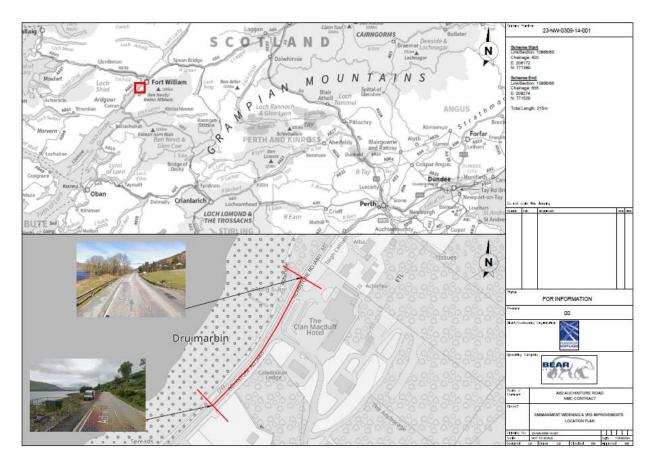
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Project Name:				Project No:	
A82 Auchintore Road Embankment			23-NW-0309-14		
Contractor: BEAR Scotlar	Contractor: BEAR Scotland Ltd				
Prepared by: Calvin Shar	ъ				
Checked by:					
Method Statement Title: A82 Auchintore Road – Sea Wall Construction					
Method Statement No: 01	Date: 23/05/2024				
Task/Activity: Sea Wall Construction					
Task/Activity: Sea Wall (	Construct	ion			

## **Scheme Location**



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	Name	Signature	Date
Prepared By	Calvin Sharp	Redacted	
Checked By			
Approved By			

## Section 1: Description of Works

### Scheme Overview

The works are currently planned to commence on Monday 30th September 2024. Two options are currently being developed for the works: -

- Option 1 involves excavating the existing revetment and creating a benched formation, placing of geotextile and Class 6B fill followed by outer armour stone layer.
- Option 2 involves excavating the existing revetment and creating a benched formation, placing of geotextile and Class 6B fill, placement of concrete modular blocks and outer armour stone layer.

### Note: Extent of options to be confirmed by detailed design.

- Both the above options will allow the footway to be widened to 2m, and provision of a 1m wide verge to allow the road restraint system to be upgraded.
- 2 No. 450mm diam. culverts will be extended with new headwalls and guard rails installed.
- 1 No. pipe exposed on the shore will be protected.
- Scottish Water sewer present on the shoreline will be protected during the construction works.
- BT and SSE cables located within the verge are to be relocated to below the footway.

The project necessitates temporary traffic management during the construction period, to ensure the safety of our workforce and the traveling public. This traffic management will consist of a single lane closure with temporary traffic signals in place. The work area will be segregated via Varioguard and traffic will be restricted to 30mph. The footway in CL1 will remain closed during working hours however, traffic management operatives will be available to assist members of the public as and when required. A fixed plate sign is to be erected at either end of the site with a site contact number in case assistance is required.

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Due to the extent of the excavation, the temporary traffic signals will also be required to remain in operation overnight on occasion. Out with working hours, suitable edge protection will remain in place and pedestrians will be accommodated within the traffic management set up.

Strict environmental procedures will be implemented to prevent the spread of Japanese Knotweed during the works, this will be discussed in greater detail, in the SEMP and in Sections 3 and 10 of this document.

Due to the tidal nature of the site, optimum working hours between high tides varies through each week. The Site Manager will liaise closely with the local Harbour Master to confirm high tide times and will adjust the programme accordingly.

## Section 2: Site Specific Hazards

- Hazard Ref. 01 Working out with daylight hours
- Hazard Ref. 02 Working in tidal zones
- Hazard Ref. 03 Trunk road traffic
- Hazard Ref. 04 Footways
- Hazard Ref. 05 Falls from height
- Hazard Ref. 06 Local residents and businesses
- Hazard Ref. 07 Underground utilities
- Hazard Ref. 08 Overhead utilities
- Hazard Ref. 9 Excavations
- Hazard Ref. 10 Culverts
- Hazard Ref. 11 Presence of otters
- Hazard Ref. 12 Japanese Knotweed

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## Section 3: Sequence of Works

Prior to any activities being undertaken on site, all personnel must receive project induction followed by a briefing on the contents of this Method Statement and will sign acknowledgment of this process being undertaken.

#### Sequence of Operations

- 1. Implement Traffic Management (Two-Way traffic Lights) as per RA-15 & MS 1-01 taking cognisance of the additional mitigation measures detailed in Designers Risk Register.
- 2. Install protection zones with cones, Herras fencing and Varioguard. Otter resting places to be confirmed as empty.
- 3. Site lighting to be erected in strategic locations so as not to disrupt local residents.
- 4. Signage to be erected at any BT Overhead within the traffic management set up and location of Scottish Water pipe to be identified.
- 5. Existing barrier in CL1 located within the traffic management set up, to be removed then replaced by a temporary barrier.
- 6. Wash down area to be established for any plant leaving the shore. This must be stationed away from the Trunk Road drainage system to ensure that spores do not enter the existing piped network.
- 7. Existing revetment to be dismantled in accordance with the SEMP and the Special Control Measures specified in Section 10 of this document. Excavation work to be limited to 16m bays and at a maximum gradient of 1:1. Rear face of excavated sections to be supported by gravel bags with access stairs provided from the side of the cutting. All culverts to be exposed in order to facilitate replacement.
- 8. Install 2no. new culvert extensions with Althon Headwalls.
- 9. Modular blocks, concrete, culverts, headwalls and outlets to be delivered on site and wall constructed within excavated sections.
- 10. Excavate a trench at the toe of the existing revetment/new retaining wall. Lay RG11 Terram geotextile, place Class 6B fill, install Legato blocks if required, and place outer armour stone layer.
- 11. Redivert BT and SSE buried utilities to below footway.
- 12. Following completion of the new revetment, kerbing and footway should be constructed, and carriageway reinstatement undertaken with the re-installation of D400 hinged gullies and road markings.
- 13. Concrete log barrier foundation to be constructed in CL1 verge. Lead Barrier installer should be present to set out line and post locations.
- 14. Upon completion of barrier foundation, new SPR4 barrier should be installed.
- 15. Final topsoiling and grass seeding where required.

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16. Move traffic management set up to next phase of works and commence method statement again.

#### Protection Zones

All operatives should be made aware of the potential holts and active couches within the scheme extents. No excavation works should be undertaken until it is confirmed by the ECoW that no otters are present. Operatives should remain observant for otters throughout the project, in particular, where large voids are present in the existing revetment and any outfall pipes on the shoreline.

Should otters be identified during works, operations should cease, and site management should contact the Engineer/ECoW and await further instruction.

Bird deterrents will be installed along the shoreline, in the form of hazard flicker tape.

All information, mitigation and requirements detailed within the Site Environmental Management Plan (SEMP) should be strictly adhered to at all times.

## Section 4: Resources

- 1no Site Supervisor
- 2no. Excavator Operator
- 5no. General Operative
- 1no. Lead Barrier Installer
- 1no. Barrier Operatives

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## METHOD STATEMENT



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## Section 5: Plant & Equipment

## <u>Plant</u>

#### Excavation

- 1no. 13tonne excavator •
- 1no. 8tonne excavator
- Dumper or Artic Wagon

#### Steps

- 1no. 13tonne excavator
- 1no. 8tonne excavator
- Dumber or Artic Wagon
- In-transit Concrete Mixer

#### Modular Block Wall & Structural Fill

- 1no. 13tonne excavator
- 1no. 8tonne excavator
- Ride on roller 100 or 120 with water sprinklers
- In-Transit Concrete Mixer
- Pick Up & Trailer

#### Armour Stone Revetment

- 1no. 13tonne excavator
- 1no. 8tonne excavator

#### Headwall

- 1no. 13tonne excavator
- In-Transit Concrete Mixer
- Pick Up & Trailer •

#### Footway / Carriageway / Kerbing

- 1no. 8tonne excavator with grab attachment
- Van & Trailer
- Hot Box
- Ride on roller 100 or 120 with water sprinklers
- In-Transit Concrete Mixer
- Artic Wagon •
- Paver
- Planer
- **Bitumen Tanker**
- Road Marking Tanker .

#### VRS

- Van & Trailer
- Barrier Rig Lorry

### Equipment & Materials

Modular Block Wall & Structural Fill

- Concrete Lego Blocks
- FND4 (XS3) Concrete •
- Formwork •
- Mortar

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### **METHOD STATEMENT**



- 6N Fill
  - Type 1
  - Stihl Saw (Diamond Blade) inc. dust suppression
  - concrete poker and unit.
  - Edge Protection / Inertia Reels
  - Temporary Barrier (Varioguard)
  - Herras Fencing
  - Temporary Access Stairs

#### Armour Stone Revetment

- Armour Stone
- RG11 Geotextile
- 6B Fill

#### Headwall

- Althon H10CH Headwall with grating, flap valve & guardrail
- 450mm twinwall pipes
- FND4 (XS3) Concrete

#### VRS

- SPR4
- CM041E 450mm Sockets
- SPR4 Posts
- P4 Terminals
- Bolt on Hazard Markers
- Calibrated Measuring Equipment
- Thermometer
- Torque Bars
- Tensioners
- Post Foundation Test Equipment
- Spanners
- Socket sets
- Hammer
- Spirit Level
- String Line
- Edge Protection / Inertia Reels

#### Footway / Carriageway / Kerbing

- Base / Binder / Surface Course
- Kerbs
- Edge Slabs
- D400 hinged gullies with 150/250mm pipe
- ST5 Concrete
- White thermoplastic screed

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	Section 6: Safety Equipment Required												
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0		$\bigcirc$	0										
~	~	~	~	<ul> <li>✓</li> </ul>	~	~	×	<ul> <li>✓</li> </ul>					
Company Issue	Company Issue	Company Issue	Company Issue	Company Issue	Company Issue	Inertia reels	Company Issue	Company Issue					
<ul> <li>VRS - Sector Scheme 10B Approval</li> <li>Excavator - NPORS Training</li> <li>Asphalt - Sector Scheme 16</li> <li>Dead Markings - Sector Scheme 7 Approval</li> </ul>													
		-				and Subs	tances	Road Markings – Sector Scheme 7 Approval     Section 8: Hazardous Materials and Substances					
					٢			$\diamondsuit$					
Toxic	Harmful / Irritant	Corrosive	Serious health hazard	Flammable	Oxidising	Aquatic Environment	Explosive	Gas under pressure					
			health	Flammable	Oxidising		Explosive						
	Irritant		health	Flammable Yes	Oxidising No		Explosive No						
Please inse Yes Mate Stora asses	Irritant Pres / No in Yes Perials requented age: N/A HH Asses Assments w /aste Mana	box below No uired: See sments: C ill be kept	Yes Section 5 Concrete, A in the Site Section 9 lan (SWM	Yes Asphalt, Th File. <b>9: Wast</b> ( P) will be	No hermoplast e Manag	Yes Cic Road Mar	No kings - COS	No					

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### Section 10: Special Control Measures

#### Japanese Knotweed

To prevent the spread of Japanese Knotweed during the works, excavated material from the revetment or shoreline will be stockpiled, above MHWS, in an area known to contain Japanese Knotweed. A specialist contractor will then transport the contaminated material from site to the licensed disposal site, in line with their provided method statement.

NB: The exact method of removing material from site is to be discussed with the ECoW on site. Until such time, no excavated material will be removed from the shoreline.

The work area will be inspected on a daily basis for any loose pieces of Japanese Knotweed. Any pieces will be removed from the shore and placed back on the revetment to minimise the risk of them being washed away by the tide. Additionally, any tree roots that are removed from the revetment will be treated as contaminated and disposed of at a licensed disposal site.

Other Control Special Measures

- Edge protection or fall arrest systems (inertia reels) to be utilised where falls from height are likely.
- During periods where open excavations are present, suitable precautions including overnight traffic management and temporary barrier should be utilised until permanent containment systems are in place.
- Protection barrier must be used between the working area and the live traffic lane to ensure no loose debris impact passing traffic. Edge protection on the shoreside must also be implemented where achievable.
- Bird deterrents will be installed along the shoreline in the form of hazard flicker tape.

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	Section 11: Environm	ental	Aspects, Impacts & Control
Aspect	Impact		Control
Dust	Impact on public passing by and residential properties	•	All delivery vehicles carrying material with dust potential will be covered when traveling to or leaving site, preventing the spread of dust beyond the work area.
		•	All vehicles should stick to surfaced areas and avoid encroaching on land as far as reasonably practical to limit track out.
		•	Good housekeeping must be employed across the site throughout construction to prevent dust.
		•	Dust generated from construction activities such as rock installation and backfilling will minimised by damping down material.
		•	The movement of dusty material will be minimised by appropriately planning material movements.
		•	Throughout the construction period qualitative monitoring of visible dust emissions and surface soiling will be conducted once each working day within the vicinity of the site boundary, by the site supervisor, all inspection results being recorded.
		•	The site supervisor will take note of weather forecasts to ensure that measures are in place prior to period of dry or windy weather.
		•	Where deemed necessary road sweepers will be employed to minimise the spread of dust/mud across the A82 Trunk Road.
Ecology, protected	Disturbance/Destruction of protected species and	•	Lighting layout will be positioned and angled to only illuminate the localised active working area.
species and habitat	habitats including Birds, Otters, and other marine mammals.	•	Illuminating natural habitat must be minimised as far as reasonably possible.
		•	Where required, screens will be installed to prevent the spread of light beyond the working area.
		•	A European Protected Species License supported by an Otter Species Protection Plan detailed in the SEMP must sought from NatureScot prior to works commencing with a copy of the licence being retained onsite.
		•	An otter pre-construction survey must be undertaken prior to works commencing.

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Cont'd Ecology, protected species	<i>Cont'd</i> Disturbance/Destruction of protected species and habitats including Birds,	•	An Ecological Clerk of Works (ECoW) will routinely be on site during the works. The ECoW will have a valid otter liscense issued by NatureScot and will also be on site to supervise the destruction of the identifed otter couches.
,	Otters, and other marine mammals.	•	All construction operatives are to be briefed through toolbox talks prior to works commencing using the 'Working with Otters' toolbox talk (Appendix 1). The talk is to specifically cover ecology, field signs of otters and legislation. Briefings are to be clear and unambiguous, with all staff informed to stop works where a concern is raised. Works may not commence until advice from an appropriately qualified ecologist is sought and appropriate mitigation is in place, where required.
		•	Where otters are located or move within 50m of the active works, works will cease until the otters move further away than 50m from the construction site.
		•	All material, machinery and equipment will be subject to checks for otter daily prior to any works commencing to prevent entrapment or injury of otter.
		•	Any exposed pipes or pipework are to be capped when not required. If fencing is utilised at any point, a gap of 200mm from ground level must be provided, allowing free passage for otters and preventing entrapment.
		•	All machinery is to be started at the lowest throttle possible, with the throttle only being slowly increased.
		•	Upon start of construction an active level of disturbance in the form of deterrents must be maintained along the 860m construction boundary with the aim to discourage birds of establishing nests.
		•	Prior to moving to the next 16m or 32m section of construction a breeding bird check will be undertaken of that section. This action must be undertaken for each section. Note, this action is only required between March and August (inclusive).
		•	Construction operatives are to be informed to be vigilant with the site supervisor to undertaking continues monitoring for breeding birds on site.

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Cont'd Ecology, protected species and habitat	<i>Cont'd</i> Disturbance/Destruction of protected species and habitats including Birds, Otters, and other marine mammals.	•	Construction operatives are to be briefed via toolbox talks about potential breeding birds onsite and procedures to be undertaken if breeding birds are identified on site (Appendix 2). If a nest is identified during the works, works in immediate vicinity of the nest are to stop and the site supervisor and BEAR Scotland NW Environmental Team are to be informed. The active nest site will be protected by imposing a construction exclusion zone, which may vary in size depending on the species of bird until an appropriate removal license is sought and granted by NatureScot.
Ecology, invasive species	Spreading of Japanese Knotweed	•	Sections identified during the site visit must be treated with herbicide prior to works commencing from March onwards. Herbicide treatment prior to March is not appropriate as not foliage is likely to exist. All herbicide treatment must be in line with SEPA Technical Guidance Note - On-site management of Japanese Knotweed and associated contaminated
		•	soils. Disturbance of soils and vegetation onsite, particularly Japanese knotweed itself, must be minimised as far as reasonably practicable.
		•	Vehicles leaving the site must be cleaned thoroughly at a designated point. The wash down area must be situated away from the Trunk Road drainage system to ensure that spores do not enter the existing piped network.
		•	Following cleaning of the vehicle it must be inspected by the site supervisor to ensure it is adequately cleaned to minimise the risk of spreading the INNS beyond the site boundary.
		•	Site operatives must clean their boots thoroughly using a brush and water every time they leave the site. The runoff of which must be contained on site.
		•	During Phase 1, all bound material such as cement- bound and bituminous material will be assessed for evidence of Japanese Knotweed and washed at a designated wash area.

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Noise & Vibration	Impact on public passing by and residential properties	•	The best practice means, as defined in Section 72 of the Control of Pollution Act 1974 and BS5228- 1:2009+A1:2014 Code of Practice for Noise and Vibration Control on Construction and Open Sites will always be employed to reduce noise to a minimum.
		•	Works are only permitted to be conducted betweer 7am and 7pm.
		•	Percussive noise generating operations such as saw cutting and jackhammering is only permitted to commence after 8am.
		•	Where possible a one-way system will be implemented on site which will limit the number o reversing movements and the subsequent noise from any reversing alarms.
		•	All construction operatives will be briefed through toolbox talks prior to works commencing using the 'Being a Good Neighbour' toolbox talk (Appendix 4)
		•	Plant, machinery and equipment are to be fitted with effective silencers. Where fitted, and where permitted under Health and Safety requirements white noise reversing alarms should be utilised during construction.
		•	Where possible, inherently quiet plant should be selected for construction works. Where appropriate pumps and generators will be sound-reduce models with fitted lined and sealed acoustic covers
		•	Where possible and practicable, percussive tool utilised on site should be fitted with mufflers or/and silencers as recommended by tool manufacturer.
		•	All plant, machinery and tools will be we maintained, including parts relating to nois minimisation.
Cont'd Noise &	<i>Cont'd</i> Impact on public passing by	•	All plant will be operated in such a way that minimises noise emissions and be switched of when not in use.
Vibration	<b>/ibration</b> and residential properties	•	All ancillary plant such as generators will b positioned so to cause minimum noise disturbance
		•	Where deemed necessary, acoustic screens will be utilised.
		•	Good communication with local residents is to b maintained, informing them of the proposed wor schedule and times and durations of any abnorma noisy activity that may arise throughout the works.

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		•	<ul><li>Haulage vehicles are only permitted to arrive and leave site between 7am and 7pm.</li><li>All machinery when not in use should be shut down or throttled down.</li><li>Vehicles should be loaded carefully, and the drop height is to be minimised to reduce kinetic impact energy.</li></ul>
Water & Pollution	Impact on Environment including marine and terrestrial environment.	•	All rocks to be installed are to be clean and free of fines, preventing an introduction of fines into the water environment.
		•	Rock to be installed below mean high water is not to be dropped but placed.
		•	A spillage control procedure will be in place in which all staff are to be trained.
		•	Suitable spill kits are to be available on site with all staff to be trained in their use.
		•	All spills must be logged and reported.
		•	In the event of a spill into the water environment, all works must stop, and the incident must be reported to the site supervisor and the BEAR Scotland Environment Team. SEPA must be informed of any such incident as soon as possible and within 24 hours at the latest.

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Waste & Materials	Impact on Environment including marine and terrestrial environment.	•	Throughout the works the waste hierarchy (Reduce, Reuse, Recycle and Dispose) must be employed to minimise waste production and improve reuse and recycling rates where possible.
		•	Reusable cutlery, crockery and water bottles should be provided within welfare facilities where possible.
		•	Care must be taken to only order the correct quantity of required materials, preventing disposal of unused materials.
		•	Suppliers should be requested to minimise all packaging of materials utilised on site where possible.
		•	Facilities on site must be provided in a designated area to enable the correct segregation of waste, maximising recycling on site. These are to be clearly marked and labelled.
		•	All waste stored on site must be adequately protected against elements and vermin.
		•	Wastes not suitable for recycling must be sent to landfill or special waste treatment facilities, depending on the nature of the waste.
		•	All wastes and unused materials must be removed from site in a safe manner by a licensed waste carrier upon completion of the works.
		•	The appointed waste carrier must have a valid SEPA waste carrier registration. A copy of which must be retained by BEAR Scotland. A copy of the waste transfer note is also to be provided to BEAR Scotland as early as practicably feasible and retained.
		•	During the site induction all staff are to be informed that littering will not be tolerated.
		•	Staff are encouraged to collect any litter seen on site.
		•	All concrete washing will be undertaken in a designated area with full containment, preventing cement wash entering the natural surroundings. Cement washings will be captured and appropriately treated (settled out and pH corrected where required) prior to disposal off site.

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Cont'd	Cont'd	•	All wheel washing operations related to Japanese knotweed spread prevention must be undertaken in
Waste & Materials			a designated area in line Guidance for Pollution Prevention (GPP) 13: Vehicle washing and cleaning. Appropriate measures must be taken to minimise the risk of releasing hydrocarbons or chemicals during washing activity into the environment.
		•	All on-site activities will be in accordance with relevant Pollution Prevention Guidelines (PPGs and Guidance for Pollution Prevention (GPPs) Specific documents relevant to works include PPG1, GPP4, GPP5, PPG 6, GPP 8, PPG 18, GPF 21, GPP 22 and GPP 26.
		•	All hazardous materials will be stored in accordance with the Control of Substances Hazardous to Health (COSHH) data.
		•	Any hazardous material to be utilised on site is also required to undergo assessment under the COSSI Regulations 2002. These assessments will contai a section on environment which highlights an precaution and mitigation requirements.
		•	All hazardous material on site will be stored in designated storage area with oils and chemica stored in appropriately bunded storage cabinets.
		•	The COSHH store(s) will be locked with onl appropriate personal having access and a inventory register being maintained.
		•	Fuel stored on site and refuelling activitie undertaken will be in line with the SEMP.
		•	Generators and static plant may have the potentia to leak fuel and/or other hydrocarbons and mus have bunding with a capacity of 110%. If these ar not available, then trip trays with a capacity of 110% must be placed beneath the equipment.
		•	Where applicable and practicable, bio-degradabl hydraulic fluids and oils should be utilising i machinery.

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Section 12: Record of Communication			
I confirm that I have been briefed on these RAMS and fully understand its content:			
Print Name	Signature		
Briefing given by:	Date:		
	Date:		
	Time:		