


CDM Designers Risk Assessment P04		Date:	14/01/202
Project: Code: Assessment Coverage:	<i>Drwgs:</i> 02595_001 – 011_P04	Participating Designers:	

1. Background

Natural England (NE) is seeking to deliver the restoration of Hoveton Great Broad and Hudson’s Bay. The site forms part of the Bure Broad & Marshes Site of Special Scientific Interest (SSSI), the Broadland Special Protection Area (SPA), the Broadlands Special Area of Conservation (SAC), Broadland Ramsar Site and part of the Bure Marshes National Nature Reserve. Under the Water Framework Directive, they are currently classified as having poor ecological status and the SSSI status of the broads is unfavourable.

In essence, fish barriers are formed by housing removable screens in vertical frames, which are slotted into fixed guide rails off propped cantilevered piles.

2. Key risk reduction measures

- Use of prefabrication and modularisation to minimise complexity.
- All works designed to mitigate the need for cofferdams.

3. Significant residual risks


- Dealing with water levels in the Hoveton Broad.
- Remote access of the fish barrier locations.
- The need for full barge / pontoon working.
- The bed is underlain with very soft silts and a significant depth of peat.

4. Specific construction requirements


The accompanying design report & detailed drawings referenced set out the specific construction requirements.

Assessed by: M. Lakin CEng MICE MIMStructE


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Item no.	Nature of risk	Level of risk	Rag list reference	Designers measures to mitigate risk	Level of risk	Rag list reference	Residual Hazard
Construction							
D1	Fabrication of the screens – risk to operatives of cutting and welding excessive amounts of metal work - associated manual handling and lifting hazards.			The complexity and fabrication requirements have been minimised, as is reasonably possible, by using standard member section forms & plate sizes to minimise cutting & welding requirements, and by using repetitive & simplified connections to ease assembly. Pre-manufactured wedge wire screens are incorporated within the screens.			
C1	Managing water levels in Hoveton Broad	High		EA flood warnings, which should be monitored by the Contractor. Note that the Broad is also tidal. Contractor to define safe access routes for plant, equipment, materials, and construction operatives. A flooding evacuation plan, in the event of overland floodplain flow, should identify where plant & machinery may be temporarily stored.	Low		No
C2	Managing flows	High		The structures are designed, as reasonably possible, with prefabricated elements to minimise on site in situ works, without the need for cofferdams. The downside to this is the requirement for a greater amount prefabrication than would otherwise be the case.	Low		No
C3	Risk of falls from height	Medium		The works will need to be undertaken by pontoon or barge. The Contractor will need to ensure that guard railing is provided. The height of fall from height is relatively small and the broad water depth ca. 1.6m. The bed however may be very soft and a risk to those attempting to walk through it.	Low		No
C4	Lifting	High		A barge-mounted crane will be required. The universal bearing piles are approximately 1.4 tonnes each and pile driving hammer may be approximately 3 tonnes. The largest gate is 325t for the Dam. The others are reduced to twin 2m gates, max. 200kg. The Contractor	Low		No

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				will need to prepare a safe system of working and select the crane size to suit his preferred set up position.			
C5	Interface with the public	High		The site compound area is located near a public open space footpath. The Contractor will need to position suitable fencing (e.g., Herras fencing) & signage to exclude the public from the works and to define temporary access.	Low		Yes
C6	Services damage resulting in injury to operator.	High		Service utility information is required. The Contractor will need to check for services on site prior to commencement of works.	Low		No
C7	Stability of excavations for structures	High		The depth of bankside excavations has been minimised.	Low		No
C8	Access to and over site.			<p>Vehicular access is available to a site compound at Hoveton Marshes. However, boated access is required to the barriers at Foxborrow and the Dam. A pontoon or barge, will be required, may need to be brought to site from upstream. The Contractor will need to investigate such facilities (e.g., size, lift & weight restrictions, availability, access route and mooring points on site & off site).</p> <p>A dining team may be required to support the gate and screen guide rail installation teams.</p> <p>Careful consideration of the location of welfare facilities will be required.</p>			
C9	Installation - use of toxic or hazardous chemicals - resin anchor products and or grouts could be harmful to operatives and the environment.	Medium		Concrete and epoxys have not been specified in the design.	Low		No
C10	Installation - drilling of holding down bolts into concrete apron - risk of	Medium		All fixings use set screw bolts and coach screws.	Low		No

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	operatives experiencing hand arm vibration.			The Contractor will need to prepare a safe system of working, which will involve limiting the no. and frequency of drilling operations carried out by site operatives.			
Operation							
None identified							

Maintenance							
O1	Access for cleaning clearance	Medium		<p>Boated access will be required to all three barrier locations, by boat, with max beam of <2m, typically a Marine 16 pram type for large load capacity.</p> <p>In the absence of a boardwalk at each barrier, screens will need to be lifted for cleaning purposes from the boat. A two-man lift will be required: The max. screen weights are 22kg but are up to 1.6m long. Handles are provided to assist lifting operations.</p> <p>The screens are formed in stainless steel vertical wedge wire to assist and minimise cleaning requirements.</p> <p>The assembled trap with fyke + screen is approximately 46kg in stainless steel for strength. A two- or three-man team will be required to lift these units in and out.</p>	Low		No
O2	Unauthorised access			The remote location of the barriers makes unauthorised access unlikely.			