

# **Alternative Solution**

## **Engineering And Ecological Perspective**

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# **EAS involvement**

**EAS involved on instruction of Alan Edgar and Nigel Newton since 2003**

**Including:**

- **Review of flood bank condition**
- **Preparation of engineering proposal to raise banks by 300mm**
- **Assessment of ecological impact of proposal**
- **Assessment of flood risk impact of proposal**
- **General advice on alternative river alignments and saltmarsh regeneration**

## Flood Banks - Background

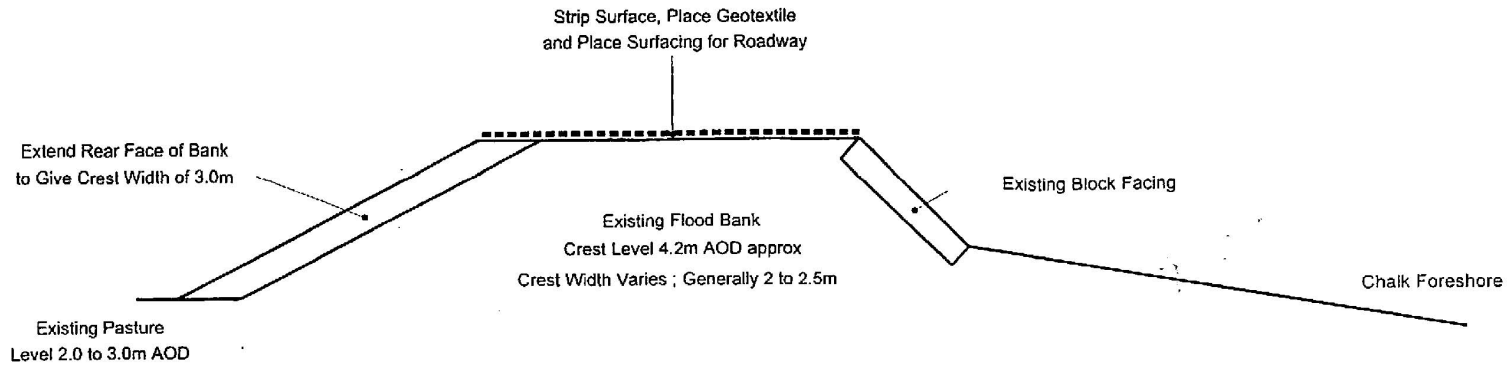
- Predicted 312mm sea level rise in 50 years  
(Ref PPS25 YEAR 2000 base)
- High ecological value of lower Cuckmere
- High social value of lower Cuckmere
- Uncertainties attached to remedial schemes

### Conclusion

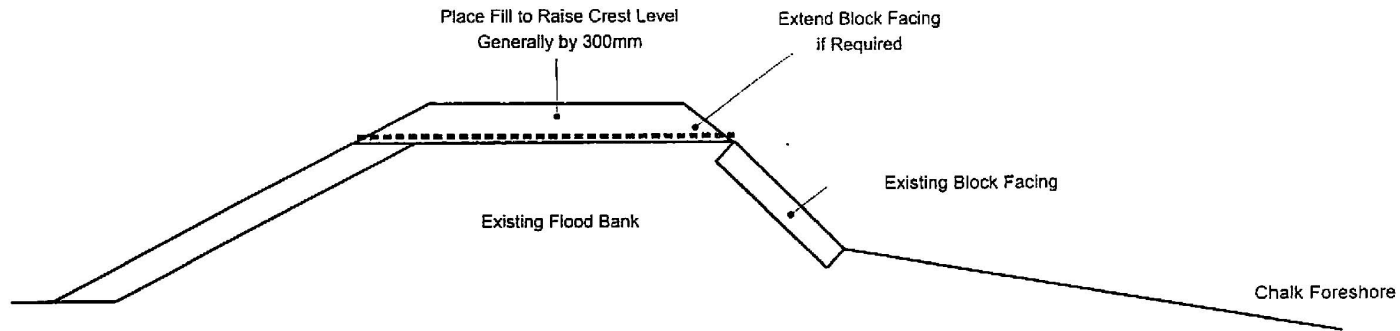
- Status-quo solution for short / medium term

# Flood Banks - Proposal

- Existing banks inspected and considered basically sound but requiring maintenance in places
- Propose to raise banks by 300mm and widen to preserve crest width
- Materials similar to existing
- Path along crest to improve access
- Construction methodology to minimise impact



CONSTRUCTION STAGE 1



CONSTRUCTION STAGE 2

FLOOD BANK RAISING - CUCKMERE RIVER  
TYPICAL CROSS SECTIONS  
CONSTRUCTION TYPE 1



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# **Flood Banks – Impact – Ecological**

**Desktop studies carried out to assess ecological impact of proposal**

- **Ecological base line.**
  - **Important habitats and features identified**
- **Scoping study to identify likely impacts from proposal**
  - **Principal impacts during construction**
  - **Natural regeneration following construction likely to be rapid**
- **Proposals for ecological management and mitigation**

## Flood Banks – Impact – Flooding

- Potential risk of increased flooding upstream investigated
- Reference to and data from earlier bbv study for ea
- River modelled using dhi mike11 hydrodynamic numerical model
- Model compared flooding from existing and proposed banks

### Conclusions

- Extreme levels at alfriston not affected by proposal
- Extreme levels in river opposite litlington raised by 10mm at top of tide but insufficient to affect property. **LEVELS MAY BE RAISED BY UP TO 60mm IF EXISTING BANKS ALLOWED TO FAIL**

Flood risk assessment to pps25 prepared in support of planning application

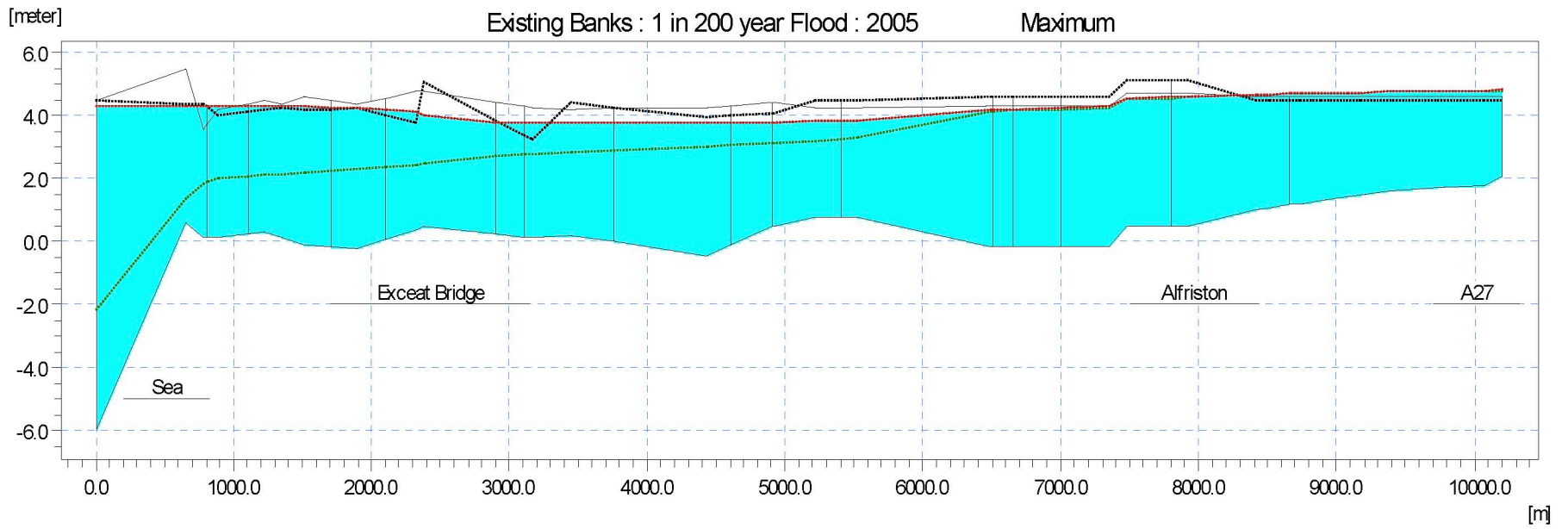


FIGURE B1

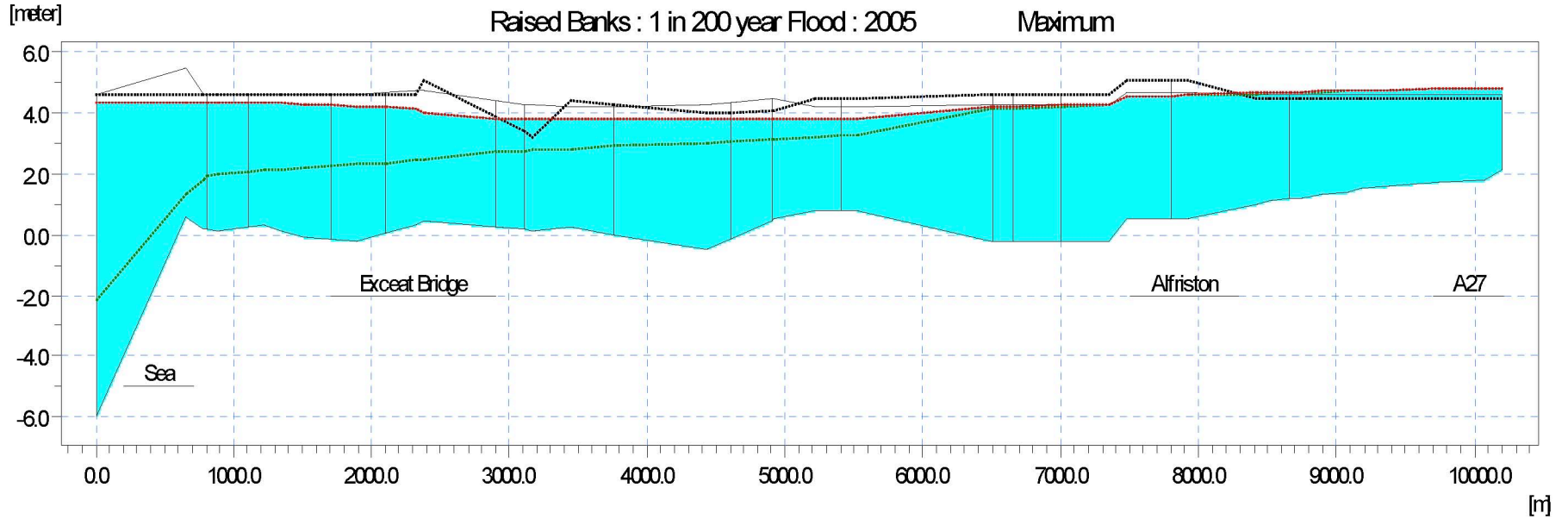


FIGURE B2



# Issues Beyond Proposal

Status-quo proposal has limited life (up to 50 years)

Permanent solution will need to address:

- Flows in natural river – flooding upstream
- Stability of entrance
- Source of sediment to provide warping-up for saltmarsh
- Protection of a259
- Protection of existing accesses and uses

## Conclusion

- Lower Cuckmere valley is of high ecological and social value
- Existing features threatened by rising sea levels
- Various schemes have been proposed but uncertainties have been identified
- Precautionary principal indicates that no irreversable steps should be taken until uncertainties are eliminated / minimised

### Conclusion

- Carry out proposal to preserve existing features until all uncertainties have been fully addressed and resolved.