D Outline Construction Method Statements

From:	Pearce Julian
To:	David Revill
Cc:	Ben Sullivan; Christophe Watiez
Subject:	RE: IoS EIA Data - project Programme
Date:	02 May 2019 11:05:26
Attachments:	image001.png Rock Rolls Installation Guide Version 1.4 web.pdf UA008878-ARC-XX-XX-RP-CE-0560 SouthDuneRockRollOption.pdf Transport routes to Porth Hellick.pdf

Hi David,

In answer to your questions;

1. For South Dunes the construction method is much simpler. The material (rock rolls, matting etc) will be transported by the usual ferry / goods supply vessel to St Mary's Harbour and taken by the local cargo vessel (the Lyonesse Lady) to Tresco's low water quay at Carn Near. The material will be stored in the area we saw during the site visit by the carn above the quay and then transported by tractor and trailor down to the site as required. Using the small concrete slip access at the west end of the beach.

The Rock Rolls will be delivered to Penzance Harbour by flatbed articulated lorry (bundled with slings for offloading and onloading) – probably from Plymouth.

The stakes (which may be imported or sourced locally, from the timber yard behind the dune) and rock rolls will then be installed using the installation guide provided by the manufacturers (see attached).

Coir fibre matting will be placed behind the structure on the seaward face to reduce wind induced erosion while marram grass takes hold. The coir matting is a biodegradable waste product from coconut shells (see attached South Dune Rock Roll Option pdf for further detail and examples of use.

2. I will put together a definitive red line boundary map for each site, but essentially these will be the working areas and compounds as marked on site plans plus any transport routes between them.
3. The rock armour and pre cast units will be delivered by landing craft or barge (probably a 60 tonne landing craft). This is an established procedure on the islands having been used recently on the islands for the construction of the new school on St Mary's 2010, the runway and roads resurfacing (which required a whole tarmac batching plant to be shipped to the islands (2014), the St Mary's harbour extension (2015). The sites for this are identified in the working areas identified on the site plans but I will make this clear on the new red line maps. There will be periodic trips of the landing craft/barge.
   At this stage it is not known where the granite will be sourced from, as long as it meets the specification this will be down to the successful tenderer to determine. The granite on Scilly is part of a larger batholith that extends across Cornwall and Devon so these are preferred locations. However it is noted that the same batholith also occurs in NW Europe so it would be possible to source the material from further afield. Plymouth, Penzance and one in the NW of France have been the harbours of origin for supplies from the other projects in recent years. There are several quarries still active in Cornwall so it would be suitable to expect one of these to be the source (although that can't be

guaranteed at this stage).

4. It is intended to re-use the majority of the clay arisings. Main sites will be around the toe of the revetment but also as potential backfill. In addition the rest of the dunes along Porthloo have suffered extensive erosion and if there is substantial clay material it will be used to effect repairs to the defence here helping to stabilise the structure and provide a better base for revegetation of the seaward face of the dune. The amount of clay arisings will depend partially on the current beach profile, if there are excessive amounts and it is not possible to re-use it all on site there is a local site (an old quarry) which is certified to receive waste. Any other unusable material removed from the existing rock debris at the site (eg old building materials and waste) will be transferred to the old quarry waste site).
5. Below is an approximate timetable for works. This is only a best guess at this stage due to the number of variables (eg availability of funding, results of tender for construction – it may be one contract delivering all sites or it could be a combination of contracts). An alternative (later) timetable could have Porth Hellick and South Dunes being delivered in September to November of 2020 and Porthloo to Porth Mellon on the same dates but in 2021.

Site	**Start pre-commencement & mobilisation**	**Start of construction**	**Finish construction**
Porthloo	February/March 2020; 8-12 weeks duration	April/May 2020; 4 weeks duration	June 2020
Porth Mellon	February 2020; 8-10 weeks duration	April 2020; 2-3 weeks duration	April 2020
Porth Hellick	March 2020 -6 weeks	April 2020; 3 weeks duration (excludes planting)	April/May 2020
South Dunes	May 2020; 3 weeks duration	May/June 2020; 2 weeks duration (excludes planting)	June 2020

6. The welfare facilities will in all likelihood not be connected to the mains and would be self contained. There are local facilities for the pumping out of these with any extracts being disposed of via the Biobubble sewage treatment facility at Old Town.

7. For the scheme for Porth Hellick there are two options with regards delivery of material (a) it will be pre-packed in dumpy bags and will be brought into the main quay at St Mary's. It will then be transferred by road. Alternatively it may be brought in to Porthloo and transferred from there. The routes are shown on the attached pdf map. It is envisaged that upto 100 return trips will be necessary (each one way journey time would be less than 10 minutes). Similar approaches have been used in the past for previous large construction projects on the islands (roads resurfacing, runways, new school build). The reason for so many journeys is because of the small size of the flat bad lorry / tractor and trailer that will be used to transport material (this is necessary because of the local road conditions and the access tracks that will be used from Carn Friars farm to the site at Porth Hellick. If used, it will be necessary to install a temporary access track for part of the alternative route (option 2 on the pdf) – this will require a geotextile membrane and suitable hard core. It will be temporary in nature and removed at the project end

(although there has been a local desire to improve access by this route, for access for upkeep and maintenance to the outfall at Porth Hellick, access to Porth Hellick by local fishermen, and improved access to the English Heritage sites nearby, so it may be that this would be kept if installed and seen as an additional local benefit derived from the project).

8. The use of natural products has been considered for all circumstances where it is appropriate, eg the matting for dune stabilisation and to aid establishment of (re)-vegetation. Eg for the sand dunes at South Beach the Coir Matting will be use (as detailed in the attached) and at Porth Hellick. My understanding is that the synthetic materials are only used where the strength and presence of the membrane is required for structural stability of the defence or works. Eg the actual rock rolls themselves, under the rock armour to prevent wash out of fines.

9. There are no specified maintenance requirements for any of the sites it will be a case of visual monitoring to identify defects and any subsequent storm damage. The Council aims to undertake visual inspections and regular condition assessments of all our coastal defence assets – staff have been trained and are trained to the EA's T98 accreditation for asset inspection (due to issue of getting EA staff over to the islands in a timely manner after storm events).

Hopefully I've managed to cover all the aspects needed in the replies above. Let me know if further detail is needed.

The red-line boundary maps will follow as soon as possible,

Cheers

Julian

Julian Pearce
Senior Officer: Physical Assets and Natural Resources

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From: David Revill <David.Revill@jbaconsulting.com>
Sent: 01 May 2019 11:16
To: Pearce Julian <Julian.Pearce@scilly.gov.uk>
Cc: Ben Sullivan <Ben.Sullivan@jbaconsulting.com>; Christophe Watiez

<Christophe.Watiez@jbaconsulting.com>
Subject: RE: IoS EIA Data - project Programme

Hi Julian,

Many thanks for sending these across. Will you be able to provide a similar MS for the South Dunes scheme?

Also, are you able to answer the following questions:

- We need to identify the 'red line boundary' at each of the sites. It needs to encompass all areas that will be directly affected by the works i.e., construction footprint, temporary compounds, materials storage areas and transport routes from a public highway. Whilst we note that the working areas and compounds are marked on the Site Plans, is it possible to provide a red line boundary for each site or for the Site Plans to be updated to more clearly show this? We need this so we can be sure that we have not missed anything within the baseline surveys and environmental assessment.
- The rock armour, precast units and Cornish granite for the Porthloo, Porth Mellon and Porth Hellick schemes are to be delivered to St Mary's via barge:
    - Can you confirm where the barge will be positioned at the Porthloo and Porth Mellon sites (these areas need to be included in the red line boundary) – presumably this will be within the 'working area' as shown on the Site Plans?
    - Will the barge make periodic movements (to collect construction materials) or will it make a single movement to and from the site at the start and end of construction?
    - Where will the construction materials be sourced from – particularly the rock armour and Cornish granite – how will it be transported to site and from where (via road from source to barge at Penzance?)?
- Are you able to specify where any waste clay arisings from the toe excavations will be disposed of (any materials not suitable for reuse)?
- We need to specify a basic construction timetable for each of the schemes so that we can adequately assess any construction risks. Could you have a go at completing the following table with dates for each of the schemes:

Site	**Start pre-commencement & mobilisation**	**Start of construction**	**Finish construction**
Porthloo			
Porth Mellon			
Porth Hellick			
South Dunes			

- Is it correct to assume that all welfare facilities will be connected to mains drainage?
- For the Porth Hellick scheme, the plan is to offload material at Porthloo and then transport to site via road. Can you identify the route that will be used between Porthloo and Porth Hellick? Also, can you provide an estimate of the no. of flatbed lorry/dumper truck journeys will be made to transport this material?
- For all of the schemes, have you considered use of a 'natural' products rather than synthetic materials i.e., geotextile membranes, the rock rolls at Sound Dunes

(currently specified as polyethylene), and the access ramp at Porth Hellick (currently specified as Strata Web 200). This would minimise the risk of any release of synthetic/plastic materials into the marine environment should the defences degrade or be eroded during storm conditions.

Many thanks,
Dave

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Principal Environmental Consultant

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From: Pearce Julian <Julian.Pearce@scilly.gov.uk>
Sent: 29 April 2019 09:55
To: David Revill <David.Revill@jbaconsulting.com>
Cc: Ben Sullivan <Ben.Sullivan@jbaconsulting.com>
Subject: RE: IoS EIA Data - project Programme

Hi Dave,

Attached are the indicative method statements for Porthloo, Porth Mellon and Porth Hellick.

Trust all's well,

Best Regards

Julian

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From: David Revill <David.Revill@jbaconsulting.com>
Sent: 24 April 2019 16:27
To: Pearce Julian <Julian.Pearce@scilly.gov.uk>
Cc: Ben Sullivan <Ben.Sullivan@jbaconsulting.com>

Subject: RE: IoS EIA Data - project Programme

Hi Julian,

I was just wondering if there was any sign of the construction method statements information yet?

Many thanks,
Dave

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From: Pearce Julian <Julian.Pearce@scilly.gov.uk>
Sent: 16 April 2019 17:31
To: David Revill <David.Revill@jbaconsulting.com>
Cc: Christophe Watiez <Christophe.Watiez@jbaconsulting.com>
Subject: RE: IoS EIA Data - project Programme

Hi David,

I believe the only thing outstanding now from me is an approximate project programme and the intended works method statements. Attached is the latest version of the project programme, but it does not give details of construction works at individual sites and we are already aware that it is at least 3-6 months behind due to delays on final agreements on EU funding packages etc. so the timescales can be extended by that timing at least.

With regards the timing of works it is intended that Porth Mellon, Porthloo and Porth Hellick will go out as separate NEC 3 contracts with the ability for them to be grouped into a single award.

Timing on Porth Mellon will be based on avoiding the main visitor season of May to September, because of the water sports and high profile of this amenity beach with families over this period. Porth Hellick will be undertaken outside the period from May to early November. This is because of the popularity of the area and surrounding footpaths for walkers but also because of the birding fraternity that typically visit the islands in October to see migrating birds (and those blown of course by early winter storms).
Porthloo is less sensitive over the summer due to reduced popularity with visitors, but would need to be avoided in April and October which is the period when most of the pleasure and commercial boats from the boat park use the slipway. Consequently a period of November to March would be anticipated for the works.
South Dunes is a smaller contract and it is more likely that several local firms could be interested in delivery of this part of the project. Furthermore the site is less frequented by visitors during the summer and there is the potential to undertake works at any time over the year. In this instance it will be more beneficial to avoid the period from November to February when winds and storms tend to be more frequent and severe. The Tresco Estate have discussed the possibility of using the works to highlight the issues of coastal erosion and climate change

around the islands with their visitors and consequently would only be adverse to avoiding the peak of the visitor season (when transport of goods and people to and from the islands is at a peak and it would be less convenient to accommodate the contractors and delivery of the materials).

I'm expecting the designers to deliver the intended work method statements in the next coule of days so will forward them when available.

Best Regards

Julian

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From: Pearce Julian
Sent: 16 April 2019 16:34
To: 'David Revill' <David.Revill@jbaconsulting.com>
Cc: 'Christophe Watiez' <Christophe.Watiez@jbaconsulting.com>
Subject: RE: IoS EIA Data - Visitor Survey information

As per email below

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From: Pearce Julian
Sent: 16 April 2019 16:27
To: 'David Revill' <David.Revill@jbaconsulting.com>
Cc: 'Christophe Watiez' <Christophe.Watiez@jbaconsulting.com>
Subject: IoS EIA Data - Porthloo Design and Contract information

Hi David,

Attached are the design and contract details for the proposed Porthloo works.

I have received the same for Porth Mellon and Porth Hellick and will forward these as well under separate cover.

There are minor changes from the designs I already provided for Porth Mellon and Porth Hellick, namely;

Porth Mellon; slight change to rock armour detail where it abuts the existing “cliff-face” at the northwestern end of the beach.

Porth Hellick; slight change on the detail of the concrete block mattress used for access to the beach through the gateway and over the bank.

I also have the report of last years visitor survey which I will also send along with results from the 2012 survey which has some site specific details about tranquil sites.

Trust all is well,

Cheers

Julian

Julian Pearce
Senior Officer: Physical Assets and Natural Resources

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The first message in this conversation was sent internally from within the JBA organisation.

Indicative Method statement

1. Project Details			
Client	Council of the Isles of Scilly	**Tel No:**	
Principal Contractor	To be appointed	**Tel No:**	
Contract Manager	TBC	**Tel No:**	
Site Agent	TBC	**Tel No:**	
Job Number	TBC	**Close call QR Code**	
Location	Porthloo, St. Marys		
Start Date / Duration	TBC		
CDM notifiable project	YES ☒ NO ☐	**Principal Designer or Client approved plan**	YES ☒ NO ☐

2. Method Statement Review – *(review and approval signatures only required for high risk work)*		
Compiled by	**Date**	**Sign and date**
Max Clausen	26/04/19	M. Clausen
Reviewed by	**Date**	**Sign and date**
Nigel Horwell	26/04/19	N. Horwell
Approved for issue	**Date**	**Sign and date**
Nigel Horwell	26/04/19	N. Horwell
Date of change	**Reason**	**Approved by**

3. Management of site safety			
Site Agent	TBC	**Tel No:**	
Site Safety Rep	TBC	**Tel No:**	
First Aider	TBC	**Tel No:**	
Fire Co-ordinator	TBC	**Tel No:**	
Safety Advisor	TBC	**Tel No:**	

Indicative Method statement

4. Location of Works

Porthloo, St. Mary's, Isles of Scilly

5. Description of work to be undertaken

- Site establishment
- Construction of Revetment
- Construction of the retaining wall

6. Access to and from the site

Access to the compound and the working area will be via Porthloo lane.
Barges will load and unload in the working area as the tide and sea state allows.

7. Welfare Facilities

The site is likely to be equipped with the following welfare and first aid facilities:

1 No Combination Unit with the following facilities: -
Toilet
Canteen
Drying Room
Microwave
Hot Water
Generator

8. Permits Required

Permit to dig/Service clearance	**YES** ☒ **NO** ☐	Refer to section 21
Hot Works Permit	**YES** ☐ **NO** ☒	Refer to section 20
Confined space permit	**YES** ☐ **NO** ☒	Refer to section 24
Crane Permits / Lifting Plans	**YES** ☒ **NO** ☐	Refer to section 22
Other Permit	**YES** ☒ **NO** ☐	If yes, give details in section 9

9. Details of additional permits required

MMO licence- Client to provide

10. Risk assessments

RA0XX – Use of Excavators
RA0XX – Use of Excavators for Lifting
RA0XX – Manual Handling
RA0XX – Working within the marine environment

11. COSHH assessments

Red Diesel
Concrete
Tropical Hardwood- Greenheart

12. Subcontractors on site

TBC

13. Traffic management arrangements

It is envisaged that:

- The site welfare units, precast retaining wall units, greenheart timber and rock will be supplied by barge to the foreshore thus negating plant movements through the town and along Porthloo road.
- The excavation for the revetment toe may produce clay arisings that may need to be transported by a dumper through St. Mary's to a waste deposal site. A site is yet to be identified.

14. Personal protective equipment (PPE)

It is envisaged that Safety Footwear, Hi Viz Vests and Hard Hats are mandatory on all worksites for ALL persons including visitors/client etc.

The following PPE is to be worn where specified in the method statement, COSHH and/or Risk Assessments

PPE Type	Applicable	Specification
Visor	**YES** ☐	
Goggles/ Glasses	**YES** ☒	BS EN 1633 Grade 3
Ear Defenders	**YES** ☐	
Overalls	**YES** ☐	
Respiratory Equipment	**YES** ☐	
Gloves / Gauntlets	**YES** ☒	Heavy Duty
Other PPE	**YES** ☐	

15. Plant and materials to be used

It is envisaged that the following will be used:

Plant

- 360° Excavators
- Concrete Loading Skip
- Dumper(s)
- Dumper(s)
- Miscellaneous site vehicles
- Miscellaneous small plant and tools

- Landing barges

Materials

- 1- 3t Rock Armour
- RC20/25 Readymix Concrete
- HPS12 Geotextile
- Precast concrete units
- Greenheart timbers

16. Safe method of work to be implemented

The following indicative method of working is envisaged:

Set up Temporary Works

- The engineer shall set-out the compound and working area to the coordinates on the drawings and erect perimeter security. E.g. Heras fencing panels. Note the panels will only be erected above the MHWS mark on the beach. The working area below this level will be adjusted to suit tide levels using cones and tape, and/or sand bunds.
- The welfare unit shall be offloaded from the barge and transported and set-down in the compound and connected to the services where present.
- A footpath diversion shall be established with signs and temporary barriers.

Rock Armour Delivery

- The rock armour shall be delivered by barge at mid to high tide and offloaded into the foreshore working area.
- Once the tide has receded, and the sea state allows, excavators shall track along the foreshore to collect the rock armour and/or shall load dumpers to deliver it to the proposed revetment location ready for placing.
- The rock shall be stored on the foreshore until it is ready for placing.

Revetment Construction

- An engineer to set-out the dig extents and levels.
- An excavator shall be used in conjunction with safe digging procedures as highlighted in section 21.
- The excavator shall remove existing rocks along the embankment and place them in a designated area for reuse or removal from site. Rocks meeting the specification can be used in the construction of the revetment.
- The revetment toe trench shall be excavated ensuring a minimum batter of 1:2 in sand. A clay layer is expected at approximately 1m below the beach levels recorded in February 2017. The clay arisings shall either be transported by dumper to a location on St. Mary's for disposal or transported back to the mainland by barge for disposal.
- The existing embankment shall be graded at the designated slope angle into toe excavation.
- The toe excavation and the graded embankment shall be lined with the HPS12 geotextile. The geotextile shall wrap around the first rock and shall lap back by 2m.
- The rocks shall be individually placed by the excavator in accordance with the Rock Specification document to construct the toe detail.
- The revetment face shall then be constructed from the toe to the designated crest height. The toe and crest length shall meet the minimum dimensions shown on the drawings.
- An initial 10m width of completed revetment shall be constructed as a referenced test panel to the satisfaction of the ECC Supervisor.
- The revetment will be constructed in sections (approx. 10m) so the excavation can be backfilled before the next incoming tide so as to minimise the wash out of beach material and to protect the revetment in the incomplete state
- The roundheads shall be constructed to the levels and slope angles shown on the drawings.
- The existing timber wall shall be supported and braced where the backfill is excavated to allow the construction of the southern roundhead.
- The constructed southern roundhead shall have the site-won rock placed on it to backfill the excavated material removed from the existing timber retaining wall.

Retaining Wall

- A L-shaped precast wall shall be constructed to retain the backfill that will support the revetment crest rocks at the location and extents shown the site plan.
- The existing embankment shall be excavated to the formation level, approximately 1.5m below existing ground level.
- RC20 mass concrete shall fill the excavation to a depth of 500mm to provide a foundation to the RC units.
- The precast RC L-shaped units shall be positioned and fixed to the mass concrete foundation ensuring the units align with the existing timber retaining wall.
- The precast units shall be faced with greenheart timber to the same line and level as the existing timber retaining wall to maintain the same aesthetic.
- The constructed retaining wall shall be backfilled to the proposed levels
- Any disturbed areas shall be reinstated.

17. Control of Hand Arm Vibration Syndrome (HAVS) risk and Noise control measures

All items of plant and equipment that may cause a risk from HAVS must be individually listed in the table shown below.

Equipment	Vibration Output	Actual trigger time to reach the daily 80 exposure points limit
Stihl Saw	3.9m/s²	2 Hours 38 Mins
SDS Drill	6.5m/s²	57 Mins
Circular Saw	2.5m/s²	6 Hours 24 Mins

18. Monitoring of site operations

It is envisaged that:

- All site operations will be supervised by the Site Agent. The work activities and risks will be conveyed and discussed during the Daily Site Briefing carried out each morning (all attendees to sign to confirm their understanding of the DSB).
- Any changes required, or points raised will be discussed and the Risk Assessments/ Method Statements (RAMS) amended appropriately.
- The SHEQ Supervisor will visit site monthly to carry out a Health, Safety, Environmental and Quality inspection.
- Throughout the duration of the works the sea levels and sea state shall be monitored.
- If there is a risk of inundation from the sea, an alarm (whistle) will be raised to signify that works will cease.
- All plant to be evacuated from the working area and stored in the designated parking area, which will be the highest available point of the site.
- Materials will be stored in the site compound and stores. These will be positioned in order so the materials least likely to be washed away or cause pollution to the watercourse will be stored at the lower levels of the compound.

19. Training requirements

It is envisaged that:

- All operatives to be CSCS trained.
- All plant operatives to be CPCS or equivalently trained.
- Operatives required to use a CAT & Genny will be competent.
- All records of training certificates are to be kept on Workspace.

20. Fire prevention measures and control of hot works

It is envisaged that

- No fires to be permitted on site.
- The Site Agent will carry out a Fire Risk assessment and implement provision of Fire Fighting equipment as identified.
- Any Hot Works identified will require a Hot Works Permit prior to commencement, no hot works have been identified in the preparation of this method statement.

21. Control of excavation work

It is envisaged that:

Excavation work is always hazardous due to uncharted and unknown services that may be present. The following outline procedure must be strictly followed when excavating and exposing services:

1. A Permit to Dig is required for all excavations.
2. Where possible the client/service provider should isolate known services prior to excavating. This isolation should be confirmed in writing prior to commencing.
3. Using a CAT (Cable Avoidance Tool), the area must be scanned, and the positions of any known services identified. If other services are identified by the CAT scan, then extreme caution must be exercised when excavating.
4. Manhole and pit covers must be lifted within the immediate location to establish the direction and depth of any services. Where possible always use clamp and/or generator to establish depth and direction of services.
5. Where possible, trial holes may be dug to identify the true location, depth and direction of known services. In areas where services are present, but no drawings are available, trial holes must be carried out.
6. Excavators must never dig deeper than 150mm with each stroke unless it is known that there are no services present.
7. CAT scanning must take place after every layer of soil is removed to ensure that any services can be successfully located.
8. Hand digging must be used within 500mm of the suspected location of a buried service. This must be carried out with extreme caution. This applies regardless of known cable depths.
9. If the service provider is unable to isolate the services, the excavation must not proceed unless written permission to do so has been obtained from the Project Manager.
10. Any changes to the safe system of work associated with the excavation works must be approved by the person in charge prior to being undertaken.

22. Lifting Operations

It is envisaged that:

An individual lifting plan must be attached to this method statement which covers all the lifting operations that are to be undertaken on the site.

All lifting accessories should be tagged with the current compliance colour. - tbc

- A routine lifting operation plan will be in place for the lifting of materials.

23. Manual handling

It is envisaged that:

Arrangements are to be made to identify any major elements of the work which may constitute a risk from manual handling. The relevant control measures must be recorded in this section of the method statement.

- Where practicable the excavator will be used to lift all material.
- Where manual handling is required, site operatives will lift any materials inline with manual handling guidance given in a toolbox talk.

24. Confined spaces – safety arrangements

It is envisaged that:

All Operatives involved in a confined space entry must be trained and competent to do so.

Only an 'Authorised Person' may issue a Confined Space Entry Permit.

- No Confined Space Entries identified during these works

25. Environmental considerations

Statements showing how all relevant environmental aspects and impacts that are identified either in the PMP or on the Risk and Environmental Impact Assessment Form must be recorded in this section of the method statement.

- Spill Kits will be available at site.
- Toolbox talk to be carried out in advance of the works in how to deal with a spill near to the marine environment.
- All mobile plant is be in good serviceable condition.
- All fuel to be stored in suitable double bunded containers and stored in the fuel store. Which is to be bunded as detailed in section16.
- No refuelling or storage to take place within 10m of a watercourse including the sea
- All plant hydraulics to be run on Bio Oils.

26. Site specific emergency arrangements

It is envisaged that:

Local Muster Point : The Muster Point is to be the site entrance

Always telephone the relevant emergency service first then the Site Agent if there has been a serious injury or there is an immediate risk of danger

Call the Agent first for advice if there is no immediate risk of danger and/or no one has sustained a serious injury.

In Case of Emergency 999

TBC	Site Agent	Mobile	
TBC	Contracts Manager	Mobile	
TBC	Foreman	Mobile	

27. Updated information causing change to the method statement

(insert any details relating to site conditions or changes to the method statement that need to be recorded during the progress of the contract)

Weather or environmental conditions that are likely to affect the place, or point of work (e.g. Dark, Wet, and Icy etc.)	Control measures that are required to control the risk caused by the weather or environmental conditions
AM.	
PM.	

Indicative Method statement

1. Project Details			
Client	Council of the Isles of Scilly	**Tel No:**	
Principal Contractor	To be appointed	**Tel No:**	
Contract Manager	TBC	**Tel No:**	
Site Agent	TBC	**Tel No:**	
Job Number	TBC	**Close call QR Code**	
Location	Porth Mellon, St. Marys		
Start Date / Duration	TBC		
CDM notifiable project	YES ☒ NO ☐	**Principal Designer or Client approved plan**	YES ☒ NO ☐

2. Method Statement Review – *(review and approval signatures only required for high risk work)*		
Compiled by	**Date**	**Sign and date**
Max Clausen	26/04/19	M. Clausen
Reviewed by	**Date**	**Sign and date**
Paul Risdon	26/04/19	P. Risdon
Approved for issue	**Date**	**Sign and date**
Paul Risdon	26/04/19	P. Risdon
Date of change	**Reason**	**Approved by**

3. Management of site safety			
Site Agent	TBC	**Tel No:**	
Site Safety Rep	TBC	**Tel No:**	
First Aider	TBC	**Tel No:**	
Fire Co-ordinator	TBC	**Tel No:**	
Safety Advisor	TBC	**Tel No:**	

Indicative Method statement

4. Location of Works

Porth Mellon, St. Mary's, Isles of Scilly

5. Description of work to be undertaken

- Site establishment
- Construction of Revetment

6. Access to and from the site

Road access to site is via Telegraph Road.

It is proposed that the Contractor's compound will be located behind Porth Mellon beach via a track off Telegraph road.

The Working Area, as indicated in the Site Plan-0300, is on Porth Mellon Beach.

It is likely that construction plant will need to use Telegraph road to travel between the compound and working area. A traffic management plan will be developed to allow safe plant movements.

7. Welfare Facilities

The site is likely to be equipped with the following welfare and first aid facilities:

1 No Combination Unit with the following facilities: -
Toilet
Canteen
Drying Room
Microwave
Hot Water
Generator

8. Permits Required

Permit to dig/Service clearance	**YES** ☒ **NO** ☐	Refer to section 21
Hot Works Permit	**YES** ☐ **NO** ☒	Refer to section 20
Confined space permit	**YES** ☐ **NO** ☒	Refer to section 24
Crane Permits / Lifting Plans	**YES** ☒ **NO** ☐	Refer to section 22
Other Permit	**YES** ☒ **NO** ☐	If yes, give details in section 9

9. Details of additional permits required

MMO licence- Client to provide

10. Risk assessments

RA0XX – Use of Excavators
RA0XX – Use of Excavators for Lifting

RA0XX – Manual Handling
RA0XX – Working in the marine environment

11. COSHH assessments

Red Diesel

12. Subcontractors on site

TBC

13. Traffic management arrangements

It is envisaged that:

- The site welfare units and rock will be supplied by barge to the foreshore thus negating plant movements through the town and along Porthloo road.
- A ground investigation indicated that the excavation for the revetment toe should not produce clay arisings. However, if any unsuitable material is excavated that cannot be redistributed at the site, then it may need to be transport by a dumper through St. Mary's to a waste disposal site.

14. Personal protective equipment (PPE)

It is envisaged that Safety Footwear, Hi Viz Vests and Hard Hats are mandatory on all worksites for ALL persons including visitors/client etc.

The following PPE is to be worn where specified in the method statement, COSHH and/or Risk Assessments

PPE Type	Applicable	Specification
Visor	**YES** ☐	
Goggles/ Glasses	**YES** ☒	BS EN 1633 Grade 3
Ear Defenders	**YES** ☐	
Overalls	**YES** ☐	
Respiratory Equipment	**YES** ☐	
Gloves / Gauntlets	**YES** ☒	Heavy Duty
Other PPE	**YES** ☐	

15. Plant and materials to be used

It is envisaged that the following will be used:

Plant

- 360° Excavators

- Dumper(s)
- Miscellaneous site vehicles
- Miscellaneous small plant and tools
- Landing barges

Materials

- 1- 3t Rock Armour
- HPS12 Geotextile

16. Safe method of work to be implemented

The following indicative method of working is envisaged:

Set up Temporary Works

- The engineer shall set-out the compound and working area to the coordinates on the drawings and erect perimeter security. E.g. Heras fencing panels. Note the panels will only be erected above the MHWS mark on the beach. The working area below this level will be adjusted to suit tide levels using cones and tape, and/or sand bunds.
- The welfare unit shall be offloaded from the barge and transported and set-down in the compound and connected to the services where present.

Rock Armour Delivery

- The rock armour shall be delivered by barge at mid to high tide and offloaded into the foreshore working area.
- Once the tide has receded, and the sea state allows, excavators shall track along the foreshore to collect the rock armour and/or shall load dumpers to deliver it to the proposed revetment location ready for placing.
- The rock shall be stored on the foreshore until it is ready for placing.

Revetment Construction

- An engineer shall set-out the dig extents and levels.
- An excavator shall be used in conjunction with safe digging procedures as highlighted in section 21.
- An excavator shall remove any existing rocks in location of the proposed revetment in a designated area for reuse or removal from site. Rocks meeting the specification can be used in the construction of the revetment.
- The revetment toe trench shall be excavated ensuring a minimum batter of 1:2 in sand. The ground investigation undertaken in February 2017 indicated that no clay was found underlying the beach material. If any clay arisings are generated, they shall either be transported by dumper to a location on St. Mary's for disposal or transported back to the mainland by barge for disposal.
- The existing embankment shall be graded at the designated slope angle into toe excavation.
- The toe excavation and the graded embankment shall be lined with the HPS12 geotextile. The geotextile shall wrap around the first rock and shall lap back by 2m.
- The rocks shall be individually placed by the excavator in accordance with the Rock Specification document to construct the toe detail.
- The revetment face shall then be constructed from the toe to the designated crest height. The toe and crest length shall meet the minimum dimensions shown on the drawings.
- An initial 10m width of completed revetment shall be constructed as a referenced test panel to the satisfaction of the ECC Supervisor.
- The revetment shall be constructed in sections (approx. 10m) so the excavation can be backfilled before the next incoming tide so as to minimise the wash out of beach material and to protect the revetment in the incomplete state.
- The roundheads shall be constructed to the levels and slope angles shown on the drawings.
- The area between the newly constructed face of the western revetment roundhead and the cliff face shall be filled with site won rock. The rock shall overlay the engineered revetment and shall follow the alignment of cliff to offer additional protection to the cliff face.
- The revetment shall then be backfilled with the excavated sand
- Any disturbed areas shall be reinstated.

17. Control of Hand Arm Vibration Syndrome (HAVS) risk and Noise control measures

All items of plant and equipment that may cause a risk from HAVS must be individually listed in the table shown below.

Equipment	Vibration Output	Actual trigger time to reach the daily 80 exposure points limit
Stihl Saw	3.9m/s²	2 Hours 38 Mins
SDS Drill	6.5m/s²	57 Mins
Circular Saw	2.5m/s²	6 Hours 24 Mins

18. Monitoring of site operations

It is envisaged that:

- All site operations will be supervised by the Site Agent. The work activities and risks will be conveyed and discussed during the Daily Site Briefing carried out each morning (all attendees to sign to confirm their understanding of the DSB).
- Any changes required, or points raised will be discussed and the RAMS amended appropriately.
- The SHEQ Supervisor will visit site monthly to carry out a Health, Safety, Environmental and Quality inspection.
- Throughout the duration of the works the sea levels and sea state shall be monitored.
- If there is a risk of inundation from the sea, an alarm (whistle) will be raised to signify that works will cease.
- All plant to be evacuated from the working area and stored in the designated parking area, which will be the highest available point of the site.
- Materials will be stored in the site compound and stores. These will be positioned in order so the materials least likely to be washed away or cause pollution to the watercourse will be stored at the lower levels of the compound.

19. Training requirements

It is envisaged that:

- All operatives to be CSCS trained.
- All plant operatives to be CPCS or equivalently trained.
- Operatives required to use a CAT & Genny will be competent.
- All records of training certificates are to be kept on Workspace.

20. Fire prevention measures and control of hot works

It is envisaged that:

- No fires to be permitted on site.
- The Site Agent will carry out a Fire Risk assessment and implement provision of Fire Fighting equipment as identified.
- Any Hot Works identified will require a Hot Works Permit prior to commencement, no hot works have been identified in the preparation of this method statement.

21. Control of excavation work

It is envisaged that:

Excavation work is always hazardous due to uncharted and unknown services that may be present. The following outline procedure must be strictly followed when excavating and exposing services:

1. A Permit to Dig is required for all excavations.
2. Where possible the client/service provider should isolate known services prior to excavating. This isolation should be confirmed in writing prior to commencing.
3. Using a CAT (Cable Avoidance Tool), the area must be scanned, and the positions of any known services identified. If other services are identified by the CAT scan, then extreme caution must be exercised when excavating.
4. Manhole and pit covers must be lifted within the immediate location to establish the direction and depth of any services. Where possible always use clamp and/or generator to establish depth and direction of services.
5. Where possible, trial holes may be dug to identify the true location, depth and direction of known services. In areas where services are present, but no drawings are available, trial holes must be carried out.
6. Excavators must never dig deeper than 150mm with each stroke unless it is known that there are no services present.
7. CAT scanning must take place after every layer of soil is removed to ensure that any services can be successfully located.
8. Hand digging must be used within 500mm of the suspected location of a buried service. This must be carried out with extreme caution. This applies regardless of known cable depths.
9. If the service provider is unable to isolate the services, the excavation must not proceed unless written permission to do so has been obtained from the Project Manager.
10. Any changes to the safe system of work associated with the excavation works must be approved by the person in charge prior to being undertaken.

22. Lifting Operations

It is envisaged that:

An individual lifting plan must be attached to this method statement which covers all the lifting operations that are to be undertaken on the site.

All lifting accessories should be tagged with the current compliance colour. - tbc

- A routine lifting operation plan will be in place for the lifting of materials.

23. Manual handling

It is envisaged that:

Arrangements are to be made to identify any major elements of the work which may constitute a risk from manual handling. The relevant control measures must be recorded in this section of the method statement.

- Where practicable the excavator will be used to lift all material.
- Where manual handling is required, site operatives will lift any materials inline with manual handling guidance given in a toolbox talk.

24. Confined spaces – safety arrangements

It is envisaged that:

All Operatives involved in a confined space entry must be trained and competent to do so.

Only an 'Authorised Person' may issue a Confined Space Entry Permit.

- No Confined Space Entries identified during these works

25. Environmental considerations

It is envisaged that:

Statements showing how all relevant environmental aspects and impacts that are identified either in the PMP or on the Risk and Environmental Impact Assessment Form must be recorded in this section of the method statement.

- Spill Kits will be available at site.
- Toolbox talk to be carried out in advance of the works in how to deal with a spill near to the River.
- All mobile plant is be in good serviceable condition.
- All fuel to be stored in suitable double bunded containers and stored in the fuel store. Which is to be bunded as detailed in section16.
- No refuelling or storage to take place within 10m of a watercourse or the sea.
- All plant hydraulics to be run on Bio Oils.

26. Site specific emergency arrangements

It is envisaged that:

Local Muster Point : The Muster Point is to be the site entrance

Always telephone the relevant emergency service first then the Site Agent if there has been a serious injury or there is an immediate risk of danger

Call the Agent first for advice if there is no immediate risk of danger and/or no one has sustained a serious injury.

In Case of Emergency 999

	TBC	Site Agent	Mobile	
	TBC	Contracts Manager	Mobile	
	TBC	Foreman	Mobile	

27. Updated information causing change to the method statement

(insert any details relating to site conditions or changes to the method statement that need to be recorded during the progress of the contract)

Weather or environmental conditions that are likely to affect the place, or point of work (e.g. Dark, Wet, and Icy etc.)	Control measures that are required to control the risk caused by the weather or environmental conditions
AM.	
PM.	

Indicative Method statement

1. Project Details			
Client	Council of the Isles of Scilly	**Tel No:**	
Principal Contractor	To be appointed	**Tel No:**	
Contract Manager	TBC	**Tel No:**	
Site Agent	TBC	**Tel No:**	
Job Number	TBC	**Close call QR Code**	
Location	Porth Hellick, St. Marys		
Start Date / Duration	TBC		
CDM notifiable project	YES ☒ NO ☐	**Principal Designer or Client approved plan**	YES ☒ NO ☐

2. Method Statement Review – *(review and approval signatures only required for high risk work)*		
Compiled by	**Date**	**Sign and date**
Max Clausen	26/04/19	M. Clausen
Reviewed by	**Date**	**Sign and date**
Paul Risdon	26/04/19	Pwr
Approved for issue	**Date**	**Sign and date**
Paul Risdon	26/04/19	Pwr
Date of change	**Reason**	**Approved by**

3. Management of site safety			
Site Agent	TBC	**Tel No:**	
Site Safety Rep	TBC	**Tel No:**	
First Aider	TBC	**Tel No:**	
Fire Co-ordinator	TBC	**Tel No:**	
Safety Advisor	TBC	**Tel No:**	

Indicative Method statement

4. Location of Works

Porth Hellick, St. Mary's, Isles of Scilly

5. Description of work to be undertaken

- Site establishment
- Recharge of the dune
- Construction of the beach access ramp
- Construction of the approach track
- Vegetation of the dune crest

6. Access to and from the site

It is envisaged that:

Vehicle access to Porth Hellick is from Carn Friars Lane and then via an unsurfaced track to the beach. See Site Information for illustration. The Contractor may choose to lay a temporary haul track.

The proposed Contractor's compound will be located in the field adjacent to the beach. See Site Plan.

The Working Area, as indicated in the Site Plan-0500, is on Porth Hellick Dune.

7. Welfare Facilities

The site is likely to be equipped with the following welfare and first aid facilities:

1 No Combination Unit with the following facilities: -

Toilet
Canteen
Drying Room
Microwave
Hot Water
Generator

8. Permits Required

Permit to dig/Service clearance	**YES** ☒ **NO** ☐	Refer to section 21
Hot Works Permit	**YES** ☐ **NO** ☒	Refer to section 20
Confined space permit	**YES** ☐ **NO** ☒	Refer to section 24
Crane Permits / Lifting Plans	**YES** ☒ **NO** ☐	Refer to section 22
Other Permit	**YES** ☐ **NO** ☒	If yes, give details in section 9

9. Details of additional permits required

10. Risk assessments

RA0XX – Use of Excavators
RA0XX – Use of Excavators for Lifting
RA0XX – Manual Handling

RA0XX – Working within the marine environment

11. COSHH assessments

Red Diesel

12. Subcontractors on site

TBC

13. Traffic management arrangements

It is envisaged that:

- The materials will be delivered by the barge to Porthloo beach where they will be offloaded and transported by flatbed lorry to Porth Hellick.
- Some materials may be delivered loose e.g. the 4-10mm granite stone. If this is the case, then an excavator will load the dump trucks to transport the stone to Porth Hellick. However, it likely they will be delivered in 1m cubed bags and transported on a flatbed lorry.
- A traffic management plan will be developed to allow safe plant movements.

14. Personal protective equipment (PPE)

It is envisaged that Safety Footwear, Hi Viz Vests and Hard Hats would be mandatory on all worksites for ALL persons including visitors/client etc.

The following PPE is to be worn where specified in the method statement, COSHH and/or Risk Assessments

PPE Type	Applicable	Specification
Visor	**YES** ☐	
Goggles/ Glasses	**YES** ☒	BS EN 1633 Grade 3
Ear Defenders	**YES** ☐	
Overalls	**YES** ☐	
Respiratory Equipment	**YES** ☐	
Gloves / Gauntlets	**YES** ☒	Heavy Duty
Other PPE	**YES** ☐	

15. Plant and materials to be used

It is envisaged that the following will be used:

Plant

- 360° Excavators
- Concrete Loading Skip

- Dumper(s)
- Roller
- Miscellaneous site vehicles
- Miscellaneous small plant and tools

Material

- 4-10mm crushed Cornish Granite
- Biodegradable coir matting – Salix Coconet 800
- Fascicularia Bicolor bushes
- Type 1 stone (Clause 803 SHW)
- Terram 1000 geotextile
- Dycel 150 blocks and 8mm stainless steel cable
- Ekotext 30 geotextile
- RC20 mass concrete
- Strata Web 200mm geogrid
- Ekotext 10 geotextile

16. Safe method of work to be implemented

The following indicative method of working is envisaged:

Set up Temporary Works

- The engineer shall set-out the compound and working area to the coordinates on the drawings and erect perimeter security. Note the panels will only be erected above the MHWS mark on the beach. The working area below this level will be adjusted to suit tide levels using cones and tape, and/or sand bunds.
- The welfare unit shall be offloaded from an assume flatbed lorry and set-down in the compound and connected to the services where present.

Ramp approach track

- An approach track to the beach access ramp shall be constructed from of Type 1 stone (Clause 803 SHW) and compacted in 300mm layer underlain by Terram 1000 geotextile to the extents shown on the drawings.

Beach Access Ramp

- The formation layer for the beach access ramp shall be cleared of debris before being overlaid with Ekotext 10 geotextile.
- Strataweb geogrid shall overlay the Ekotext 10 geotextile and the cells shall be pinned open and infilled with 4-10mm crushed granite.
- At the crest of the dune, the Strataweb shall be built-up to three layers and on the ramp slopes it shall be two layers.
- The Ekotext 10 geotextile shall brought up to contain the sides of the Strataweb fill.
- The Ekotext 30 geotextile shall overlay the top surface of the Startaweb to provide a formation layer to the Dycel blocks
- Dycel blocks shall be hand laid and threaded with stainless steel cables to form a continuous ramp surface.
- The cable ends shall be formed into loops and shall terminate in around a 20mm diameter stainless steel bar.
- The termination bar shall be set in a mass concrete trench.

Dune Recharge

- 4-10mm crushed Cornish Granite shall be brought to site in 1m cubed bags where it will be offloaded and stored in the compound ready for use.
- Once the tide has receded, and the sea state allows, excavators will load the dumpers which shall position the material in the area indicated on the drawings.
- The invasive species (Hottentot Fig) shall be left insitu and shall be overlaid with the dune recharge material.
- An excavator will grade the material to the correct profile
- Biodegradable coir matting shall over lay the newly raised dune and shall be pinned with wooden stakes.
- A 50mm layer of topsoil shall be spread over the coir matting and seeded with native grass seeds.

Vegetation of the dune crest

- The existing dune crest and newly raised crest shall be planted with Fascicularia Bicolor bushes at the locations indicated on the drawings. Where these are located in the Hottentot Fig, the fig shall be removed by hand to allow the planting of the Fascicularia Bicolor bushes. The removed Hottentot Fig shall remain within existing extents of the plant so as not to encourage its spread.
- The newly raised crest shall be planted in a 4m wide strip with equal coverage to the landward and seaward side of the dune with a mixture of mature and juvenal plants.

17. Control of Hand Arm Vibration Syndrome (HAVS) risk and Noise control measures

All items of plant and equipment that may cause a risk from HAVS must be individually listed in the table shown below.

Equipment	Vibration Output	Actual trigger time to reach the daily 80 exposure points limit
Stihl Saw	3.9m/s²	2 Hours 38 Mins
SDS Drill	6.5m/s²	57 Mins
Circular Saw	2.5m/s²	6 Hours 24 Mins

18. Monitoring of site operations

It is envisaged that:

- All site operations will be supervised by the Site Agent. The work activities and risks will be conveyed and discussed during the Daily Site Briefing carried out each morning (all attendees to sign to confirm their understanding of the DSB).
- Any changes required, or points raised will be discussed and the Risk Assessments/Method Statements (RAMS) amended appropriately.
- The SHEQ Supervisor will visit site monthly to carry out a Health, Safety, Environmental and Quality inspection.
- Throughout the duration of the works the sea levels and sea state shall be monitored.
- If there is a risk of inundation from the sea, an alarm (whistle) will be raised to signify that works will cease.
- All plant to be evacuated from the working area and stored in the designated parking area, which will be the highest available point of the site.
- Materials will be stored in the site compound and stores. These will be positioned in order so the materials least likely to be washed away or cause pollution to the watercourse will be stored at the lower levels of the compound.

19. Training requirements

It is envisaged that:

- All operatives to be CSCS trained.
- All plant operatives to be CPCS or equivalently trained.
- Operatives required to use a CAT & Genny will be competent.
- All records of training certificates are to be kept on Workspace.

20. Fire prevention measures and control of hot works

It is envisaged that:

- No fires to be permitted on site.
- The Site Agent will carry out a Fire Risk assessment and implement provision of Fire Fighting equipment as identified.
- Any Hot Works identified will require a Hot Works Permit prior to commencement, no hot works have been identified in the preparation of this method statement.

21. Control of excavation work

It is envisaged that:

Excavation work is always hazardous due to uncharted and unknown services that may be present. The following outline procedure must be strictly followed when excavating and exposing services:

1. A Permit to Dig is required for all excavations.
2. Where possible the client/service provider should isolate known services prior to excavating. This isolation should be confirmed in writing prior to commencing.
3. Using a CAT (Cable Avoidance Tool), the area must be scanned, and the positions of any known services identified. If other services are identified by the CAT scan, then extreme caution must be exercised when excavating.
4. Manhole and pit covers must be lifted within the immediate location to establish the direction and depth of any services. Where possible always use clamp and/or generator to establish depth and direction of services.
5. Where possible, trial holes may be dug to identify the true location, depth and direction of known services. In areas where services are present, but no drawings are available, trial holes must be carried out.
6. Excavators must never dig deeper than 150mm with each stroke unless it is known that there are no services present.
7. CAT scanning must take place after every layer of soil is removed to ensure that any services can be successfully located.
8. Hand digging must be used within 500mm of the suspected location of a buried service. This must be carried out with extreme caution. This applies regardless of known cable depths.
9. If the service provider is unable to isolate the services, the excavation must not proceed unless written permission to do so has been obtained from the Project Manager.
10. Any changes to the safe system of work associated with the excavation works must be approved by the person in charge prior to being undertaken.

22. Lifting Operations

It is envisaged that:

An individual lifting plan must be attached to this method statement which covers all the lifting operations that are to be undertaken on the site.

All lifting accessories should be tagged with the current compliance colour. - tbc

- A routine lifting operation plan will be in place for the lifting of materials.

23. Manual handling

It is envisaged that:

Arrangements are to be made to identify any major elements of the work which may constitute a risk from manual handling. The relevant control measures must be recorded in this section of the method statement.

- Where practicable the excavator will be used to lift all material.
- Where manual handling is required, site operatives will lift any materials inline with manual handling guidance given in a toolbox talk.

24. Confined spaces – safety arrangements

It is envisaged that:

All Operatives involved in a confined space entry must be trained and competent to do so.

Only an 'Authorised Person' may issue a Confined Space Entry Permit.

- No Confined Space Entries identified during these works

25. Environmental considerations

It is envisaged that:

Statements showing how all relevant environmental aspects and impacts that are identified either in the PMP or on the Risk and Environmental Impact Assessment Form must be recorded in this section of the method statement.

- Spill Kits will be available at site.
- Toolbox talk to be carried out in advance of the works in how to deal with a spill near to the marine environment.
- All mobile plant is be in good serviceable condition.
- All fuel to be stored in suitable double bunded containers and stored in the fuel store.
- No refuelling or storage to take place within 10m of a watercourse including the sea.
- All plant hydraulics to be run on Bio Oils.
- Invasive species (Hottentot fig) shall be contained within its existing extents and shall not be removed from this area.

26. Site specific emergency arrangements

It is envisaged that:

Local Muster Point : The Muster Point is to be the site entrance

Always telephone the relevant emergency service first then the Site Agent if there has been a serious injury or there is an immediate risk of danger

Call the Agent first for advice if there is no immediate risk of danger and/or no one has sustained a serious injury.

In Case of Emergency 999

TBC	Site Agent	Mobile	
TBC	Contracts Manager	Mobile	
TBC	Foreman	Mobile	

27. Updated information causing change to the method statement

(insert any details relating to site conditions or changes to the method statement that need to be recorded during the progress of the contract)

Weather or environmental conditions that are likely to affect the place, or point of work (e.g. Dark, Wet, and Icy etc.)	Control measures that are required to control the risk caused by the weather or environmental conditions
AM.	
PM.	

Rock Rolls

Key Delivery Notes

- As standard will arrive bundled with strops on an articulated flat-bed lorry
- Suitable mechanical plant is required for offloading
- Any lifting strops returned undamaged will be refunded at £1 per strop
- Edge protection is not provided as standard. If required please ask at time of order
- Lifting chains are required for offloading and installation (not supplied)

Measurements

Size	Weight
2m x 0.25m	150kg
2m x 0.3m	225kg

Delivery and Unloading Instructions

Option 1 - Bundled with strops

There are 5nr (2m by 0.3m) or 6nr (2m by 0.25m) Rock Rolls per bundle. Requires a person to access the bed of the lorry. Suitable mechanical plant is required for offloading.

Option 1 - arriving in bundles with strops

Option 2 – Palletised

There are 5nr (2m by 0.3m) or 6nr (2m by 0.25m) rock rolls per pallet.

Suitable mechanical plant is required for offloading.

Option 2 - arriving on pallets

Installation Instructions

1. Rock Rolls must be lifted along the seam only with a minimum of 3 lifting points per unit using a 3-leg chain sling.

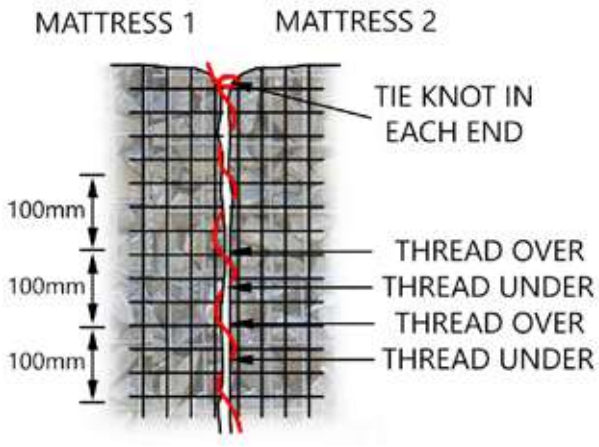
Picture 1 - showing lifting points

2. Prepare the ground and level as per the design.
3. Drive in the posts. Stake at centres: 0.5m at the front and 1m at the back unless otherwise specified.

Picture 2 - showing staking technique

4. Lift and place the Rock Rolls behind the pre-installed chestnut stakes.
5. Lace the ends together using 3mm fixing twine to form a homogenous line of rock roll. If the water is too deep for stitching then use UV resistant cable ties to fix the rock roll ends together.

Picture 3 - showing lacing technique



6. If using chestnut posts, position and tie off as specified in design.
7. Backfill if required with suitable fill or as specified.

Please note these are generic installation guides, if you have site specific issues please contact Salix directly.

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