

OTLEY FLOOD ALLEVIATION SCHEME



PUBLIC DROP IN MATERIAL FOR 28ST FEBRUARY 2019 EVENT

Following feedback from residents the material for the Public Drop In event on 28th February 2019 is being shared ahead of the event. We would like the opportunity to discuss this material with you in person, if you have any questions we will be more than happy to answer these on the 28th February. Alternatively, you can contact the project team at FRM@leeds.gov.uk (Please include 'Otley FAS' in the subject).

Contents:

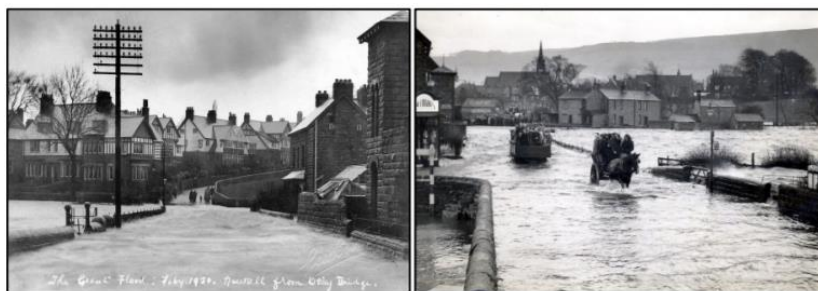
- Scheme History and Update
- General Arrangement Drawing
- Scheme Section and Artistic Impression
- Island Options Plan
- Programme of Works
- Feedback Sheet

Otley Flood Alleviation Scheme

HISTORY & BACKGROUND

Otley has a history of flooding dating back hundreds of years¹, with notable events occurring in 1920, 1935, 1961, 1982 and most recently in 2015. On 26th December 2015, over 50 residential properties were flooded. Most of the flooding was located on Farnley Lane and Bridge Avenue in the centre of Otley and resulted from the River Wharfe overtopping its banks.

So, in the Autumn Statement 2016, the Government announced that £2 million would be available to invest in a scheme to better protect homes and businesses from flooding.



Otley 1920

Otley 1935



Otley 1961

Otley 1982

Otley 2015

Figure 1: Images of historic flood events in Otley

Preferred Option

The preferred option has been identified as a flood embankment to the west of Billams Hill, running from Otley Bridge to Newall Mount property gardens, and management of the vegetation on the islands downstream of Otley Weir. The flood defence will provide a 1 in 25 year standard of protection.

The hydraulic modelling has shown that management of the vegetation on the islands downstream of Otley weir has significant flood risk benefits. The flood defence in isolation increases water levels in the River Wharfe, all of the vegetation management options presented in the Island Options Plan reduce river levels below the existing scenario. As such, one of these options will be required for the scheme to pass a flood risk assessment. **The Scheme will not increase flood risk elsewhere.**

¹ Strategic Flood Investigation Report (Section 19), Leeds City Council, 2017

Otley Flood Alleviation Scheme

Work undertaken since June 2018 Drop In Event

The Feasibility Study is now complete, work has commenced on the Outline design phase. This phase of work included the following activities:

- Environmental assessments have been undertaken which include: Ecological Impact Assessment, Heritage Assessment, Hydro-geomorphological Appraisal, Water Framework Directive Assessment, River Habitat and River Corridor Surveys and Arboriculture Impact Assessment.
- Landscape architects and ecologists have been supporting the engineering team to maximise the amenity value and ecological enhancements delivered by the scheme.
- A contractor has been engaged to support the development of the scheme and provide guidance on potential works in the construction phase and costs.
- The Economic Appraisal for the scheme is nearing completion, this appraisal will be used to support the Outline Business Case.
- The Hydraulic Modelling reporting is complete.
- Structures, geotechnical, drainage, highways, and utilities assessments have been completed, these disciplines will continue to feed into the preferred option design.

Next steps

- Finalising the outline design of the preferred option.
- Submission of the Outline Business Case.
- Submission of the Planning Application.
- Development of the detailed design of the scheme.

During this period, regular Drop In events will be held to keep the public and stakeholders informed. These will be advertised closer to the date.

Subject to obtaining the necessary approvals works are programmed to start on site in Spring 2020.



FLOOD WALL TO TIE INTO HIGH GROUND

FARNLEY LANE

BILLAMS HILL

GRASSED AREA WITH A SLIGHT GRADIENT SLOPING TOWARDS BILLAMS HILL

5m maintenance access strip

FLOOD EMBANKMENT

PROPOSED NEW KELL BECK ALIGNMENT

EXISTING PROW TO BE DIVERTED TO PROPOSED FOOTWAY

NEW ACCESS TO NORTHERN FIELD

PROPOSED DIVERSION OF EXISTING PROW

PROPOSED HIGHWAY ACCESS RAMP

5m maintenance access strip

WHARFEMEADOWS PARK

OTLEY BRIDGE

DRAFT FOR CONSULTATION

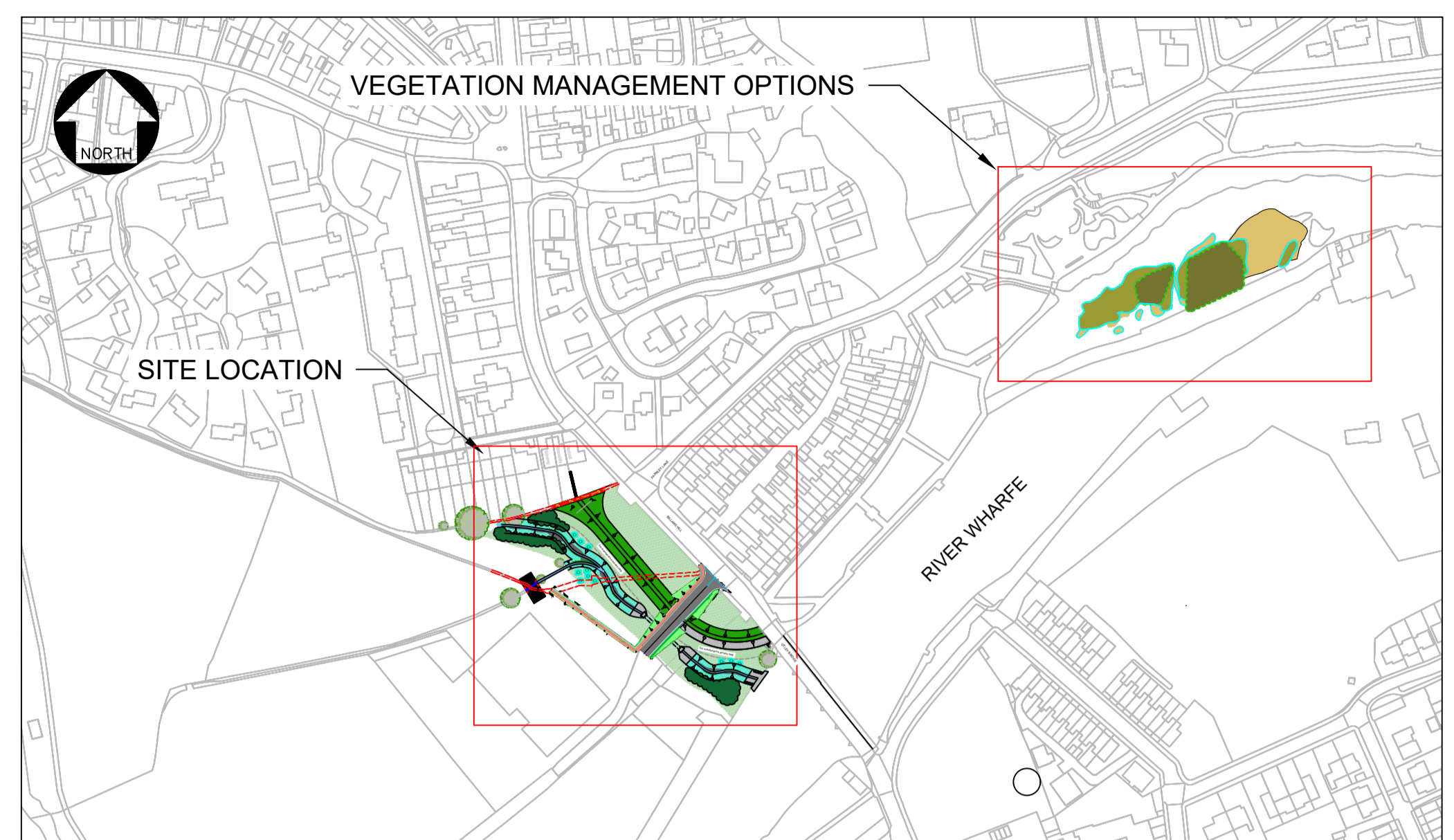
POTENTIAL NEED FOR ROCK ARMOUR EROSION PROTECTION

PROPOSED NEW KELL BECK ALIGNMENT

PROPOSED LOCATION FOR THE KELL BECK TO DISCHARGE INTO THE RIVER WHARFE

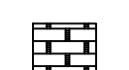

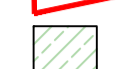
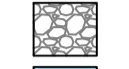
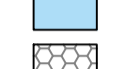
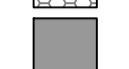
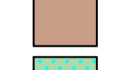
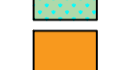

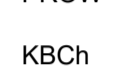









FLOW RIVER WHARFE

PLAN SCALE 1:250



LOCATION PLAN SCALE 1:2500

LEGEND

-  PROPOSED FLOODWALL
-  PROPOSED FLOOD EMBANKMENT
-  RAMP SLOPE DIRECTION
-  PROPOSED GRASSED AREA
-  PROPOSED ROCK ARMOUR
-  WATERCOURSE
-  ROCK MATTRESS
-  HIGHWAY RAMP TARMAC SURFACE
-  PROW DIVERSION
-  KELL BECK CHANNEL
-  PEDESTRIAN ACCESS RAMP
-  EXISTING FOOTPATH
-  PROW
-  PUBLIC RIGHT OF WAY
-  KBCh
-  FDCh
-  EXISTING TREE
-  PROPOSED NATIVE TREE
-  PROPOSED GROUP OF NATIVE TREE SPECIES

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S011	14/02/2019	PM	MINOR ALTERATIONS		
S01	25/01/2018	CAW	FOR COORDINATION		
REV	DATE	BY	DESCRIPTION	CHK	APP

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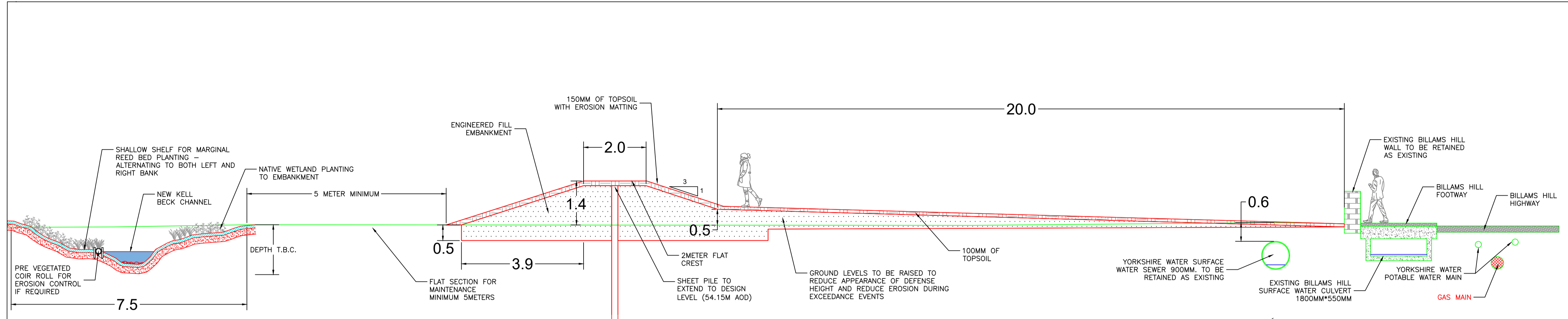
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wsp.com



CLIENT: OTLEY FLOOD ALLEVIATION SCHEME

TITLE: GENERAL ARRANGEMENT FOR PUBLIC CONSULTATION

SCALE @ A1:	AS SHOWN	CHECKED:	TJ	APPROVED:	PS
PROJECT NO:	70036954	DESIGNED:	JB	DATE:	FEB 19
DRAWING No:	70036954-WSP-EWE-OTLEY-DR-CE-101	DRAWN:	PM	REV:	S01.1



INDICATIVE CROSS SECTION

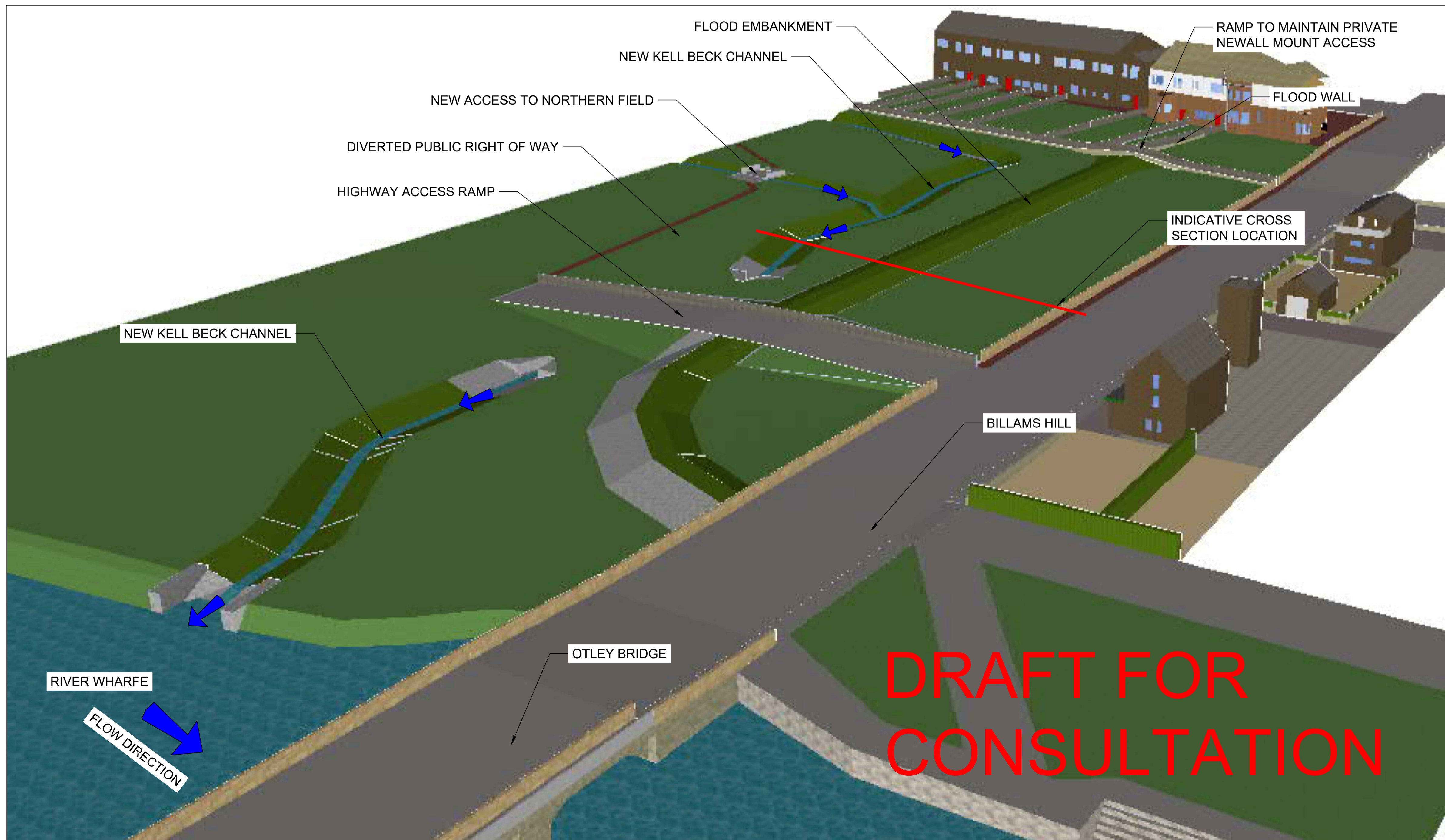
SCALE 1:75

NOTES:

1. ALL UNITS ARE IN METRES UNLESS OTHERWISE STATED

LEGEND

- XX.X— DIMENSION (METERS)
- EXISTING
- PROPOSED
- ENGINEERING FILL
- TOPSOIL WITH GRASSED SURFACE
- ➔ FLOW DIRECTION



ARTISTIC IMPRESSION

DRAFT FOR CONSULTATION

P01.2	20/02/2019	JB	FOR PUBLIC CONSULTATION	PS	PS
P01.1	14/02/2019	PM	ADDITION OF KELL BECK CROSS SECTION	JP	
REV	DATE	BY	DESCRIPTION	CHK	APP

DRAWING STATUS: DRAFT FOR PUBLIC CONSULTATION

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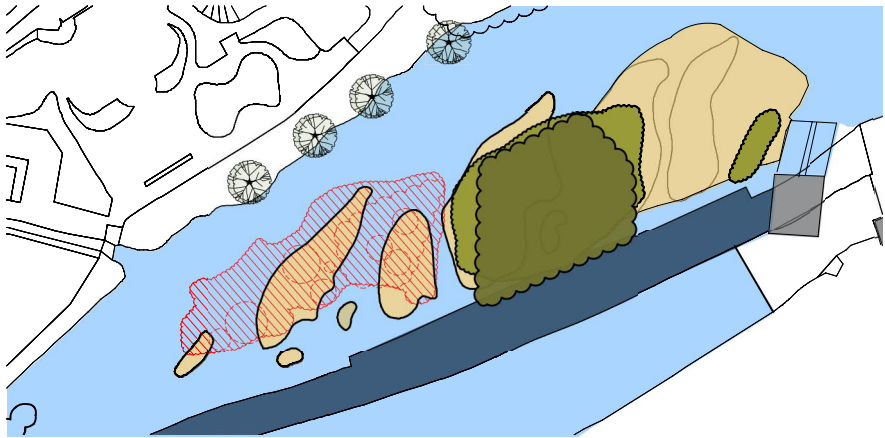
SITE/PROJECT: OTLEY FLOOD ALLEVIATION SCHEME

TITLE: PUBLIC CONSULTATION SECTION AND ARTISTIC IMPRESSION

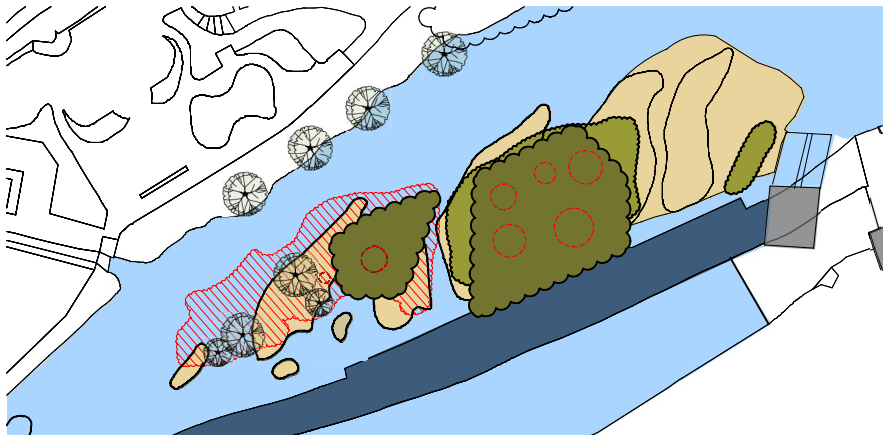
SCALE @ A1:	AS SHOWN	CHECKED:	TJ	APPROVED:	PS
PROJECT NO:	70036954	DESIGNED:	JB	DRAWN:	PHM
		DATE:	DEC 18		

DRAWING No:	70036954-WSP-EWE-OTLEY-DR-CE-306	REV:	P01.1
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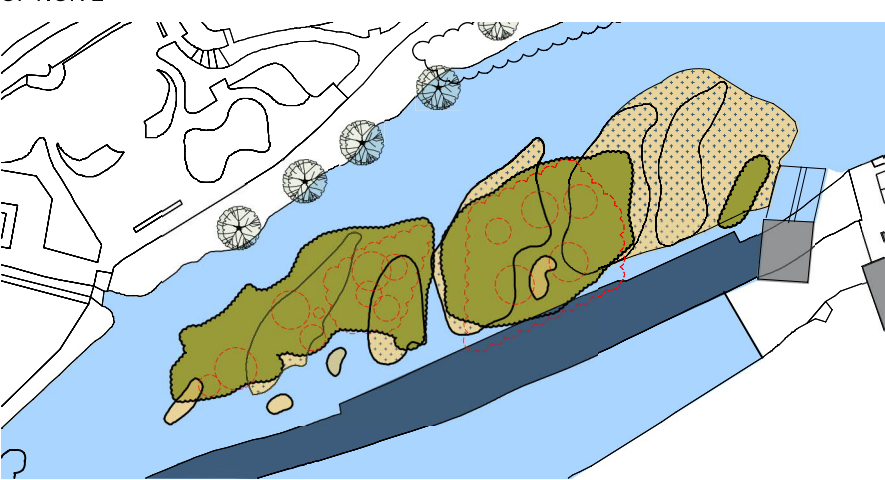
OPTION 1A



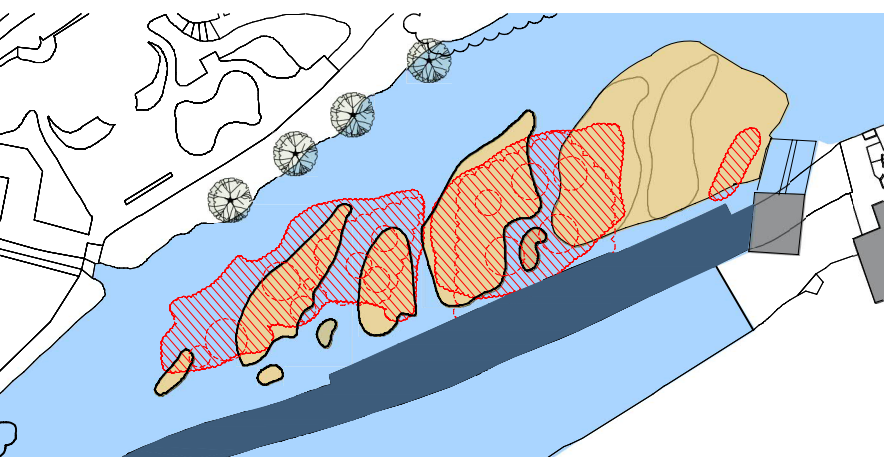
OPTION 1B



OPTION 2



OPTION 3



OPTIONS:

Option 1A: Removal of all trees and scrub vegetation from the western half of the islands

- All trees and scrub vegetation removed from the western side of the islands including the mature willow, sycamore and hawthorn. Trees and scrub vegetation to the east to be fully retained.
- Trees and scrub vegetation removed will be taken down to ground level with the roots retained for island stability.

Option 1B: Removal of 50% of trees and scrub vegetation across all islands

- All scrub vegetation removed from the western side of the islands and existing trees of value retained with tree management works undertaken to remove deadwood and crown lift. Some poor species of trees and multi-stem willows will be removed across the Eastern Islands and tree management works will be carried out on trees to be retained.
- Trees and scrub vegetation removed will be taken down to ground level with the roots retained for island stability.

Option 2: Removal of all trees and retention of scrub vegetation

- Removal of all trees across all of the islands and retaining the existing scrub vegetation. The gravel bar will be replanted with native wetland vegetation.
- Trees removed will be taken down to ground level with the roots retained for island stability.

Option 3: Removal of all trees, scrub, self-seeded willows to be cut down to ground level

- Removal of all trees and vegetation across all of the islands.
- Trees and vegetation removed will be taken down to ground level with the roots retained for island stability.

NOTES:

- The location of individual trees within tree groups are indicative.
- The treatment of invasive species will be considered with all options.

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KEY:

- Existing trees retained
- Existing trees removed
- Existing group of trees removed
- Island gravel bar
- Proposed wetland planting / wetland seeding
- Existing scrub / vegetation removed
- Existing scrub / vegetation retained
- Existing group of trees retained

REV	DATE	BY	DESCRIPTION	CHK	APP
B	21/02/2018	BV	DRAWING & TEXT SHAPED		
A	01/02/2018	BV	OPTION 1B ADDED FOLLOWING DESIGN WORKSHOP		
DRAWING STATUS: DRAFT FOR PUBLIC CONSULTATION					

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CLIENT	Leeds City Council
PROJECT	Olley FAS
TITLE	ISLANDS OPTIONS PLAN FOR PUBLIC CONSULTATION

SCALE @ A1	1:500	DRAWN BY	BV	DESIGNED BY	BV	DATE	February 19
PROJECT NO.	70049382	DRAWING NO.	70049382-L02	REV	B		

CHECKED BY	MP
APPROVED BY	MP
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July 2016



Early Spring 2019



Early Summer 2019



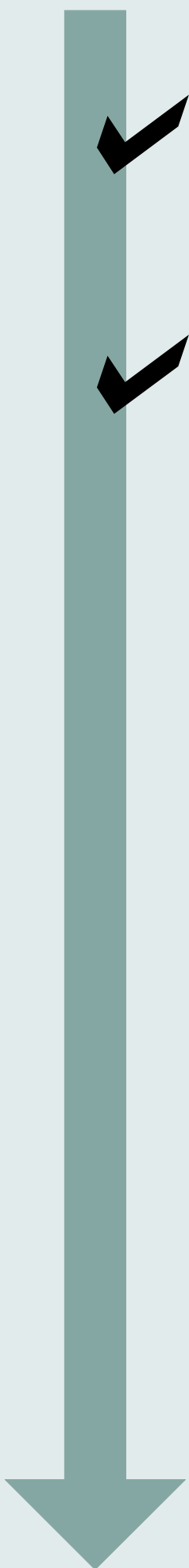
Late Summer 2019



Spring 2020



Autumn 2020



**Survey,
Feasibility, &
Modelling**

**Options
Appraisal**

**Outline Design
of Preferred
Option**

**Planning
Permission &
Formal
Consultation
Period**

Detailed Design

**Main
Construction
Contract**

Flood Defences Operational

