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Project title    Meridian Water Phase 2

Job number

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File reference

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Subject        Summary of Meridian Water infrastructure works proposed for inclusion in Housing Infrastructure Fund scope

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## Overview of HIF scope infrastructure works

This file note provides a high-level overview of the infrastructure and associated works proposed for inclusion in London Borough of Enfield's bid for the MHCLG Housing Infrastructure Fund. See attached drawing of the proposed Meridian Water Development Zones and overview diagram of proposed HIF works scope.

## 1 Earthworks and remediation

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Earthworks are required across much of the site to establish the appropriate development platform levels. Further work is required to establish what proportion of this work should be undertaken by a plot developer and what should be led by LB Enfield master developer. The master developer has the scope to move earthworks across the site more efficiently than individual plot developers and can coordinate earthworks to efficiently undertake remediation and flood alleviation works.

The earthworks will provide development platforms raised 600mm above the maximum flood level for habitable elements of residential development. This requires levels to be raised above existing ground level.

Remediation works will be undertaken in advance of the earthworks and are currently programmed to be carried out in advance of the excavation and fill works, thereby allowing for direct placement of the excavated material and the avoidance of double handling.

Earthworks and remediation proposed for inclusion in HIF scope include:

- **E4 Earthworks – Gasholder Site**
- **E5 Earthworks – Development Zone 5**
- **E6 Earthworks – Development Zone 4**
- **LV1 Earthworks – Lee Valley Regional Park**
- **R3 – Earthworks – Causeway (east of Lea Navigation)**

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These works will support the residential-led development of Development Zones 5 and 6.

## 2 Flood Alleviation and Associated Landscaping

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Flood alleviation works comprise three types of activities in order to provide an equivalent amount of flood storage to that displaced by development.

Works proposed for inclusion in HIF scope include:

- **F2 Pymmes Brook east and south:** naturalisation of eastern bank of the channelized sections of the Pymmes and Salmon Brooks, by creating a floodable landscape;
- **F5 Lee Valley Regional Park:** the reduction of ground levels within an area of the Lee Valley Regional Park, in order to provide a flood compensation area;
- **F9 Flood compensation flow path north:** construction of a flow path to enable flood water to reach the flood compensation area in Lee Valley Regional Park (F5)

These works will enable the residential-led development of Zones 5 and 6 and provide publicly accessible open space for the development. The cutting works will generate excavation material for use in the earthworks to raise land levels in Development Zones 5 and 6.

## 3 Vehicular Roads and Pedestrian/Cycle Links

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### 3.1 The Causeway

The Causeway is the primary east-west link running from Meridian Water station in the west to Harbet Road in the east of the site. The Causeway corridor alignment is enshrined in the submission version of the Edmonton Leaside Area Action Plan, which was submitted for examination in April 2018. The Causeway alignment will be raised above flood level.

Causeway works proposed for inclusion in the HIF scope include:

- **B1 Lee Navigation Bridge and B4 Pymmes (central) & Salmons Brook Crossings.** The clearance of the three bridges is to be confirmed with the Environment Agency in regard to flood levels and with the Canal and Rivers Trust in regard to bridleway clearance requirements.
- **R2 Causeway Central (Across Brooks) and Bridge Ramps**
- **J2 Causeway / Harbet Road Junction**
- **R3 Causeway East**

The Causeway enables Development Zones 3 and 5 and would enable public transport routes through the site, improving PTAL and subsequently optimising the development capacity of the site.

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## 3.2 Leaside Link Road

The Leaside Link Road links Leaside Road to the Causeway, including a bridge across the Pymmes Brook. The Link Road forms a primary vehicular route through the site.

Leaside Link Road works proposed for inclusion in HIF scope include:

- **B5 Pymmes Brook Crossing (South)** - including relocation of Environment Agency watercourse access, subject to finalisation of alignment and agreement with the Environment Agency.
- **R4 Leaside Road / Causeway** – including construction of a retaining wall to enable ramp section of the Leaside Link Road / Causeway junction.
- **J3 Leaside Road / Link Road**

## 3.3 Leaside Road / West Anglia Mainline Pedestrian and Cycle Bridge

It is envisaged that this pedestrian and cycleway bridge would run parallel to Leaside Road and provide an east-west connection between Meridian Water and wider Enfield across the West Anglia Main Line. The final design and alignment of this crossing depends on the ability to provide sufficient clearance from the overhead electrical lines associated with the West Anglia Mainline. Works would include pedestrian/cycle crossing improvements at Leaside Road / Meridian Way junction.

Works proposed for inclusion in the HIF scope comprise:

- **C1 Railway Cycle/Footway Bridge and Public Realm**
- **E7 Earthworks to the approach embankments**

## 3.4 Access Improvements

Access improvements to enable Development Zone 6 and to minimise impact on IKEA's existing access routes to its store are proposed for inclusion in the HIF scope:

- **TW1 Zone 6 Access Road** - involves temporary works to widen Silvermere Drive and Anthony Way in order to maintain access to the Arriva bus depot during the construction of the Lee Navigation Bridge.
- **TW2 IKEA Access** – involved reconfiguration of the existing Glover Drive / IKEA junction, which could comprise an elongated roundabout, subject to refinement of design.

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## 4 Utility Infrastructure

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### 4.1 Utility Diversions

Various utility abandonments and diversions will be required in order to undertake the earthworks, remediation and construction of the roads and bridges set out in the HIF infrastructure scope. Given the difficulty of assessing the cost of these at this stage, we have included an allowance for diversions in the cost assessment. Likely diversions and abandonments include the relocation of two electricity substations currently within the proposed Causeway alignment.

### 4.2 New Utility Infrastructure

Existing service infrastructure is inadequate to support the proposed development. Strategic primary infrastructure are required. These will typically be aligned in the primary road corridors and will serve individual Development Zones through a series of connections. Utilities include:

- Electricity transmission (both low voltage and high voltage connections);
- substations;
- telecom containment;
- potable water mains;
- gas mains;
- foul sewers;
- surface water drainage channels; and,
- heat network.

Utility works proposed for inclusion within the HIF scope comprise:

- **U1:** new primary substation
- **U3:** Causeway central and east utility corridor
- **U4:** Leaside Link Road utility corridor

These works support the delivery of Development Zones 5 and 6, as well as the long-term delivery of the wider Development Area.

### 4.3 Off-Site Utility Reinforcement

Off-site reinforcement of existing utility networks is likely to be required in order to cater for the increased demand generated by new development at Meridian Water. The time of these upgrades is dependent on the rate of build-out and associated increases in demand, as well as the proposed employment mix on-site.

The mechanism for procuring and paying for upgrades depends on the requirements for different utilities and their statutory undertakers. For example, Thames Water is responsible for forward funding planned upgrades to its infrastructure and recouperates investment through customer revenue

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payments. For this reason, off-site reinforcement costs have been excluded from the cost assessment.

## 5 Demolition Works

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The demolition of existing buildings and removal of associated built structures will enable other infrastructure works associated with flood alleviation, roads and utilities.

Demolition works proposed for inclusion in the HIF scope comprise:

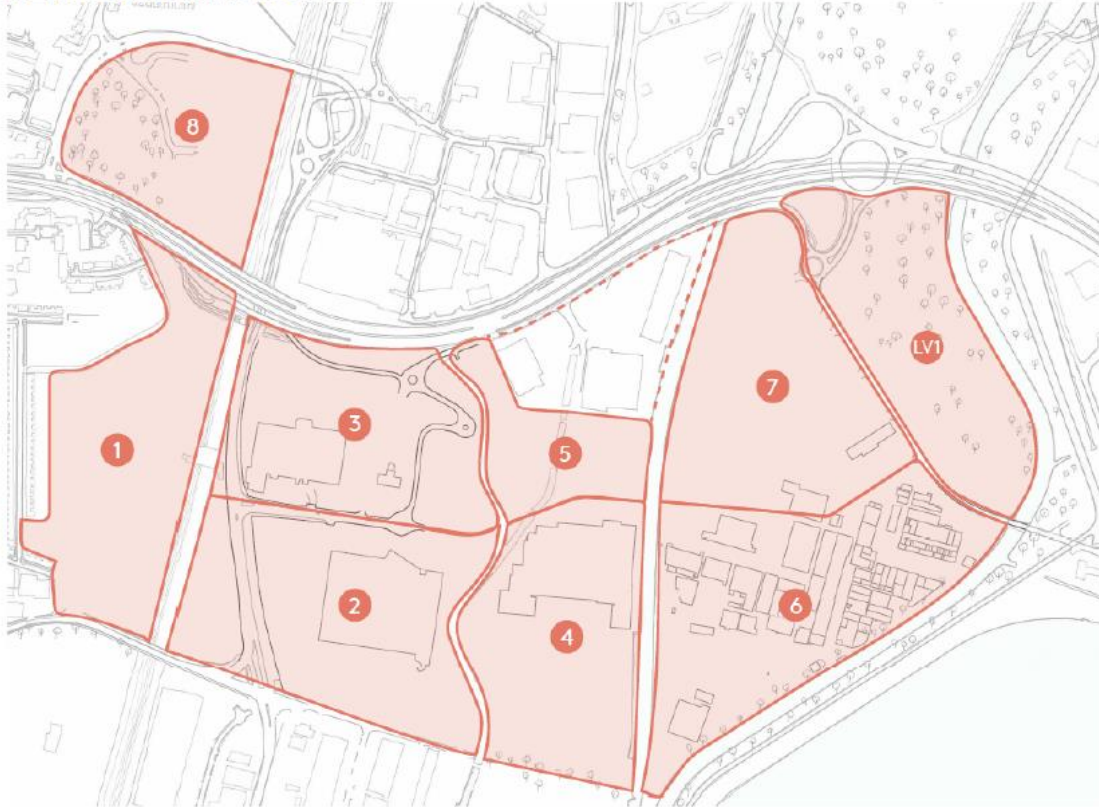
- **D1A: Demolition of BOC Premises within HIF Footprint**
- **D1B: Demolition of BOC Premises within Development Zone 4**

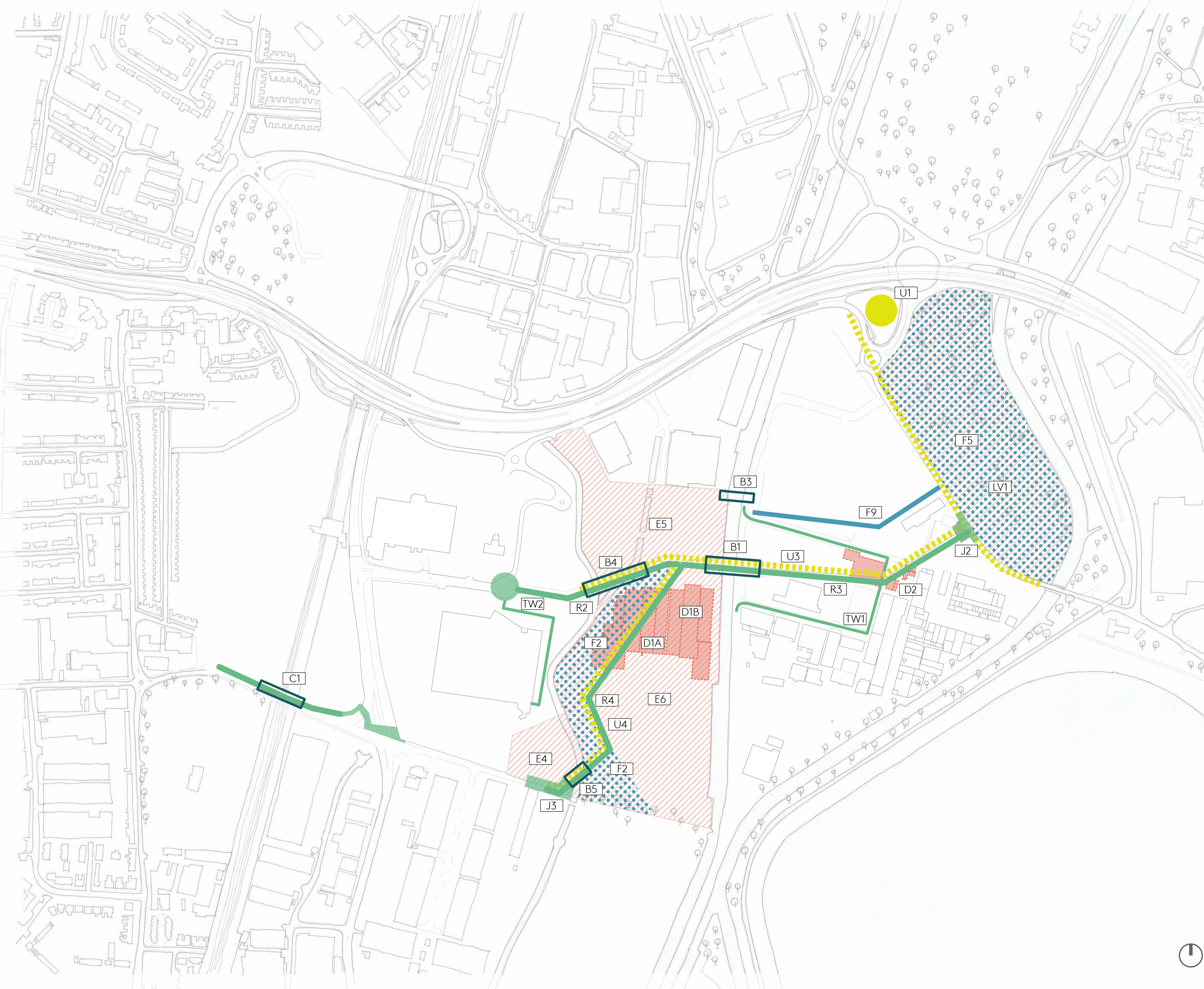
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### DOCUMENT CHECKING (not mandatory for File Note)

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Name	Mark McFadden	Joe Nunan	Joe Nunan
Signature			

## DEVELOPMENT ZONES





- Utilities
- Roads / public realm
- Access road improvements
- Pedestrian/cycle improvements
- Bridge
- Junction
- Demolition
- Land remediation
- Flood landscape
- Flood link pipe

- F2 Pymmes Brook east and south
- F5 Lee Valley Regional Park
- F9 Flood compensation flow path north
- B1 Lee Navigation bridge
- B3 Lee Navigation ped/cycle bridge (north)
- B4 Pymmes Brook crossing (central)
- B5 Pymmes Brook crossing (south)
- C1 Railway cycle/footway bridge and public realm
- U1 Primary substation
- U3 Causeway central and east utility corridor
- U4 Leaside link road utility corridor
- R2 Causeway central (across brooks) and bridge ramps
- R3 Causeway east
- R4 Link Road (Leaside Rd to Causeway)
- J2 Causeway - Harbet Road
- J3 Leaside Road - Link Road
- TW1 Zone 6 access road
- TW2 Ikea access
- D1A BOC demolition (within HIF footprint)
- D1B BOC demolition (within development plot)
- D2 Demolition zones 6 & 7
- E4 Earthworks - gasholder site
- E5 Earthworks - zone 5
- E6 Earthworks - zone 4
- LV1 Earthworks - LVRP

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