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1 Scope of Work

This outline method statement covers the works involved in:

- Construction of a new outfall for process effluent from Scottish Sea Farms Smolt Unit at Barcaldine
- Works above MHWS are excluded and will be undertaken separately.

Note that detailed Risk Assessments and Method Statements must be produced before any works commence.

2 Location of Work

The work area is defined on the attached drawings:

- NL/SSF/OF/01 Location Plan & Long Section

The discharge point is at grid reference: NM 9620 4240

Latitude, Longitude: 56°31.759N, 005°18.926W

The works below MHWS commence at grid reference: NM 9621 4235

Latitude, Longitude: 56°31.729N, 005°18.900W

3 Personnel and Competence


Competent contractors with relevant, recent experience of similar works will be selected via an appropriate pre-qualification process prior to invitation to tender. Scottish Sea Farms/Northern Light (SSF/NL) will ensure that an appropriate Construction Phase Plan and detailed Risk Assessments and Method Statements, including Health, Safety and Environmental risks and mitigation, are in place before any works commence.

In particular, works involving work boats and divers will be planned and executed by specialist Contractors with appropriate qualifications.

4 Hazards Identified

The significant hazards include:

- Working over or adjacent to water
- Tidal working/soft ground
- Plant operations
- Lifting operations
- Marine works (boats/barges)
- Pollution of water/environmental incident, in particular, control of silt/sediment

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5 PPE

Mandatory PPE required:

- High Viz clothing
- Hard Hat
- Safety Boots
- Life Jackets or Buoyancy Aids
- Other PPE as appropriate to task undertaken e.g. eye protection, respiratory protection, gloves, overalls etc.

6 Tools, Plant and Equipment

Tools, plant and equipment required include:

- 360 degree tracked excavator and all-terrain telehandler (size and type TBC by contractor, consider low ground bearing pressure equipment as appropriate)
- Work boat (size and type TBC by contractor)
- Various small plant and tools including butt-fusion and electro-fusion welding equipment, generator, compressor etc.

7 Materials

Materials required include:


- Butt-Fusion Welded Black High-Density Polyethylene PE100 SDR17 250mm OD Pipe
- Electro-Fusion Welded Fittings (Tee Piece)
- Stainless Steel Brackets (to be installed at 5.5m spacing)
- Pre-cast Concrete Pipe Collars. Size, number and spacing of concrete pipe collars will be calculated to provide a factor of safety of at least 3.0 against flotation.
- Temporary weighted collars to sink the pipe during installation

8 Method and Sequence of Work

Note that the Contractor appointed to carry out the works shall be responsible for planning the works and selecting an appropriate method and sequence.

Advance Works

- String out 12m pipe lengths on the beach above MHWS.
- Weld 12m pipe lengths together to create a single continuous length of approx. 66m
- Weld on T-piece and two short stubs 2.5m long each to maintain 5m minimum spacing between discharge ports.

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Works from MHWS to MLWS


- Plan the working shifts around tide tables and weather forecasts. Works not completed between tides must be left safe and secure. The Contractor will only excavate what is expected to be completed within each shift.
- Using 360 degree excavator or all-terrain telehandler, carefully pull new outfall pipe into approximate position alongside the existing outfall.
- Using 360 degree excavator or all-terrain telehandler, and suitable slings, lift new outfall pipe and offer up against existing outfall pipe.
- Drill and fix new stainless steel bolts through existing outfall mild steel angle vertical restraints, and fit stainless steel brackets to secure the new outfall pipe to the existing.
- At the end of each shift, temporarily secure new outfall pipe which is not yet restrained by means of appropriate ropes or chains to existing structures and/or moorings.

Works below MLWS (or under-water dependent on tide)

- Plan the working shifts around tide tables and weather forecasts. Works not completed between tides must be left safe and secure.
- From a suitable workboat and using divers below water, use a compressed air lance to clear a trench to the invert level of the new outfall, and pockets every 4m around the full circumference of the existing outfall to allow brackets to be attached.
- Using the workboat crane, suitable slings, and temporary weighted collars, guided by diver, lift the new outfall pipe and offer up against the existing outfall pipe.
- Drill and fix new stainless steel bolts through existing outfall mild steel angle vertical restraints, and fit stainless steel brackets to secure the new outfall pipe to the existing. Where this is not possible, use alternative fixing method (see below)
- Where the new outfall extends slightly beyond the existing, fit concrete collars from the workboat to permanently sink and secure the new outfall in position.
- At the end of each shift, temporarily secure new outfall pipe which is not yet restrained by means of appropriate ropes or chains to existing structures and/or moorings.

Alternative Fixing Method

- Excavate pockets by hand or compressed air lance using divers from workboat every 4-5m allowing access around the full circumference of the existing outfall, for alternative brackets to be attached.
- Use divers to fit stainless steel brackets clamped around the existing pipe to secure the new outfall pipe to the existing.

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9 Permits & Licences

- Marine Scotland licence require before any works start on site, and compliance with any conditions
- SEPA CAR licence required before any works start on site, and compliance with any conditions

10 Emergency Arrangements

- In case of fire, raise the alarm and evacuate to muster point as per main contractor's site induction and fire/emergency procedures.
- In case of accident or injury, seek assistance from site 1st aiders as per main contractor's site induction and fire/emergency procedures.
- In case of pollution or environmental incident, stop work immediately and use spill kits to contain pollution in accordance with main contractor's environmental incident procedures.
- In the case of incident or emergency involving diving or persons falling overboard, detailed emergency procedures will be developed by specialist contractors engaged for these elements of the works.

11 Environmental


- Suitable spill kits to be kept in main contractor's site compound and with each item of mobile/static plant
- Drip trays incorporating "plant nappy" to be provided for each item of static plant
- Works to be monitored on an ongoing basis for excessive disturbed sediment during excavation
- All waste and surplus materials must be disposed of in the appropriate skip
- All fuel bowsers shall be double-banded type with external containment and securely locked when not in use. No refuelling within 25m of the sea or canal.
- In general, all works must be carried out, and precautions taken, in line with SEPA pollution prevention guidelines

12 Programme


- Works to be carried out as soon as appropriate consents are secured; Marine Licence and CAR Licence. Anticipated May 2022 for a period of up to 2 weeks.

13 Whole-Life Residual Impacts


- The HDPE pipe, stainless steel brackets, and concrete collars are anticipated to have a safe working lifespan in excess of 25 years and should be effectively maintenance free.

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- Ultimately when the outfall becomes redundant it can be removed from the seabed and recycled as inert, non-hazardous waste by standard disposal routes.

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14 Method Statement Responsibility

Produced By:	Greg Riddle	Signed:		Date:	15/12/2021
Checked By:		Signed:		Date:	

15 Record of Briefing

I confirm that I have been briefed on and understand the content of this Method Statement, the accompanying Risk Assessment, and any associated COSHH Assessment as listed in Section 7 (Materials).

Name	Signature	Date	Briefed By