



Method Statement/Risk Assessment

MSRA 21 Rock Armour Installation

1.0	Project Details	MSRA Number	21
Project:	Holm ST Costal Protection	Date:	27/03/2025
Site Location:	Holm, Isle of Lewis		
Task/Description of Works:	Rock Armour Installation		
Project Code:	5153440000		
Client:	Scottish Water		
Start on Site Date:	TBC		
Duration:	20 days		

2.0	Associated Documents
Daily Briefing	MAL-IMS-014 Permit to dig
MAL-IMS-020 MSRA Sign Off Sheet	Scottish Water ATC
MSRA04 Trial Holes	MSRA03 Deliveries to site
MSRA02 Refuelling	

3.0	PPE
Safety helmet - BS EN397:20012+A:2012	Safety Glasses - BS EN 166:2002
Safety Footwear - BS EN ISO 20346:2014	Gloves - BS EN420:2003+A1:2009
Reflective Clothing - BS EN ISO 20471:2013	Ear Protection - BS EN352:2002
Fire Resistant PPE - BS EN11612	

4.0	Plant and Equipment		
Excavator	Dumper	Barriers	
Delivery Truck	Water Pump	Signs	
Bunded Fuel Bowser	CAT4+ and Genny	Power Tools	
Spill KIts	Hand Tools		

5.0	Training
SMSTS	Fire Marshall
CPCS/NPORS CSCS	First Aid
Manual Handling	Scottish Water DOMS/NWH
EUSR level 1&2	

6.0	Personnel		
Site Manager	Plant Operators	General Operatives	
HGV Delivery Drivers			

7.0	Emergency Arrangements
	All MAL emergency arrangements MUST be followed.
	Emergency route briefed to all personnel and available on site.
	First aiders and first aid provisions to be available on site at all times.
	Fire marshal to be on site at all times.
	Fire extinguishers on site to have valid inspection date.
	Spill response plan to be in place and briefed to all personnel.

8.0 Site Contact Details			
Name and Contact Number		Role	Company
Stephen Macaulay - [Redacted]		Commercial Director	MAL
Angus McDowall - [Redacted]		Contracts Manager	MAL
Callum McDowall - [Redacted]		Operations Manager	MAL
Michael Watson - [Redacted]		Site Manager	MAL
Andrew Macleod - [Redacted]		SHEQ Manager	MAL
Sharon Lloyd - [Redacted]		Project Manager	SW

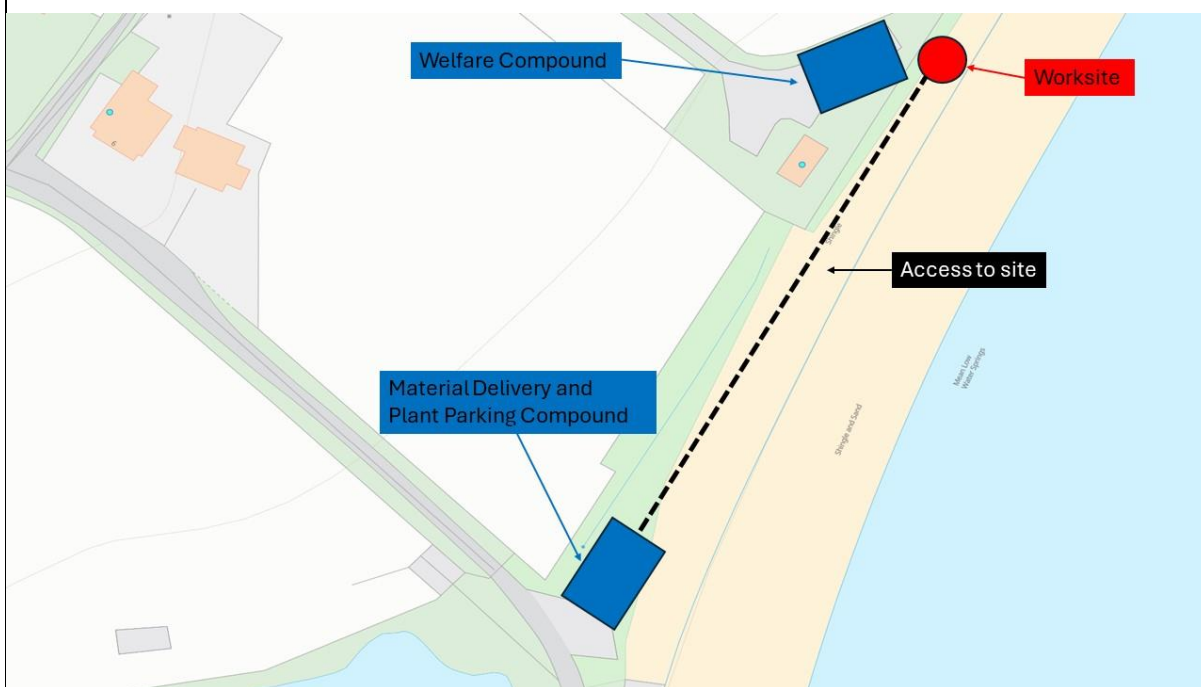
9.0 Method of Works
<p>Preparation</p> <p>Prior to commencement of works all personnel will be briefed on the details of this Method Statement and associated Environmental and Health & Safety Risk Assessments. Records of briefings are to be recorded on forms and kept in the site file.</p> <p>Prior to any works commencing, a prestart survey will be conducted with photographic evidence taken of all areas affected by the works. All landowners will be consulted and no works to commence without authority from landowners over access.</p> <p>The area where the rock armour is to be installed in will be clearly identified and communicated to all personnel.</p> <p>A permit to break ground must be raised by site management before work commences,</p> <p>A CAT4+ Genny scan will be conducted with all services found clearly marked and communicated to site personnel.</p> <p>Any identified services within the area should be clearly marked on the ground.</p> <p>Sizes and materials of all found services will be identified and spare fittings/pipe will be held on site as a redundancy should any damage to existing services occur.</p> <p>All personnel must report to site office for a site induction when arriving on site.</p> <p>A permit to break ground must be in place before any excavations commence.</p> <p>Prior to commencement of works all personnel will be given a toolbox talk on Leptospirosis. Should circumstances require works to deviate from the processes detailed in this RAMS then work must STOP and site supervision informed. Work will only commence when RAMS have been amended, reviewed, and approved.</p> <p>The entire site will be enclosed using Herras fencing for the duration of the works with any footpaths taken out of service and a diversion put in place and the area restricted to all unauthorised personnel.</p> <p>A Scottish Water ATC must be in place prior to any works taking place.</p> <p>Rock Armour Placement</p>

The existing rock armour will be removed and stockpiled on site. The ground surrounding the septic tank will then be excavated to expose the chambers. The excavated materials will be side cast where it will be stockpiled, until it is removed from site. A banksman will monitor the digging at all times with care taken not to damage the septic tank side walls whilst removing materials.

1m metal shutters will be placed around the perimeter of the tank to allow a concrete surround to be placed around the exposed chamber walls. The shuttering will be lifted into place using the excavators and suitable lifting accessories. The concrete will then be added, and the area flooded with concrete. Vibrating pokers will be used to ensure the concrete has all the voids removed and spreads evenly throughout the area.

The outside of the shutters will then be back filled using as dug materials and new filter stone to the top of the shuttering. The shuttering will then be lifted up using the excavator and suitable lifting accessories to allow another layer to be placed. This process will continue until the concrete and backfilling around the tank is complete.

All backfilling materials will be taken from the welfare area to the work site by an articulated dumper. The dumpers will be loaded by a suitably sized excavator and will proceed to the works area through the beach/shore area. All dump trucks will be operated by trained personnel only. (See sketch below)



Once the ground is prepared to accommodate the rock armour, a permeable geotextile terram t3000 will be placed in the area. Any joints in the terram will be overlapped by a minimum of 300mm.

An 800mm layer of 60-30kg filter grading stone will then be placed on top of the terram. The stone will be delivered to site by truck into a designated area and offloaded, the excavator will then place the stone in the excavated area on top of the terram. The previously removed armour stone will then be placed on top of the filter stone to finish using the excavator.

Concrete Pad

The existing concrete surrounding the chamber lids will be broken out and removed from site. The concrete will be broken by a suitably sized excavator and hydraulic breaker attachment. The excavator will then remove the broken concrete from the area and place it in a dumper for removal from site.

Any voids in between the chambers and the rock armour will be filled with aggregate to level the ground. The aggregate will be compacted every 250mm using a vibrating plate. Once the aggregate is at the correct levels shuttering formwork will be placed around the perimeter, against the rock armour and levelled using wooden pegs and screws.

Any chamber lids will be removed to ensure once the concrete pad is placed, all technocovers are level with the top of the pad. Shuttering formwork will be placed over the top of the chambers to ensure the lids will be level with the new concrete.

The concrete will be delivered to site by concrete delivery truck. The truck will be guided into a designated discharge position by a qualified banksman. A visqueen sheet will be laid on the ground under the concrete truck discharge chute where the excavator bucket will be placed, and the concrete discharged into from the truck. The excavator will then place the concrete in the excavation guided by a qualified banksman.

The excavator will place the concrete in the shuttering formwork where operatives will level the concrete to the top of the shuttering. The concrete will be levelled using a screed and big blue float. A brushed finish will then be applied to the concrete.

Once the concrete has been placed it will be left to cure for 24hrs prior to the formwork being removed.

Following full discharge of concrete, the concrete delivery truck will attend previously prepared washout area (minimal waste as only small amount of concrete being discharged).

All technocovers will then be fitted back to the chambers as per Scottish Water standards.

Handrail Installation

The area will be cleared of all trip hazards prior to works commencing and the location of the posts marked on the edge of the concrete in which they will be fixed.

The posts will be placed at no more than 1.5m centres, the posts will be placed in position and the bolt holes marked on the concrete which they will be fixed to using marker pen. The holes will then be drilled using a battery operated SDS drill with suitably sized drill bit to allow fixings to be placed.

Any operatives drilling the concrete will wear full PPE including ear, eye and respiratory protection during the process.

Once drilled the holes will be cleared of any dust using a hand blower with any sediment removed from the hole.

The poles will then be put in place and suitable fixings used to fix them in place. The fixings will be tightened using a battery-operated impact driver.

Once the posts are in place the hand and intermediate rails will be fed through the posts and fixed using the integrated grub screws. The posts will be fixed with the grub screws facing to the inside of the handrails for ease of access.

Any change of direction in the handrails will be formed using pre-bent sections of pipework and joined to the lengths of rails within the posts using, manufactured joint pieces. The joints will be secured using grub screws tightened using hand tools. All open ends will be completed using pre-formed end pieces that will close off any open ends of pipe.

All cuts will be conducted by a battery-operated grinder by an operative trained in abrasive wheels. The cuts will be conducted in a designated area on site and a hot works permit must be in place prior to the works commencing. A fire extinguisher must be available within the area while the hot works are in progress. After cutting all sharp edges will be removed from the cuts. Personnel will wear full PPE including cut proof gloves.

Using the method above the remainder of the handrail will be installed. Once complete the temporary herras fencing will be removed and the site tidied with all excess materials/equipment removed from site.

All excess materials/equipment will then be removed from site and the area landscaped/tidied.

10.0 Authorisation			
Issued By:	A Macleod	Approved By:	A McDowall
	[Redacted]		[Redacted]

11.0 Risk Assessment

Task	Hazards	Persons Affected	L	S	R	Controls/ Mitigations	L	S	R
Preparation	Site Hazards, Traffic	Site Operatives	3	4	12	<ul style="list-style-type: none"> All personnel to receive site induction from All personnel to sign in/out from site daily. All personnel involved in task briefed on MSRA related to task and sign as recognition of reading and understanding. Personnel to hold recognised qualification in related subject as task being conducted with copies held in site office and checked for validity. 	1	4	4
	Site Security	Site Personnel General public	3	3	9	<ul style="list-style-type: none"> The site area will be fully enclosed with herras fencing. Footpath around houses to be closed throughout works. All residents affected by the works informed of footpath closures and safe areas. 			
Surveying Works	Slips/trips/falls	Site Operatives	3	3	9	<ul style="list-style-type: none"> Area to be clearly identified to all personnel involved in task. Debris and loose material removed from site before commencing task. Barriers and signs in place throughout task. Relevant PPE to be worn at all times on site. All excavations barriered off when work not being conducted. Excavations to have graded ramps integrated for safe access egress. 	1	3	3
	Interface with site traffic/Plant	Site Operatives	3	5	15	<ul style="list-style-type: none"> Hi-Viz clothing worn at all times on site. Banksmen to be utilised to controls site movements. All plant operators to hold valid CPC/NPORS CSCS qualification for relevant item of plant. All personnel briefed on site traffic management plan (if relevant) 	1	5	5
Delivery of materials to work area	Interface with site traffic/Plant	Site operatives	3	5	15	<ul style="list-style-type: none"> Hi-Viz clothing worn at all times on site. Trained/qualified banksmen to guide site traffic only. All unnecessary personnel removed from area until vehicles/plant stationary and isolated. Banksmen to be in full view of vehicle drivers/plant operators at all times. Vehicles/plant to be directed to designated loading/unloading area. All personnel briefed on site traffic management plan (if relevant) 	1	5	5
Manual Handling	Muscle injuries/strains	Site Operatives	3	3	9	<ul style="list-style-type: none"> All personnel trained in manual handling with copy of certification held in site office. Avoid manual handling where possible, utilise mechanical lifting aids. Load size, shape, weight to be assessed prior to lifting. Where possible split load to manageable sizes. Use correct lifting techniques. Ensure area surrounding lift is clear from hazards and clutter. Plan route to be taken when carrying load prior to commencing task. 	1	3	3

Use of fuel driven machinery on site	Contamination of water sources. Fire. Fuel Spillages	Site Operatives. Environmental	3	5	20	<ul style="list-style-type: none"> • All equipment/plant to be in good serviceable condition with no fuel leaks. • All re-fuelling of plant/equipment to be done in designated area away from watercourses. • All plant/equipment being re-fuelled to be placed on plant nappies with spill kits available in area for clearing up any spillages. • Fire extinguishers to be present in areas of operation and re-fuelling. • Trained fire marshal to be present on site. • When in operation all fuel driven plant/equipment to be placed safe distance from excavations. • All plant/equipment isolate/switched off when not in use/required. • All plant/equipment regularly checked throughout the task. 	1	5	5
Site security	Interface with plant or equipment.	General public	3	3	9	<ul style="list-style-type: none"> • Site to be enclosed by Herras fencing. • All excavations barriered off. • Signs erected to inform personnel of works being conducted in the area. • Plant/equipment monitored at all times when operational and fully isolated when not in use. • All unauthorised personnel prevented from gaining access to site. 	1	3	3
Lifting Activities	Falling objects, Damage to surrounding objects, crush injuries	Site Operatives, General Public	4	4	16	<ul style="list-style-type: none"> • MAL lift plan in place for all lifting activities on site. • All lifting equipment must be in good serviceable condition with copy of thorough inspection held in site office. • All lifting accessories in good condition, tagged with SWL clearly visible and valid inspection certification held in site office. • All lifts to be guided by qualified slinger/signaller only. • All unauthorised personnel removed form area. • Lay down area clearly communicated to all personnel and clear from debris. • No personnel to stand under load at any time. • Tag lines utilised to stabilise load in transit. • Wind speed assessed and recorded prior to lifting activities commencing with no lifts conducted should the wind speed exceed 23mph. • Loads to be securely in place before detaching lifting accessories. 	1	4	4
Excavator Operations	Interface with plant, damage to other plant/Services	Site Operatives	3	5	15	<ul style="list-style-type: none"> • CAT4+ and genny scan of area conducted prior to excavation commencing with all known/found services communicated to personnel and clearly marked. • All plant operators trained and authorised to use the item of plant with relevant CPCS/NPORS CSCS qualification produced and held in site office. • A permit to break ground must be in place and approved by site manager prior to work commencing. • Excavator must be isolated with Deadman switch in raised position before any personnel approach the plant. • All plant to have flashing orange beacons when in operation. • Green beacon to be active when seat belt fastened. • Banksman to be out with the radius of the excavator, with boom extended, during the operation. • Banksmen to ensure exclusion zone for personnel in the area is maintained around excavator. 	1	5	5

						<ul style="list-style-type: none"> Banksmen to be always visible to excavator operator during the operation. All personnel involved in task to have relevant level of EUSR training with records kept in site office. Daily plant Check sheet completed with any defects reported. Valid thorough examination certification available for all plant on site. All open excavations to be barriered off when unattended with signs erected and all personnel informed of locations. 			
Leptospirosis	Illness	Site Operatives	3	4	12	<ul style="list-style-type: none"> Personnel suitably trained for the task. Adequate welfare/washing facilities on site. All personnel to thoroughly wash hands before eating food. All personnel must wear suitable PPE including waterproof abrasion resistant gloves, eye protection and respiratory protection. All PPE must be used on dirty water sites only. All tools to be use on dirty water sites only. 	1	4	4
Damage to existing Services	Site Personnel,	Site Operatives, Utilities Customers	4	4	16	<ul style="list-style-type: none"> CAT4+ and genny scan conducted and services marked prior to works commencing with all personnel informed of positions. Personnel conducting works to have relevant EUSR training for task. A permit to break ground must be in place and approved by site manager prior to work commencing. Banksmen to be trained and utilised to ensure no unauthorised personnel enter area of works. Relevant utility drawings consulted. Drawings to be checked for validity and no more than 90 days old. Services to be isolated where possible. No picks or sharp implements to be used when conducting trial holes. Hand dig only when within 500mm of known services. Air pick to be utilised around live services. First aiders briefed on works being conducted on live services. All personnel working on/near underground services must wear fire retardant PPE for the duration of the works. In the event of a service strike, MAL emergency notice procedures to be followed. 	1	4	4
Working on or near water	Drowning, Tides	Site operatives	4	4	16	<ul style="list-style-type: none"> Tides to be monitored throughout the task to and all personnel informed of incoming tides. All equipment and machinery removed from area prior to tide reaching work area. All personnel to wear lifejackets/personal flotation devices when working near water. Throw lines to be in place on site close to work area throughout task. All personnel briefed on emergency procedures prior to works commencing on site. 	1	4	4
Working with COSHH materials	Chemical burns, eye damage	Site Operatives	3	4	12	<ul style="list-style-type: none"> COSHH assessments/Data sheets made available to site personnel. All COSHH material stored in site COSHH store when not in use. COSHH materials to be used only as instructed. All relevant PPE to be worn when using COSHH materials. Site first aiders to be made aware of COSHH materials prior to work commencing and suitable first aid provisions available on site throughout task. 	1	4	4

						<ul style="list-style-type: none"> • All COSHH materials to be disposed of as per manufacturers/CO • SHH assessment. 			
Placing Cement	Concrete Burns	Site operatives	3	4	12	<ul style="list-style-type: none"> • COSHH data sheets to be made available to all personnel involved in task. • Full PPE including gloves and eye protection to be worn. • Avoid contact with cement mortar and bare skin/eyes. • No operatives to kneel in concrete to prevent burns to skin through clothing. • Care taken to prevent washout water entering watercourses. • Cement washout to be conducted in designated washout area only. 	1	4	4
Dust	Respiratory damage	Site operatives	3	3	9	<ul style="list-style-type: none"> • Area to be dampened down prior to cutting starting. • Dust suppression to be utilised on cut off saw. • Full PPE including face mask to be worn during task. • No unauthorised personnel in area during task. 	1	3	3
Noise	Disturbance	Site Operatives General Public Surrounding homes & businesses	3	4	12	<ul style="list-style-type: none"> • Works will be conducted between 8:00am and 6:00 pm. • Local residents to be kept informed of the proposed working schedule, where appropriate, including the times of abnormally noisy activities. • No deliveries between 5:30 pm and 8:30 am. • All vehicles and mechanical plant will be fitted with effective exhaust silencers and 'smart' reversing alarms and be subject to programmed maintenance. • Inherently quiet plant where appropriate will be selected - all major compressors, pumps and generators will have 'sound reduced' models fitted with properly lined and sealed acoustic covers, which will be kept closed whenever the machines are in use. • All ancillary pneumatic percussive tools will be fitted with mufflers or silencers of the type recommended by the manufacturers. • Machine operators will be instructed to shut down machines between work periods or throttled down to a minimum. • All construction personnel to wear ear protection as required. 	1	3	3
Cutting of Poles	Lacerations, Dust	Site Operatives	3	4	12	<ul style="list-style-type: none"> • All cutting of poles to take place in designated area, fenced off and unauthorized entry prevented. • Operatives to wear impact resistant goggles, dust mask – minimum APF of 20 – FFP3 or similar mask, hearing protection and gloves (minimum cut level 5). • Where possible timber should be clamped to prevent movement whilst cutting. See attached COSHH data sheets • All operatives to have abrasive wheels training. • All guards to be in place on grinder and not removed during works. 	1	4	4
Use of power tools	Lacerations, trapped digits, Noise, Dust	Site Operatives	3	4	12	<ul style="list-style-type: none"> • No loose clothing to be worn when using power tools. • Full PPE including gloves and ear protection to be worn. • Operatives to be trained/experienced in the use of the relevant power tools being used. • All power tools to be battery operated where possible. • Where power cables are required, cables to be routed as to not pose a hazard and kept away from walkways where possible. 	1	4	4

Dust/Fumes	Breathing difficulties, long term damage	Site Operatives	3	4	12	<ul style="list-style-type: none"> Dust suppression to be in place throughout task. Cutting to be done in well ventilated areas. PPE including FFP3 face mask to be worn during task 	1	4	4
Hot Works	Fire	Site Operative	3	5	15	<ul style="list-style-type: none"> Any cutting of steel to take place in designated fenced/screened off area. Operation of cut-off saw by competent persons (abrasive wheels trained) only wearing impact resistant goggles, dust mask (FFP3 or similar) hearing protection and gloves (Cut level 5). All cutting of reinforcement will require Hot works permit to be issued and fire extinguisher to be in place. All flammable materials removed from area prior to hot works commencing. Are to be kept tidy 	1	5	5

Risk Potential = Likelihood of Occurrence x Hazard Severity		
Risk Category	Numerical Value	Guidance
High	15 - 25	Intolerable Risk Level- Immediate action required. Approval required to start work.
Medium	8 - 12	Moderate Risk Level - Implement risk reduction measures.
Low	1 - 6	Tolerable Risk Level - Monitoring is required to ensure that the controls are maintained.

Risk Matrix						
Likelihood of Occurrence	Hazard Severity					
		5	4	3	2	1
	5	25	20	15	10	5
	4	20	16	12	8	4
	3	15	12	9	6	3
	2	10	8	6	4	2
	1	5	4	3	2	1

All personnel must sign MAL-IMS-020 MSRA Sign Off Sheet as evidence of being briefed and understanding the conditions within the method Statement/ Risk Assessment Above.

12.0 Version History		
Issue	Amendments	Issued By
1	First issue	A Macleod
2		
3		
4		
5		