

**Broadland Flood Alleviation Project:  
Planning Application for Compartment 20  
(Langley Marshes)**  
Report by Senior Waterways and Recreation Officer

**Summary:** This report provides members with a summary of BESL's planning application proposals for Compartment 20 (Langley Marshes) on the true right bank of the River Yare. The report also outlines officers' comments on the planning application upon which members comments are welcomed.

## **1 Background**

- 1.1 Compartment 20 is located on the true right bank of the River Yare between Langley Dyke and Hardley Dyke. The compartment is protected by 5.1km of defences which are a combination of earth floodbanks and short sections of concrete wall and crest piling. Erosion protection in the Compartment is provided by reeded rond, sections of steel and timber piling and gabion baskets.
- 1.2 The majority of the land in the Compartment is used as grazing marsh although one property called the Round House and the recently renovated Hardley Windmill are situated adjacent to the river wall.
- 1.3 Significant mooring also takes place in the Compartment with private long stay moorings at both Langley and Hardley Dykes and a visitor mooring at the Hardley Windmill. In addition there is a Broads Authority 24-hour mooring at the head of Langley Dyke.
- 1.4 Recreational access is also important in this Compartment as the Wherryman's Way long distance footpath runs along the floodbank for the entire length of the Compartment.

## **2 Need for Flood Defence Improvements**

- 2.1 As in most Broadland Flood Defence compartments the effectiveness of the flood defences in Compartment 20 have reduced over time due to the combined effects of bank settlement and deterioration of piling.
- 2.2 BESL has assessed the condition of the banks as being 0.5% good, 42% average and 57.5% poor. Crest widths vary with 87% of the bank being less than 2.0m wide. Although some maintenance schemes were carried out in the Compartment between 2001 and 2008, which included crest raising and leak repairs, officers accept that there is now a need for a comprehensive scheme to deal with ongoing settlement of the banks in the compartment.

- 2.3 Erosion protection in the compartment comprises 79% rond, 1% gabions and 20% piling. Of the total length of piling 9% is timber and 81% is steel. The piling varies in condition with the timber piles having an estimated residual life of between 5 and 20 years and steel piling between 1 and 20 years.

### 3 BESL's Proposals for Compartment 20

- 3.1 BESL's proposals for Compartment 20 are summarised in table 1 and shown in detail on the plan at appendix 1.

Table 1

Proposed Works	Length (m)
Strengthen floodbank	4184
Rollback floodbank	553
Maintain existing floodbank	107
Maintain piling	459
Remove piling (retained short-term)	573
Retain Piling (Round House)	57
Install erosion protection	405
Repair concrete floodwall	188
Maintain erosion protection	167
New crest piling (junction with Compartment 21 to tie in defences)	10
Install ramp and refurbish Hardley Dyke slipway	n/a

- 3.2 In the main BESL's proposals for Compartment 20 are to strengthen the existing floodwall. Officers consider that these works will have little or no affect on the navigation.
- 3.3 Floodbank rollback and the eventual removal of 553m of piling is proposed for the area immediately downstream of the mouth of Langley Dyke. The piling in this location is in poor condition and not suitable for mooring purposes as it is deteriorating in condition, regularly overtops at high water and is marked as a navigation hazard. Officers accept that rollback and piling removal is the most appropriate solution for this location.

- 3.4 Piling removal is normally programmed to take place after the main bank earth works have been completed and established to BESL's satisfaction. This would normally require a further planning application as the Environment Agency's permitted development rights for piling removal were removed at the start of the Broadland Flood Alleviation Project in 2001. However, since that time BESL has agreed a piling removal methodology and monitoring protocol with the Broads Authority and in this case officers would not object to planning permission being granted for the proposed piling removal in Compartment 20 in this application provided that the timing of works, methodology, channel marking and post piling removal erosion monitoring is covered by appropriate planning conditions.
- 3.5 The majority of the mooring in the Compartment takes place in Langley and Hardley Dykes. In Hardley Dyke mooring takes place against jetties and this will be unaffected by the proposed works although the installation of some erosion protection is proposed. In Langley Dyke mooring takes place against a piled edge. The majority of the mooring in Langley Dyke is private long stay although there is an important Broads Authority 24-hour mooring at the head of the dyke. BESL is proposing to maintain the majority of the piling in Langley Dyke, including the Broads Authority section, and officers therefore consider that the proposed works will have no adverse effect on the navigation in these areas.

#### **4 Benefits of the Planning Application**

- 4.1 The proposed bank works will result in significant improvements to the condition of the public footpath which runs the entire length of the Compartment. As mentioned in paragraph 2.2 the crest width of the floodbank in the compartment is extremely narrow in places and steep sided. After the bank strengthening works proposed in this planning application have been carried out the footpath will be at least 2.0m wide and level for its entire length. As the path is part of the route of the Wherryman's Way long distance path officers consider this to be of significant benefit.
- 4.2 Additionally consultation responses from the Broads Authority and Hardley 100 Club mentioned the potential for a slipway enhancement in Hardley Dyke where the reinstatement of a previously existing slipway would deliver benefits for small boat access to this reach of the River Yare. BESL has included the reinstatement of the slipway in the planning application and officers welcome this.

#### **5 Conclusions**

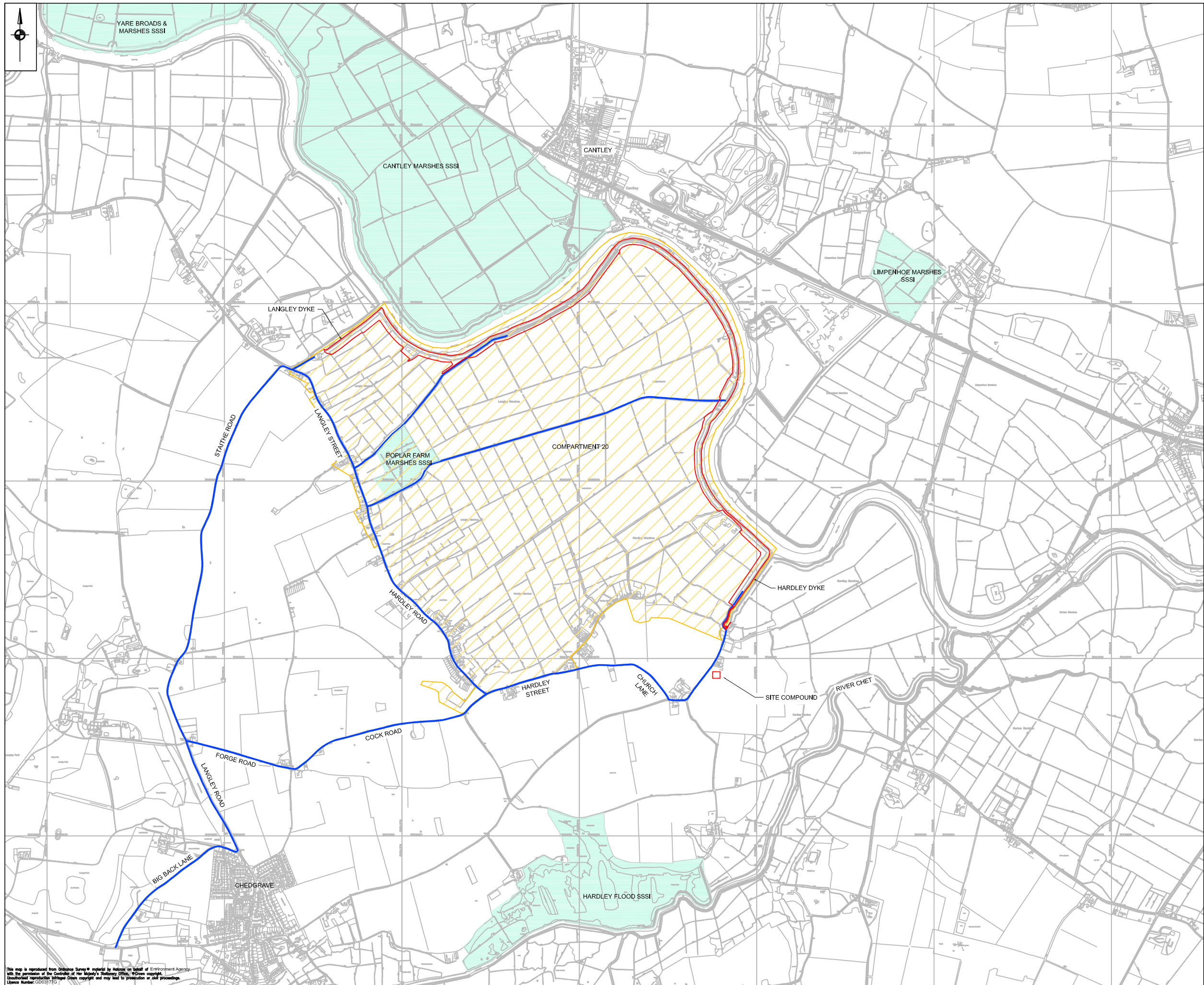
- 5.1 Provided that the appropriate specifications are agreed for piling, erosion protection, erosion monitoring, channel marking and timing of works, officers consider that the flood defence works proposed in the planning application will have a limited effect on the navigation.





5.2 Officers also welcome the considerable benefits regarding countryside access and the proposed slipway enhancement and consider that no objections should be raised to the flood defence works proposed in the application.

Background papers: Nil

Author: Adrian Clarke  
Date of report: 9 February 2012

Appendices: APPENDIX 1 – Compartment 20 planning application drawings.



- Key:**
-  COMPARTMENT EXTENT
  -  ACCESS ROUTES
  -  PLANNING APPLICATION BOUNDARY
  -  SSSI

- List of drawings:**
- 001 - SITE LOCATION PLAN
  - 002 - KEY PLAN
  - 003 - DETAILED PLAN AND SECTIONS - 1 OF 3
  - 004 - DETAILED PLANS AND SECTIONS - 2 OF 3
  - 005 - DETAILED PLANS AND SECTIONS - 3 OF 3
  - 006 - DETAILED PLAN AND SECTIONS COMPARTMENT 21 WORKS

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 3rd Floor Grosvenor House, 112-114 Prince of Wales Road, Norwich, NR1 1NS  
 Tel 01603 226161

**Halcrow Group Limited**  
 Third Floor, Grosvenor House, 112-114 Prince of Wales Road, Norwich, Norfolk, NR1 1NS  
 Tel. 44 (0)1603 226161  
 halcrow@bannmull.co.uk  
 www.halcrow.com



**Project:** BROADLAND FLOOD ALLEVIATION PROJECT

**Drawing:** COMPARTMENT 20  
RIVER YARE  
LANGLEY MARSHES  
LOCATION PLAN

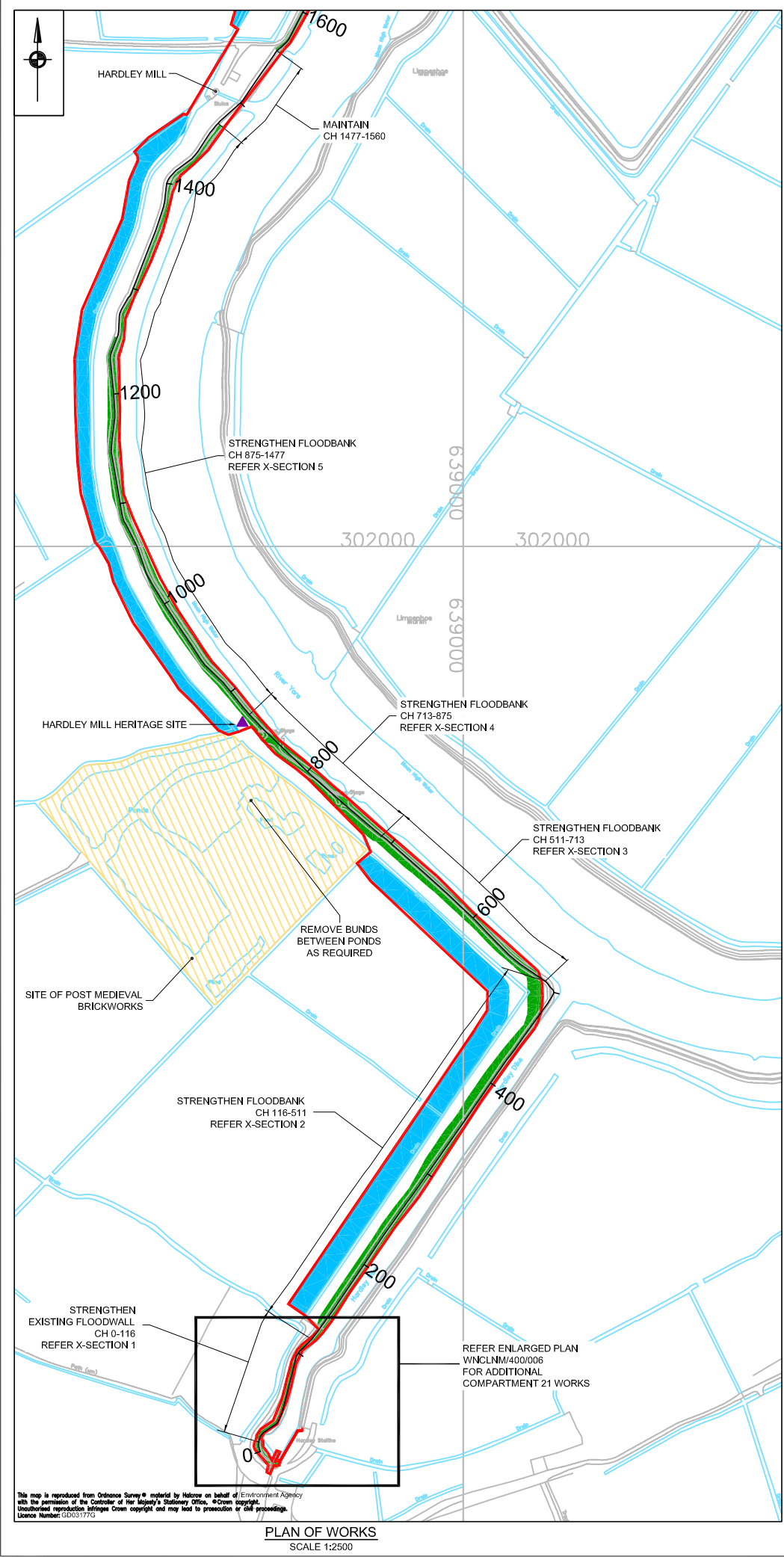
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 Checked by: H. HUSBANDS Date: 14/12/11  
 Approved by: K. MARSH Date: 14/12/11

Drawing No.	Revision
WNCLNM/400/001	0

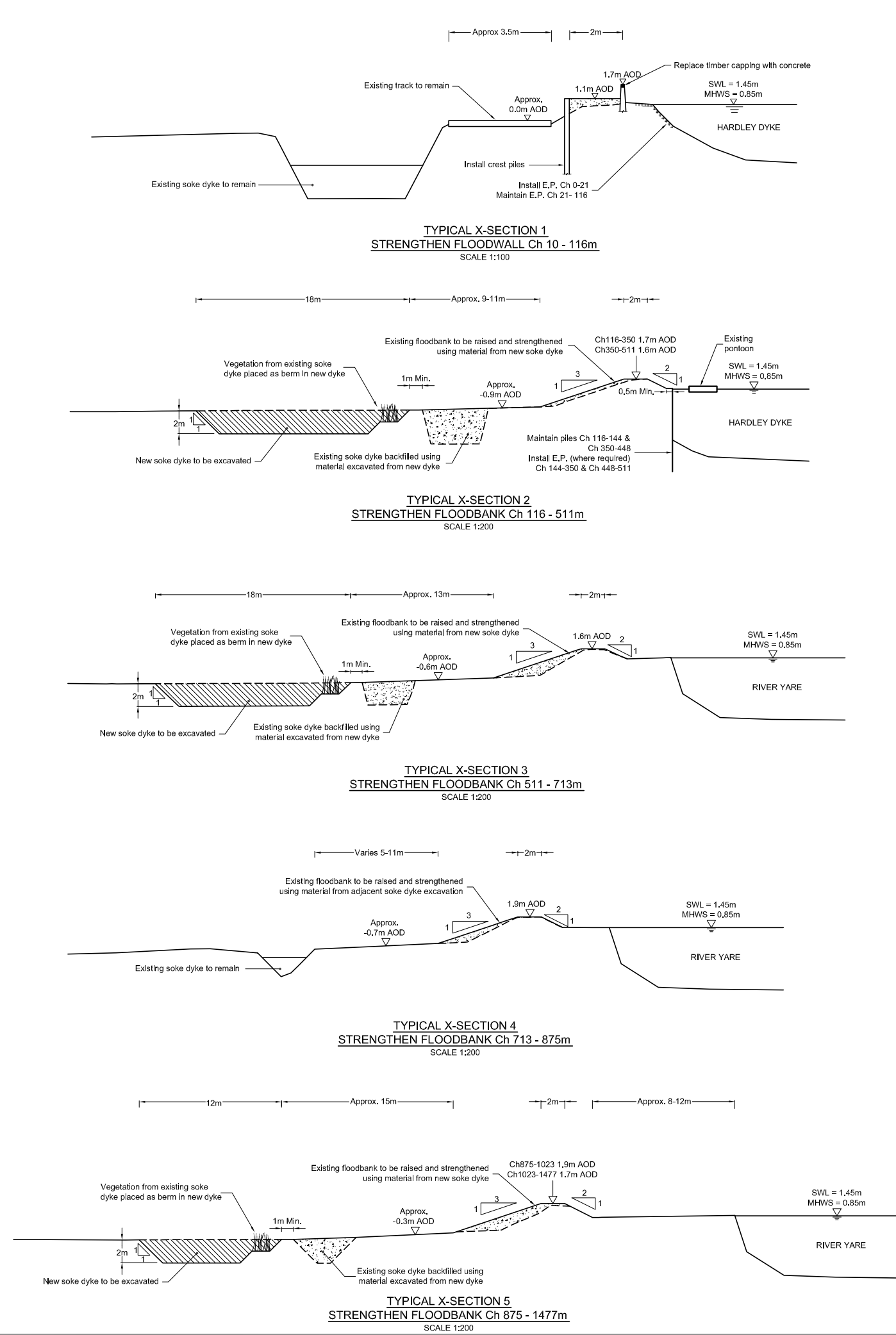
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- Key:**
- PROPOSED STRENGTHENING
  - PROPOSED NEW/WIDENED SOKE DYKE
  - BUILT HERITAGE FEATURE
  - PLANNING APPLICATION BOUNDARY

- Notes:**
1. NO DIMENSIONS TO BE SCALED FROM THIS DRAWING.
  2. ALL DIMENSIONS IN MILLIMETRES UNLESS NOTED OTHERWISE.
  3. ALL LEVELS IN METRES ABOVE ORDNANCE DATUM.
  4. ALONG HARDLEY DYKE BANK STRENGTHENING NOT TO DISTURB MOORING PLATFORMS.
  5. BLUE BILLY IN BANK ON HARDLEY DYKE.

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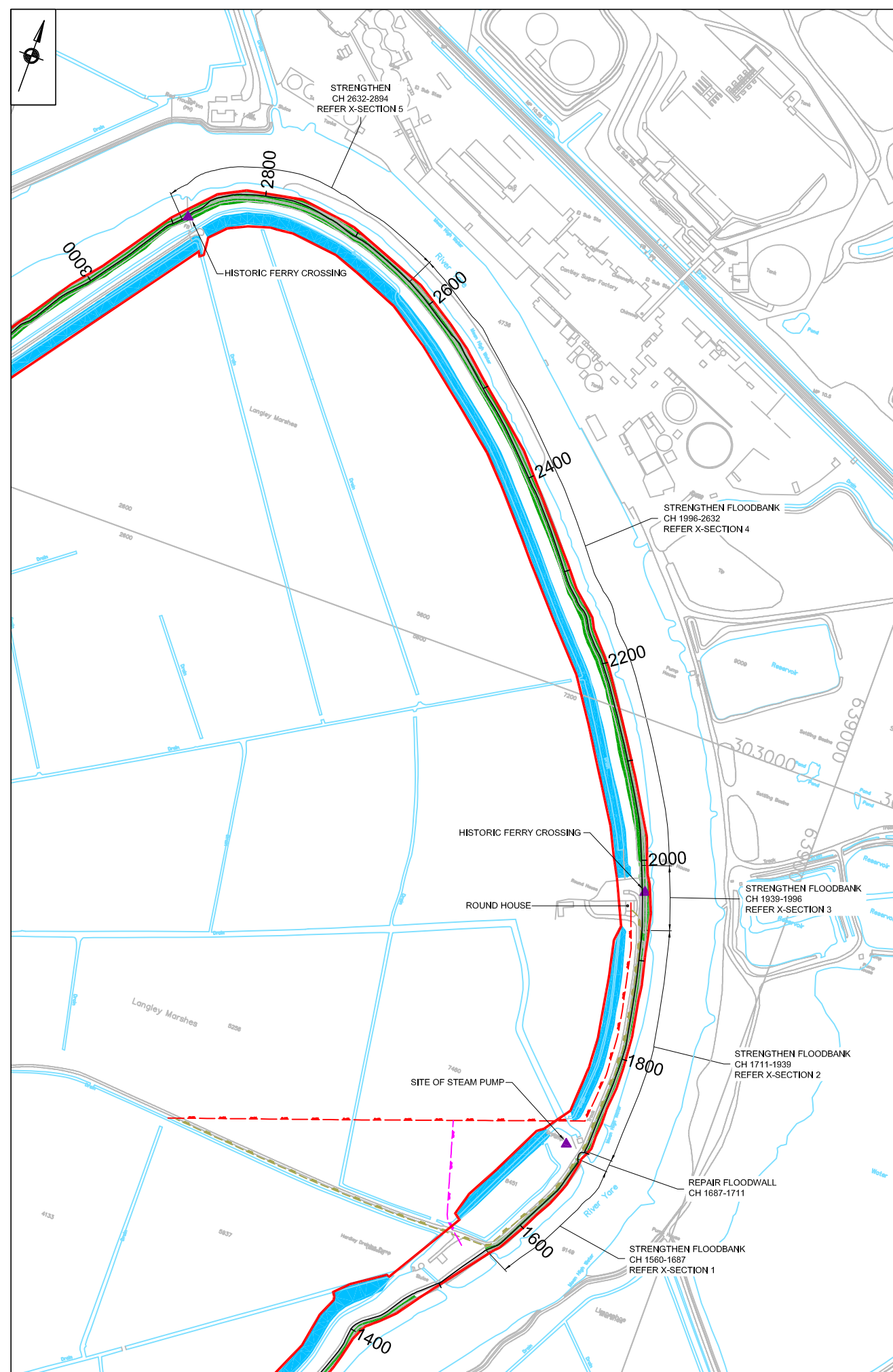
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Drawing: **COMPARTMENT 20 RIVER YARE DETAILED PLAN AND SECTIONS 1 OF 3**

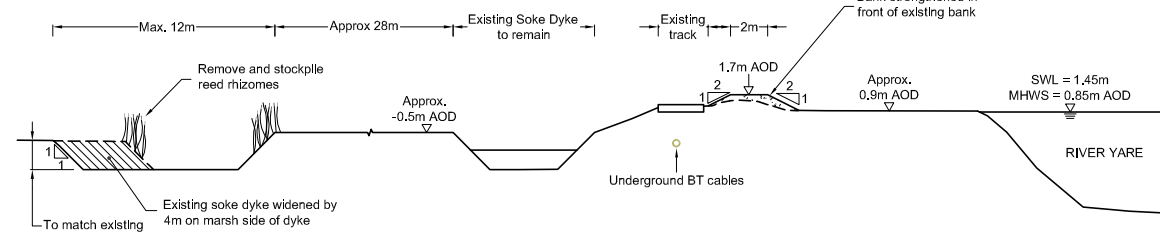
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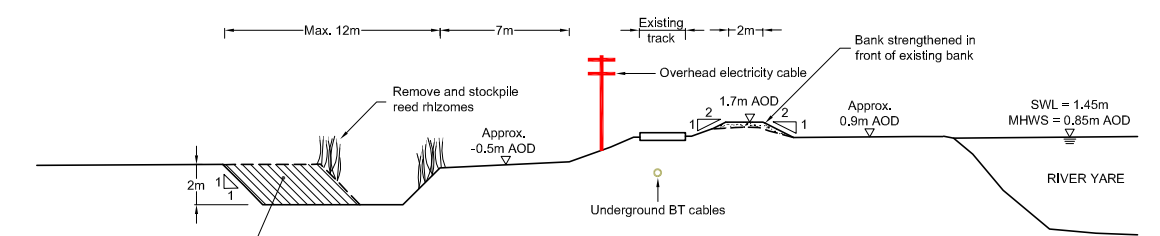
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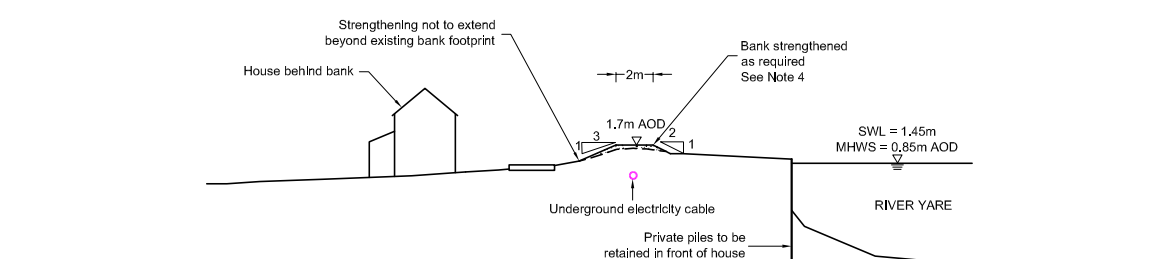
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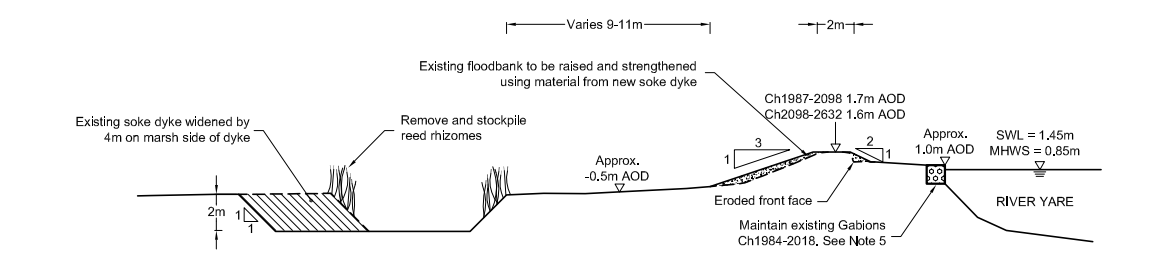
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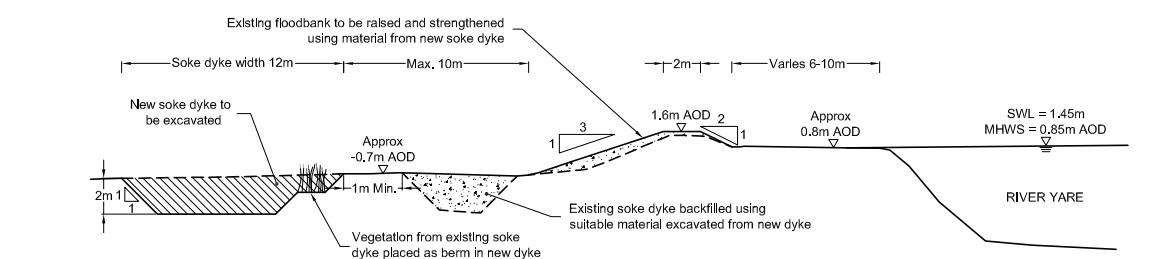
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TYPICAL X-SECTION 3  
STRENGTHEN Ch 1939 - 1996m  
SCALE 1:200



TYPICAL X-SECTION 4  
STRENGTHEN Ch 1996 - 2632m  
SCALE 1:200



TYPICAL X-SECTION 5  
STRENGTHEN Ch 2632 - 2894m  
SCALE 1:200

- Key:
- PROPOSED STRENGTHENING
  - PROPOSED NEW/WIDENED SOKE DYKE
  - OVERHEAD ELECTRICITY CABLES
  - UNDERGROUND ELECTRICITY CABLES
  - UNDERGROUND BT CABLES
  - BUILT HERITAGE FEATURE
  - PLANNING APPLICATION BOUNDARY

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  3. ALL LEVELS IN METRES ABOVE ORDNANCE DATUM.
  4. IN FRONT OF HOUSE - TREES TO BE LEFT, STEPS ETC TO BE REINSTATED IF AFFECTED BY WORKS
  5. GABIONS TO BE REFILLED WITH STONE AND MATTING ON TOP TO BE REPLACED
  6. EXISTING PIPED CROSSINGS TO BE EXTENDED AND GATES RE-INSTALLED

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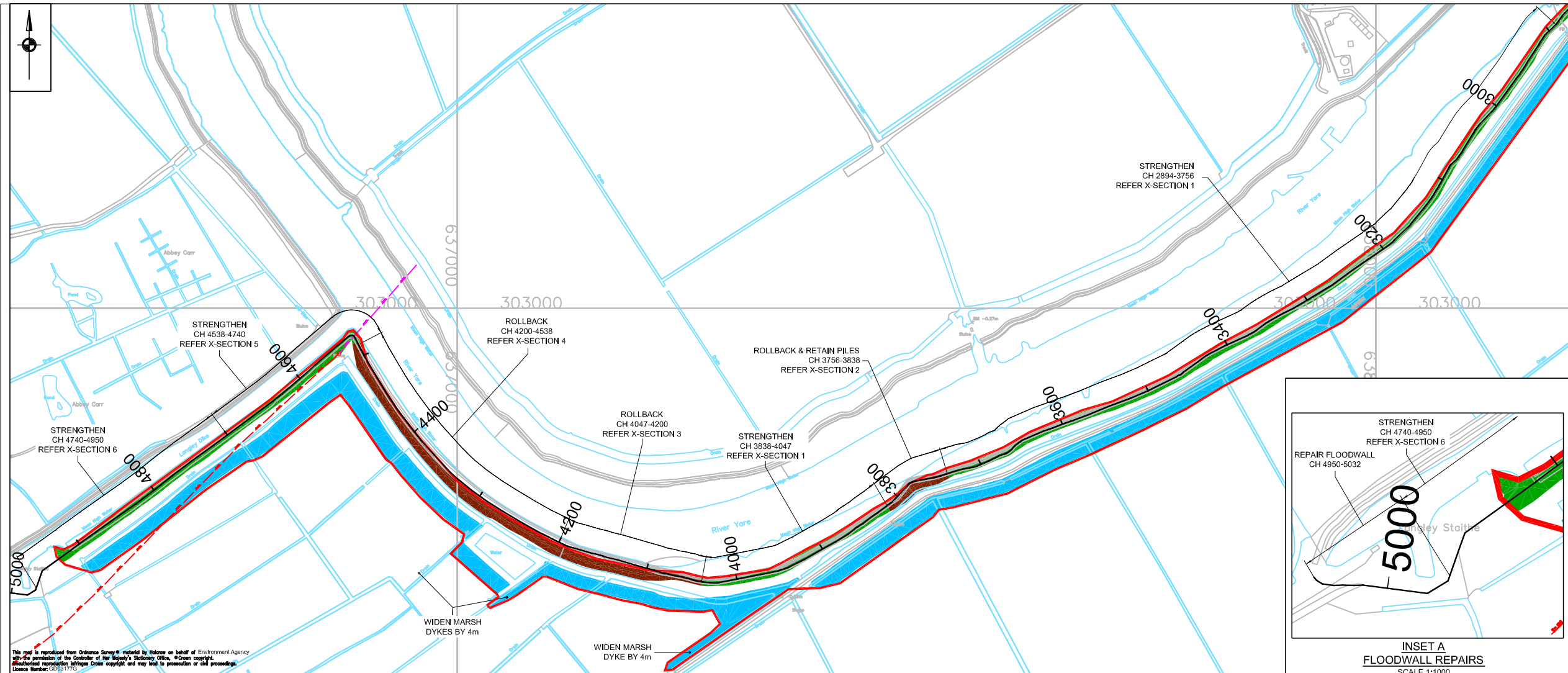
Project: **BROADLAND FLOOD ALLEVIATION PROJECT**

Drawing: **COMPARTMENT 20  
RIVER YARE  
DETAILED PLAN AND SECTIONS  
2 OF 3**

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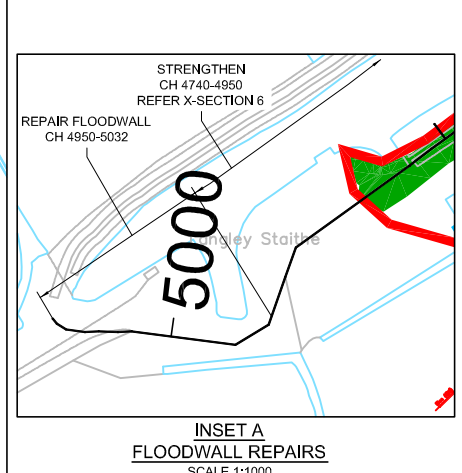
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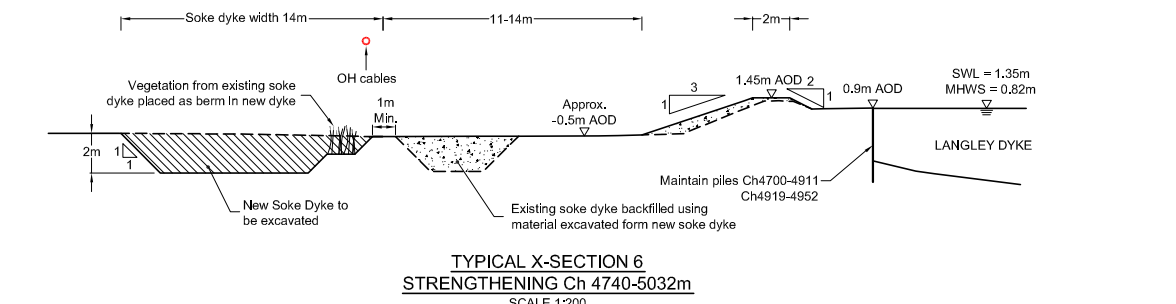
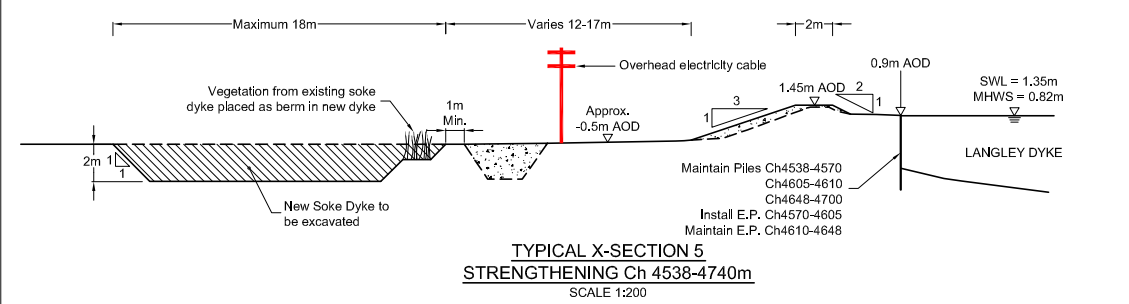
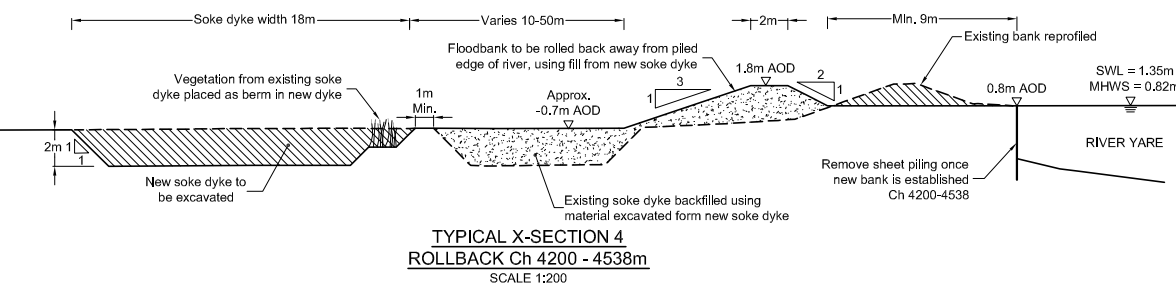
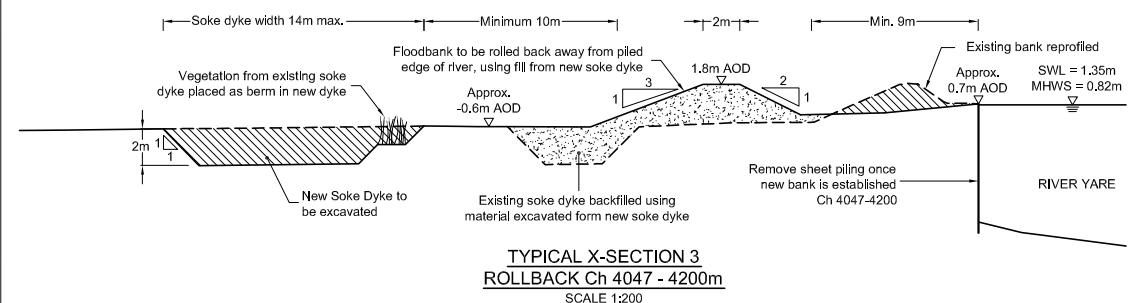
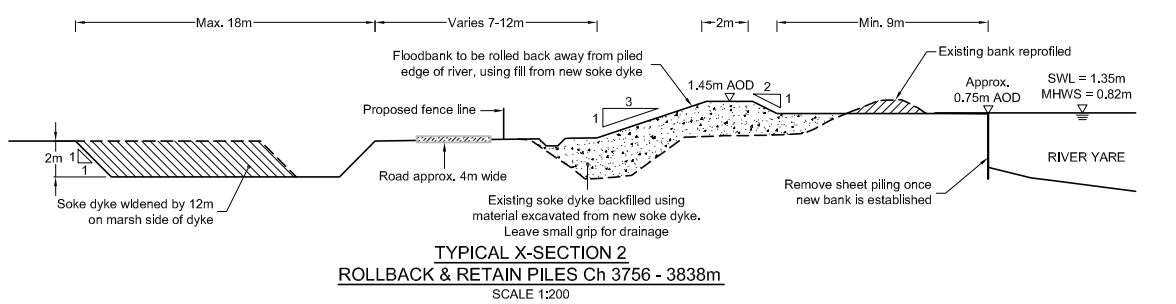
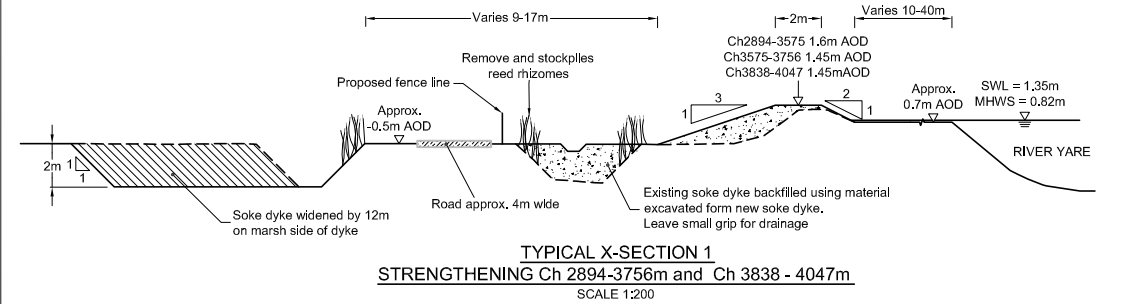


- Key:**
- PROPOSED STRENGTHENING
  - PROPOSED ROLLBACK BANK
  - PROPOSED NEW/WIDENED SOKE DYKE
  - OVERHEAD ELECTRICITY CABLES
  - UNDERGROUND ELECTRICITY CABLES
  - PLANNING APPLICATION BOUNDARY

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  4. EXISTING PIPED CROSSINGS TO BE EXTENDED AND GATES RE-INSTALLED.
  5. BLUE BILLY IN BANK ON LANGLEY DYKE.
  6. OVERHEAD ELECTRICITY CABLE TO BE UNDERGROUNDED PRIOR TO WORKS COMMENCEMENT.



**PLAN OF WORKS**  
SCALE 1:2500



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Tel 01603 226161

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Third Floor, Grosvenor House, 112-114 Prince of Wales Road, Norwich, Norfolk, NR1 1NS  
Tel. 44 (0)1603 226161 Fax. 44 (0)1603 631505  
halcrow@barrattmull.com  
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**BROADLAND FLOOD ALLEVIATION PROJECT**

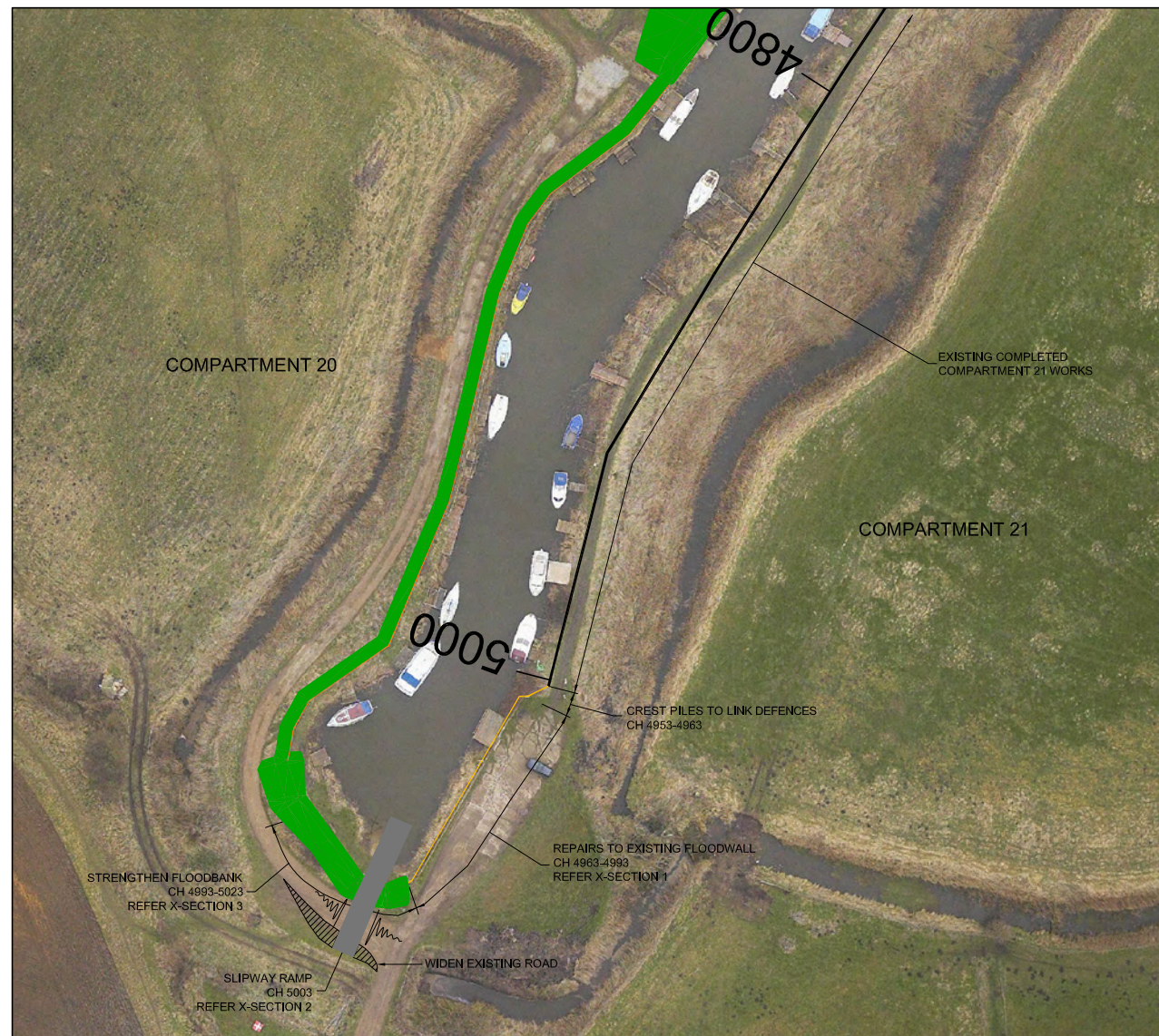
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**DETAILED PLAN AND SECTIONS**  
**3 OF 3**

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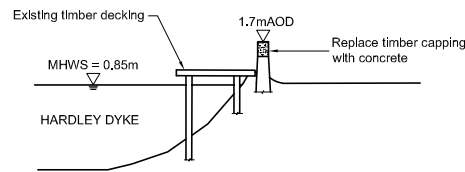


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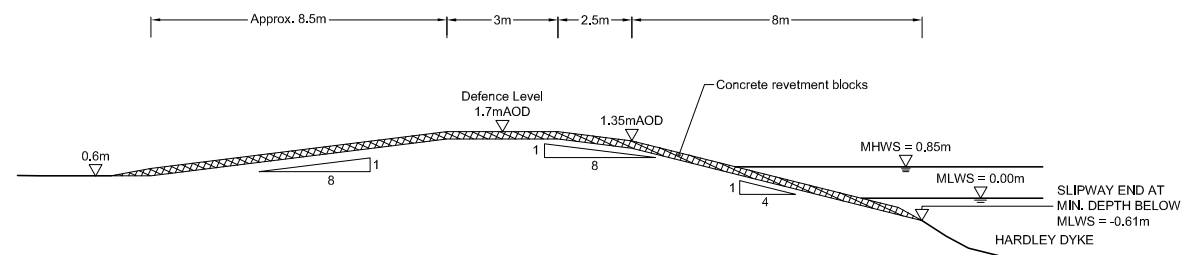
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- PROPOSED STRENGTHENING
  - RENOVATED EXISTING SLIPWAY
  - STRENGTHEN EXISTING FLOODWALL (37m)

- Notes:**
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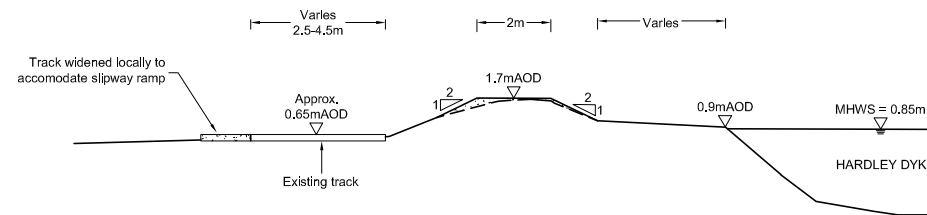
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**TYPICAL X-SECTION 1**  
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SCALE 1:100



**TYPICAL X-SECTION 2**  
**SLIPWAY CH 5003**  
SCALE 1:100



**TYPICAL X-SECTION 3**  
**STRENGTHEN FLOODBANK CH 4993-5023**  
SCALE 1:100

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**Project**  
BROADLAND FLOOD ALLEVIATION PROJECT

**Drawing**  
COMPARTMENT 20  
HARDLEY DYKE  
REPAIR WORK TO EXISTING  
COMPARTMENT 21 DEFENCES AND  
PROPOSED SLIPWAY DETAIL

Drawn by: L MERSEY Date: 14/12/11  
Checked by: H HUSBANDS Date: 14/12/11  
Approved by: K MARSH Date: 14/12/11

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