

## Note

To : Katharine Basford, Emma Hick  
From : Paul Knight  
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Copy :  
Our reference : /N/303347/Newc

HASKONING UK LTD.  
WATER TECHNOLOGY

**Subject** : Church Street PAR – Construction Method Statement

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Please find below my assumptions with regards the timings, programme and activities relating to the proposed tidal defences for Church Street, Whitby.

### 1. Programme

- PAR submitted to SBC by RHDHV February 2013
- PAB Submission March 2013
- Funding approval May 2013
- Design Procurement May to July 2013
- Detailed Design
  - Site Investigation; September / October 2013
  - Outline Design; September to November 2013
  - Detailed Design; December 2013 to March 2014
- Planning Application & other Licences; December 2013 to March 2014
- Construction Procurement; April 2014 to July 2014
- Construction Mobilisation; September 2014
- Construction Phase; September 2014 to March 2015

### 2. Site Investigation

Intrusive Site Investigation works are proposed to be carried out in September / October 2013 to include;

- Trial pits excavated to full depth of proposed construction (assume max 1.5m), extending across the full width of the pavement to allow identification of services and depth and position. Assume 8nr max. Works will require reinstatement of holes and surface material and disposal of waste.
- Window sampling at location of proposed flood gates (2nr) to full depth of proposed gate support structure (assume min 2m depth).
- Assessment of structural condition of the walls at the Fishermen's Hospital Garden and at the Fleece Inn.

### 3. Construction Phase – Estimated Sequence and Works Descriptions for Preferred Option – Option 2.

#### 3.1. Mobilisation

Assume that the Church Street car park will be set aside for use for the Contractor from September 2014 to March 2015. This area will be used for their welfare facilities, site office and material stores. This may result in the loss of 40 parking spaces for up to 6 months.

#### 3.2. Construction: 2014 Works – To provide 1:100 year SOP to 2051

Assuming that the Contractor will work back towards the compound (i.e. starting at the furthest point) and only have a single working frontage (i.e. not working in more than one location at a time) the estimated construction works are as follows;

##### 3.2.1. Eskside Wharf to Seamen's Hospital Gardens

- Temporary isolation and/or removal of street lights and footpath/quay lights for the duration of the works and replacement with temporary lighting units powered by generators. There is the possibility that a temporary power supply may also be required to the pontoons.
- Removal of existing handrails and refurbishment prior to re-installation.
- Excavation to depth of foundations of proposed wall base, using a JCB, to a depth of no greater than 1.5m. Assume the full width of the footpath will be excavated (2.5m wide) and surfacing materials disposed of (sub base may be reused for backfilling to the structure if suitable).
- Electricity junction box to be relocated at tie in to Eskside Wharf.
- Services may require relocation or feeding through the new wall (i.e. water and electric supply to jetties). This may require the construction of new draw pits.
- Construction of reinforced concrete wall bases and flood gate support structure (x2) using in-situ concrete delivered from Church Street (i.e. not across the swing bridge).
- Construction of new bases and installation of new ducts and draw-pits for Street Lighting and Quay Lighting.
- Construction of reinforced concrete walls using in-situ concrete delivered from Church Street (i.e. not across the swing bridge). Services to be ducted through the wall as required. Riverward face of the walls to have an exposed aggregate finish.
- Installation of flood gates onto support structures/walls. Flood gates to be delivered (via Church Street) prefabricated and connected to structure.
- Landward faces of the walls to be faced with brick work. Bricks to be delivered via Church Street. Colour and type of brick to be approved by Planners/SBC Heritage Officer.
- Reinstatement of fill material against walls, using JCB and stockpiled selected, excavated materials.
- Pavement and quay surfaces reinstated; tarmac for the pavement and reused masonry paving on the riverward side. Tarmac will probably be laid when the whole wall is complete to gain cost efficiencies for plant and labour.
- Wall crests to be capped with precast concrete copings.
- Installation of Penny Hedge related artwork onto landward face of flood gate at this location; laser etched or similar cladding enhancement.
- Note – wall works here will stop short just to the south of the Gardens and tie into the proposed Steps (see below).

- Construction of reinforced concrete steps at the boundary of the Seaman's Hospital Gardens to allow access to area where lobster pots are stored. Construction will require removal of existing masonry paved area, excavation with a JCB will be carried out to a depth of approximately 1.5m to form the foundations. The steps and integral walls will continue the defence height to the Gardens. The external faces of the walls will have an exposed aggregate finish. Handrails will be required along the edges of the steps and possibly low height rails along the length of the boundary wall (to provide min 1.1m height from step platform and also to provide additional security to the Gardens).
- Installation of non-return valves on the outfalls of all highway and surface water drains along this length.

#### 3.2.2. Seamen's Hospital Gardens

- Carefully take down and store the existing Summer Houses.
- Demolition of existing brick wall facing the river. The bricks will be reclaimed and reused for facing the new wall.
- Construction of a new flood wall, methodology and approach as per the above flood wall.
- Cast new ground slab for the Summer Houses, raised up 430mm above the existing floor level.
- Reconstruct the Summer Houses onto new ground slabs.
- Reinststate masonry paved areas and gravelled areas, with appropriate gradient access ramps leading to the doorways of the Summer Houses. Laid cross-falls shall be arranged so that surface water drains back towards the highway to prevent the need to install holes through the flood wall and avoid the need for non-return valves.

#### 3.2.3. Fleece Inn

- Carry out flood resilience and individual property protection works such as ; providing air vent covers, replacing the rear doors with flood proof doors and potentially raising electrical sockets which may be at risk of inundation in the unprotected patio area.

#### 3.2.4. Church Street Car Park

- Move access ramp and pontoon bridge to allow works to be carried out.
- Remove loose concrete from top of existing concrete wall.
- Cast a new reinforced concrete wall around the end position of the pontoon bridge, to allow entrance to bridge to be raised above (or onto) the new defence height.
- Raise existing wall by casting on top of existing, up to 4.32mAOD minimum.
- Replace pontoon bridge and install new (longer) access ramp.

That describes the construction work proposed for Option 2, in 2014.

Future works requirements are dependent upon climate change sea level rise and at this stage it is assumed that no greater than a 1:50 SOP can be provided up to 2115, with wall raising proposed for 2051.

Any queries please give me a call.

Regards

Paul