

The background of the slide is a blurred, high-angle shot of an airport terminal. People are seen walking with luggage, creating a sense of motion and activity. The lighting is bright, with strong highlights and shadows.

HCC Members Briefing: 11 May 2018

ALIGN

Design Contract

Design Consortium – Align-D

Package 0

Bouygues TP, VolkerFitzpatrick, Sir Robert McAlpine,
Jacobs, Ingerop

Package 1

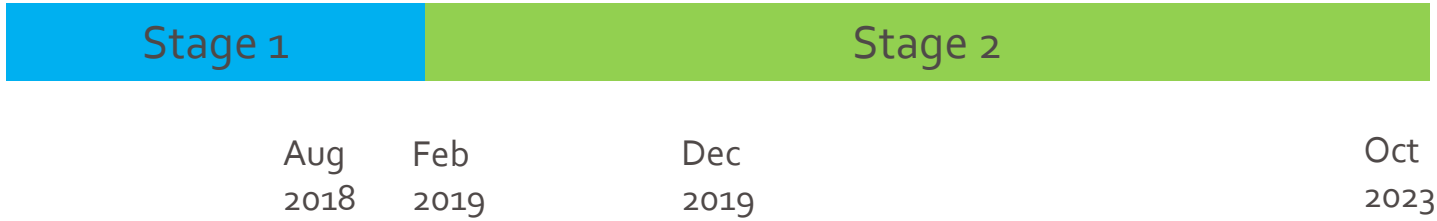
Package 2

Package 3

Package 4

Package 5

Main Civils Works – High Level Programme



◆ Contract Award

➤ Mobilisation

➤ Scheme Design

➤ Stage 2 Estimate

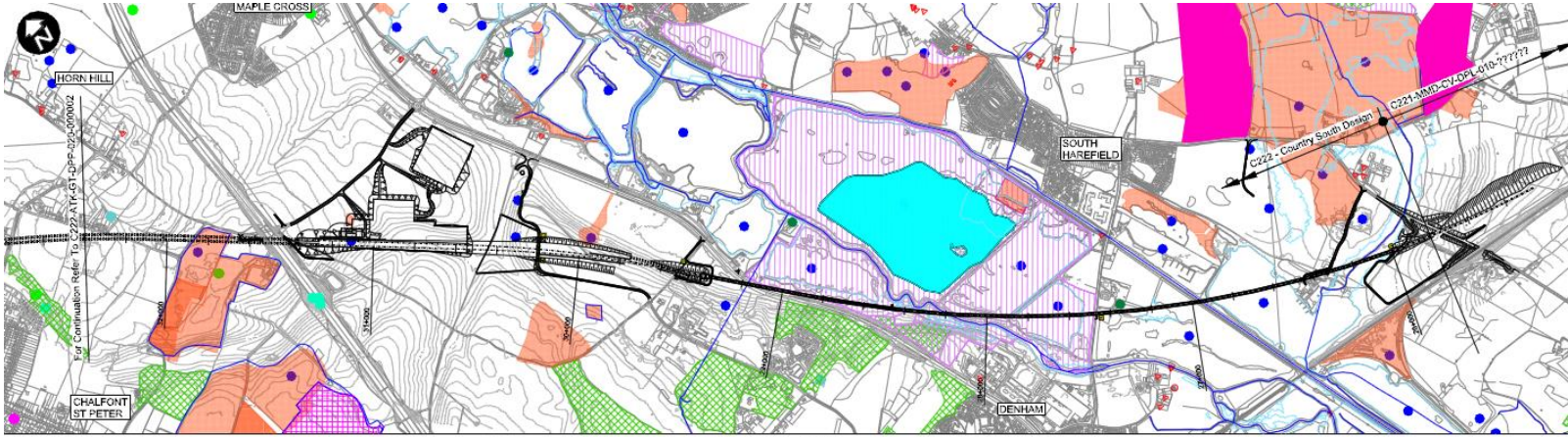
➤ Stage 2 Programme

◆ Notice to Proceed

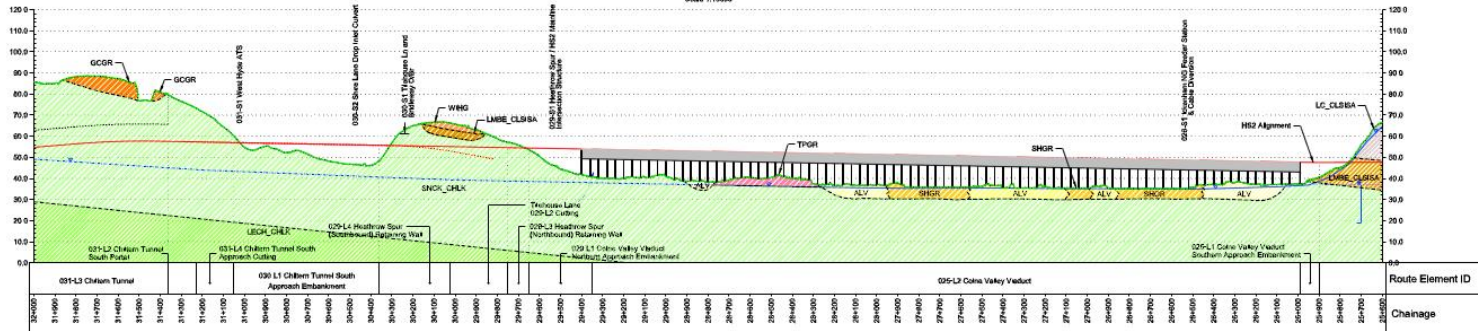
➤ Detailed Design

➤ Construction

General Overview



Plan
Scale 1:10000



A large, horizontal orange banner with a rounded right end, containing the text "Chiltern Tunnel South Portal" in a white, sans-serif font. The background of the entire slide is a grayscale landscape photograph of a wooded area with a lake and a cloudy sky.

Site location



Chalfont Lane overbridge

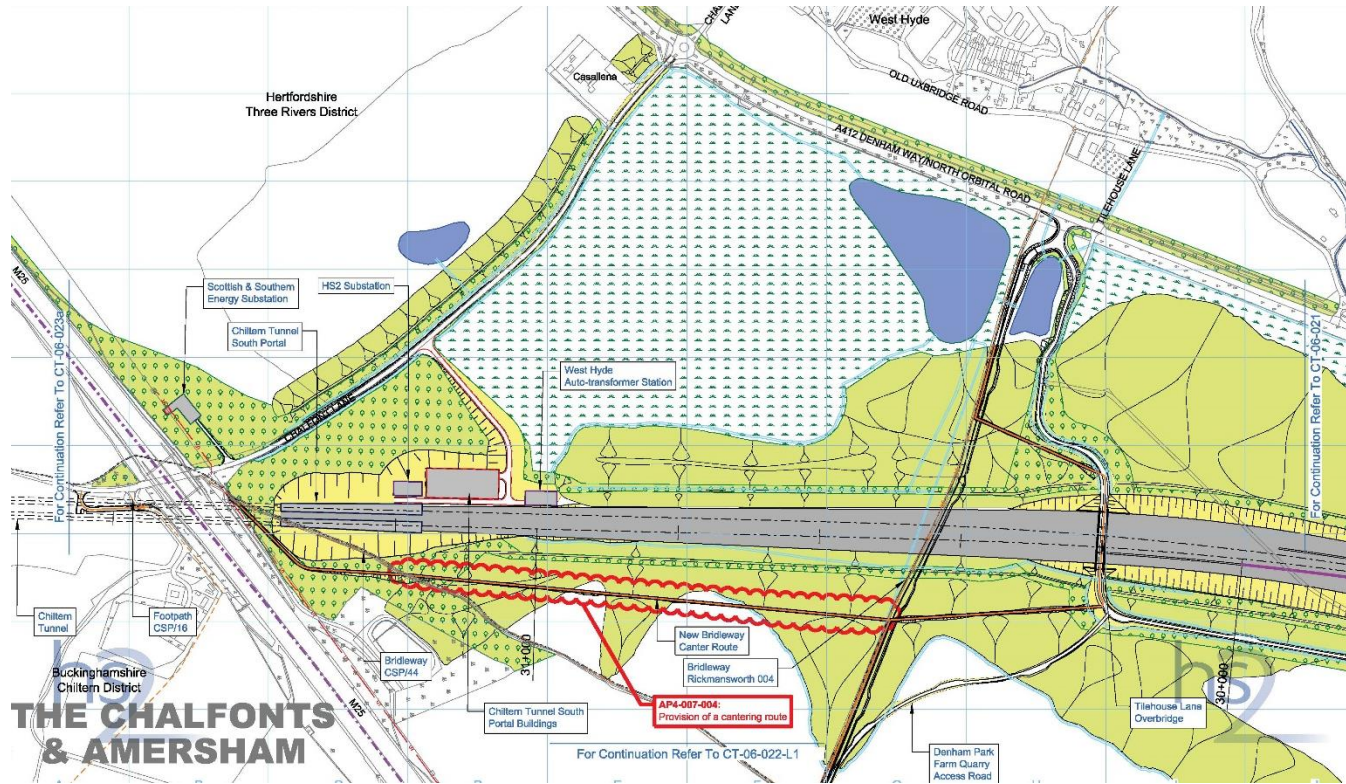
Old Shire Lane bridleway and existing hedgerows

Tilehouse Lane overbridge

M25



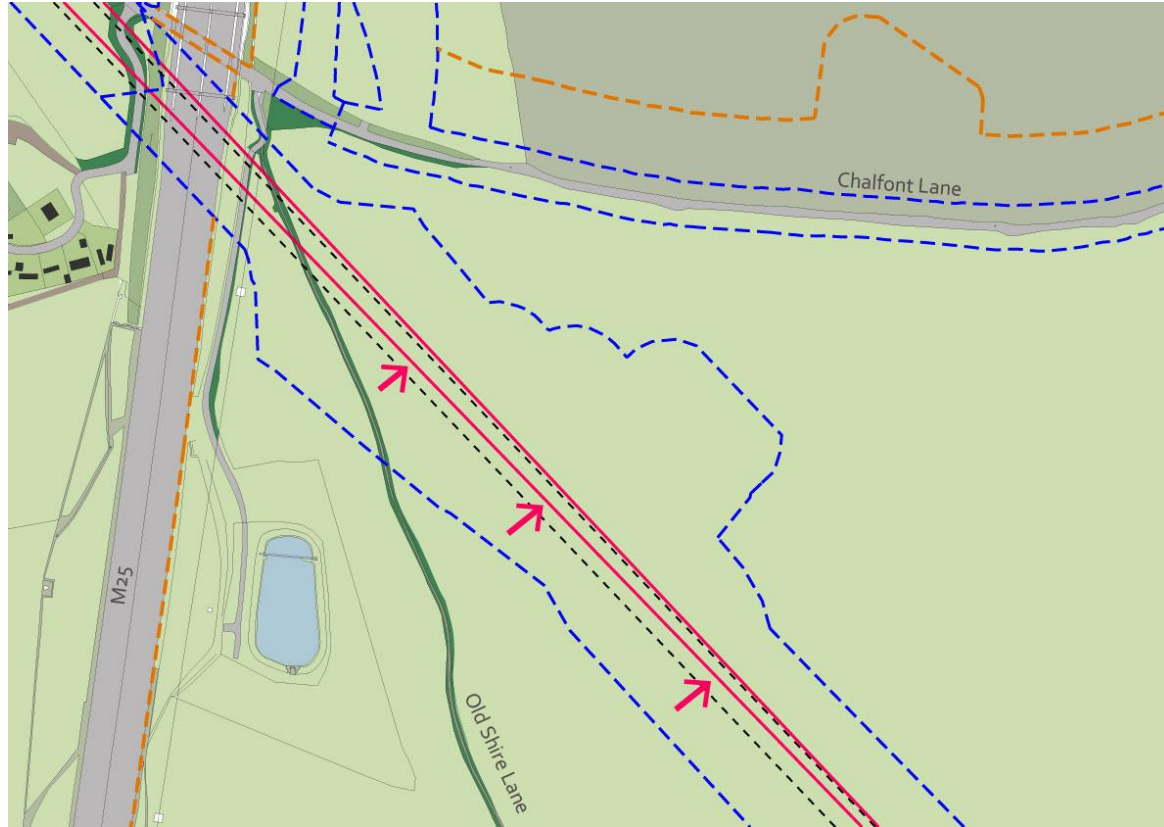
Hybrid Bill Site Plan



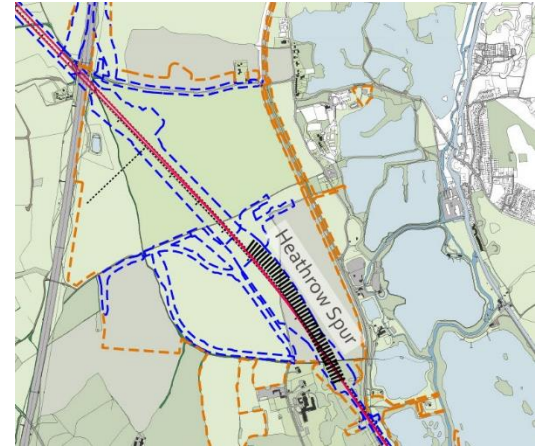
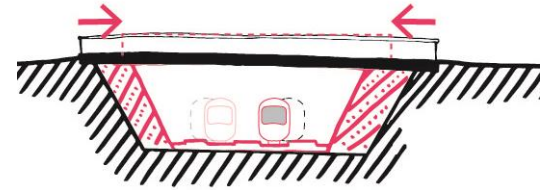
THE CHALFONTS & AMERSHAM



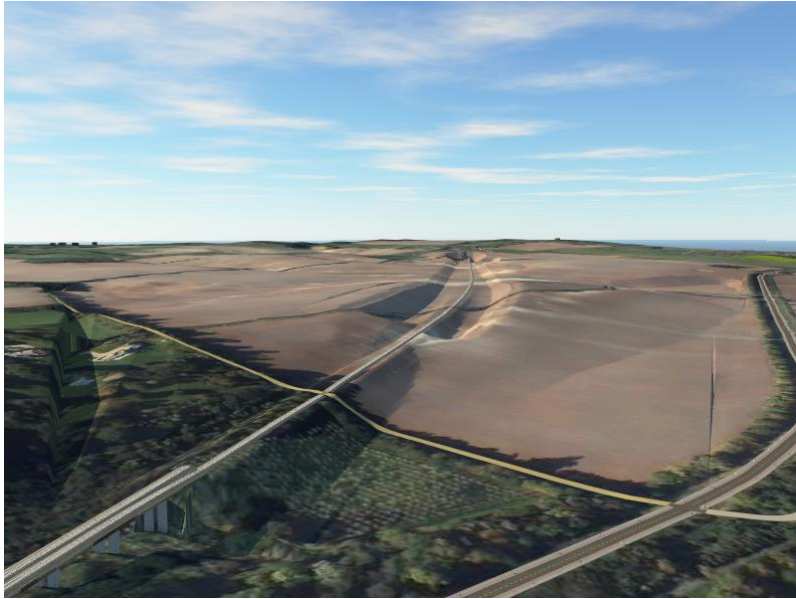
Amendments to the Hybrid Bill Scheme



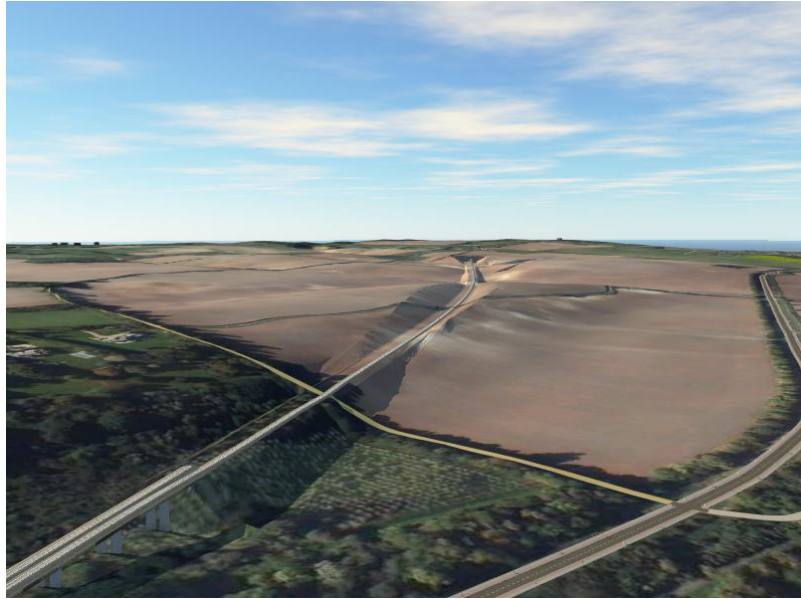
- Limit of Land to be Acquired or Used
- Limit of Deviation
- - - Hybrid Bill proposal
- Current proposal



Earthworks: Removal of Heathrow Spur



Hybrid bill design:
Heathrow spur incorporated *

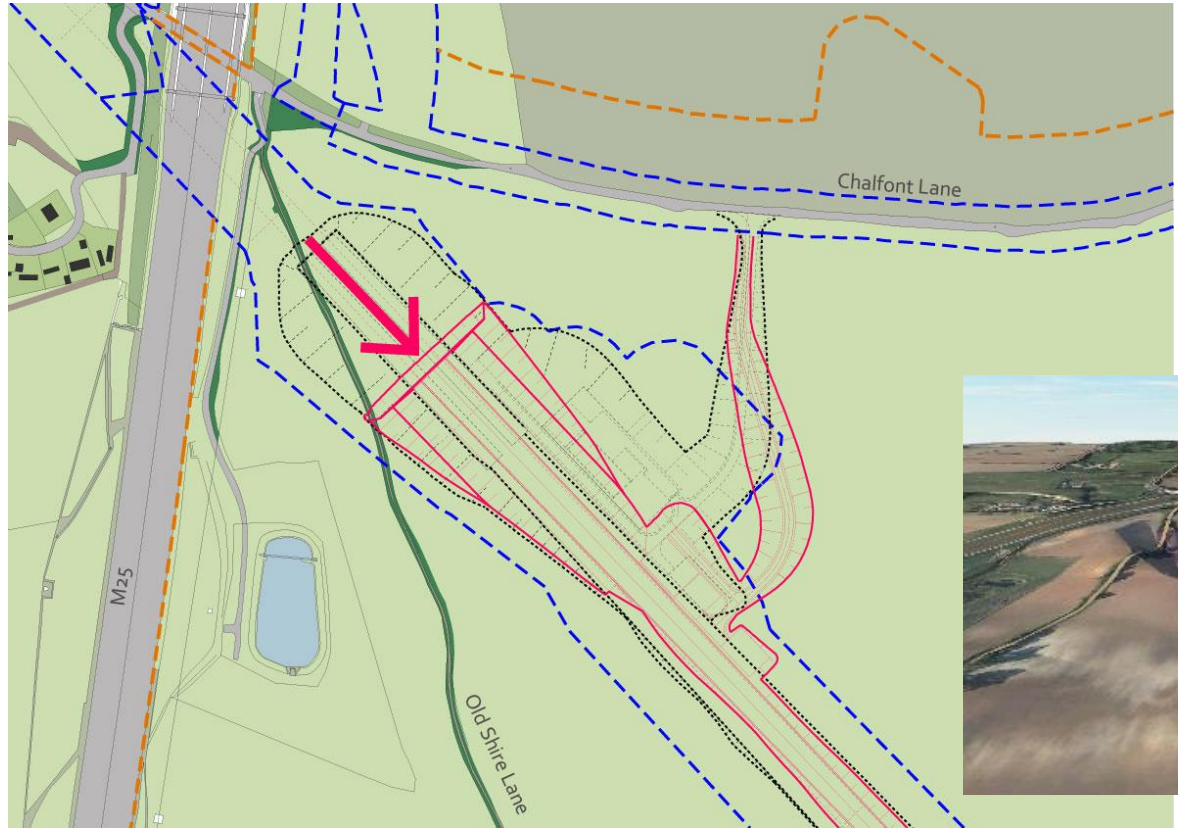


Align D 'raw' earthworks model:
Heathrow spur removed *

* landscape mitigation and other infrastructure not modelled



Amendments to the Hybrid Bill Scheme

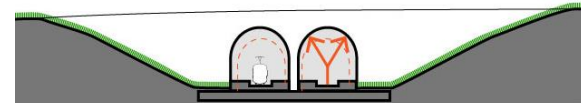
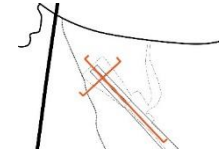


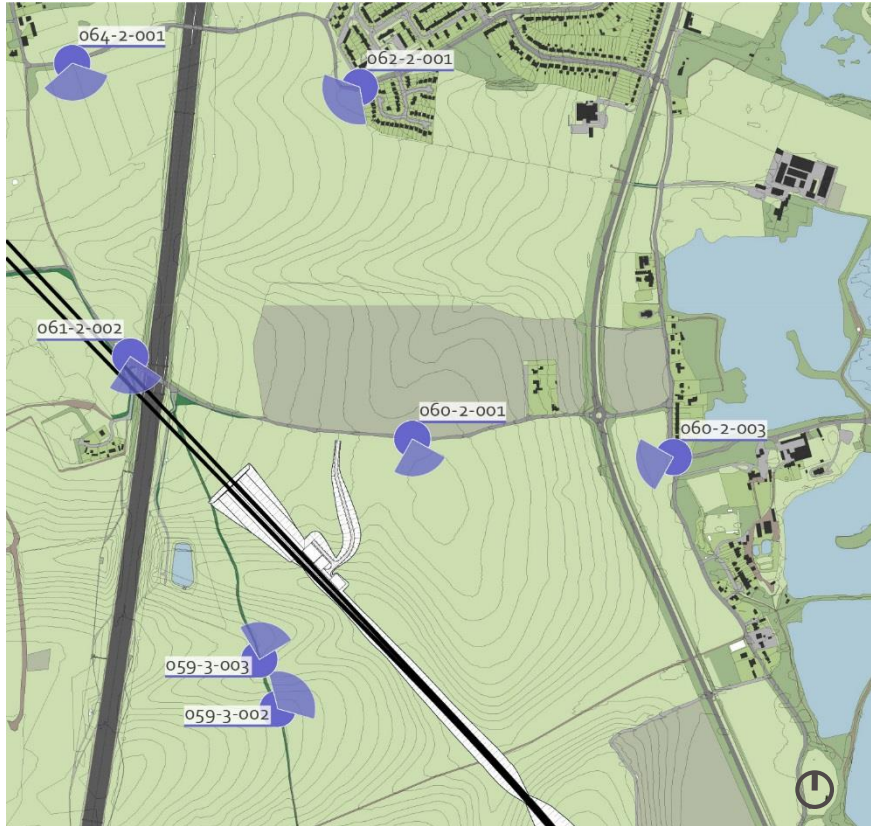
- Limit of Land to be Acquired or Used
- - - Limit of Deviation
- - - Hybrid Bill proposal
- Current proposal

Hybrid Bill earthworks:



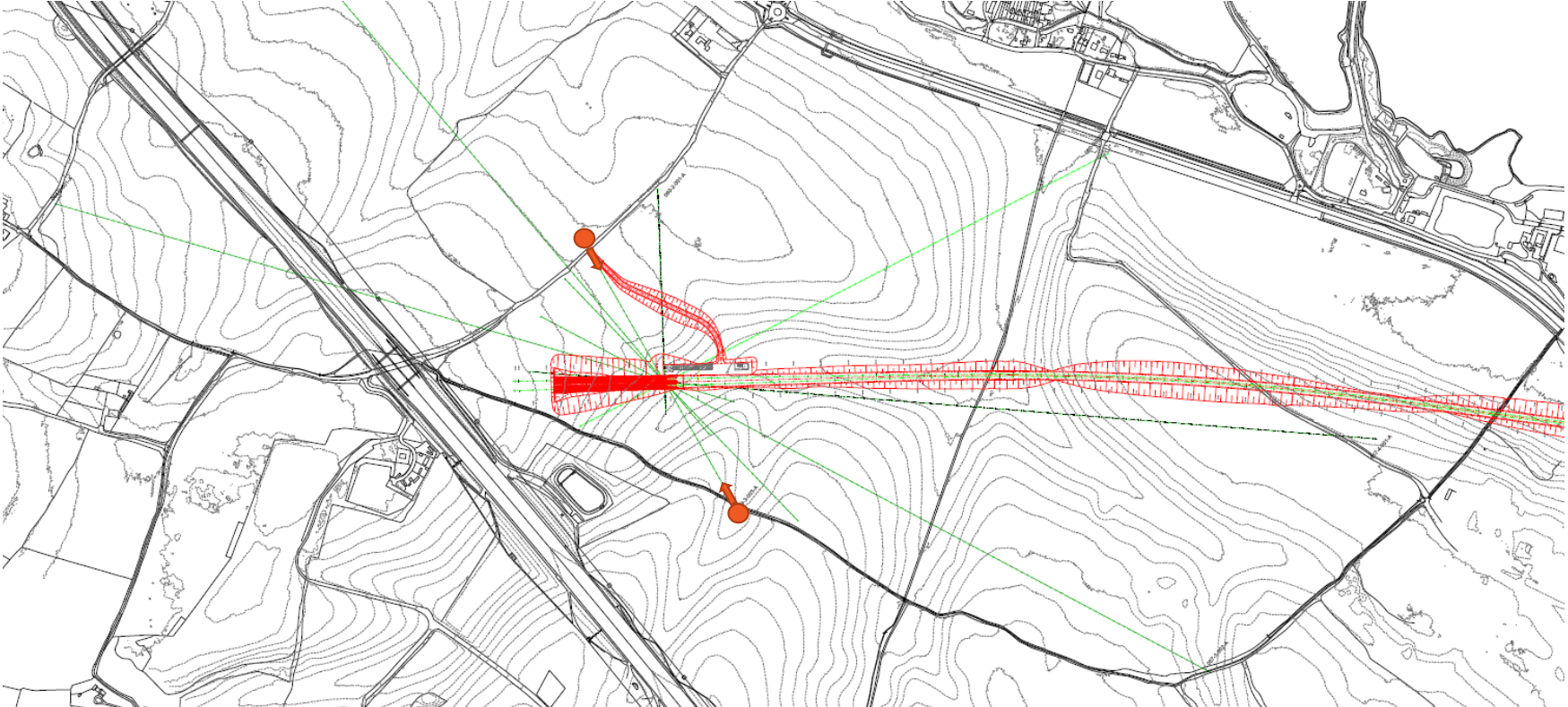
Exposed Arched Structure with vertical flare



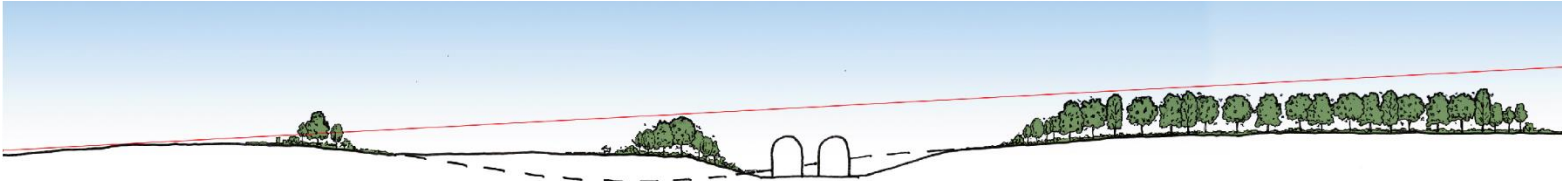


A number of views were identified in the Hs2 Environmental Statement.

Landscape sections



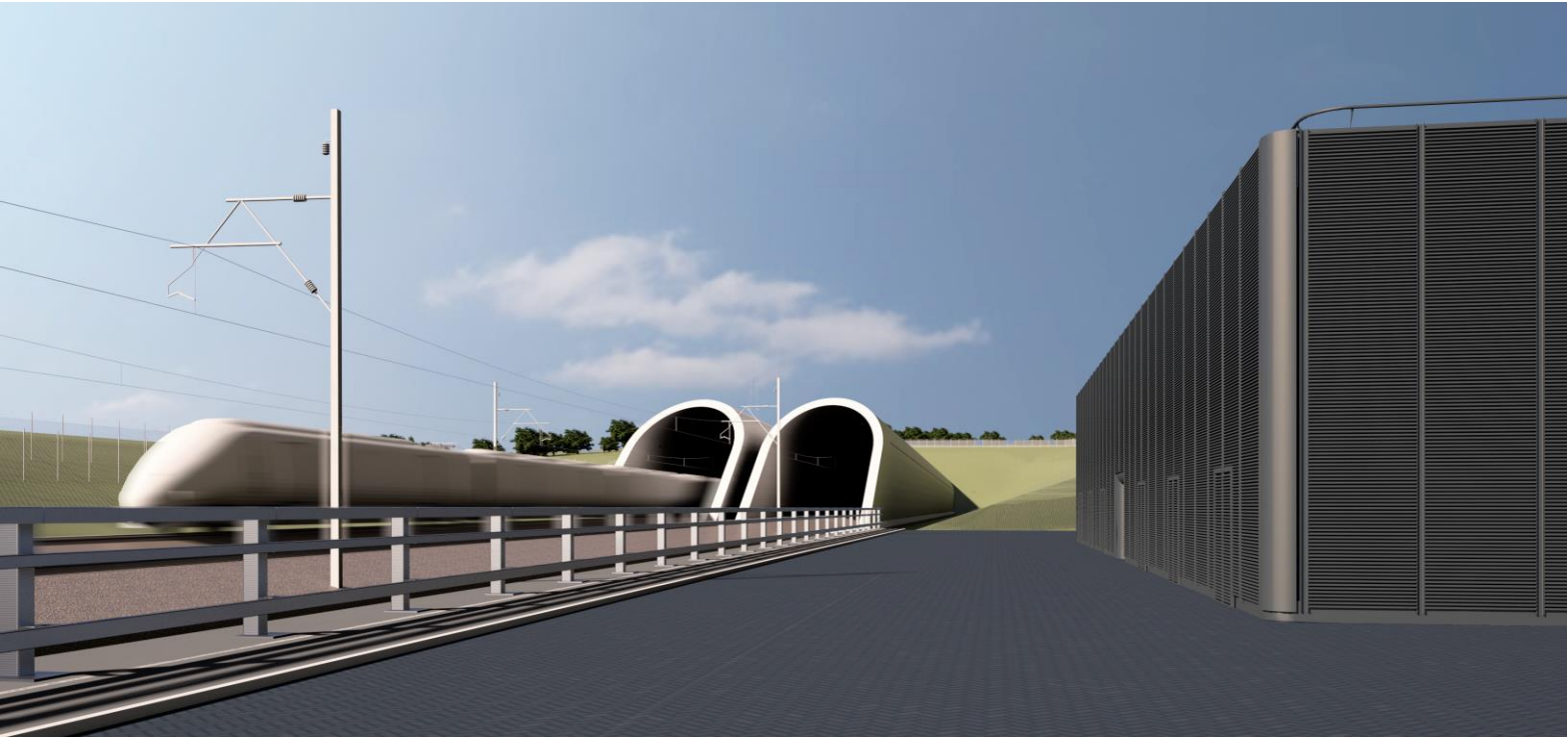
Landscape sections – View from Shire Lane



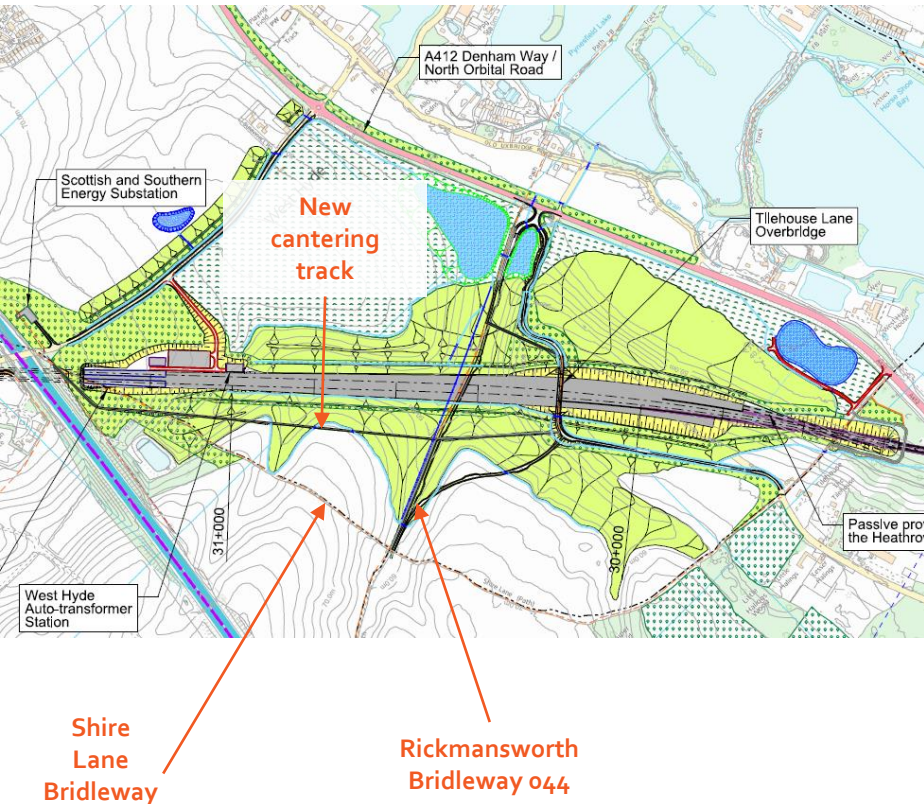
Landscape sections – View from Chalfont Lane



Portal and Compound View



Western Valley Slopes



Integrated Landscape Design

- Structural planting (woodland blocks and hedgerows) primarily intended as screening elements
- Habitat grassland located on the sloping landform to the east of the railway
- Structural earthworks and landscape mitigation works, substantially altering the natural topography, resulting in false cutting and embankments and partial infilling of dry valleys
- Diverted rights of way; Shire Lane Bridleway (CSP/44) and Rickmansworth Bridleway 004
- New cantering track

Western Valley Slopes Existing topography



Existing ridge lines and dry valleys

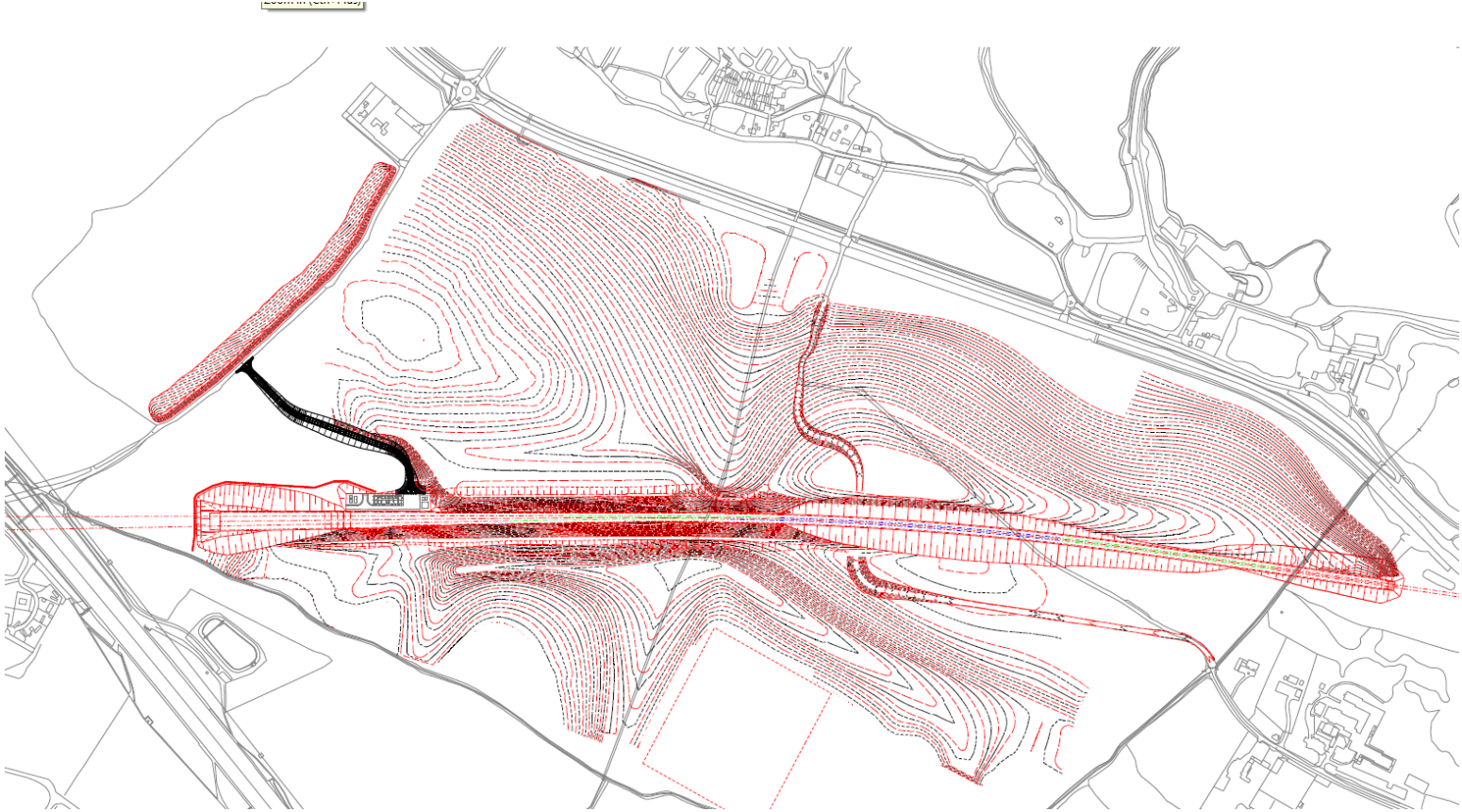
Existing Drainage Pattern Existing Crest Line



Topography and Drainage

- Preserve rolling landform including maintaining as far as practicable the dry valley areas to the west of the railway line.
- Minimise extent of drainage infrastructure required (including rationalising the reference design); this can be achieved in part by preserving natural processes including:
 - Maintain/ mimic the pattern of ridges and shallow valleys as far as practicable
 - Prevent placement of impermeable fill (processed chalk 'cake' from the tunnel excavations) on the most permeable areas to maximise run off infiltration.

Western Valley Slopes Proposed landscaping contours



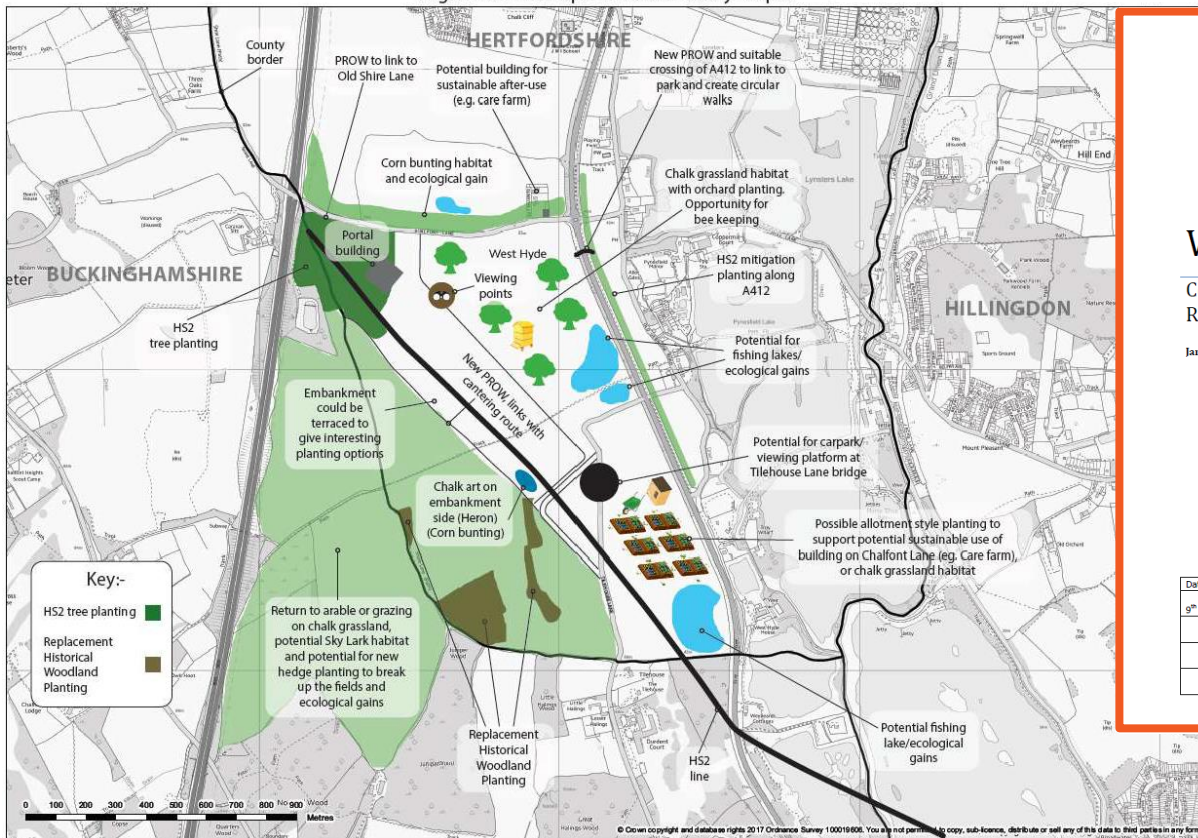
Western Valley Slopes Concept Plan: Core Areas



Area	Design considerations/ assumptions	Proposed End Use
Upper Western Fields	Minimal fill material to preserve dry chalk valleys (a departure from the Reference Design); maintain/ reflect existing drainage processes; provide localised mitigation of structures including portal	Agricultural use
Southeast Ridge	Accommodates the majority of tunnel spoil utilising additional land reclaimed by removing Heathrow spur – purpose to assimilate cutting, Tilehouse Lane and north abutment of viaduct	Habitat creation and informal recreation provision
Northeast Grassland	Reconstruction of the existing hill profile (modified to accommodate the construction compound) to create open grassland habitat; existing surface drainage patterns are substantially maintained in this area.	Habitat creation and informal recreation provision



High Level Concept - Western Valley Slopes



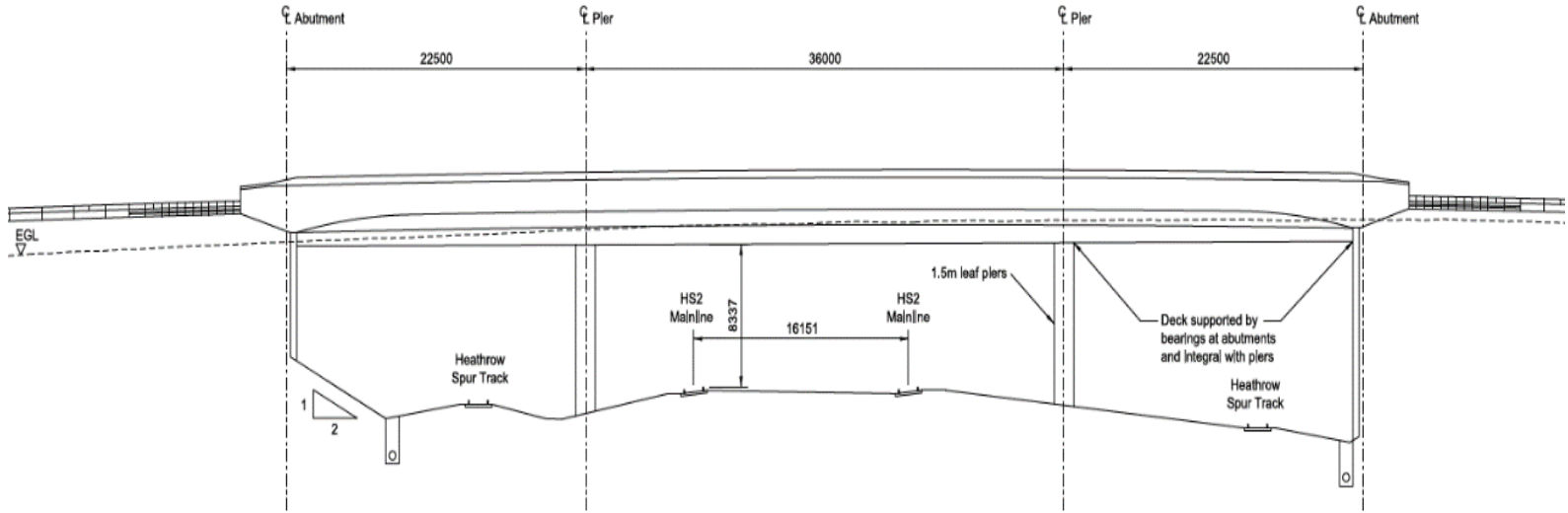
Western Valley Slopes

Colne Valley Regional Park Panel
Recommendations

January 2018

Date	Revision	Signature
9 th January 2018	version 1	D. Elger

Tilehouse Lane Reference Design



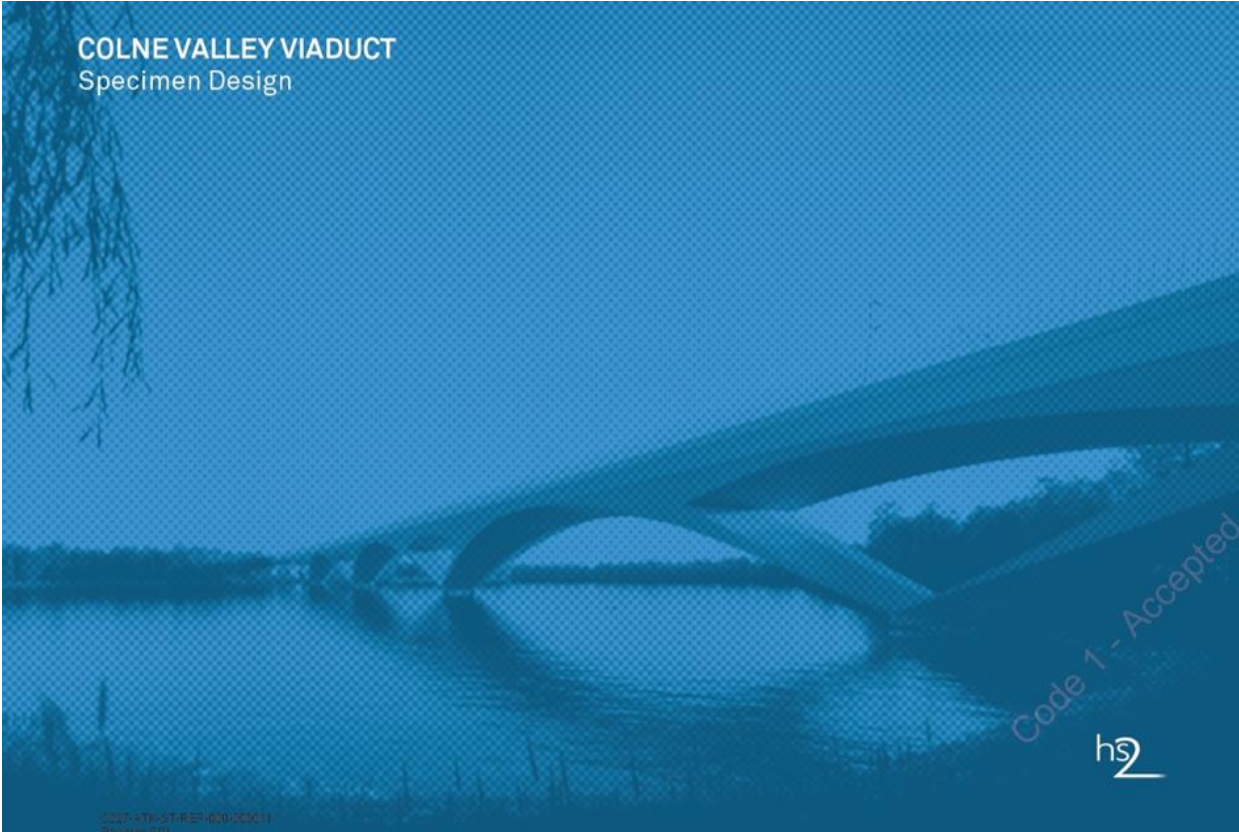
Tilehouse Lane reduced Overbridge option



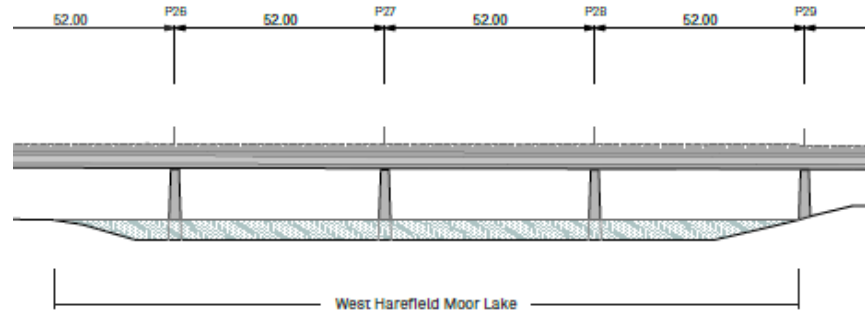
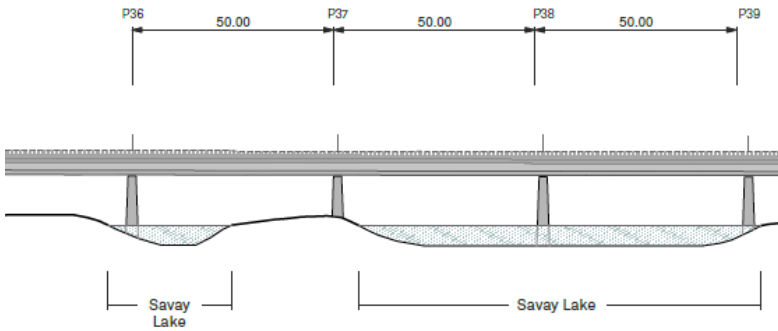
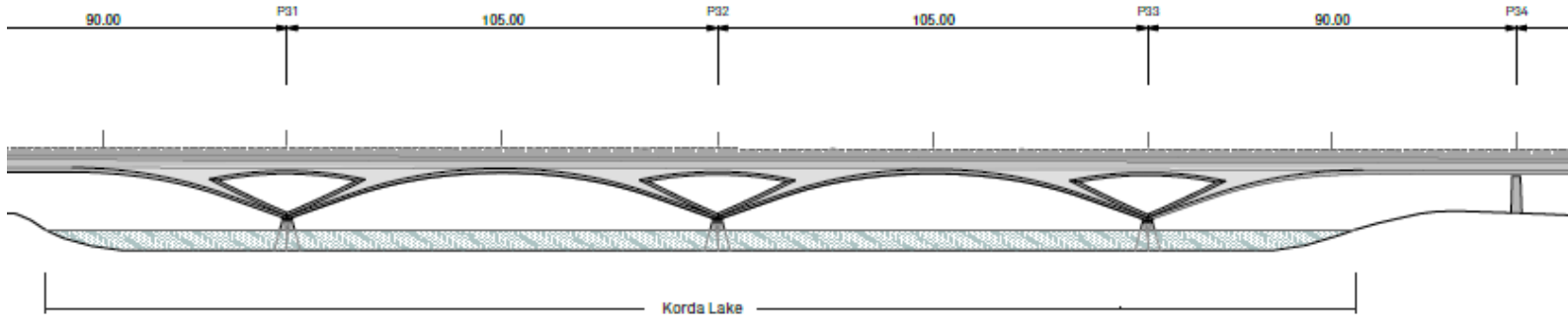
A grayscale landscape photograph showing a dense forest in the foreground and middle ground, with a body of water visible in the distance. The sky is filled with heavy, overcast clouds. An orange rounded rectangular banner is overlaid on the upper portion of the image.

Viaduct Design Concepts

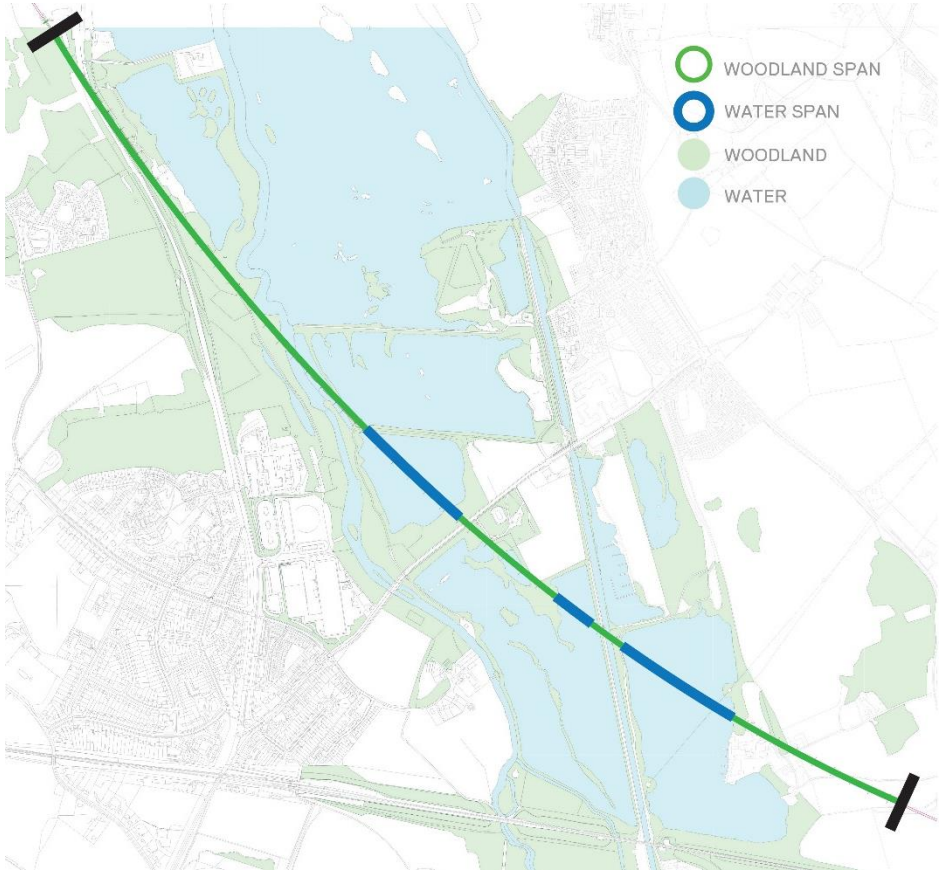
Specimen Design



Specimen design

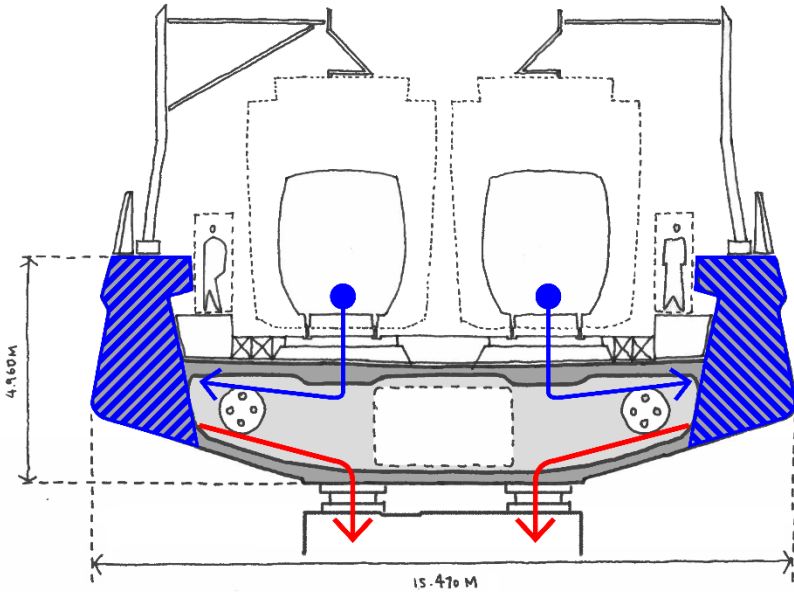


Typical and Extended Spans



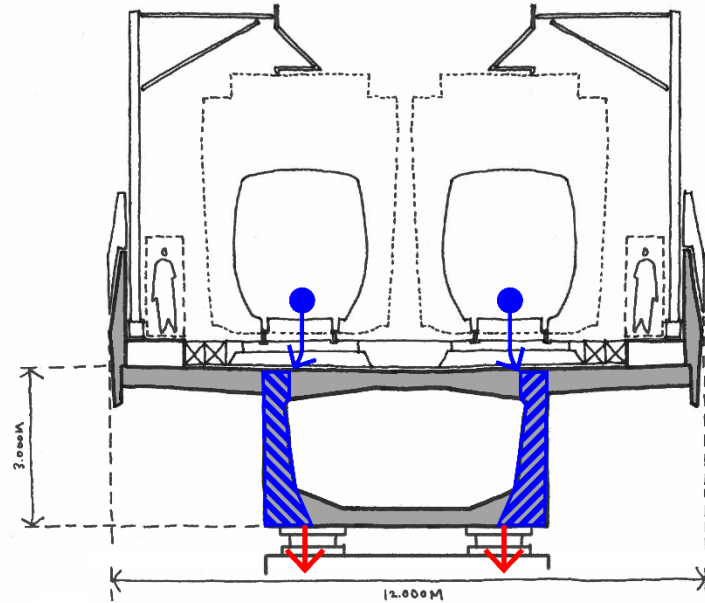
A large, horizontal orange pill-shaped graphic containing the text "Structural Cross Section" in a white, sans-serif font. The background of the slide is a grayscale landscape photograph of a wooded area with a lake and a cloudy sky.

Half Through Structure – Mid Span



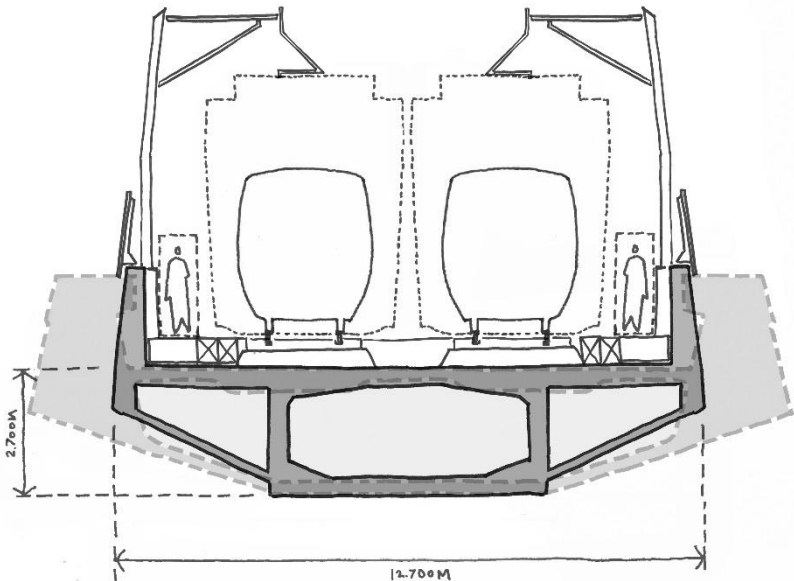
Cross sectional concrete area: 18m^2 , plus an additional 6.2 m^2 per section for diaphragm wall

Below Deck Structure – Mid Span

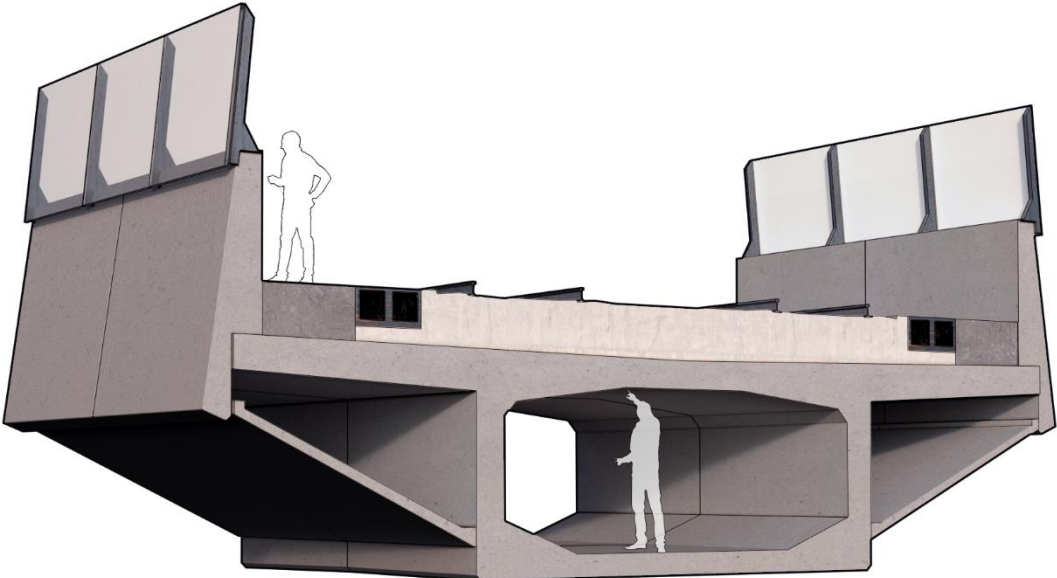


Cross sectional concrete area: $9.4\text{m}^2/\text{m}$

Converged Section



Converged Section



Noise Barrier: Transparent vs Opaque



Noise Barrier: Transparent vs Opaque



A large, solid orange rounded rectangle with a rounded right end, serving as a background for the section header text.

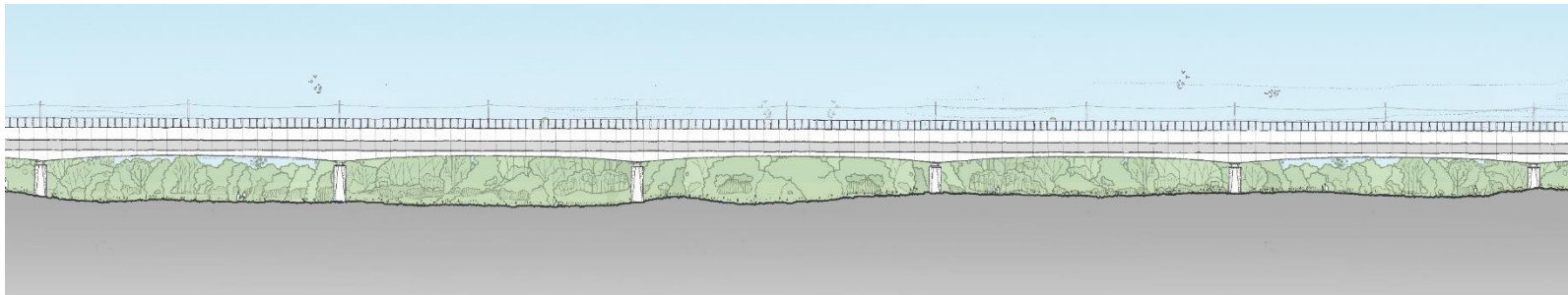
Typical Spans



Typical Spans

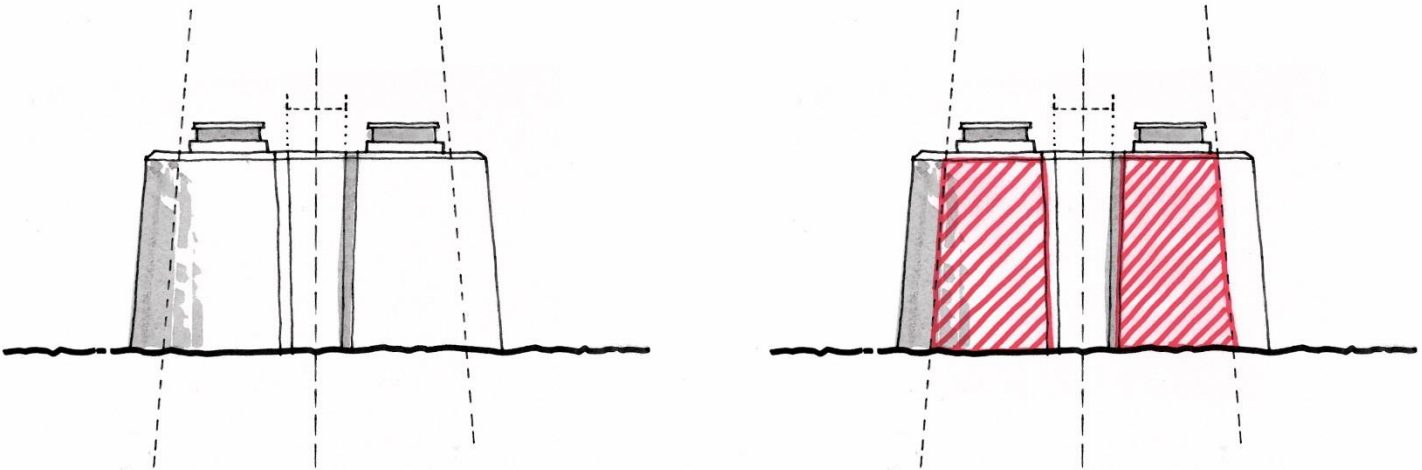


Typical Spans



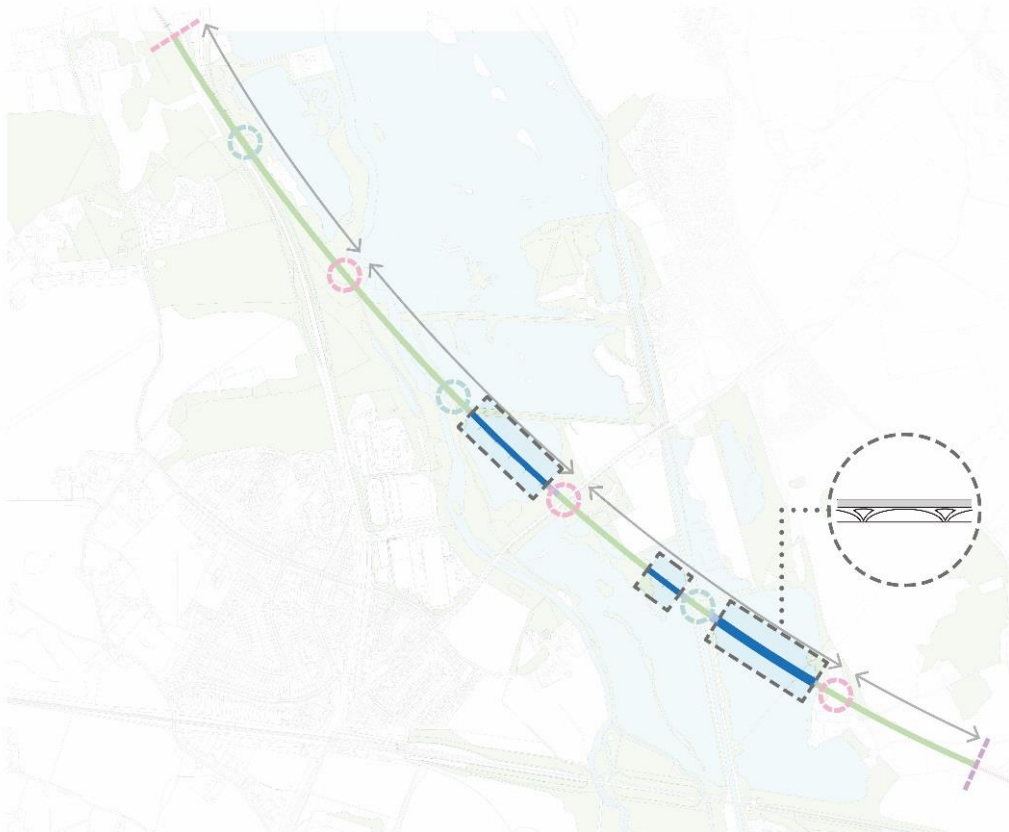


Pier Design Development



The title "Extended Spans" is written in a white, sans-serif font. It is positioned on the left side of a large, horizontal orange rounded rectangle that spans across the middle of the image.

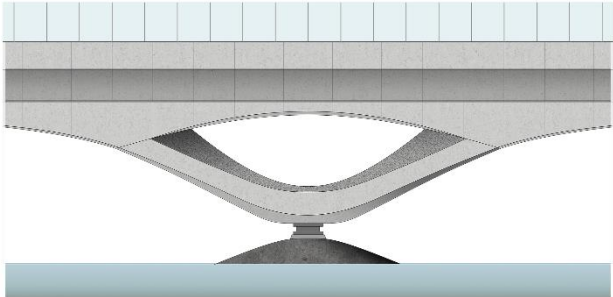
Viaduct Elements



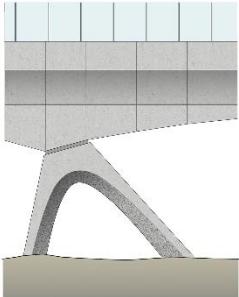
Extended Span - Korda Lake



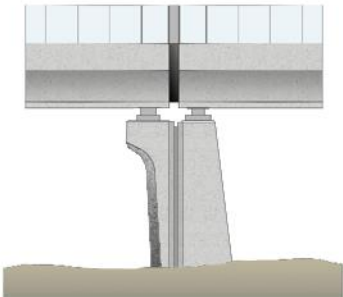
Family of Components



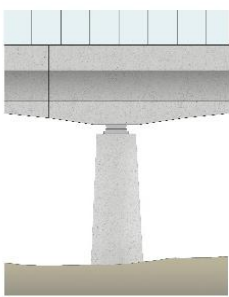
V-Pier



Fixed Buttress



Expansion Joint



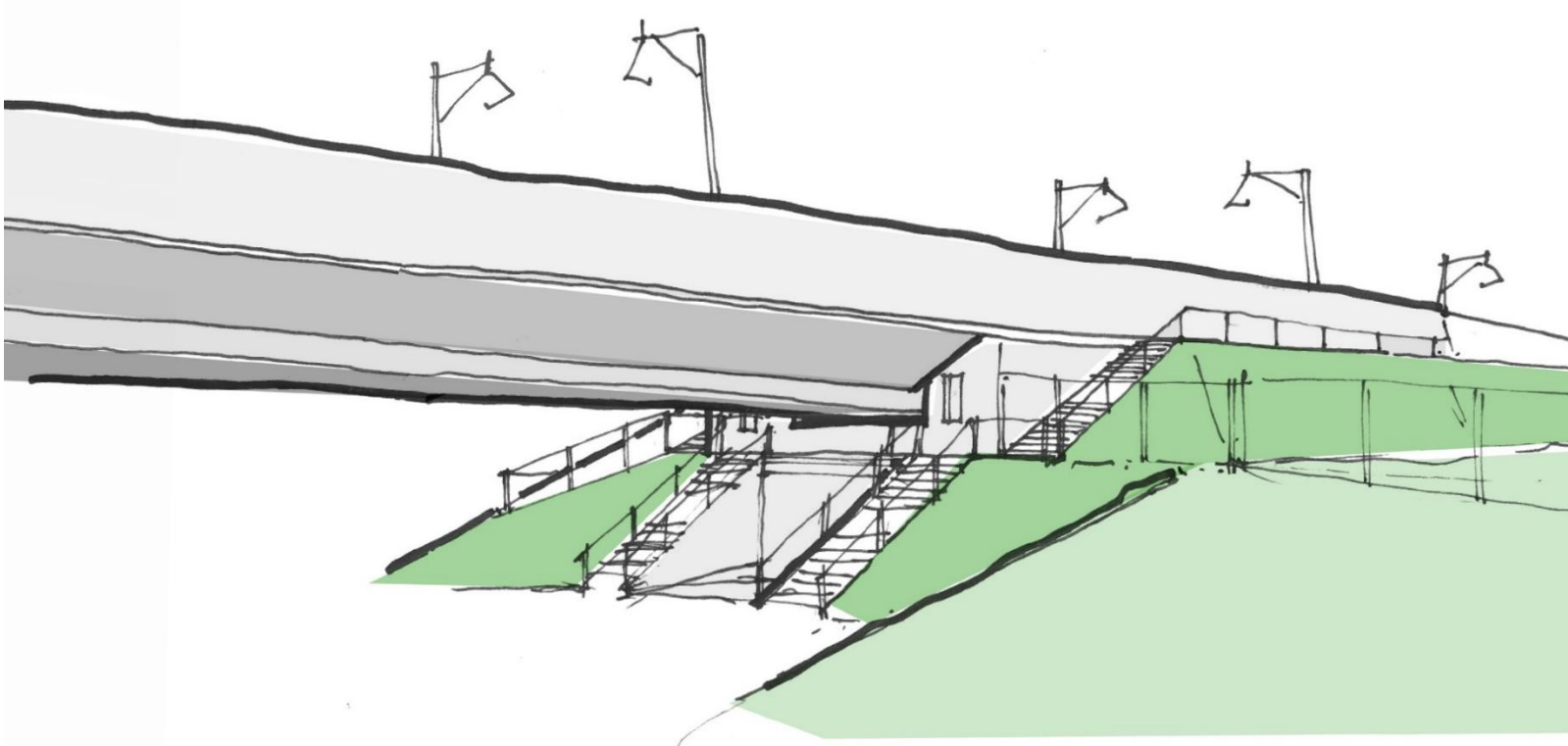
Straight Pier



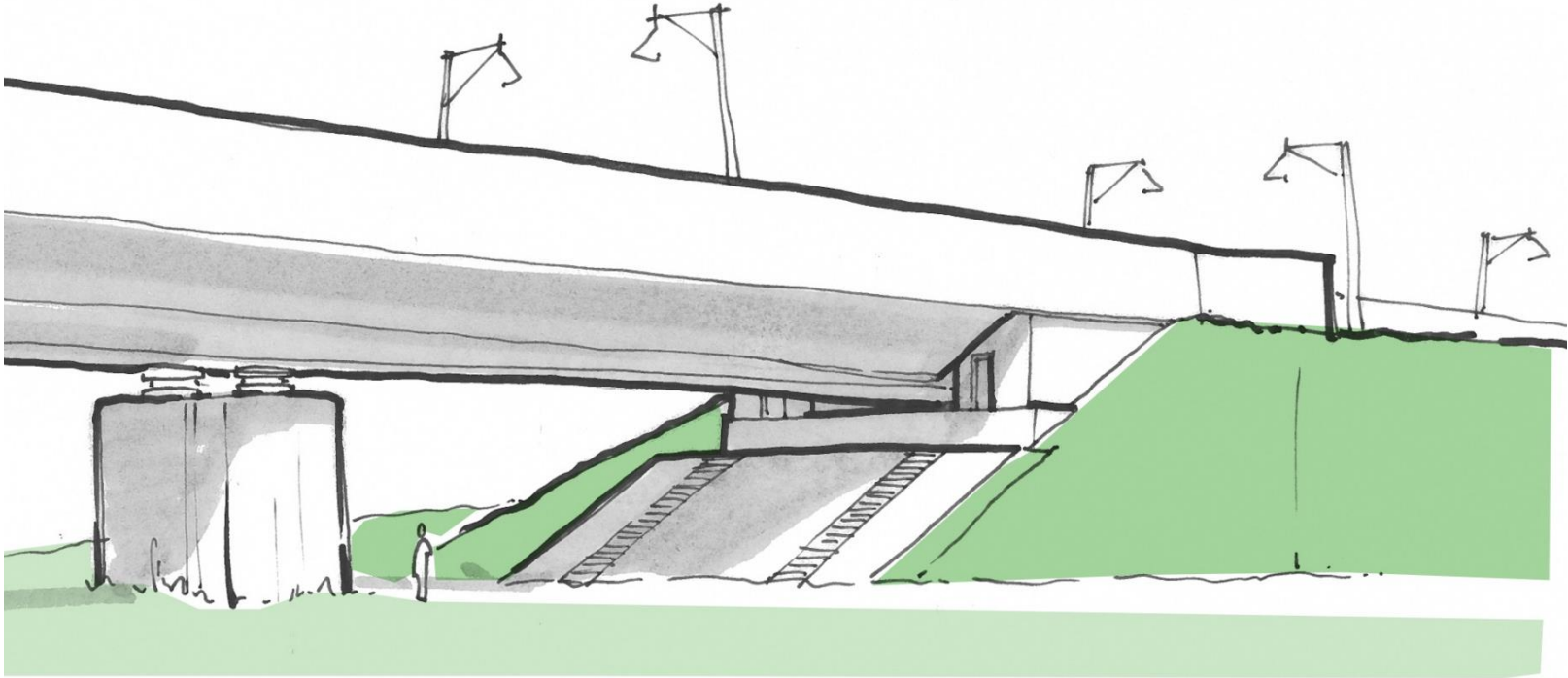
A grayscale landscape photograph of a river valley. The foreground shows a grassy field. The middle ground is dominated by a dense forest of trees along the riverbanks. In the background, there are rolling hills and a cloudy sky. A large orange rounded rectangle is overlaid on the left side of the image, containing the text "Initial Abutment Design".

Initial Abutment Design

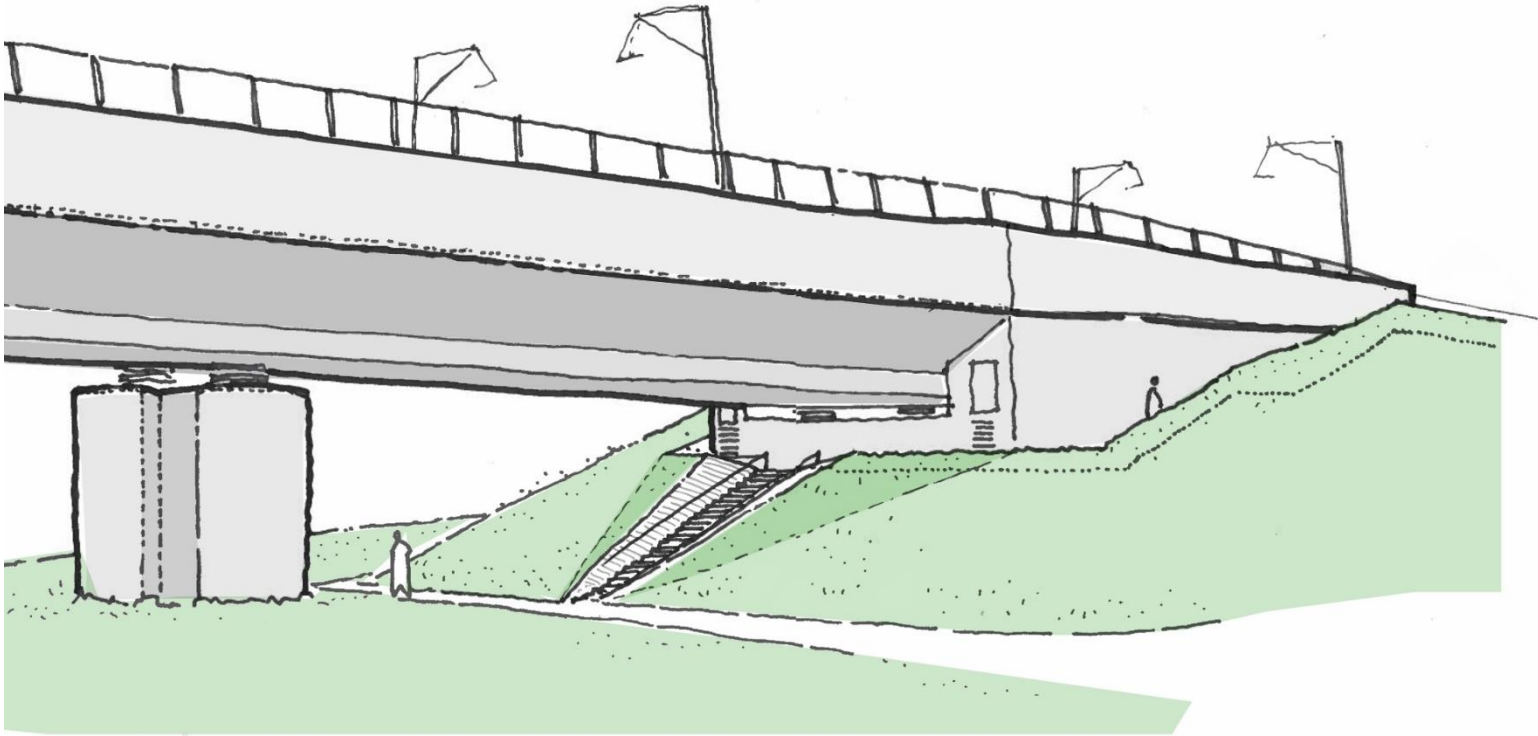
Baseline Scheme



Raised Embankments



Landscape Shaping & Stair Reconfiguration

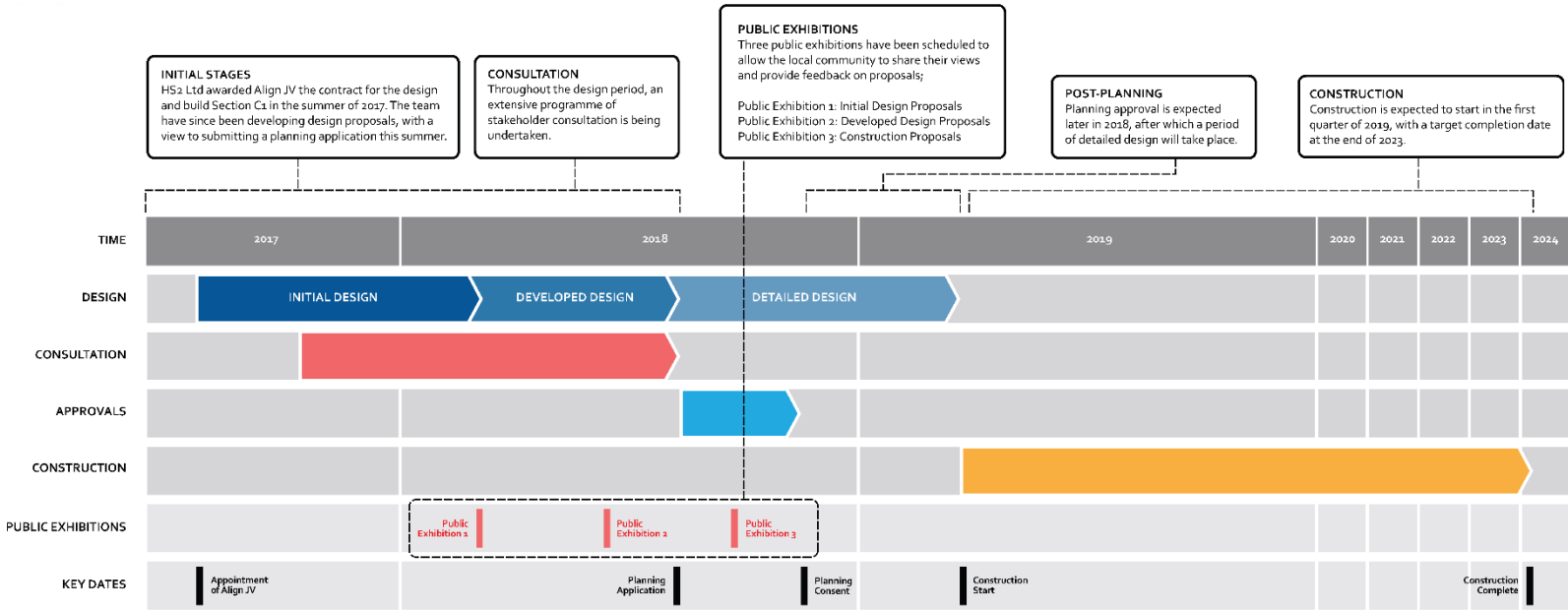


Undercroft View



The text "Public Engagement" is written in a white, sans-serif font. It is positioned inside a large, horizontal orange shape that has a rounded right end. The background of the slide is a grayscale landscape photograph showing a dense forest, a body of water, and a cloudy sky.

Timeline



Thank you – Questions?