



# **Poole Bay Beach Management Scheme Groyne Building Programme 2022-2024**

## **Volume 2: *Client Scope***

## NEC4 engineering and construction contract (ECC) Scope

### Project / contract information

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## S 100 Description of the works

### S 101 Purpose of the Works / Outcome required

These works form part of the Poole Bay Beach Management Scheme (PBBMS), that was awarded Flood Defence Grant in Aid (FDGiA) and Local Levy (LL) funding in May 2020. This grant plus further money from the *Client* (Bournemouth, Christchurch and Poole Council) has given a total PBBMS budget of £36.3m.

The PBBMS includes the following:

- Replacement of 26 life expired timber groynes,
- Three beach renourishment campaigns and
- Hengistbury Head Long Groyne repair and upgrade.

The primary objectives are described in the Poole Bay Beach Management Scheme - Outline Business Case (OBC) dated 23 January 2020, as:

- Mitigating long term erosion risk to property and infrastructure by 'Holding the Line',
- Provide value for money and efficiency prior to and during delivery of the works,
- Deliver a project that integrates engineering, social and environmental requirements and
- To seek wider benefits with key stakeholders and the assurance of continued delivery through strategic partnership working arrangements.

### S 102 Description of the works

The *Client* (Bournemouth, Christchurch and Poole Council) is seeking to appoint a *Contractor* to construct a *Client* designed scheme comprising of the construction 7 (number) (seven) new timber groynes and the deconstruction of 7 (number)(seven) existing timber groynes over two out of tourism (Winter, beginning of October to end of March) seasons. All timber for the construction of the groyne will be supplied by the *Client*.

The drawings describing the *works* are included in GBP22 Volume 5 – Drawings

The baseline setting out information for each new groyne is on the drawings GBP22-C9, GBP22-C10, GBP22-C12, GBP22-C13, GBP22-C14, GBP22-C15 & GBP22-C16. The *Contractor* will establish these lines on site and confirm the position with the *Supervisor* before commencement of any construction *works*. The *Contractor* shall check the provision of any level reference points shown on the drawings and confirm the position and level with the *Supervisor* before use for setting out the *works*. The *Contractor* shall inform the *Project Manager* when all setting out reference points have been agreed, checked and confirmed.

## S 200 General constraints on how the *Contractor* provides the works

### S 201 General constraints

#### S 201.1 Sequencing of the Works

The construction sequencing is given below. The sequencing will not change unless otherwise agreed with the Project Manager.

**i. Year 1A (10th October 2022 to 23rd December 2022)**

Works to commence no sooner than 10th October 2022 with sectional completion date of 23rd December 2022 to construct 2 (two) new groynes (C12 & C13) and to deconstruct 2 (two) existing groynes numbered (B11 & B12) as shown on drawing number GBP22-GA1.

**ii. Year 1B (3rd January 2023 to 26th March 2023)**

Works to commence no sooner than 3rd January 2023 with sectional completion date of 26th March 2023 to construct 2 (two) new groynes (C9 & C10) and to deconstruct 2 (two) existing groynes numbered (B9 & B10) as shown on drawing number GBP22-GA1.

**iii. Year 2 (9th October 2023 to 24th March 2024)**

Works to commence no sooner than 9th October 2023 with completion date of 24th March 2024 to construct 3 (three) new groynes (C14, C15 & C16) and deconstruct 3 (three) existing groynes (B13, B14 & B15) as shown on drawing number GBP22-GA1.

**Construction works will not be permitted during 27th March 2023 to 8th October 2023 and from 25th March 2023 onwards. All working areas must be clear of all materials, plant, stores and offices.**

**S 201.2 Deconstruction constraints**

The new groynes are to be built on a revised bearing and in a new location, the *Contractor* should only plan to deconstruct the adjoining existing groyne when the new groyne construction is substantially complete. The exceptions to this restraint are: -

- Year 1 groyne B10 can be deconstructed prior to the construction of C10
- Year 1 groyne B11 can be deconstructed prior to the construction of C12
- Year 2 groyne B13 can be deconstructed prior to the construction of C14
- Year 2 groyne B14 can be deconstructed prior to the construction of C15

The reason for these exceptions is the proximity of the new groynes to the existing groynes. Construction of the corresponding new groyne must commence within two weeks of the deconstruction of the existing groyne.

Deconstruction of existing groyne will not be permitted before the completion of the corresponding new groyne except where explicitly stated in the Scope or with written permission of the *Project Manager*.

Multiple (especially sequential) groynes will not be permitted to be deconstruction simultaneously due to the amount of beach loss in the process.

**S 201.3 Use of the Site**

The seafront at Poole Bay is a heavily utilised public amenity. The management team known as Seafront Services promotes Poole Bay beach as a major tourism asset especially around Bournemouth Pier Approach and the following activities will take place as shown below.



The events shown are not taking place in the working areas for the contract and are mostly promenade based. The *Contractor* will accommodate the constraints given and must not impact the events as described.

The *Contractor* will not be able to work during any close proximity or large Seafront event with exception to the Christmas Tree Wonderland event. The *Contractor* will have restricted access for plant, equipment and personnel during any seafront event on or around the promenade that occur in the vicinity of the Works. Any request to work during the event will be denied and this constraint will be entered on the *Contractor's* programme accordingly.

This is not an exhaustive list; other events can occur, and the *Client* will notify the *Contractor* when information about any new events become available. Many of the events listed are annual and must be assumed to occur in every calendar year.

The Bournemouth Marathon normally takes place on the first weekend in October and the Bay run normally in one of the first two Sundays in April. These events take place every year, the exact dates will be given to the *Contractor* when they have been confirmed. The *Contractor* is expected to make the site safe, and areas left tidy on the Friday before these events.

i. **Year 2022**  
**Friday 7th October 2022 – Sunday 9h October 2022**

**Bournemouth Marathon**

Runs the entire length of seafront from Southbourne to Poole (Entire Promenade)

**Sunday 27th November 2022 (to be confirmed)**

**Julia's House Santa Run**

Runs from Bournemouth Pier to Boscombe Pier

**25th December 2022**

**Macmillan White Christmas Dip**

Sea by Boscombe Pier (Selected part of Beach and Promenade)

As this happens during Christmas shut down, this will not have any impact to the *Contractor*.

**1st November 2022 to 10th January 2023**

**Christmas Tree Wonderland Attraction**

Pier Approach.

This is a large-scale event that is open to the public from 19th November 2022 to 2nd January 2023. This is expected to be a high footfall event hence access through Pier Approach to the promenade will be congested at peak times (afternoon & evenings) with known peak times on Thursdays to Saturdays between 4pm to 9pm can be

restricted/impassable. The *Client* can request that access to the site be achieved via Durley Chine or Boscombe Pier during peak times and weekends.

The launch event is scheduled for the evening of Friday 18th November 2023. From previous experience the launch Friday and Saturday are known to be extremely busy as a result access through Pier Approach will be impossible.

The 1st – 19th November 2022 is mobilisation and attraction assembly. The 4th – 10th January are for de-mobilisation and attraction disassembly.

ii. **Year 2023**  
**Sunday 12th February 2023 (to be confirmed)**

**Steve Bernard Fun Run**

At the time of tendering the route for this run has not been confirmed. Assume the run is from Alum Chine to Boscombe Pier and back (Promenade only). The Contractor will be notified as soon as the route has been confirmed.

**Sunday 19th February 2023(to be confirmed)**

**Bournemouth Ten**

At the time of tendering the route for this run has not been confirmed. Assume the run is from Alum Chine to Boscombe Pier and back (Promenade only). The Contractor will be notified as soon as the route has been confirmed.

**Sunday 12th March 2023 (to be confirmed)**

**March for Men**

At the time of tendering the route for this run has not been confirmed. Assume the run is from Alum Chine to Boscombe Pier and back (Promenade only). The Contractor will be notified as soon as the route has been confirmed.

**Sunday 2nd April 2023**

**Bournemouth Bay Run**

Runs from Alum Chine to Hengistbury Head and back (Promenade)

**Friday 6th October 2023 – Sunday 8th October 2023 (to be confirmed)**

**Bournemouth Marathon**

Runs the entire length of seafront from Southbourne to Poole (Entire Promenade)

**25th December 2023**

**Macmillan White Christmas Dip**

Sea by Boscombe Pier (Selected part of Beach and Promenade)

As this happens during Christmas shut down, this will not have any impact to the *Contractor*.

**iii. Year 2024**

To be confirmed. Assume previous years as a minimum.

**S 201.4 Seafront Services Projects**

There are a number of developed or in development Seafront Services construction projects planned in the vicinity of the groyne building works.

- Digital Promenade (Durley Chine to Boscombe Pier). There is a possibility that a trench along promenade between Durley Chine and Boscombe Pier may be excavated to install new power and fibre cable.
- Sandpiper Kiosk. Demolition of the existing kiosk by West Cliff lift and replacing with a new kiosk. Likely be in the Winter 2022. Narrowing of the promenade can occur at times which can restrict vehicular movements.
- West Beach restaurant: Private operator of West Beach restaurant has planning consent to build a 1st floor extension. However, given the cash flow issues facing hospitality operators as a result of COVID-19 closure it can be expected that this project could be postponed to a later unknown date.

Whilst there are currently no planned Seafront Services construction projects in the vicinity of the Year 2 works. There is a likelihood that Year 1 seafront works can overrun or be postponed a year due to the COVID-19 virus outbreak of 2020, maintenance to existing structures/properties can be undertaken or introduction of new schemes can occur. These occurrences should not affect the groyne building works on the beach itself but can restrict promenade movements on occasions.

This is not an exhaustive list; other projects can occur, and the Client will notify the Contractor when information about any new events become available.

**S 201.5 Access to the Site**

At mobilisation the *Contractor* will be issued with 3 electronic gate keys and charging cables. These keys are the property of *Client* and are to be returned to the *Project Manager* at the end of Year 1 to then be reissued in October 2023 for Year 2 and then subsequently return to *Project Manager* at the end of Year 2.

Loss, damage or failure to return an electronic key will incur a £250 fee for the replacement. This cost is to purchase the replacement and administration costs. These keys are unique and specific to the Poole Bay seafront access gates.

The *Contractor* can be supplied a number of No.6 Seafront Gate Keys at the beginning or during the Contract should the need arise. Failure to return a key will incur a charge of £50 per key.

All keys issued to the *Contractor* must be returned to the *Project Manager* within one week of the demobilisation.

These keys will enable access to all seafront access points except Solent Beach car park. Solent Beach gate keys are strictly controlled and WILL NOT be issued. Special arrangements will be made for access through these points should they be required.

Most access points have a height restriction of approximately 2.1m and/or horizontal barriers which are ordinarily kept locked by the seafront operatives.

Heavy goods and light Vehicular access to the seafront can be found at the following locations which are listed from west to east along the seafront:

- Durley Chine gated access – all road vehicles. HGV's have generally managed to use this access point; the *Contractor* should satisfy themselves if this is a viable option,
- Bournemouth Pier gated access – all road vehicles. HGV's have generally managed to use this access point; the *Contractor* should satisfy themselves if this is a viable option. This is the preferred access point for Year 1 Works.
- Boscombe Pier gated access – all road vehicles. HGV's have generally managed to use this access point; the *Contractor* should satisfy themselves if this is a viable option. This is the preferred access point for Year 2 Works.
- Solent Beach Car Park – *Client* owned car park with 2.1m height barrier dedicated to materials storage suitable for all road types of access and will be used to store all new timber, recycled timber, sectional steel pedestrian barriers and other materials supplied by the *Client*.

Drawing GBP22-GA1 shows the access points.

The access points for heavy good vehicles and heavy plant onto the promenade is via the controlled gates at Durley Chine, Bournemouth Pier & Boscombe Pier. The preferred access point for this Contract is for all vehicles to utilise the controlled gate at Bournemouth Pier for Year 1 works and Boscombe Pier for Year 2 works.

The access gates to the promenade at Bournemouth Pier are usually unlocked from 07.00hrs to 10.00hrs. The gates are locked at all other times. All other gates are locked at all times.

If a gate is found locked, the Driver should telephone the following to unlock the gate: -

Bournemouth Beach Office: 01202 451762 & ask for a member of Seafront Services to unlock the gate.

FCERM Team / *Project Manager* at Town Hall: 01202 451451

The *Contractor* when passing through gated access points must always ensure that the gates/barriers are always immediately closed and locked behind them using the locks and keys provided by the Contract. In the event of failure to comply, and if unauthorised access by others is gained the *Contractor* will be liable for all costs incurred by the *Client*.

All of the promenade is strictly a 10mph zone and must at all times be adhered to, any persons not adhering to the speed limit, will be removed from the contract, without exception.

### **S 201.6 Deliveries**

Deliveries to site are to be strictly controlled within fixed time slots (daily 7am – 10am) and due account must be taken of this constraint. It must be noted that deliveries can be interrupted in storm conditions and the promenade can be closed to the public and other users if there is a risk of sea water inundation of the access route along the promenade. Access for deliveries outside the designated hours will be denied. Permission can be given in specific cases where 7 days' written notice is given to the *Project Manager* and subsequently approved in writing by the *Project Manager*.

During the Christmas Tree Wonderland Event the deliveries will only be permitted during the fixed time slots, any delivery outside of the allocated time will be denied access to Pier Approach. There will be no deviation in this regard.

### **S 201.7 Site Compounds**

Compound Locations are shown on drawing GBP22-GA1. Solent Beach Car Park Timber Storage compound layout shown on drawing GBP22-GA2.

The promenade use will not be exclusive to the *Contractor*, areas will be open for public use and access to these areas must be maintained at all times. Only the area approved by the *Project Manager* will be for exclusive use to the *Contractor*. It is intended to only use the absolute minimum area required. The *Contractor* is to submit a compound layout to the *Project Manager* for their approval prior to site set up.

The *Contractor* is to provide temporary fencing with vehicular and pedestrian lockable gates with a minimum height of 2.4m to fully surround the compound. No vehicle will be allowed to park outside of the compound. The *Contractor* will be required to provide all utilities required for the running of the compound (water, power etc.).

At the end of the each working period the compounds area will be returned to its original condition, any damage to the areas will be undertaken by the *Contractor* at their own expense. A joint (*Client & Contractor*) condition survey with photographs must be undertaken prior to the compound set up.

#### **i. Main Compound Year 1**

Year 1 site compound will be located on the promenade between Harry Ramsden Fish Restaurant and Bournemouth Beach Office (closest postcode is BH1 2EZ). OS co-ordinates for compound are 409040E, 090760N

#### **ii. Main Compound Year 2**

Year 2 site compound will be located on the Undercliff Drive west of East Cliff Lift (closest postcode is BH1 3DN). OS co-ordinates for the compound are 409685E, 090925N

#### **iii. Solent Beach Car Park Timber Storage Compound Years 1 & 2**

The closest postcode for the Solent Beach Car Park is BH6 4EN. OS co-ordinates for the compound are 415785E, 091030N.

Access to the above storage area is shown on the drawings. Access to the storage area is shared between other users, public service vehicles, cars and other vehicles.

Solent Beach Car Park (drawing GBP22-GA2) is a shared space with part of the car park turned over to storage and the remainder of the car park still utilised as a pay and display public car park.

During the construction period the *Contractor* will be responsible for the storage compound and the materials within the compound. This will include the maintenance/repair of the surrounding fence and any storage property within the boundary of the compound. Daily inspections of perimeter fencing to be undertaken with a written log. Any defective or damaged panels should effectively be replaced as soon as they are noted.

The *Contractor* will be issued with the keys to height barrier, to the compound gate locks and to the container. Unauthorised access to Solent Beach Car Park cannot be allowed to happen. The height restriction gate must not be left open unattended. Whilst the gate is open only over-sized vehicles associated with the project should be allowed entry. In the event of failure to comply, and if unauthorised access by others is gained the *Contractor* will be liable for all costs incurred by the *Client*.

A Welfare unit should be present on the site for operatives working in the compound.

#### **S 201.8 Working Areas**

The *Contractor's* designated working areas on the seafront are shown on drawing number GBP22-GA1.

Any temporary material stacking areas shall be confined to the designated working areas on the beach in the vicinity of the groyne/s currently being worked on. Due to the narrowness of the promenade in the vicinity of the Works the *Contractor* will not be permitted to use any of the promenade for storage. The area(s) between the promenade and the works shall be fenced at all times to prevent public access to the Works from the promenade. Warning notices will be prominently displayed at the extremities of the fenced areas and at any other place stipulated by the *Project Manager* or *Supervisor*.

The Solent Beach Car Park Compound is also designated a working area under the contract and access to and from the locked gates within the existing temporary fenced compound shall be managed and controlled by the *Contractor*. The storage area shall be maintained in its current condition during the period of the works only.

ALL PLANT, MATERIALS, OFFICES, STORES AND WELFARE UNITS MUST BE KEPT WITHIN THE BOUNDARY OF THE WORKING AREA SHOWN ON THE DRAWINGS. THERE WILL BE NO EXCEPTION

The *Contractor* shall provide temporary lighting of the working areas, warning signs or obstructions during hours of darkness.

The *Contractor* shall confine the whole of the works and traffic of his vehicles, machines and workmen to the working areas as shown on the Drawings.

The *Contractor* is also permitted to make use of 50m of beach either side of each groyne. The *Contractor* can decide to extend his temporary works to include an area for storage and working with written permission from the *Project Manager*.

The *Contractor* shall use the minimum area practical at each location to allow the construction of the works to proceed. All material, stores, mess facilities etc. shall be secured, lit and kept neat and tidy and only materials necessary for the work at any one groyne will be permitted to be stored at each groyne position.

The *Contractor's* attention is drawn to the restricted working space, and he shall make due allowance for the difficulties caused by these restrictions in the appropriate items in the programme.

Waste Material shall not be stored on site.

Offices, workshops, storage sheds, mess huts or mobile welfare units required by the *Contractor* shall be sited with the approval of the *Project Manager* and shall be kept clean and tidy during the Contract period. The *Contractor* will need to provide gender specific facilities.

The use of the working areas shall not entitle the *Contractor* to remove any vegetation, fence, handrail, wall, shed, building, lighting column, flagpole, sign or other fixed asset without the written consent of the *Project Manager*.

A designated smoking area with managed receptacle for smoking waste must be located within the Compound area(s) with the designated location agreed by the *Project Manager* or *Supervisor*. Smoking will only be permitted in these designated locations.

The working areas and surrounding areas would benefit from a beachcomb on a weekly basis and certainly after a period of stormy weather. The fragmented timber found on the beach is dangerous and needs to be pro-actively managed on a daily basis.

The *Contractor* shall provide, erect and maintain in clean and proper condition adequate sanitary conveniences, drinking water and washing facilities for the use of all persons employed on the works. The *Project Manager* or *Supervisor* is to agree the site location of sanitary accommodation.

#### **S 201.9 Noise and Vibration**

The allowable noise and vibration limits in normal working hours are as follows: -

The *Contractor* shall comply with the general recommendations set out in BS 5228-2:2009+A1: 2014: CODE OF PRACTICE FOR NOISE AND VIBRATION CONTROL ON CONSTRUCTION AND OPEN SITES. PART 2: VIBRATION (BS 5228-2).

Piling using a drop hammer is considered to be of an intermittent nature. The ground vibration has settled between hammer drops. To prevent any damage levels of ppv must be kept below 15mm/s.

Piling with vibratory rigs leads to continuous ground vibration. To prevent and damage levels of ppv must be kept below 7.5mm/s.

It should be noted that the above values are used for buildings of normal construction and in stable condition.

The *Contractor* shall comply with the general recommendations set out in BS 5228-1:2009+A1: 2014: CODE OF PRACTICE FOR NOISE AND VIBRATION CONTROL ON

CONSTRUCTION AND OPEN SITES. PART 1: NOISE (BS 5228-1), together with the following general limits which should not be exceeded. Residual noise level refers to ambient noise remaining in a given situation where the site noise is suppressed to a degree such that it does not contribute to the ambient level. All other terms are defined in the stated BS.

Assessment Category and Threshold Value Period	Threshold Value in Decibels (dB) (LAeq,T)		
	CATEGORY <sup>(A)</sup>	CATEGORY B <sup>(B)</sup>	CATEGORY C <sup>(C)</sup>
Night-time (23:00 – 07:00)	45	50	55
Evenings and Weekends <sup>(D)</sup>	55	60	65
Daytime (07:00 – 19:00) and Saturdays (07:00 – 13:00)	65	70	75
NOTE 1: A potential significant effect is indicated if the LAeq,T noise level arising from the site exceeds the threshold level for the category appropriate to the ambient noise level.			
NOTE 2: If the ambient noise level exceeds the Category C threshold values given in the table (i.e. the ambient noise level is higher than the above values), then a potential significant			
<sup>A)</sup> Category A: threshold values to use when ambient levels (when rounded to the nearest 5 dB) are less than these values.  <sup>B)</sup> Category B: threshold values to use when ambient noise levels (when rounded to the nearest 5 dB) are the same as Category A values.			

Source: Table E.1 from BS 5228-1

Continuous (24/7) noise monitoring is to be provided by the *Contractor* adjacent to all construction works for a duration the works

Continuous (24/7) vibration monitoring must be in place for all piling activities at an agreed receptor(s) location(s) which can be within the garden boundary of adjacent or nearby seafront properties as given below. The locations of the monitoring will be agreed and approved by the *Project Manager*.

There is an extra requirement to continuously monitor vibration & noise adjacent to the following sensitive receptor locations during any piling and construction plant operations:-

- Happyland Amusement at West Beach, West Undercliff Promenade,
- West Beach Restaurant at West Beach, West Undercliff Promenade,
- Oceanarium, Pier Approach,
- Harry Ramsden's at East Beach, Undercliff Drive and
- East Cliff Lift at East Cliff, Undercliff Drive.

#### **S 201.10 Underwater noise and Vibration effects on Fish**



It is recommended that a window of work for activities that are likely to generate high levels of underwater noise, which excludes work being carried out during the months of April and May, should be implemented to minimise the effects on black sea bream during their spawning period.

The following measures should also be implemented to further reduce the potential effects on fish:

- Underwater noise and vibration should be kept to the minimum necessary to reduce potential negative effects on fish and should remain below levels agreed with regulatory agencies,
- A soft start to piling operations should be implemented whereby low impact noise is generated before impulsive noise to deter fish from the immediate area,
- Should noise result in an avoidance area being formed whereby a noise barrier is formed from one shoreline to another (i.e. across harbour entrances), break periods in piling activity should be implemented to allow fish to pass through the affected area and
- During piling activity any dead or visibly injured fish should be immediately reported to the appropriate regulatory agency.

#### **S 201.11 Working hours**

Normal working hours shall be Monday to Saturday between 07.30hrs and 19.00hrs. The exception to this is Saturday 3rd April 2023 and Saturday 16th April 2024 (Easter Bank Holiday Weekends), where no works will be undertaken. The *Contractor* shall not carry out any work on Bank Holidays or Sundays without prior written consent of the *Project Manager* other than the security patrolling and in accordance with the existing planning consent as included in the Volume 4B-Planning Permission.

Working outside of the normal working hours can be requested by the *Contractor* due to the *Contractor's* method in relation to tidal and weather conditions. Approvals for requests cannot be guaranteed, therefore the Tenderer must assume normal working hours for tendering purposes.

Permission for working outside of normal working hours will be refused if the method of working will create excessive noise, vibration or nuisance that causes subsequent disturbance to local residents or contravenes the aforementioned industry standards, Planning, Crown Estate & MMO licence conditions. When seeking consent to work outside of the normal working hours, consent will not be unreasonably withheld by the *Project Manager* subject to the *Contractor* providing at least two weeks' notice to enable any necessary consultations to take place. In the event of refusal to provide consent to work outside of the normal working hours or, if the method of working causes disruption, the refusal will not be treated as a compensation event and normal working hours will otherwise apply.

Planning permission condition 3 requires all piling operations to be undertaken during the working hours 8am - 6pm Monday to Saturday and not at all on Sundays. See Volume 4B for planning permission and conditions.

**S 201.12 Parking**

Parking of *Contractor's* staff vehicles is not permitted on the promenade except within the confines of the designated working areas shown on drawing GBP22-GA1. This restriction is necessary to maintain emergency access for other vehicles and to keep the promenade free for the use and enjoyment of residents and businesses.

Any vehicle that uses the promenade, **MUST** have a flashing amber beacon on without exception. No privately owned employee vehicles will be allowed onto the promenade at any time, unless authorised by the Project Manager

Parking of Contractors vehicles outside working areas can be permitted at the discretion of the *Project Manager* and only if parking does not block or restrict access for other users of the promenade.

No special arrangements can be made for the parking of vehicles in any of the *Client's* pay and display or other *Client* operated car parks.

**S 201.13 Use of explosives**

The use of explosives is not permitted.

**S 201.14 Pollution Prevention and Waste Storage**

In the unlikely event of a pollution incident from the sea, vehicle access to the promenade can be restricted and the promenade can be temporarily closed to allow the *Client* to deal with a pollution incident.

The *Contractor* is responsible for maintaining the whole of his works free from pollutants and will always allow access to the *Client's* staff to enable them to deal with oil pollution on the seafront.

Methods of working are to follow the principles contained in the UK Governments Publication reference PPG5 – “Pollution Prevention Guidelines for works and maintenance in or near water” to avoid any point pollution or contamination incidents such as fuel spills to the site, the site compound and site access areas. Any pollution or contamination incidents are required to be reported to the *Project Manager*. Mitigation measures for the scheme sites are specified below: -

Mitigation of point source pollution such as oil spillage or leakage will be undertaken by provision of designated storage and refuelling areas, with storage areas provided with adequate bunding to prevent spillage. Designated waste storage areas should be isolated from any surface water drains and coastal waters and any contaminated water should be discharged to the foul drainage system with permission of the drainage authority.

In order to ensure that the construction plans are adhered to, inspection and monitoring will be required throughout the construction phase. The *Contractor* will be required to produce a Construction Environment Management Plan (CEMP) describing measures to be implemented on site to reduce pollution risk.

Storage and refuelling areas should be protected by check dams and bunds to prevent pollution from accidental spillage or leakage at the site to the surface water drainage systems.

The surface of the storage areas should be lined with impermeable material to prevent seepage of hazardous substances into the ground.

Drip trays shall be provided under all items of plant which are static on the promenade. Drip trays shall be cleaned regularly and not permitted to overflow.

Any spillage on the promenade shall be thoroughly cleaned using an approved detergent and any necessary remedial works carried out.

Waste storage areas will be isolated from environmental designated areas, surface water drains, coastal waters, and beach areas. The contaminated water should be discharged to the foul drainage system with permission from the local drainage authority. Pedestrians and road traffic should be diverted away from these designated storage areas to prevent accidents during construction. A mitigation plan for groundwater pollution through accidental spillage will be detailed in the CEMP.

**S 201.15 Environmental Mitigation**

Operational control is required to ensure that the management of all operations and activities is in compliance with Poole Bay Beach Management Scheme environmental requirements, UK statutory requirements and standards of best practice. The required level of control is achieved through the implementation of environmental procedures in line with best practice. The *Contractor* shall ensure that this is specified in the CEMP.

**S 201.16 Archaeological requirements**

An archaeological watching brief may be required. A separately priced activity shall be shown for providing the archaeological watching brief. The *Contractor* shall immediately notify *Project Manager* of any archaeological find. The *Contractor* shall mark the position and the *Project Manager* will deal with the occurrence by following the "Protocol for Reporting Finds of Archaeological Interest". This protocol was developed by British Marine Aggregate Producers Association (BMAPA) and English Heritage for dealing with archaeological finds.

**S 201.17 Occupied premises and users.**

The *Contractor* is reminded that the public areas surrounding the designated working areas is otherwise available for unlimited use by the public and it is requested that the movement of *Contractor's* plant and materials should therefore be kept to the minimum necessary.

The *Contractor* shall not impose any restriction upon the free access and movement of members of the public to and from the highway via the gated access points, promenade, beach hut terraces or beach without the prior consent of the *Project Manager*.

The *Contractor* shall not interfere with the public enjoyment of the beach and foreshore or affect more than is necessary the amenities of the neighbourhood. Where necessary the *Contractor* shall provide diversions, and allow for providing temporary ramps, steps, walkways and scaffolding all adequately fenced and signed.

The *Contractor* is to Provide and maintain 3 (three) pedestrian refuges for the duration of Year 1 phase 2 of the Works (west of Bournemouth Pier). These refuges will be on the beach in locations as directed by the *Project Manager* and/or *Supervisor*. The refuges will be a 2 metres long by 1.5 wide hard, non-permanent surface suitable for wheelchairs, pushchairs etc. These refuges are to be level and flush with promenade. They are to be signed "Pedestrian Refuge"

visible from both directions. It is not expected that pedestrian refuges will be required East of Bournemouth Pier due to the available space.

The siting of plant, stacking of materials or parking of vehicles in front of beach huts or bungalows will require the written permission of the *Project Manager* and will only be given in extreme cases e.g. exceptional inclement storm conditions.

If required, the *Contractor* shall construct temporary ramps from the Promenade to gain access onto the beach. Temporary ramp locations shall be agreed in advance with the *Project Manager* or *Supervisor* to minimise any damage to existing *Client* assets on the promenade. The temporary ramp site and any damaged assets shall be reinstated back to the original condition following completion of the *Contractor* works.

If required, the *Contractor* shall construct temporary ramps over the groynes using the existing beach material. The ramp shall be constructed, used and maintained so that no damage occurs to the groynes, handrailing, warning signs or marker posts.

The beach huts in the vicinity of the works are primarily privately owned and can be occupied throughout the period of the contract.

Retail and Commercial premises – there are several retail/commercial premises in this area of the promenade such as cafes, gift shops. Ad hoc deliveries will be made during the course of the Groyne replacement programme and as such, the stated clearances of 3.7m should be maintained as a minimum at all times to prevent disruption to these businesses. The following premises/businesses could be affected: -

- Happyland Amusement at West Beach, West Undercliff Promenade,
- West Beach Restaurant at West Beach, West Undercliff Promenade,
- Oceanarium, Pier Approach,
- Harry Ramsden's at East Beach, Undercliff Drive and

## **S 202 Confidentiality**

Requests for information of any type relating to the works by members of the press or the public shall be referred to the *Project Manager* who will pass the request to the *Client's* public relations team. Under no circumstance is the *Contractor*, his agent, employees or Sub-*Contractor(s)* to give any information or statements to the public or press concerning the Contract and shall always refer the matter as noted above.

## **S 203 Security and protection on the site**

The site working areas and all site storage areas (including Solent Beach car park) are to be secure and separate from the publicly accessible areas (promenade and beach and storage areas). Compounds are to be completely fenced off and shall be kept locked when not in use. The *Contractor* is to provide temporary fencing with a minimum height of 2.4m to compounds.

Due to the Works proximity to the Bournemouth Pier, Pier Approach, retail and commercial premises in the vicinity, sufficient security measures must be undertaken. These measures will be particularly vital during the times when there is no *Contractor* presence on the site.

The following should be considered when determining the security measures: -

- Ensuring that access to soft sand resulting from excavations is prevented,
- The night-time economy (Thursday to Saturday) can be very busy and potentially problematic with unsociable behaviour,
- The Christmas activities in the Bournemouth Gardens and Pier Approach,
- The FIFA World Cup Qatar 2022 (21<sup>st</sup> November and 18<sup>th</sup> December 2022),
- The general increase in footfall due to the proximity of the Town Centre, and
- General site incursions during site inactivity.

The security measures are the responsibility of the *Contractor*, but these methods could necessitate a security team present on the site outside of the *Contractor's* site presence.

The *Client* has a separate Contract with the company "Insight" for its security patrols and security presence, it may be beneficial for the successful Tenderer to approach them for advice due to their experience and knowledge of the surrounding area.

The *Client* has sixteen (16) sectional steel pedestrian barriers as per drawing PBBMS-STD-05. These barriers will be made available to the *Contractor* to use as a visible pedestrian barrier for use on the beach. These barriers are stored in Solent Beach Car Park storage compound; the *Contractor* will need to transport these barriers from the Solent Beach Car Park to the working areas during each mobilisation. The barriers will remain the property of the *Client* and the barriers will be transported back to Solent Beach Car Park storage compound by the *Contractor* during each demobilisation.

At the end of each Contract Period and at the Contract completion date all sixteen (16) sectional steel pedestrian barriers will be refurbished and returned to the *Client* storage compound.

In previous groyne building contracts we have used large "Beach Closed" signs fixed to recycled piles which are available for this purpose in the Solent Beach Car Park Compound. The signs were A0 in size with a red background and white lettering. These piles were driven into the beach in the tidal zone and acted as an extra level of safety messaging/signage to help meet the *Contractor's* obligations to control access into the site. These piles are the property of the *Client* and will be returned to the *Client* storage compound at each demobilisation from site and the Contract completion date. The *Contractor* is to otherwise or in addition, maintain a continuous highly visible barrier other than Heras type fencing from the seawall to the swash zone to deter or prevent the public from entering the working areas. The *Contractor* shall specify in their tender method statements how they intend to implement this requirement.

Excavations are never to be left unattended and are not to be left open between times of working (i.e. between tidal shifts) and shall be suitably fenced off.

Pro-active management of fencing, barriers and signage is paramount to the security of the site and the safety of the public. This includes moving the barriers in on a forecast of stormy weather and not leaving them on the beach to become buried and damaged. These barriers are on loan to yourselves, and the *Client* will expect the barriers to be returned in the state that at which they

were loaned. Damage to these barriers by miss management will need to be rectified by yourselves.

**S 204 Security and identification of people**

There are no special or heightened security measures required but we require the *Contractor* to implement and manage site procedures for controlling access to and from the compounds, working and storage areas, e.g., only authorised personnel to have access to keys for *Client* controlled gates. All access and egress to and from the promenade, working and storage areas to be recorded, name, time, vehicle number, purpose of visit etc. and ALL gates secured after each entry and egress.

**S 205 Protection of existing structures and services**

There are live services and utilities in proximity to the works details of which are included in the Site Information.

The *Contractor* is to also make reference to the procedures for working adjacent to utility providers' equipment included in Volume 2F - Special Requirements in Relation to Statutory Bodies.

The method of working adjacent to the existing (up to) 100-year-old seafront retaining walls and nearby cliff top or promenade facing properties will necessitate careful planning by the *Contractor* to prevent damage to these assets. The foundation details for these assets are not known, and deep excavations adjacent to them could cause damage or potentially collapse. The *Contractor* will be required to design any temporary protection and/or support necessary.

**S 206 Protection of the works**

See clause S 1717 regarding the manner of backfilling at the end of every shift.

**S 207 Traffic Management**

The *Contractor* shall ensure that the general public is inconvenienced as little as possible by adhering to the following constraints: -.

- All HGV vehicle movements on the promenade are subject to the prior verbal approval of the *Project Manager* or *Supervisor*, require 24-hour notice and to be in accordance with the Traffic Management Plan.
- No vehicle movements outside of the previously defined times in Clause S 201.6 Deliveries are allowed on the promenade without the prior written approval of the *Project Manager* or *Supervisor*.
- Any vehicle travelling on the promenade shall at all times proceed with extreme care with all due regard being paid to the safety of pedestrians or other persons using the promenade. No vehicle can exceed 10mph on the promenade, 20mph on the Undercliff Drive (West of Boscombe Pier to East Cliff lift). These limits will be rigorously monitored and enforced in the interests of public safety by the *Project Manager*, the *Supervisor* and Seafront Services.

In the interests of public safety, any vehicles will only be allowed on the promenade for the delivery of essential plant and materials between the times shown below unless otherwise agreed with the *Project Manager/Supervisor/Seafront Services*.

The *Contractor* shall make every endeavour to have all their vehicles off the promenade by 10.00 hrs A.M. Any suppliers must be instructed to make their deliveries before 10.00 hrs A.M. The *Project Manager* and/or Seafront Services personnel can refuse access to the promenade for any supplier's or *Contractor's* vehicles at any other time.

Access along the promenade must be maintained at all times for service and emergency vehicles. The minimum width to be maintained is shown on the drawings. An absolute minimum unobstructed width of 3.7m must be maintained at all times.

No vehicle movement can take place without at least two *Contractor's* watchman in charge of the vehicle on foot, where the distance is reasonably short or in a marked vehicle with flashing lights to safeguard the public.

The *Project Manager/Supervisor* in the first instance will consult with Seafront Services and if the proposed movement would endanger the public then it shall be postponed until conditions are safe. The *Contractor* must provide at least 4 days' notice to the *Project Manager* of all intended vehicle movements outside of the scheduled access periods to enable access to be either granted or refused.

If the *Project Manager* considers that a proposed heavy goods vehicle movement would endanger the public then it shall be postponed until conditions are safe. The cost of any such delay or standing time shall be borne by the *Contractor*. The *Contractor* must provide at least 4 days' notice to the *Project Manager* of all intended vehicle movements outside of the scheduled access periods to enable access to be either granted or refused.

A traffic management plan incorporating the traffic constraints given above and otherwise generally within the Scope shall be submitted by the *Contractor* and approved by the *Client* prior to works commencing on site. A draft of the Traffic Management Plan (for comment) shall be submitted and incorporated in the draft Construction Phase Plan at tender stage.

## **S 208 Condition survey**

All Structures, promenade furniture, beach huts on or adjacent to the site of works affected by the excavation, subsidence, falls, slips, vibration from pile driving and the like shall, together with the *Contractor* and *Project Manager* or *Supervisor*, inspect the works, properties and buildings before work is commenced and post completion to provide a basic visual condition survey report accurately describing each asset. A report to be produced by the *Contractor* and approved by the *Project Manager*.

The *Contractor* shall inform the *Project Manager* of the date and time when any such inspection is to take place.

## **S 209 Consideration of Others**

Restrictions on work to avoid disturbance to the public or occupiers or users of adjacent premises including the Affected Property listed in Clause S 201.17.

The *Contractor* must consider both the land and marine environment adjacent to or otherwise affected by the *works*

## **S 210 Site cleanliness**

The promenade is to be kept clean and free of debris and construction related items of any kind such that the promenade can be enjoyed at all times by members of the public and used by service and emergency vehicles.

Particular care must be taken when working on or near the promenades. The *Contractor* shall not permit plant or vehicles to travel over shingle and damage the asphalt surface. Particular care must be taken when working on or near the asphalt promenades. All road and footpaths surfaces, except in the area of the working space currently being used for the execution of the work, are to be kept clean of excavated material, concrete or other matter from wheels.

Tracked plant can only move on the promenade after the promenade surface has been swept clear of beach material and protective mats placed beneath the tracks by the *Contractor*. Any damage caused shall be repaired to match existing and at the Contractors expense.

All Contractors' vehicles using the promenades must prevent damage to the paving, sea wall, aluminium handrailing and lighting columns. All damage will be repaired at the Contractors expense.

Where a skip is required, closed skips should be used to avoid cross material contamination.

General tidiness of the working areas. All materials to be stacked tidily and fenced off. Timber off cuts are not to be left scattered on the beach, they must be stacked in a fenced area or taken away to Solent Beach Compound. Foam ear plugs must not be discarded on the beach and should be properly disposed of.

As the *Client's* beach cleaning operatives are not authorised to enter the working areas, the *Contractor* is requested to be pro-active with respect to collecting and disposal of washed up materials that can enter the working areas.

## **S 211 Environmental Standards**

The *Client* and the Marine Management Organisation have already confirmed through an earlier scoping/screening assessment consultation stage that an Environmental Impact Assessment for the project is not required.



## **S 300 Contractor's design**

### **S 301 Design responsibility**

The *Contractor* is required to design the following non-exhaustive list of works items: all temporary bunds, temporary earthworks support, temporary access platforms, temporary accommodation works, work sequencing of deconstruction, compound layout, temporary service connections for facilities and welfare, temporary access ramps for plant and materials, material storage on site, platforms for plant and equipment, access to site, fencing layouts, ground water control, safety measures etc.

### **S 302 Design submission procedures**

All temporary works designed by the *Contractor* or sub-Contractors are to be provided to the Principal Designer for review and comment and if required, further information can be requested by the Principal Designer.

## **S 400 Completion**

### **S 401 Completion definition**

The *Client* will not certify Completion until the *Contractor* has completed all the works defined in the scope, and the required information for the health and safety file has been provided.

### **S 402 Sectional Completion definition**

#### **S 402.1 Year 1A (23rd December 2022)**

The *Client* will not certify Sectional Completion until the *Contractor* has completed the construction of the 2 (two) new groynes (C12 & C13), the complete deconstruction of the 2 (two) existing groynes numbered (B11 & B12) as shown on drawing number GBP22-GA1 and completely cleared the working area of all plant and materials and the area has been left as to Clause S 403.

#### **S 402.2 Year 1B (26th March 2023)**

The *Client* will not certify Sectional Completion until the *Contractor* has completed the construction of the 2 (two) new groynes (C9 & C10), the complete deconstruction of the 2 (two) existing groynes numbered (B9 & B10) as shown on drawing number GBP22-GA1 and completely cleared the working area of all plant and materials and the area has been left as to Clause S 403.

### **S 403 Final Clean**

On leaving the beach, the *Contractor* shall level the surface of the beach to leave it devoid of track or wheel marks to the original beach level noted (recorded by the *Contractor* and *Supervisor*) at the commencement of this work.

Reinstatement works shall be carried out as soon as practicable after completion of the Permanent Works, to the complete satisfaction of the *Project Manager*.

The reinstated beach will need to remain secure and closed to the public for a minimum of 1 week after any deep excavation has been reinstated because in the past soft sand has been encountered on the beach and the beach needs to settle under the actions of the tide. During this period, the *Contractor* will maintain a HIGHLY visible barrier around the affected areas preventing public ingress.

The site compound, working areas and material stacking areas shall be reinstated using materials of a nature and quality to their former condition.

The *Contractor* shall reinstate and make good at his own expense, to the satisfaction of the *Project Manager*, all damage to the working areas, surfaces, roadways and all other damage arising directly or indirectly out of the *Contractor's* operations in connection with the Works. The site shall be cleared of all equipment, unused materials and rubbish connected with the Works, which shall be carted away and disposed of by the *Contractor*.

### **S 404 Correcting Defects**

The Procedure for access for the correction of any Defects is via liaison with the *Project Manager*, *Supervisor* and *Client*.

### **S 405 Pre-Completion arrangements**

Prior to any works being offered for take over or Completion the *Contractor* shall arrange a joint inspection with the *Supervisor*, *Project Manager*, *Client* (scheme *Project Manager*) and Senior

User. The initial inspection shall take place a minimum of three weeks in advance of the planned take over or *Completion*.

## **S 500 Programme**

### **S 501 Programme requirements**

The programme complies with the requirements of ECC Clause 31.

### **S 502 Programme arrangement**

The *Contractor* is to provide an A0/A1 hard copy and digital version in MS Project format in the form of a Gantt chart produced as a result of 'critical path analysis'.

The programme is to show the level of detail appropriate to each stage of the Works, all activities, constraints, sequencing, methodology, temporary works, each of which shall be given a short title.

All activities shall be numbered and annotated with earliest and latest activity dates. The programme is to clearly identify the available days of time to complete each activity, the days allowed for risk, days of float before and days of float after the planned completion date for each activity. The programme to identify the critical path.

### **S 503 Methodology statement**

It is essential for the tenderers to familiarise themselves with the site conditions with particular reference to working areas, access, tidal and possible storm conditions, when it is not unusual for waves to break over the existing seawall and promenade. The *Contractor* shall allow for any disruption this can cause and for removing debris along his access or in his working area. He shall allow for protecting the works and materials and for any special construction methods or timings that become necessary. The *Contractor* shall also provide:-

- A general description of the arrangements and methods of groyne construction accompanied by a schedule of all labour and plant resources that the *Contractor* proposes to adopt for each activity or task.
- Locations and capacities of anticipated plant and other resource input, together with a schedule of outputs and resources to support all activities shown in the programme.
- Noise level outputs for each item of plant or machinery that the *Contractor* proposes to use
- Methods for dealing with the rise and fall of the tide and difficult tidal environment subject to cold weather and sea conditions.

All site and other activities require a specific method statement accompanied with risk assessments which are to be sent to the *Project Manager* for acceptance prior to commencement of that activity. Sufficient notice shall be given to enable the *Project Manager* to respond in a timely fashion.

### **S 504 Information required**

The *Contractor* shall supply the *Project Manager* with a weekly copy of his plant and labour returns for the preceding week. These returns shall provide an exhaustive list of all plant and labour on site (including sub-Contractors) together with their durations.

#### **S 504.1 Piling records**

For each groyne the *Contractor* shall provide the *Project Manager* for his approval a chart detailing the pile top and toe ordnance datum levels and the exact pile positions relative to the tolerances stated in Clause S 1715. This information shall be approved by the *Project Manager* before planking commences. A spreadsheet will be issued to the successful tendered (an extract of the spreadsheet is included in the Tender – see Volume 2E - Pile Record MASTER.pdf). The *Contractor* is expected to complete this spreadsheet on a daily basis during piling operations.

**S 504.2 Planking Records**

For each groyne the *Contractor* shall provide the *Project Manager* for his approval a chart detailing the current state of planking including length of plank, species of plank and date of plank installation relative to the tolerances stated in Clause S 1715. This information shall be approved by the *Project Manager* before the pile tops are cut to the correct level. A spreadsheet will be issued to the successful tendered (an extract of the spreadsheet is included in the Tender – see Volume 2D - Planking Record MASTER-Sample Sheet.pdf). The *Contractor* is expected to complete this spreadsheet on a daily basis during planking operations.

**S 504.3 Financial**

Copies of all VAT Invoices for all Contractual Payments made against payment certificates must be sent to the *Project Manager*.

**S 505 Revised programme**

Revised programme submissions shall include a narrative that summarises the changes to the following items as detailed in Clause 31.2 of the contract:

- The *access dates*, Key Dates and Completion Date
- Planned Completion
- The order and timing of the operations with the *Contractor* plans to do in order to provide the works
- Provisions for float
- Provisions for time risk allowances

**S 600 Quality management**

**S 601 Quality management system**

The *Contractor* shall provide a copy of the quality plan for the project and a copy of the *Contractor's* health and safety/quality management systems pertinent to the delivery of this project.

## **S 700 Tests and inspections**

### **S 701 General**

Inspections of the beach after backfilling are to be conducted with the *Project Manager/Supervisor* to ensure that there are no hazardous soft spots in areas of the beach.

Refer to Contract Data Part A (Testing and Defects) for Coach screws testing.

## **S 800 Management of the works**

### **S 801 General**

The *Contractor* can erect name boards approved in advance by the *Project Manager*.

The *Contractor* shall at all times provide an appropriate and continuous level of attendance and supervision of the works.

The payment applications submitted to the *Project Manager* shall be, whenever dealing with matters covered by the Activity Schedule set out under Part and Section headings similar to those in the Activity Schedule and shall separately identify each item and specify percentage complete and value. Items not described in the Activity Schedule, but appropriate for inclusion in the evaluation, shall be shown at the end of the relevant section or under new section headings as appropriate, indicating percentage complete and value. In respect of all other matters referred to in the Conditions of Contract the *Contractor* shall separately show in the statement, quantities, units and rates of goods and/or materials and also details of any other matters to which he considers himself entitled. Payment applications shall be uniquely identified.

### **S 802 Construction Environment Management Plan (CEMP)**

The *Contractor* will be required to produce a Construction Environment Management Plan (CEMP) at tender stage describing measures to be implemented on site to reduce pollution risk. The CEMP should demonstrate that all reasonable steps shall be taken, where practicable, to mitigate and manage the risks associated with and adaptively respond to the potential environmental impacts arising from groyne building works. As a minimum, the *Contractor's* CEMP shall make reference to the following:

EU, UK statutory requirements and international standards of best practice as these relate to:

- Non-hazardous and hazardous waste management,
- Noise,
- Air quality,
- Spillage management (e.g. oil, chemical) and
- Emergency response.

### **S 803 Contractor's Environmental, Health & Safety (EHS)**

The *Contractor* shall provide a description of his in-house quality management system, including internal and external, testing and documentation. The *Contractor* shall indicate whether QA/QC certification with external entities has been obtained.

The *Contractor* shall provide a copy of a typical quality policy and plan that shall be employed during the groyne building works. The *Contractor* shall also submit details his Environmental, Health & Safety Management Systems and Policies. The *Contractor* shall indicate whether certification has been obtained from external entities.

The *Contractor* shall provide details of any safety awards received and attach *Contractor's* company accident statistics for the last 3 years. The *Contractor* shall describe his in-house procedures for investigation and reporting procedures.



The *Contractor* shall provide, using a previous project as example, his experience in groyne building in environmentally sensitive areas and the manner in which environmental risks have been minimised / mitigated.

**S 804 Communications**

The *Contractor* is to allow for daily co-ordination with the *Project Manager*, Principal Designer, *Supervisor* and *Client* in accordance with the management principles of NEC4 contracting.

The *Contractor* is to attend weekly site office progress meetings and monthly budgetary/programme meetings. The *Contractor* is responsible for taking minutes, issuing minutes of meetings for comment and finalising and general co-ordination with the *Project Manager*.

**S 805 Monthly Progress Reporting**

Monthly progress reports shall be provided to the *Project Manager* at the end of every month. These reports are to include as a minimum the following: -

- Progress of activities on the programme,
- Description of risks,
- Early warnings,
- Compensation events,
- Health, safety and environmental reporting for the period,
- Site audits undertaken and
- Labour and plant resources.

**S 806 Communication system**

The *Contractor* is required to follow the following requirements in respect to Communication systems:

- Transfer of information, including contract communications will be through the use of a cloud sharing system to be determined. The *Contractor* will be required to provide the name(s) of all staff who will upload and review information submitted.
- The *Contractor* will be required to use a contract management system determined by the *Client*. Currently the *Client* is in the process of procuring the CEMAR contract management system, with the intention for this system to be used for the total duration of this Contract.
- General communications are to be issued via email.
- The requirement, location, and timing of site meetings will be determined at the pre-commencement meeting.
- Virtual meetings are to be undertaken using Microsoft Teams.

**S 807 Principle Contractor Site H&S Audits**

The *Project Manager* and/or *Supervisor* will be informed of any Site H&S Audits prior to their commencement in the event that the *Project Manager* and/or *Supervisor* intend on being present throughout the audit. The *Contractor* will issue to the *Project Manager* and/or *Supervisor* and copy of the Audit Report.

## **S 900 Working with the *Client* and Others**

The Contractor is required to co-operate with Others in obtaining and providing information which they need in connection with the *works*.

### **S 901 Sharing the Working Areas with the *Client* and Others**

The Contractor will be required to share the access points, access routes and working areas with *Contractors* delivering plant and materials for works in the surrounding area.

The *Contractor* will be required to liaise with all other Contractors when traversing adjacent or through or working in the vicinity of their working areas.

### **S 902 Work Interfaces**

A traffic management plan will be developed by the *Contractor* pre-start post award to enable effective management of public/traffic interfaces under the control of the *Contractor* as given below affecting mainly vehicular access and members of the public. The other works interfaces are given below: -

- Continuous and uninterrupted use of the promenade and beaches by members of the public (the public will not be observing any one-way systems and they will not be segregated from the beach or promenade) and
- Commercial activity including deliveries to shops, restaurants, cafes, kiosks along the promenade and at each pier (these vehicles will not be observing any one way or traffic flow systems).

## **S 1000 Services and other things to be provided**

### **S 1001 Services and other things for the use of the *Client*, *Project Manager* or Others to be provided by the *Contractor***

The *Contractor* is to provide a portable site office within the compound area with openable windows measuring approximately 2.4m by 9.6m for the exclusive use of the *Project Manager* and *Supervisor*. The office to be supplied with the following items: -

1 x unlimited 4G/5G mobile internet connection,

1 x Tall Storage Cabinet,

2 x Desks with lockable drawers,

2 x Adjustable fabric covered swivel chairs,

1 x Wall mounted A0 size white board,

1 x Wall mounted A0 size pin board,

Sink with a water supply,

First aid kit,

Fire extinguisher,

separate bottled drinking water supply,

a source of electric power supply,

Portable or Fixed Heaters and

Drink making materials (tea, coffee, sugar and milk etc.)

The *Contractor* is to provide one dedicated portable office type meeting room within the compound area sized for 10 people with a large table and 10 chairs.

### **S 1002 Materials to be provided by the Client**

All materials (including the timber provided by *Client*) shall be transported, handled and stored on the site in such a manner as to prevent damage, deterioration or contamination.

The Contractor will be required to provide all materials, plant, tools, tackle, labour and all works necessary to complete all of the Works. Bearing in mind the exposed tidal nature of the site, the Contractor must ensure that sufficient resources are available to him at all times in order that he can complete the Works within the Contract period.

The Contract does not include for the provision of hardwood timber by the Contractor and all hardwood timber required for the Permanent Works will be purchased by the Employer and will be delivered to the Solent Beach Car Park storage area for the commencement of year 1 of the Contract (10th October 2022), unless the timber delivery is scheduled to arrive after the mobilisation with the consent of the successful tenderer.

The Contractor may be required to supervise the unloading of timber deliveries at the Solent Beach car park storage compound. Following delivery, the Contractor is required to move, stack and otherwise sort new timber within the compound.

No timber supplied by the *Client* or from recycled sources will be used for Temporary Works.

**S 1001.1 Year 1 groynes (C9, C10, C12 & C13)**

Each new groyne will be constructed of 29 hardwood timber piles with 5 rows of new tropical hardwood timber planking and 14 rows of recycled tropical hardwood planking as supplied by the *Client*. The piles will be 300mm x 300mm Greenheart D70 strength class timber. The new planking will be D70 grade Ekki and Greenheart with a section size of 300mm x 100mm at lengths of 5400mm or 7850mm or a mixture of both. The recycled planking will be D70 grade Greenheart with a section size of 250mm x 100mm at lengths of approximately 5400mm. See drawings C9, C10, C12 & C13 for planking configuration.

**S 1001.2 Year 2 groynes (C14, C15, C16)**

Each new groyne will be constructed of 29 hardwood timber piles with 17 rows of tropical hardwood timber planking as supplied by the *Client*. The piles will be 300mm x 300mm Greenheart D70 strength class timber. Planking will be D70 grade Ekki and Greenheart with a section size of 300mm x 100mm at lengths of 5400mm or 7850mm or a mixture of both. See drawings C14, C15 and C16 for planking configuration.

Each groyne will be set out on a specific individual bearing from Ordnance Survey Grid North as shown on each groyne drawing. The general arrangement of each groyne (All 7 groynes) is similar seawards from the baseline; the baseline is at the landward side of pile 1. All groynes will have a different detail landward of the baseline; this is due to the varying seawall level and profile.

Groyne C10, C12 & C15 will have a groyne marker installed on the outermost pile to Clause S 1709.

The Contractor should include for otherwise sorting the layout of the storage compound new and recycled timber, e.g. crange, collecting from storage, transporting between storage and other working areas, transporting and stacking recycled timber for re use. Stacks of timber stored in the working area awaiting inclusion in the permanent works must not exceed 1m in height unless otherwise agreed.

Timber for the construction of the groynes will be delivered to the storage area in Solent Beach Car Park (Drawing PBBMS-GA2) by Timber Suppliers on or before the dates and in the quantity listed below: -

The quantity of timber listed below will be available from Commencement Date.

- 38 x New Greenheart Piles, 0.3m x 0.3m x 10.5+m
- 1 x New Greenheart Pile, 0.3m x 0.3m x 13.0+m
- 215 x D70 New Ekki planks, 0.3m x 0.1m x 5.0+m
- 182 x D70 New Ekki planks, 0.3m x 0.1m x 7.5+m

- 878 x D70 Recycled Greenheart planks, 0.25m x 0.1m x 5.0+m

The quantity of timber listed below will be available from Commencement Date or after with the consent of the successful Tenderer.

- 174 x New Greenheart Piles, Length 10.5m
- 8 x New Greenheart Pile, Length 13.0m
- 304 x D70 New Ekki planks, 0.3m x 0.1m x 5.0+m
- 472 x D70 New Greenheart planks, 0.3m x 0.1m x 5.0+m
- 121 x D70 New Ekki planks, 0.3m x 0.1m x 7.5+m

The Contractor should note the hazards mentioned in the pre-construction information pertaining to working with tropical hardwoods.

The Contractor shall allow for trimming and squaring of both ends of each piece of timber to make the required length. I.e. DO NOT SHORTEN PLANKING TIMBERS OTHER THAN SQUARING AND TRIMMING, THE TIMBERS HAVE BEEN DESIGNED TO TYPICALLY SPAN BETWEEN TWO OR THREE PILES. ALSO, DO NOT CUT PILES SHORT OR ATTEMPT TO SPLICE PILES, THEY ARE DESIGNED TO BE INSTALLED IN ONE PIECE PER THE DESIGN. TIMBER PILES MAY REQUIRE PRE BORING TO ACHIEVE THE REQUIRED PENETRATION DEPTH SHOWN ON THE DRAWINGS. A VIBRATORY ATTACHMENT WAS USED IN PREVIOUS CONTRACTS TO INSTALL THE ADJACENT PILES QUICKLY AND SAFELY. HAMMER DRIVING HAS NOT BEEN USED SUCCESSFULLY AND IS LIKELY TO DAMAGE THE PILE HEAD DUE TO THE HARD DRIVING CONDITIONS.

The Contractor shall supply all other materials required for his Temporary Works. The use of new timber supplied by the Employer for Temporary Works shall not be used.

## **S 1100 Health and safety**

The Contractor shall provide adequate signage on all boundaries of the Works, especially boundaries within the tidal areas that cannot be completely closed warning the public of the dangers of entering the working areas.

The mobile warning barriers provided by the *Client* and currently stored at the Solent Beach Car Park will be transported to the working areas by the Contractor at the beginning of each Year and located in agreement with the Project Manager or Supervisor. The warning barriers will be maintained by the Contractor and transported to the storage area at the sectional completion and completion date by the Contractor.

The lighting of fires is not permitted on site or in storage areas. Fire extinguishers must be present in all cabins/offices.

### **S 1101 Health and safety requirements**

The contractor will be required to issue management procedures for the following (outlining any expectation of the *Client*, *Project Manager* or *Supervisor*):

- On site Health and Safety reporting requirements.
- Management of Subcontractors.
- Drug and alcohol policy.
- Site induction procedures (with reference to site PPE mandatory requirements)

### **S 1102 Construction Phase Plan**

The Contractor shall also provide at tender stage, in a substantially complete written format, the following documents: -

- DRAFT Construction Phase Plan (incorporating the draft of a traffic management plan and CEMP).
- A general description of the arrangements and methods of construction accompanied by a schedule of all labour and plant resources that the Contractor proposes to adopt for each activity or task.
- Locations and capacities of anticipated plant and other resource input, together with a schedule of outputs and resources to support all activities shown in the programme.
- Noise level outputs for each item of plant or machinery that the Contractor proposes to use demonstrating that it falls within the Clause S 201.9 noise and vibration and Clause S 201.10 Underwater noise and Vibration effects on Fish
- Methodologies for constructing the groyne works, dealing with the rise and fall of the tide, operating in difficult tidal environment subject to cold weather and site conditions e.g. using sand bunds at the outer ends of each groyne and piling in dense sands and gravels using e.g. a vibratory rig

Post Award – the Contractor shall develop the construction phase plan, traffic management plan and CEMP to a suitable standard incorporating feedback and comments obtained from the *Client* before works commence on site.

The documents should be individual and in an editable format. This will allow the *Client* to issue comments to the successful Tenderer once the Tender has been awarded.

**S 1103 Method statements**

The *Contractor* is required to submit method statements and risk assessments to the *Project Manager* for acceptance 2 weeks prior to the intended commencement of the operation or activity. The commencement of the operation or activity will not commence without the written acceptance from the *Project Manager*.

**S 1104 Legal requirements**

From the *Starting Date* of the contract the *Contractor* will be appointed as the Principal Contractor in accordance with CDM regulations.

**S 1105 Inspections**

The *Project Manager* and/or *Supervisor* with a representative of the *Contractor*, will review and inspect weekly the health and safety procedures.



## **S 1200 Subcontracting**

### **S 1201 General**

The *Contractor* is to notify the *Project Manager* of the intended work activities and name of any proposed sub-*Contractor*. The matters noted below should be simultaneously reported to the *Project Manager*.

### **S 1202 Acceptance procedures**

The *Client* reserves the right to refuse to accept sub-Contractors based on an assessment of the health and safety performance record and financial standing of the sub-*Contractor*

## **S 1300 Title**

### **S 1301 Materials from Excavation and demolition**

The recycling (not demolition or destruction but piece by piece dismantling of planking and extraction of piles) of timber from the existing groynes is of paramount importance to the *Client*. Clause S 1714 further describes the requirements of groyne deconstruction. The deconstructed timber, groyne remains the property of the *Client* and care must be taken at all times, when the structure is being removed, all hardware must be collected and returned to Solent Beach Car Park Compound and the area left in a clean state, any splinters of wood will have to be removed from the area, before demobilisation will be allowed

The *Contractor* is not to use the working areas or beach/promenade to store any timber or waste materials of any kind and all material shall be transported to the storage area and/or disposed offsite in accordance with the contract.

All existing groynes will be deconstructed in a manner that all materials can be recovered and potentially recycled/reused in future contracts. The method for deconstruction must be approved by the *Project Manager* before deconstruction can commence.

All timber arising from the trimming of planks and piles (i.e. small offcuts) are to be kept and not disposed of. The off cuts shall be collected and tidily stored at the Solent Beach Car Park Compound.

The existing planks are bolted to the piles. These bolts will have been abraded by the beach material to an extent that cutting can be the only solution to removing them.

All salvaged timber will be inspected by the *Project Manager* or *Supervisor* prior to retention and timber that is deemed to be salvageable will be taken to Solent Beach Car Park Compound and timber deemed unsalvageable to be disposed of by the *Contractor*.

All stainless-steel washers, coachscrews and pile bands are to be recovered, cleaned and taken to the *Client* stores at Solent Beach Car Park Compound. All stainless-steel bolts and nuts that are deemed to be unsalvageable are to be disposed of by the *Contractor*.

The navigation beacon and post on each existing groyne is to be recovered for reuse in this Contract or future Contracts. The beacons are to be inspected by the *Project Manager*, beacons in good condition shall be taken to Solent Beach Compound. Beacons and fixings deemed unsalvageable to be disposed of by the *Contractor*.

Groyne warning sign and fixings are to be disposed of.

Where the existing groyne has been deconstructed the existing Seawall shall be reconstructed to match the construction of the surrounding seawall using materials as per clause S 1712 "Masonry facing to seawall" unless otherwise agreed with the *Project Manager*.

## **S 1600 Parent Company Guarantee (Option X4)**

The PCG shall be in the form described in GBP22 - Parent Company Guarantee June 2022. A separately priced activity shall be shown for providing the PCG

## **S 1700 *Client's work specifications and drawings***

### **S 1701 *Client Design***

The Groyne piles are fully designed by the *Client* to penetrate to a designated toe level. The planking has been fully designed by the *Client* to span between the pile centres shown and to 'close' to the substrate as shown with the top plank rows fixed first. The groyne is to be built top down finishing at or around the level shown at the bottom row of planks depending upon the substrate level encountered.

### **S 1702 *Licenses, Permissions and Consents***

The *Contractor* must comply with the following licenses and permissions obtained by the *Client*: -

Planning Permission

Crown Estate

MMO Licence

The *Client* is responsible for any licence changes.

### **S 1703 *Timber Specification for new timber (as purchased by the Client)***

#### **S 1703.1 *Timber quality***

The following quality and timber selection criteria shall apply to all timber: -

- a) All timbers shall be accurately sawn from sound logs.
- b) Surfaces may be either sawn or planed; but not hewn or chain-sawn.
- c) Gang nails must be used on piles
- d) Plank ends should be oil painted or gang nail plated only. Where gang nail plates are used, plates should be no deeper than 25mm and shallower as a preference.
- e) The specification requires timber intended for the use solely in a permanently affected sea water coastal marine environment. Timber is subject to semi- permanent immersion in salt water and must be highly durable and highly resistant to abrasion and impact forces.
- f) If timber is sourced from existing stock (ex works) it shall be stated in the pricing schedule.

#### **S 1703.2 *Dimensional tolerances***

The following dimensional tolerances shall apply to all timber: -

- a) Planks -width and thickness: Tolerance of the 300mm face dimension of the planks is +/- 1mm.
- b) Plank length: Length specified in the pricing schedule is absolute minimum square length of timber required by this tender
- c) Piles: the length given in pricing schedule is an absolute minimum.

- d) Piles – the cross sectional dimensions of 300mm by 300mm given for the piles are an absolute minimum, however an increase in dimension of up to 6mm will be accepted.
- e) Pile and plank straightness: Lengths up to 9m: 25 mm deviation and Lengths above 9m: 37 mm deviation
- f) Wane:
  - (i) Lengths up to 9m nominal and less than 250 x 250 mm nominal cross section.
    - Wane on any face to measure not more than 25mm total width.
    - The sum of the waness along the corners of the piece shall not aggregate more than the nominal length of the piece.
  - (ii) Lengths up to 12m nominal but excluding pieces covered by previous clause.
    - Wane on any face to measure not more than 1/5th of the nominal width of the face.
  - (iii) Lengths above 12m and less than 17m nominal.
    - Wane on any face to measure not more than 1/5th of the nominal width of the face except for 1.5m at tip where wane may be 1/4 of nominal width.

#### **S 1703.3 Permitted defects**

Baulks shall be free of defects which affect the strength of the piece, but the following may be permitted:

- a) Knots: Sound knots up to 75 mm in diameter and scattered.
- b) Pinhole Borer: Occasional pinhole borer attack.
- c) End Splits: Maximum length shall be less than maximum width of piece and shall be tight.
- d) Side Splits: (Spalls) When occurring on three faces (spalls) maximum penetration of the split into the piece to be limited to 12 mm when measured from the face to the split at right angles to the length of the piece. Pieces with such splits (spalls) to be limited to not more than 10% of the lot. Where occurring on two faces (arris splits) to be treated as wane allowance.
- e) Ring and Cup Shake: Ring shake not more than 75 mm in diameter and tight. Cup shake not to open for more than 1/4 of the circumference of the circle it follows, and not be longer than 1.5 circumference of this circle.
- f) Star Shake: Small and generally tight. Not to extend into any face except as a tight split.

#### **S 1703.4 Prohibited defects**

- a) Plugged defects
- b) Unsound and rotten heart

- c) Exposed unsound heart and severe heart trace and shakes in any face
- d) Cross breaks and compression failure in any face
- e) Holes larger than 50 mm diameter and 25 mm deep in sound wood
- f) Excessive scale

**S 1704 Recycled Timber Planks supplied by the Client**

The recycled planking will be D70 grade Greenheart with a section size of 250mm x 100mm at lengths of approximately 5400mm. All recycled timber members are expected to have bolt holes, these holes will require filling with at least 40mm long hardwood plugs prior to use. Plugs shall be fitted to both sides of the timber member.

**S 1705 Stainless Steel Fixings**

All stainless steel fixings included in the Permanent Works shall be fabricated from the austenitic stainless steel BSEN Grade 1.4462, complying in all respects with BS6744: 2001 +A2: 2009 from which the following chemical composition is reproduced.

Element	% min	% max
Carbon	-	0.03
Silicon	-	1.00
Manganese	-	2.00
Nickel	4.50	6.50
Chromium	21.00	23.00
Molybdenum	2.50	3.50
Sulphur	-	0.015
Phosphorus	-	0.035
Nitrogen	0.10	0.22

All stainless steel fastenings shall be supplied by Registered members of the BSI System for the Registration of Stockists of Assessed Capability, or Companies who are members of the British Industrial Fasteners Federation Quality Assurance Scheme operated under the strict control of the BSI Certification and Assessment Department for the production of fasteners.

The Tenderer is to supply at the time of tendering the details of the BSI/BIFF Registration of the Company concerned and a copy of the materials certificate for EACH batch supplied.

**S 1706 Stainless Steel Coachscrews**

The coachscrews will be to details shown in drawing PBBMS-STD-02 and shall be made from the stainless steel to Clause S 1705.

For the avoidance of doubt, the Activity Schedule items include for drilling all timber components, fitting and tightening the coachscrews.

**S 1707     Screws for Permanent Pile Bands**

Countersunk headed No 12 wood screws will be 50mm in length and shall be made from stainless steel to Clause S 1705.

**S 1708     Permanent Bands for Pile Tops**

After timber piles have been driven to the design level the tops shall be cut off square and banded using stainless steel to Clause S 1705, properly welded and drilled and countersunk to take 8 No approved stainless steel wood screws, all as shown on drawing PBBMS-STD-01. These bands will be recessed into the piles so that they are flush with or below the surface of the piles and will be fixed 50mm below the pile tops. Only piles 1 to 10 (landward 10 driven piles) and the dummy piles will have re-cycled pile bands. All other piles will not require any piles bands.

It is our intention to recycle the permanent pile bands from the deconstructed groynes and from the *Client's* stores. For the purpose of this tender all the pile bands will be from existing piles and/or from the *Client's* Stores, the tenderer does not need to procure the stainless-steel pile bands. These bands will need to be installed prior to the installation of the top row of planking.

**S 1709     Navigation Markers (groynes C10, C12 & C15)**

Groyne navigation markers shall be of the 'Top Can' marker type coloured red and placed in position to conform to the Merchant Shipping Act 1995. Each navigation marker shall be fitted with a securing tube with an internal bore sized to suit fixing over a 75 mm outside diameter fixing tube.

If required new navigation markers to be manufactured in Stainless Steel as drawing PBBMS-STD-03.

The *Client* will inform the Trinity House of the revised co-ordinates for the marker position.

**S 1710     Pile Shoes**

All piles will be fitted with steel shoes as shown on drawing PBBMS-STD-01. Pile shoes will be affixed to the timber piles by means of approved gutter bolts or coach screws. The timber piles procured by the *Client* are NOT supplied with pile shoes. The shoes will need to be procured and fitted by the Tenderer.

**S 1711     Concrete**

Shall be in accordance with BS EN 206-1 and BS 8500

**S 1712     Masonry facing to seawalls**

The masonry facing shall consist of approved Purbeck Dubbers 180mm to 250mm on bed with 100mm to 250mm nominal rise in random lengths, but with a minimum length of 200mm. All stone to have a bold rock face. Stones with concave face will not be accepted.

All stone shall be obtained from an approved quarry and from selected beds and shall be supplied clean and free from all adhering clay or other extraneous matter.

Samples of approved stones approved for use shall be deposited with the Project Engineer and all stone delivered to the site shall comply in quality and composition with these samples.

Included in the Contract document is a photograph which indicates the standard of stonework which will be deemed on this Contract.

### **S 1713 Setting Out the New Groynes**

The exact location of the new groynes C9, C10, C12, C13, C14, C15 and C16 are shown on Drawings GBP22-C9, GBP22-C10, GBP22-C12, GBP22-C13, GBP22-C14, GBP22-C15 and GBP22-C16.

At each location the seawall is to be fully exposed to the substrate and surveyed with co-ordinates and level to Ordnance Datum. A drawing in the form of an AutoCAD drawing must be submitted to the *Project Manager* 10 days prior to the commencement of piling. The *Project Manager* will then confirm to the *Contractor* the seawall planking and dummy pile detail and the location of Pile No.1 5 days prior to commencement of piling. The drawings show lengths of recycled 0.3m x 0.3m greenheart piles used to create a framework bolted to the seawall for the planking to be attached to. These lengths will vary and will be dictated by the survey at each location. The *Contractor* is to assume that there will only be 1 (one) dummy pile and up to 7 (Seven) fixings to attach the sloping pile to the seawall at each groyne.

Each new groyne shall be built at a bearing from OS Grid North. The bearing for each groyne is detailed on each specific groyne drawing.

The new groynes will be defined by a vertical plane at the designated bearing to the Promenade. The piles will be to the east of the plane and the planks will be to the west of the plane.

Setting out for the angle will be carried out by Theodolite and frequent, regular checks must be carried out by the *Contractor* during the course of the Works to ensure a proper line is maintained. The base line itself will be identified prior to commencement of any works and the setting out points for each groyne is to be fixed by marks on the seawall.

### **S 1714 Careful Dismantling and Deconstruction of Groynes**

All groynes are to be carefully dismantled and all the existing 305mm square piles and existing 300mm x 100mm planks are to be carefully recovered and inspected for possible reuse.

Groyne B10 is a typical type H construction see drawing E40/204A (GBP22-Existing Groyne B10.pdf).

Groynes B9, B11, B12, B13, B14 & B1 are a typical type K construction (see drawings W3-20-03 (GBP22-Existing Groyne B9.pdf), GROYNE11 (GBP22-Existing Groyne B11.pdf), GROYNE12 (GBP22-Existing Groyne B12.pdf), GROYNE13 (GBP22-Existing Groyne B13.pdf), MAF3/5/01A (GBP22-Existing Groyne B14.pdf) & MAF3/5/02B (GBP22-Existing Groyne B15.pdf).

The planking profile of groynes B9 to B15 was raised and sloped in 2005 to a new level and profile. This new profile consisted of pile extensions bolted to the existing piles and tapered planks fixed to the pile extension with bolts and/or coachscrews (see drawing GBP22-TGRD01).

The *Contractor* shall allow for the complete removal (i.e. above and below the beach) of the entire groynes. The *Contractor* shall allow for all excavation necessary, disposing of material off site, supporting sides of excavation, dealing with seawater, ground water and backfilling. The *Contractor* shall ensure that all unrecyclable debris arising is removed to an offsite tip



immediately. It is not permissible for any part of the deconstructed groyne or debris to be stored on the beach site overnight.

The majority of the planks are secured with bolts. There will be a few instances where coachscrews may have been used, exact ratio is unknown. Coachscrews would have been used when repairs were undertaken on the groynes and when the groynes profile was raised. For the purpose of this Tender assume all planks are secured using bolts.

The *Contractor* should note that the majority of the Groyne construction work is to be carried out below HWMST and that it may be necessary to repeatedly excavate beach material in order to search for Beach Car Park and beacons in poor condition to be disposed of by the *Contractor*. All other materials are to be returned to the *Client*. The *Project Manager* will inspect and locate the remaining parts of the groyne.

All timber members are to have any bolt holes filled with at least 40mm long hardwood plugs. Plugs shall be fitted to both sides of the timber member. The beacons on the groynes are to be removed and inspected by the *Project Manager*, beacons in good condition shall be taken to Solent determine which materials will be kept and which materials will be discarded.

Where an existing groyne has been removed, a concerted effort must be made to construct its corresponding new groyne to reduce the amount of beach material loss.

## **S 1715 Pile Driving**

**Planning permission condition 3 requires all piling operations to be undertaken during the working hours 8am - 6pm Monday to Saturday and not at all on Sundays. Volume 4B for planning permission and conditions.**

All piles shall be driven and must penetrate to the levels shown on the drawings at the positions and centres shown.

The *Contractor* shall allow for backfilling to beach profile level any depression or excavation around the driven pile that can arise during his jetting/pre-boring/driving operations.

The *Contractor* shall allow in his tender for pile driving obstacles. These can include limestone boulders, reinforced concrete, pieces of hardwood timber, wreckage, rock/Ferruginous Sandstone and the remains of war-time defences, comprising reinforced concrete, angle iron and rolled steel girders.

There is the expectation of rock armour at the toe of the seawall in the vicinity of the existing groynes and new groynes, the *Contractor* should allow for the removal prior to and reinstatement after construction and deconstruction.

If a driven pile meets an obstruction, the *Contractor* shall immediately inform the *Project Manager* or *Supervisor* and attempt to clear such obstruction. If no success is achieved in removing the obstruction, and the *Project Manager* or *Supervisor* is in agreement that further attempts are not warranted, the *Project Manager* will agree to and approve the alternative pile position.

The *Contractor* shall allow in his tender for re-driving risen piles. The driven depth measured will be from the agreed existing beach level at commencement to the tip of the pile shoe.

The *Contractor* should be aware that the dimensional tolerances in Clause S 1703 of the supplied timber allow for a small amount of deviation in straightness on any side of the pile. This can result in the pile being slightly twisted. The *Contractor's* method of driving must allow for the possibility that some piles will be twisted and he should allow in his Tender for the extra time needed to position piling (for the various pile sizes given) within tolerance such that the planking will span and seat on the chosen mating face of the piles in the position shown on the drawings. i.e. all mating faces to receive planking must be in true alignment irrespective of pile type and size supplied

The *Contractor's* attention is drawn to the following tolerances of the final vertical position of the driven pile (before the fixing of the planking): -

Lateral tolerance, measured from the centre line of the groyne	±15mm
Longitudinal tolerance, measured from Pile No 1	±75mm
Level of the top of the cut-off pile	±10mm

Apart from the dummy piles (seawall end), and dependent upon chosen method, temporary driving bands shall be employed by the *Contractor*. The dimensions of these bands shall be dependent on the *Contractor's* driving equipment. The *Contractor* should ensure that his driving equipment does not damage the pile top since minimal allowance for waste has been made and it may not be possible for the *Contractor* to replace mishandled piles to meet the programme dates given.

Should the pile require pre-auguring then the method of auguring perpendicular to the groyne alignment of the pile will not be permitted. This method tends to cause the piles to drift in a lateral direction to the groyne alignment, thus out of tolerance. This method also reduces the structural stability of the groyne, the potential for the groyne to lean. Longitudinal auguring will only be permitted in exceptional circumstances, i.e. written permission from the PM, **there will be absolutely no deviation on this matter as it has a detrimental effect to the structural stability of the groyne.**

## S 1716 Planking

Planking will not commence on a new groyne until the piles are checked and approved.

All planks are to be fixed to the West side of the Piles. The type and length of each plank is shown on the individual groyne detail drawings Plank lengths will vary as identified in Clause S 1002 above. The *Contractor* is to make due allowance for the variation in planking sizes. It is intended that longer planks will be fixed in areas that are most vulnerable and with the most exposure to sea conditions and/or beach abrasion as noted above.

The groynes shall be planked to the Substrate. The substrate is a geological formation that consists of loosely cemented fine sandstones, siltstones and clays upon which sits the beach material consisting of sand and gravel ('MADE GROUND'). The localised ground conditions are identified in the site information. The groyne design for groynes C14, C15 & C16 is based on 17 rows of new timber planking. The groyne design for groynes C9, C10, C12 & C13 is based on 5 rows of new timber planking and 14 rows of recycled timber planking. The planking shall continue down until there is less than 250mm distance between the bottom of the lowest plank and the identified substrate. The *Contractor* shall be expected to hand or otherwise excavate to a

maximum depth of 50mm into the substrate between driven piles, taking care not to over-excavate the surrounding substrate area. The *Project Manager* and/or the *Supervisor* will determine the level of the substrate with the assistance of the *Contractor's* Engineer during each groyne's planking operation. The Substrate level will vary for each groyne and can be higher than the design level. The Substrate is not a linear plane and will vary down the length of the new groyne. where the Substrate 'humps' along the groyne profile with the permission of the *Project Manager* or *Supervisor* the *Contractor* can machine excavate this area to install a continuous row of planking. In the event of reduced planking due to the level of the Substrate the *Project Manager* will issue an instruction to reduce the Works and costs of the Works.

All existing recycled timber members stored in Solent Beach Car Park Compound set aside for the construction of the new groynes are to have all bolt holes filled with at least 40mm long hardwood plugs prior to installation. Plugs shall be fitted to both sides of the timber member.

Contractors should note that the items include for all trimming, cutting and jointing. It can be necessary to trim both ends of every piece of timber. New planks will be butt jointed.

Every plank joint needs to be tightly closed, because even a 1mm gap will permit water carrying 0.2mm diameter sand grain size to pass through the gap, continuously widening the gap over the 25 years' design life of the groyne. To avoid this, every gap between plank and plank is to be as tight as possible. Since all timber is slightly bowed to some extent, it can be necessary to jack timbers into place before drilling and screwing into position.

#### **S 1717 Excavation and Earthworks**

The *Contractor's* temporary works and construction methods shall allow for the natural variation in beach levels. Considerable scour and build-up of beach sand can occur in periods of rough weather and the Contractors tender must make allowance for this both in the design of the *Contractor's* temporary works and the methods of working.

Beach material arising from any excavation can be stored on the beach within the Working Areas only for backfilling. Unsuitable material arising from excavation (such as clay, boulders or concrete debris) shall be disposed off-site to the *Contractor's* own tip. The *Contractor* should allow for backfilling any trench excavated for groyne construction after every tide.

Backfilling of groynes at end of each shift is to be undertaken in a controlled manner. It is imperative that the backfill material on each side of the groyne is brought up at the even rate to avoid unnecessary lateral loading, thus causing the groyne to bend.

All excavations must consider the variable ground conditions, deep excavations to substrate level or to remove obstructions, the high naturally occurring water table, and environmental conditions (sea state) when working in the inter-tidal zone.

The *Contractor* should allow for any temporary support or temporary storm protection to the groyne works to ensure that the structure remains in its correct position until the surrounding beach material is backfilled to the required beach profile level.

#### **S 1718 Materials to be Taken Up or Down and Set Aside for Reuse**

Materials or components to be recovered for re-use or taken to store shall be carefully dismantled, taken down or lifted, cleaned, sorted and where necessary labelled or marked.

Materials or components to be re-used in the works shall be either stacked on the site to suit the sequencing arrangements noted already and/or taken to the *Contractor's* store or to the storage area at Solent Beach Car Park.

#### Handling and Storing

The *Contractor* will be responsible for making good any damage to any of the materials recovered under this Clause which occurs during taking up or taking down, transporting, handling or storing. Before such materials are taken up or taken down, the *Contractor* shall jointly, with the *Project Manager*, carry out an inspection and agree the condition of the materials and shall notify such agreement to the *Project Manager* in writing.

## **S 1719**

### **Drawings**

Volume 5 –Drawings

<b>General Arrangement Drawings</b>		
Drawing Number	Title	Size
GBP22-GA1	Location Plan, Compound Location and Vehicular Access to the Seafront	A1
GBP22-GA2	Solent Beach Car Park, Timber Storage Layout	A1
GBP22-GA3	Beach Monitoring Profile Locations	A1

<b>New Groyne Drawings</b>		
Drawing Number	Title	Size
GBP22-C9	General Arrangement – Groyne C9	A1
GBP22-C10	General Arrangement – Groyne C10	A1
GBP22-C12	General Arrangement – Groyne C12	A1
GBP22-C13	General Arrangement – Groyne C13	A1
GBP22-C14	General Arrangement – Groyne C14	A1
GBP22-C15	General Arrangement – Groyne C15	A1
GBP22-C16	General Arrangement – Groyne C16	A1

<b>Existing Groyne Drawings</b>		
Drawing Number	Title	Size

GBP22-TGRD1	Typical Groyne Raising Detail (B9-B15)	A1
W3-20-03	Construction Details of Groyne No.9	A1
E40/204A	Construction Details of Groyne No.10	A0
GROYNE11	Construction Details of Groyne No.11	A1
GROYNE12	Construction Details of Groyne No.12	A1
GROYNE13	Construction Details of Groyne No.13	A1
MAF5/5/01A	Construction Details of Groyne No.14	A1
MAF3/5/02B	Construction Details of Groyne No.15	A1

Standard detail drawings		
Drawing Number	Title	Size
PBBMS-STD-01	Pile Fixings	A3
PBBMS-STD-02	Coach Screw	A3
PBBMS-STD-03	Groyne Marker Beacon (FOR INFORMATION ONLY)	A3
PBBMS-STD-04	Groyne Number	A3
PBBMS-STD-05	Pedestrian Barrier (FOR INFORMATION ONLY)	A3

## **S 2000 Performance Bond (Option X13)**

A performance bond is required in the format given in GBP22 - BCP Performance Bond June 2022. A separately priced activity shall be shown for providing the performance bond.