediately E of the pier (HY40NW 19.00) and below Fea farmsteading. Work on the tanks started during June/July of 1940 and was completed early in 1941. In addition to the oil tanks, offices, air-raid shelters and water services were built within the enclosure which surrounded this installation. The construction works are shown on a plan by Shell-Mex (Shell-Mex Scapa progress drawing, Scapa -AM, 1561-2B, dated Nov 15th 1939).

Scapa Pier, Harbour House

This building is still in use with the original cart bay blocked and in use as a window.

Scapa Pier

Scapa Pier was extended and modified during World War II to allow the landing of oil to supply the tank farm immediately to the E (HY40NW 19.03). The pier had a signal station and pipelines built on it during July and August 1940, all work being completed by November of that year. A 1:500 scale plan (dated November 15th 1939) of both the pier and tank farm showing all building works for this installation.

Borrowstonehill

A farmstead, comprising four roofed buildings, one unroofed structure and three enclosures is depicted on the 1st edition of the OS 6-inch map (Orkney and Shetland (Orkney) 1882, sheet cviii). Two roofed buildings are shown on the OS 1:10000 map (1971).

Figure 2. Canmore points terrestrial: Scapa Pier

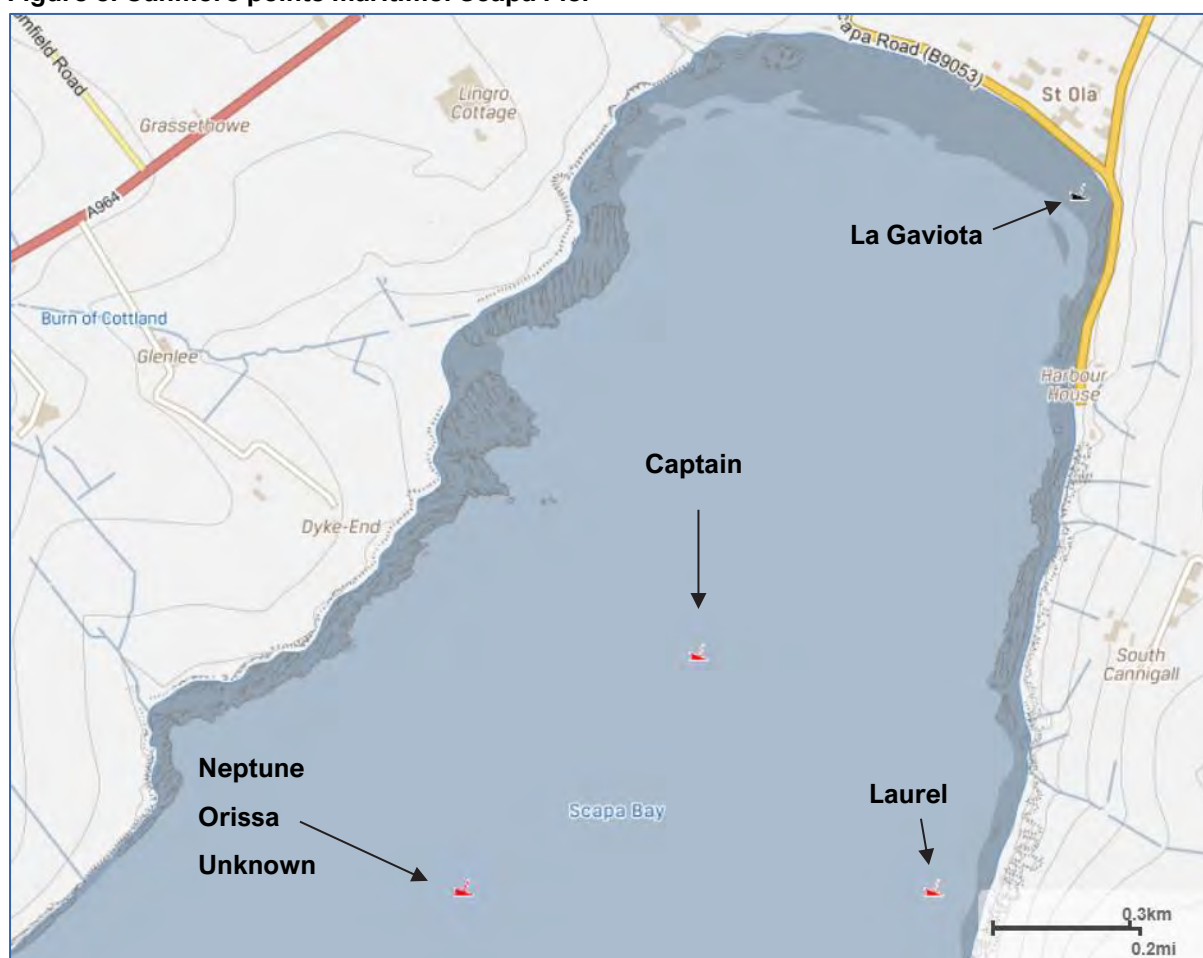


Canmore Points (Maritime): Scapa Pier

There are a number of maritime features within the vicinity of the Scapa Pier and wider area as shown in Figure 3.

- **Captain:** date of loss cited as 13 December 1854). This vessel stranded at Scapa Bay.
- **Neptune:** The NEPTUNE, Arnot, from St. Petersburg to Bristol, was driven on shore in the Bay of Scapa, with loss of anchors, cables and sails.
- **Orissa:** The ORISSA (smack), of Wick, Tullock, with staves, drove ashore in Scapa Bay.
- **Unknown:** 2 of 3 sailing craft (yachts) wrecked at Scapa
- **Laurel:** This vessel was wrecked at Scapa in 1876
- **La Gaviota:** This vessel stranded 1975

Figure 3. Canmore points maritime: Scapa Pier



Air Quality

Previous Review and Assessment have determined there is no need for detailed assessment and no air quality management areas have been declared in Orkney Islands Council's area³.

Water Quality

From the SEPA website the local coastal waterbody is classified as good as shown below.

ID	Name	Heavily Modified	Artificial	Year	Classification
200474	Scapa Flow	N	N	2018	Good

1.2.5 Information Arising from Previous Consultation

During the preparation of the SEA, HRA and AA for the Orkney Harbours Masterplan Phase 1 consultation was undertaken by OICHA through Intertek. Whilst have not reproduced these documents here, we have reviewed the responses from the Statutory Consultees and distilled what we consider to be the key points:

- Early communication with all stakeholders is recommended to identify potential issues and appropriate mitigation as early as possible.

³ https://www.orkney.gov.uk/Files/Environmental_Health/2008_Air_Quality_Report.pdf

- Protection of designated Sites (SPA/ SAC/ SSSI) and associated features to ensure the development does not undermine the Conservation Objectives, and hence site integrity of the site.
- Any permanent loss of foraging habitat would require more detailed consideration at project level, informed by both ornithological (Scapa Pier proposal falls within the Scapa Flow pSPA and this area has been identified as of high importance to black-throated diver (non-breeding), which feeds in the water column) and benthic surveys (Current data shows there is a record of a seagrass bed, and a mussel bed near Scapa Pier).
- The dredging and reclamation in this area has the potential to damage or destroy any unknown or undesignated marine historic environment assets in the area. Survey of this area may be required and further mitigation if assets are identified. Historic Environment Scotland note there are a large number of wrecks recorded around the Orkney Islands which have not been designated as scheduled monuments, protected areas or controlled sites, as well as undesignated terrestrial archaeology should be included.
- Once any dredge disposal sites are determined, impacts on relevant designated sites in their vicinity also need to be considered.
- Existing level of light is present at Scapa Pier, however, this aspect would require attention at a project level to assess specific impacts associated with light.
- Requirement for a Flood Risk Assessment at the planning phase.
- With regards to the works proposed for the Orkney Harbours Masterplan Phase 1, SEPA would note that such development is generally considered to be a 'Water Compatible Use' in line with their Land Use Vulnerability Guidance, which is SEPA's interpretation of national planning policy and duties and requirements under relevant legislation. As such, they would be unlikely to object on flood risk grounds.
- SEPA '*...welcome the reference in the SEA to "Undertake Water Framework Directive (WFD) Assessment for all developments."*
- Consider '*...fish farm developments*' within Scapa Flow pSPA

1.3 Aspects of Environment Potentially Affected and Potential Mitigation Measures

The table below provides commentary on each of the environmental topics considered with information on:

- Local setting and any key features known;
- Potential effects of development; and
- Any mitigation, avoidance or enhancement measures that could be implemented.

Topic	Potential Effects	Context and Observations	Potential Mitigation
Air	Dust emissions during construction	Rural location with limited receptors (less than 50 houses within 1 km radius); and No receptors immediately adjacent to the main site (although access road line to still be determined).	CEMP contains standard construction site dust suppression techniques. Readily mitigated.
Air	Traffic emissions during operation	As above	No mitigation
Biodiversity, Flora and Fauna	Damage to the Biodiversity, flora and fauna within the vicinity of the Orkney Islands.	Degradation of water quality during construction and operation through small accidental release of fuel and associated impacts on flora and fauna	The following good practice guidelines shall be adhered to and incorporated into the CEMP: <ul style="list-style-type: none"> • GGP 5: Works and maintenance in or near water; • PPG 6: Working at construction and demolition sites; • PPG 7: Safe Storage – The safe operation of refuelling facilities; • GPP 21: Pollution and incident response planning; and • GPP 22: Incident response – dealing with spills. Operational Management Plan which includes the above in order to minimise likelihood of spills.
Biodiversity, Flora and Fauna	Noise and visual impact.	Noise and visual impact resulting in disturbance to marine mammals and birds.	<ul style="list-style-type: none"> • Compared to other activities that generate underwater sound, dredging is within the lower range of emitted sound pressure levels. While it is clear that dredging sound has the potential to affect the behaviour of aquatic life in some cases, injury in most scenarios should not be a concern, or should be preventable. It is very unlikely that dredging-induced sounds will lead to any population level consequences, although harm to individuals will not be

Topic	Potential Effects	Context and Observations	Potential Mitigation
			<p>overlooked (CEDA Position Paper: <i>Underwater Sound in Relation to Dredging</i>)</p> <ul style="list-style-type: none"> • If piling is to be undertaken, piling will not commence if marine mammals are detected within the mitigation zone or until 20 minutes after the last visual detection. If any marine mammals are detected they will be tracked to ensure they have left the mitigation zone before they advise the crew to commence piling activities • A soft-start will be employed, with the gradual ramping up of piling power incrementally over a set time period until full operational power is achieved. The soft-start duration will be a period of not less than 20 minutes. This will allow for any marine mammals to move away from the noise source. • When piling at full power this will continue if a marine mammal is detected in the mitigation zone (as it is deemed to have entered voluntarily).
Biodiversity, Flora and Fauna	Marine Mammal Collision	Increased marine traffic leading to an increased risk of collision with marine mammals	Develop a Marine Mammal Protection Plan to assess and manage the risks of causing injury or disturbance to marine mammals (cetaceans and seals), as a result of construction and operation.
Biodiversity, Flora and Fauna	Introduction of new invasive species into the Orkney Islands.	Minimising the spread of Non-Native Species.	Works will be undertaken in line with the Scottish Governments “Non-native species: code of practice ⁴ (2012)”
Biodiversity, Flora and Fauna	Reduction in prey available for seabirds from dredging activities	Dredging will be undertaken within a dredge boundary.	Adopt dredging best practice based on ecological information.

⁴ <https://www.gov.scot/publications/non-native-species-code-practice/>


Topic	Potential Effects	Context and Observations	Potential Mitigation
Climatic Factors	Minimise greenhouse gases emissions and the Port's carbon footprint.	Construction and operational activities leading to increased greenhouse gas emissions, adding to existing carbon footprint.	<p>It is considered that the proposed development would not result in a significant effect upon climate given the nature of the development.</p> <p>Any increase in emissions created during either construction or operation is likely to be negligible, and pollution and emissions control would be discussed within a detailed Construction Environmental Management Plan (CEMP) and Operational Management Plan.</p> <p>Discussion of the vulnerability of the project to climate change is primarily concerned with the water environment, including flood risk. A flood risk assessment will be undertaken as part of the environmental assessment</p>
Cultural Heritage	Potential impact on cultural heritage assets	Limited change to cultural setting due to extension of existing facilities.	Watching brief for archaeological/ cultural heritage assets.
Landscape	Major impact on visual amenity of the area during construction and operation.	<p>Alteration to seascape due to extension of quayside and new waterfront development.</p> <p>Impact on visual amenities to local populations and recreational users.</p>	Limited alteration to seascape as extension of existing facilities. Design mitigation will be employed to help ensure that the proposed development integrates positively with its landscape setting.
Material Assets	Promote the sustainable use and management of material assets.	Proposal will be protecting and enhancing existing assets and ensuring sustainable use.	There is no mitigation proposed.

Topic	Potential Effects	Context and Observations	Potential Mitigation
Material Assets	To meet the objectives of the Zero Waste Plan.	Additional waste created due to construction.	The CEMP will include a Site Waste Management Plan. Existing waste plans will continue to be in place during the operational phase.
Population and Human Health	Protect and improve human health and wellbeing through	Degradation of air quality on local communities, through dust and emissions during construction.	The CEMP will contain standard construction site dust suppression techniques.
Population and Human Health	Improve safety record of the harbour and improve safety for the sea users.	This is a safety issue which will be addressed during the construction phase and operation.	During construction contractors will adhere to Construction Method Statements, CEMP and Risk Assessments. There is no additional mitigation proposed.
Soil	Potential impacts on coastal processes, leading to changes in wave climate and leading to coastal erosion (direct, long-term and irreversible).	This is unlikely to occur due to the foreshore substrate in the area being mainly rock platform. Reclamation of the shoreline would lead to land use change. There is no mitigation proposed.	Maintain or improve soil quality and prevent any further degradation of soils.
Soil	Loss of peatlands	Disturbance to and loss of peat lands	A peat management plan will be developed to ensure that peatlands are managed in accordance with best practice, specifically that peat habitats are wherever possible avoided during construction and where this is not possible that peat is reinstated effectively with a minimal loss of carbon.
Soil	Introduction of new pollution sources (primarily vessels) could lead to contamination of the seabed.	Potential for spills and discharges onto the water environment which could contaminate the seabed and habitats such as local seagrass bed	Operational Management Plan will be developed which to minimise likelihood of spills.

Topic	Potential Effects	Context and Observations	Potential Mitigation
		habitats within the vicinity of the development.	
Soil	Contaminated seabed sediments from maintenance dredging operations (if encountered), may require treatment as special waste	Dredging during operation	There will be a requirement to undertake a Best Practicable Environmental Option (BPEO) assessment for the dredging and disposal or reuse of material from the proposed development.
Water	Protect and enhance the state of the water environment.	Potential degradation of water quality as a result of dredging.	As above
Water	Protect and enhance the state of the water environment.	Potential degradation of water quality during construction and operation.	Potential degradation of the water environment would be managed by the CEMP and Operational Management Plan.
Water	Presence of new pier may cause localised changes in hydrodynamics and morphological changes to the water body	Potential changes to coastal processes.	The design of the pier will introduce design mitigation which aims to minimise changes to hydrodynamics and coastal processes.
Water	Flooding	Potential flooding as a result of construction works	A flood risk assessment will be undertaken to determine likely flooding effects.



Legend

 Approximate Capital Project Location

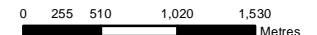
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 Client
 Orkney Islands Council Harbour Authority

Project
 OICHA Capital Projects Screening Exercise

Title
 Capital Project Locations

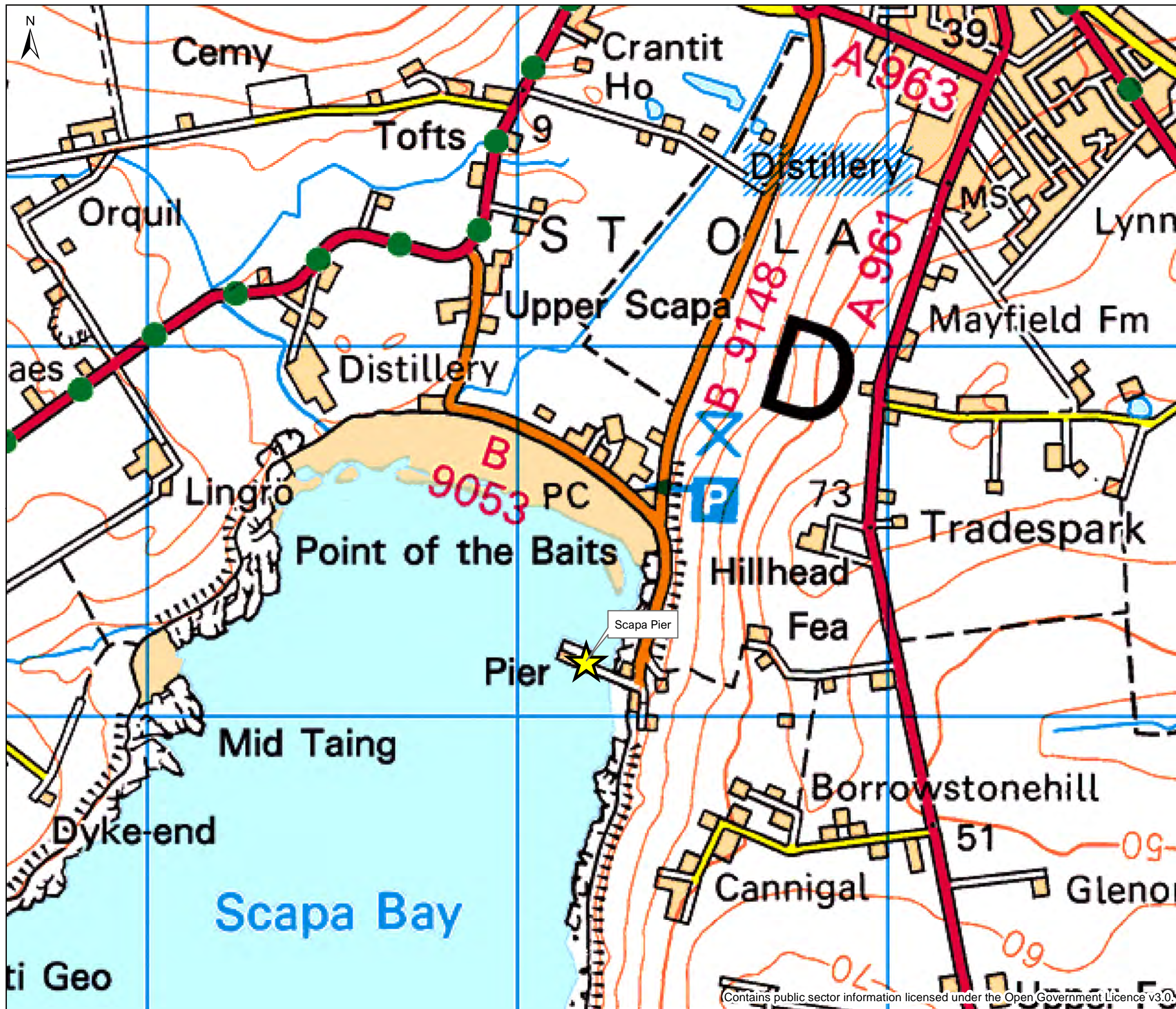
Status
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Drawing No. 673702-001	Revision -	Date 28 May 2020
Drawn JP	Checked CF	Approved CF


Scale
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Rev	Date	Amendment	Initials
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Legend

 Approximate Capital Project Location


Do not scale this map
 Client
 Orkney Islands Council Harbour Authority

Project
 OICHA Capital Projects Screening Exercise

Title
 Capital Project Locations:
 Scapa Pier

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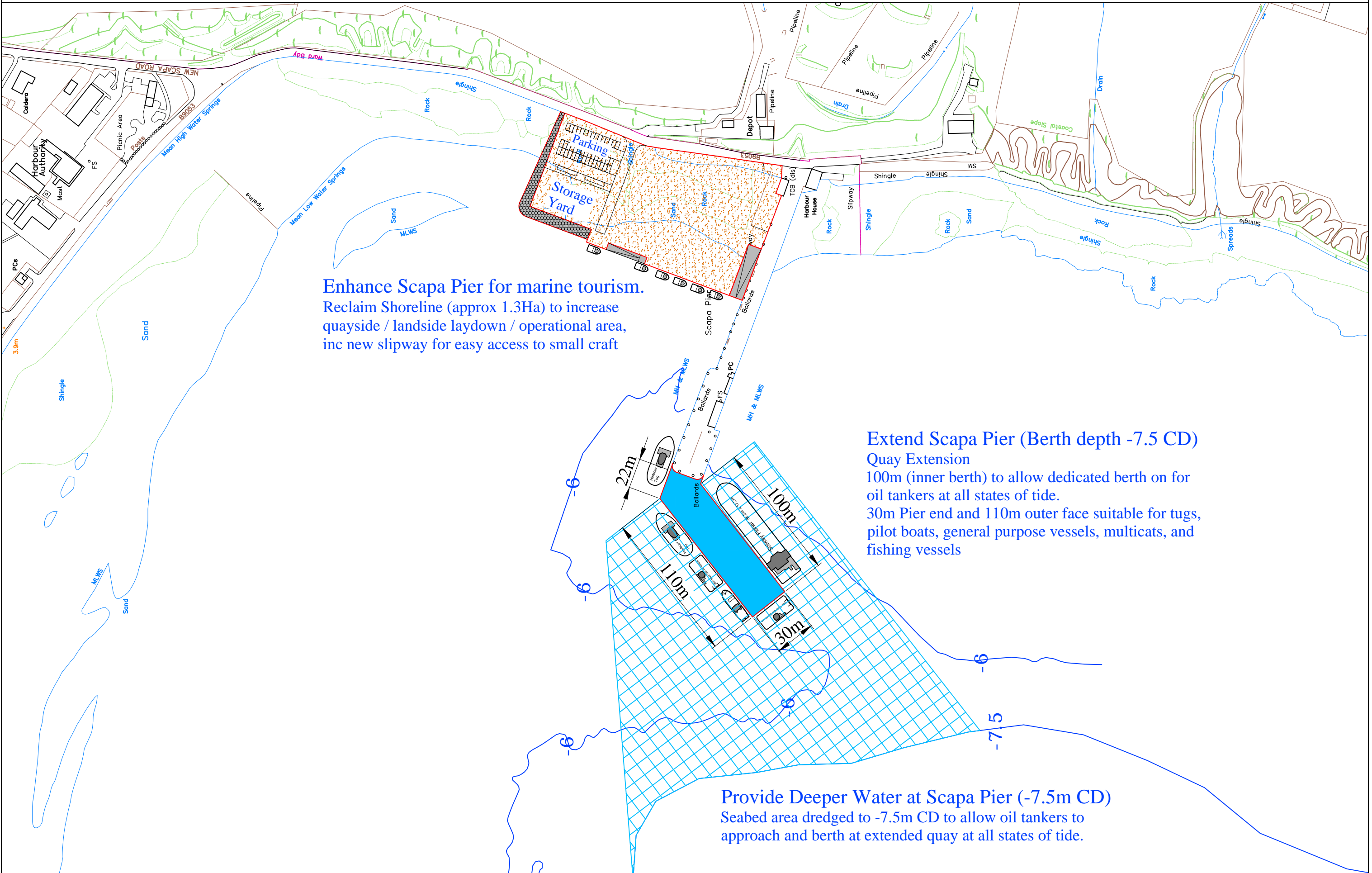
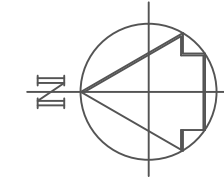
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SCAPA PIER



Enhance Scapa Pier for marine tourism.
Reclaim Shoreline (approx 1.3Ha) to increase
quayside / landside laydown / operational area,
inc new slipway for easy access to small craft

Extend Scapa Pier (Berth depth -7.5 CD)
Quay Extension
100m (inner berth) to allow dedicated berth on for
oil tankers at all states of tide.
30m Pier end and 110m outer face suitable for tugs,
pilot boats, general purpose vessels, multicats, and
fishing vessels

Provide Deeper Water at Scapa Pier (-7.5m CD)
Seabed area dredged to -7.5m CD to allow oil tankers to
approach and berth at extended quay at all states of tide.