Dear Sir/Madam,
I wish to update my Relevant Representation submitted on 17 July

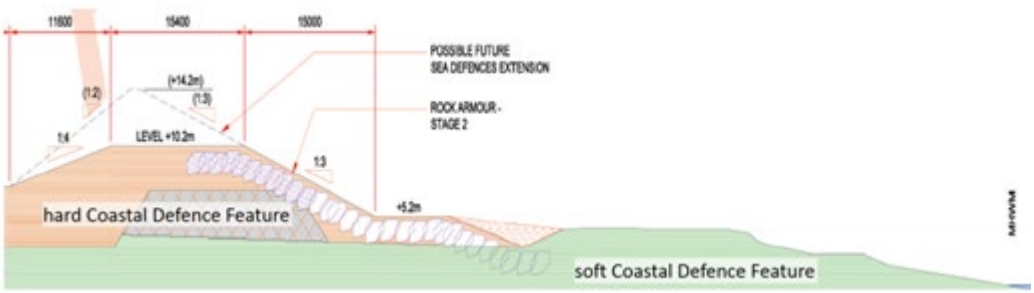
The updated Relevant Representation is below

As a chartered geotechnical engineer experienced on highways/coastal engineering and related litigation I have examined the DCO documentation. I have concluded that for the matters I have examined, adequate and sound principles have not fully adopted. I cannot support the DCO proposals.

HCDF

The HCDF in the DCO documentation (Bk6 Volume 2 Chapter 20 Appendix 20A Figure 29) is an incomplete conceptual design with fundamental flaws. It is unready for DCO assessment/approval. It is less advanced than the pre-February 2017 Jacobs design SZC_Bk5_5.2_Appx1_7_MDS_Flood_Risk_Assessment_Part_1_of_14.Appendix A page 34 adopted by the applicant in February 2017.

DCO presented design



Jacobs conceptual design (of adopted option)

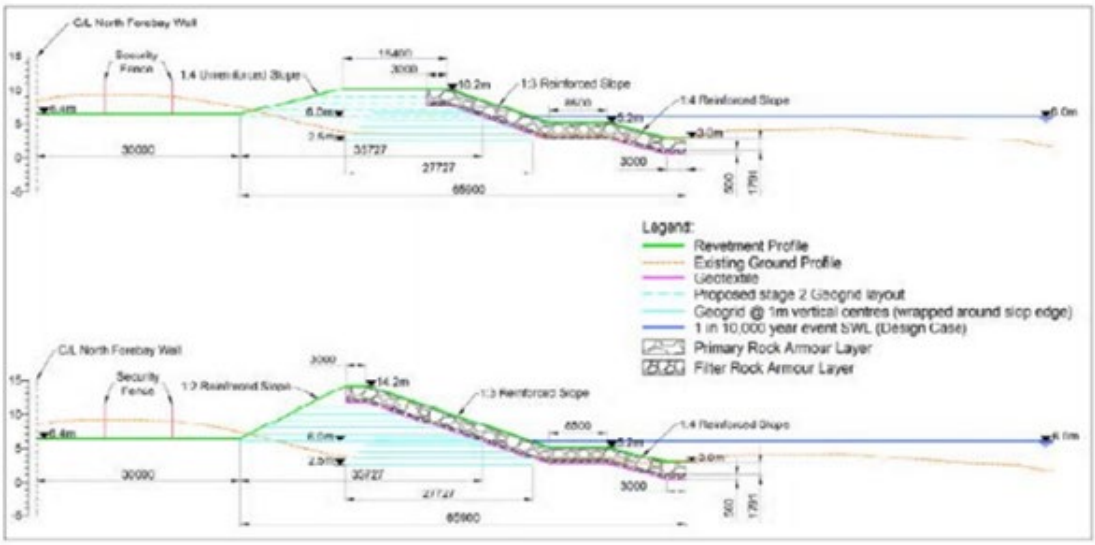


Figure 11: Concept Design Option 2.1 – Landscaped

- The foundation design is indeterminate. There is reference to possible piling of the HCDF - Volume 2 Chapter 3 Description of Construction paragraph 3.4.41. Engineering feasibility, environmental impact and the associated risks with substantive temporary works lowering sea defences has not been presented/examined.
- The foundations are underlain by high compressible silts/clays and peat – no additional height for long term settlement has been stated or allowed for if a non-piled foundation is adopted.
- The DCO analysis sections of the adaptive defence level of 14.2m do not appear to include rock armour above 10.2m - it will fail when wave heights exceed 10.2m. The DCO documentation indicates such events are expected to occur.
- The toe depth of the HCDF has been inadequately assessed in the DCO documentation – only the 2018 'Best from the East' storm wave heights has been modelled to determine toe erosion and not future wave heights. In my view the HCDF toe is of inadequate depth, as with Jacobs 2017 design. ESC coastal forum [redacted] at Key issue #2 concurs. Adequate toe depth is crucial to avoid catastrophic failure.
- The relationship between design life and return period events does not meet minimum UK/international design standards for defences with assets behind i.e. a maximum 5% probability of event exceedance. For Sizewell C HCDF design life a 4000 year storm event provides equivalence – this has not been modelled.
- The DCO documentation shows a 'soft' cover to the HCDF rock armour. Whilst not detailed a very heavy duty non-biodegradable geotextile has to be laid on the rock or the soft cover will be lost into the armour. Significant adverse impacts of the inevitable loss of geotextile to sea when the soft cover is washed away, as predicted by the DCO documentation, has not been considered.
- The impact of concave defence alignment between the BLF access road and main access road on wave heights amplification and thereby overtopping is not presented.

In my view examiners should engage a coastal engineering expert to review the DCO HCDF.

Northern Park and Ride

The drainage is proposed to be infiltration into underlying geology. The DCO geotechnical

reports state the site is underlain by Lowestoft Till. Those reports state it is ‘boulder clay’ or sand and gravel. The latter least likely. The FRA has assumed sand and gravel with no consideration of clay. This is a fundamental error invalidating the FRA findings and the drainage design.

KInd regards,

Robin Sanders