Report on Pause Sub-group Zoom meeting with the Consultants

2nd Sep 2021

Present
Tom Buxton-Smith EDDC
Lucia Sto Haskoning DHV
Tom Green Haskining DHV
Tony Burch
Chris Lockyear
Richard Eley
Paul Griew
Mary Walden-Till

Apologies
Geoff Jung EDDC
Phil Shepperd

The meeting started with a surprise for the lay people amongst us.
We had expected that Tom and the sub-group's discussions in our 'pre-consultants meeting' would be lagging behind where the consultants had got to in their design work, but instead they were behind.

The consultants had still been working on the placement of 4 islands off Town beach and 2 off East beach, moving them in and out to judge the effects but not changing sizes at all. They had decided that having them close in would lose the safe swimming off Town beach but an intermediate distance might be possible.

I had been under the impression that as well as looking at placement, the islands would have had their sizes changed too. It seemed to me that the nearness to the shore would have affected the required size but perhaps not. Unsurprisingly the consultants told us that using the same size islands that had been found to be unaffordable before our first meeting with them were still unaffordable.

It seems that the consultants have spent a lot of time working on aspects of the design which would be required for an outline business case. I would not have thought this could be done until after an idea was, more or less, decided on, but it is apparently good to have the two things running in parallel. With all this going on it makes me wonder exactly how much time the consultants are able to spend on actually coming up with different ideas for the physical structures.

It is important to state that I am not criticising the consultants with these comments but trying to express how difficult it is for a lay-person to follow the processes involved.

One of the serious considerations when constructing things is what engineers technically call the 'risk'. This is the buffer of money needed to be kept in reserve for dealing with unforeseen circumstances during construction. It was explained to me in the terms of a domestic refurbishment project where you would always keep a bit in reserve in case materials costs went up or the project took longer than expected and so there were greater labour costs. 'Risk' is greater when building offshore than when building groynes. Planning delays are a 'risk' too.

The consultants said that they had determined that we would need some sort of hybrid solution; and at that stage they had stopped work because they felt they could not get further without some sort of modelling. As the hybrid design cost would be exceeding the funding they didn't think that it would be sensible to spend money on modelling. But they had wanted to bring it to us for our ideas.

Lucia explained that there would only be a need for 'numerical modelling' for the Outline Business Case; but money needed to be put aside for physical modelling at the detailed design stage.

If we were to 'almost revert' to the preferred option + a proper foundation to allow the splash wall to be increased in height over time + an island off town beach; then we would only need to find out how much extra money we would have from the increased Government funding to allow us to work out how big the island could be. An image for this was presented later.

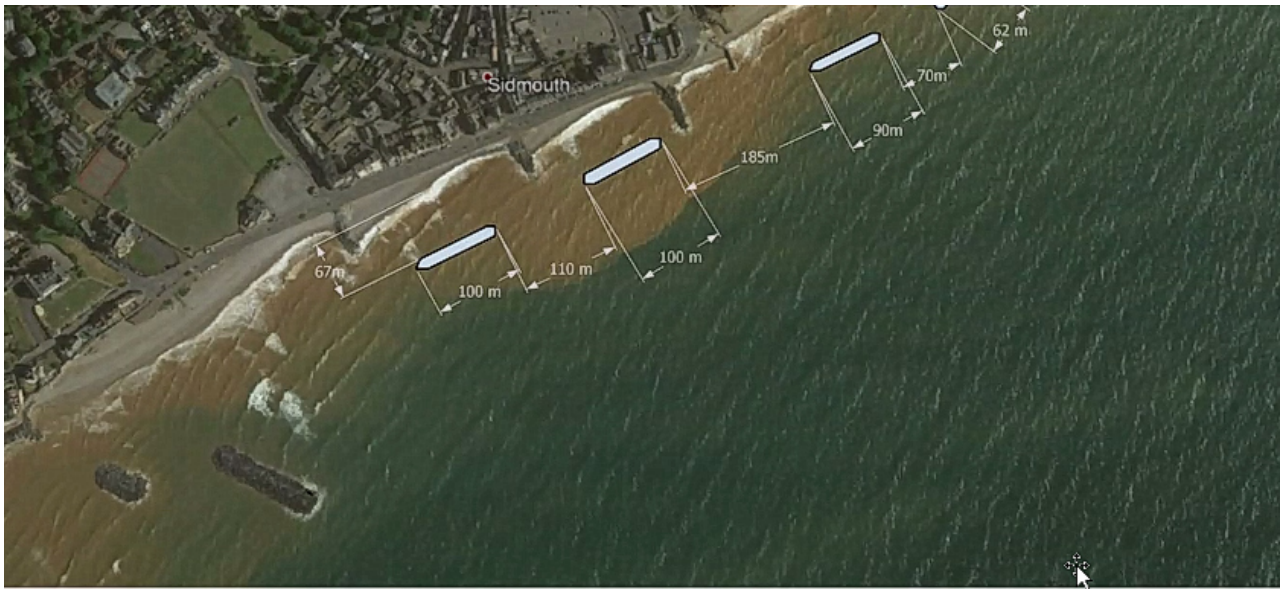
The difficulty would be in working out how to present the change from relying on a splash wall for defence to using an island instead, in order to make sure we would actually qualify for the extra money available.

However, the consultants don't know if this is an affordable option; because they don't know how big the island could be and how many years it would provide protection before we needed the splash wall to be raised. Looking a long way into the future is is likely that a wall will be needed at some stage.

The consultants and Tom then discussed this point and Tom reminded us that a real risk to the project was that a 1 metre high splash wall would not get through planning; this was in our favour when trying to convince funding bodies that avoiding the need for a splash wall was important. However, we need to 'build in' the ability to raise the wall height in the future if necessary.

It was suggested by Chris that 300 to 400 mm total wall height could be acceptable to the town. However the consultants say that the required wall height can not confidently predicted without doing numerical modelling.

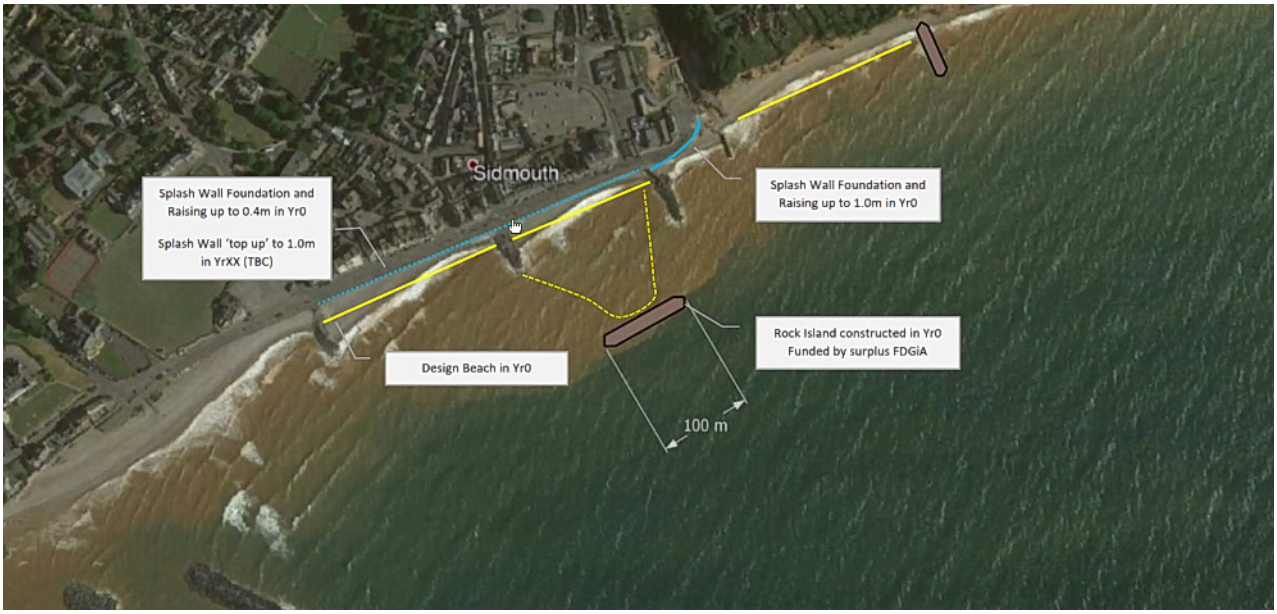
The hybrid option they had been working on, which we now discussed, envisaged keeping the current groynes as well as having islands, that is why the islands are positioned as they are. The idea is to maximise the overall effect of the defences.



The consultants were keen to establish that we understood the design was nothing more than a concept. The concept drawing was of 4 islands showing the proper sizes for the islands but not the correct distance from the shore. (The image is exactly how it was displayed to us on screen) The most effective distance from shore had not been established. The initial calculations had been done using existing island dimensions. It was not made clear whether the final height of the proposed breakwaters matched the existing islands.

For the business case the exact details of the splash wall at various places will be needed, and will be worked out at that stage.

The consultants then showed a concept drawing (done quickly that morning in response to our request) using 1 island, and discussed it. With an island in the centre you may or may not need to raise the splash wall at all along the Esplanade, except at Port Royal.



If the wall did need raising it was thought that it would be only in one area along the main frontage, barring Port Royal, but Chris pointed out that that was the most sensitive area because that is where the commercial properties are.

The consultants were surprised to learn this but said they could adjust placement of the island to account for this. Where the island will be placed makes no difference to the cost.

The orientation of the proposed islands is still parallel to beach. It was questioned as to whether this is the right angle given what we can see of wave movement on videos. This query was not answered as the consultants felt there was no point in playing around now as it won't change the construction cost.

Tony asked 'Are we learning from how the beach is reacting to the current islands?' Lucia replied 'Yes'. The consultants felt we are wasting time discussing orientation when we need to be looking at costs.

There was then a further question and answers which can be summarised as follows.
Q. Are we learning from 2014 storms where there was no over-topping at the east?
A. Can't because we are required to use set parameters.
Also although 2014 may be a one in 100 year event we don't know it was the most extreme 1:100 year event possible.
In order to get away from all this anecdotal evidence we need to put a wave buoy off Sidmouth, wait a few years and recalculate.
It was claimed by the consultants that we don't even have video of the 2014 storms only pictures. (This is incorrect as a video from Youtube had been circulated within the subgroup some time ago. I had assumed that the consultants were also made aware of this.)
It is also difficult to analyse near shore storm conditions accurately.

Tony said he got the impression that the consultants weren't confident of the effectiveness of 2 islands on Town Beach plus a groyne on East Beach, which is what the subgroup had discussed with Tom. In reply Lucia says, with all the caveats previously mentioned, she is reasonable confident; except she doesn't know if we can afford one or two islands and their sizes. This aspect needs modelling.

The consultants have not looked into how much money we have to play with in excess of that for the original design (ie ‘Preferred Option’) They asked if Tom Buxton-Smith knows?. Tom replied that he does not have it to hand but two islands look possible if the funding is pushed to its limit. He added that he needs to play around with the calculations, keeping elements loose at the Outline Business Case stage to maximise the money available for construction. The current OBC for the Preferred Option is now 130% funded, we need to try to present a 100% funded scheme and put the extra money on rock islands.

I find it remarkable that the consultants have done all the work up to now without having a clear idea of the money which can be spent. Surely this should have been established early on in the process?

Despite an initial beach recharge having always been expected by the sub-group, the consultants were still talking about having a design which avoids a recharge.

Chris raised the issue of the calculations for the OBC where ‘future benefits were discounted’; this is a calculation where the further in the future the benefits of a scheme are, the less money will be given now. Chris suggested that perhaps it could be beneficial to shorten the life of the scheme? Perhaps 80 rather than 100 years.
This needs some playing with the numbers; but it may be that is it cost effective not to dig the upgraded foundation for a splash wall now, as by 2085 everything could be different.

Tom stated that we don’t want the consultants to go away and do economic calculations if we are not happy with direction of travel of the design. There is a fine balance to be maintained when from moving away from Preferred Option. The consultants stated they think we can not move away from the idea of digging an improved foundation ‘now’ with just simple quick calculation. It will require detailed work.

We felt that if they can avoid raising the splash wall it will avoid fighting with Historic England and residents of the town later on. They said in coastal areas it may be difficult to argue for cutting from 100 to 85 years, as it is all about managing project risk. It comes down to whatever to numbers say.

A new funding calculator allows Tom to calculate the effects of changing the length of scheme. At a cursory glance shortening the timescale looks a promising avenue for exploration.

Tom needs to piece together the construction elements so Cabinet and the Advisory Group can see where we are.
If the splash wall element has to be included in OBC, it could then be seen if the allocated money could be used instead for islands at the detailed design stage. Tom wants to include the splash wall in the OBC, subject to the later detailed design, as that gives a robust financial case. It needs to be robust because we haven’t the time to model the alternatives. The Environment Agency have embraced a ‘Managed pathway adaptive approach’ so changes at the detailed design stage should be acceptable.

Conclusions

1) Tom is to put together costing to see if the scheme is affordable.

2) We need to get a Project Board together.

3) We are not in position to say if we are reverting to the Preferred Option or going for an alternative, things are still fluid. At the moment we don’t have the detail needed to make decisions. Tom and the consultants will work to provide this.

4) There will be an Advisory Group meeting in Oct, and Cabinet in early Nov, where reports will be presented.

It was agreed that the sub-group will be copied in to any instructions to the consultants.