

Item No. **Report of the Interim Director of Planning, Regeneration and Public Realm**

Address: COLNE VALLEY VIADUCT, WETLANDS ECOLOGICAL MITIGATION SITE
HARVIL ROAD HAREFIELD

Development: Request for approval of Plans and Specifications (under Paragraph 3 of the Act) and associated Site Restoration Proposals (under Paragraph 12 of the Act), relating to the Ground Level Works (South); namely, Earthworks, Fencing Location and the Site Restoration Proposals and associated Landscaping at Colne Valley Viaduct, under condition imposed by Schedule 17 to the High Speed Rail (London-West Midlands) Act 2017.

LBH Ref Nos: 73263/APP/2022/1497

Drawing Nos:	Date of Plans:
1MC05-ALJ-TP-DPL-CS01_CL01-164053 Proposed Planting Plan Sheet 2	03-05-2022
1MC05-ALJ-TP-DPL-CS01_CL01-164058 Proposed Seeding Plan Sheet 3	03-05-2022
1MC05-ALJ-TP-DPL-CS01_CL01-164059 Proposed Seeding Plan Sheet 4	03-05-2022
1MC05-ALJ-TP-DPL-CS01_CL01-164044 Detailed Site Plan Sheet 4	03-05-2022
1MC05-ALJ-TP-DPL-CS01_CL01-164024 Visibility Splays Sheet 2	03-05-2022
1MC05-ALJ-TP-DDE-CS01_CL01-164063 Gate and Fencing Details Sheet 2 C01	18-05-2022
Covering letter	03-05-2022
1MC05-ALJ-TP-DPL-CS01_CL01-164039 Existing Contours Sheet 4	03-05-2022
1MC05-ALJ-TP-DGA-CS01_CL01-164073 Drainage Layout Sheet 3.	03-05-2022
1MC05-ALJ-TP-DSE-CS01_CL01-164008 Highway Cross Section Sheet 2	03-05-2022
1MC05-ALJ-TP-DPL-CS01_CL01-164025 Visibility Splays Sheet 4	03-05-2022
1MC05-ALJ-TP-DDE-CS01_CL01-164068 Habitat Features Sheet 1 C01	18-05-2022
1MC05-ALJ-TP-DPL-CS01_CL01-164052 Proposed Planting Plan Sheet 1.	03-05-2022
1MC05-ALJ-TP-DPL-CS01_CL01-164035 Existing Site Plan.	03-05-2022
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1MC05-ALJ-TP-DSE-CS01_CL01-164067 Sections Sheet 5	03-05-2022
1MC05-ALJ-TP-DSE-CS01_CL01-164091 Sections Sheet 6	03-05-2022
1MC05-ALJ-TP-DSE-CS01_CL01-164007 Highway Cross Section Sheet 1	03-05-2022
1MC05-ALJ-TP-DSE-CS01_CL01-164012 Highway Cross Section Sheet 6	03-05-2022
1MC05-ALJ-TP-DPL-CS01_CL01-164087 Pavement Layout Sheet 3.	03-05-2022
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1MC05-ALJ-TP-DSE-CS01_CL01-164093 Sections Sheet 8	03-05-2022

1MC05-ALJ-TP-DGA-CS01_CL01-164040 Landscape Masterplan	03-05-2022
1MC05-ALJ-TP-DPL-CS01_CL01-164041 Detailed Site Plan Sheet 1	03-05-2022
1MC05-ALJ-TP-DPL-CS01_CL01-164049 Proposed Contour Plan Sheet 2.	03-05-2022
1MC05-ALJ-TP-DGA-CS01_CL01-164072 Drainage layout Sheet 2	03-05-2022
1MC05-ALJ-TP-DGA-CS01_CL01-164061 Fencing Overview Plan C01	18-05-2022
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1MC05-ALJ-TP-DDE-CS01_CL01-164062 Gate and Fencing Details Sheet 1 C01	18-05-2022
1MC05-ALJ-TP-DDE-CS01_CL01-164069 Habitat Features Sheet 2 C01	18-05-2022
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1MC05-ALJ-TP-DPL-CS01_CL01-164057 Proposed Seeding Plan Sheet 2.	03-05-2022
1MC05-ALJ-TP-DSE-CS01_CL01-164064 Sections Sheet 2	03-05-2022
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1MC05-ALJ-TP-DGA-CS01_CL01-164074 Drainage Layout Sheet 4.	03-05-2022
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1MC05-ALJ-TP-DSE-CS01_CL01-164010 Highway Cross Section Sheet 4	03-05-2022

1MC05-ALJ-TP-DPL-CS01_CL01-164088 Pavement Layout Sheet 4	03-05-2022
1MC05-ALJ-TP-DSH-CS01_CL01-164060 Planting And Seeding Schedule C01	18-05-2022

Drawing Nos:

Date of Amended Plans:

Date Application Valid: 3rd May 2022

1. SUMMARY

This application comprises a Plans and Specifications submission under Schedule 17 of the High Speed Rail (London-West Midlands) Act 2017 (The Act), in relation to earthworks, fencing, walls and gate locations and site restoration of the ground level works beneath the Colne Valley Viaduct.

The application is the latest in a series of HS2 Schedule 17 planning submissions that have been deposited with the Council. These Schedule 17 planning submissions can best be likened to the submission of reserved matters, where outline planning consent, has already been granted. This includes the principle of a viaduct structure and ancillary works having already been approved in this broad location. The role of the Planning, Authority is therefore heavily restricted as to what can and cannot form the basis of a decision.

This application seeks approval of works, under Part 1, paragraph 3 of Schedule 17 of the HS2 Act. Certain elements of this submission also seek agreement under Part 1, Paragraph 12 of Schedule 17 for site restoration works consisting of hard and soft landscaping.

There is no statutory obligation to consult with neighbours. However, Natural England, the Environment Agency and Historic England (including GLAAS) are statutory consultees for this proposal and have raised no objections. The Environment Agency has not responded.

The proposals under Schedule 17(3) include earthworks and the location of fencing. There are restrictions on the material planning matters that can be considered in relation to these details. Local Authorities can only refuse or impose conditions in relation to earthworks where the proposal ought to and could reasonably be modified:

- a) to preserve the local environment or local amenity
- b) to prevent or reduce prejudicial effects on road safety or on the free flow of traffic in the local area, or
- c) to preserve a site of archaeological or historic interest or nature conservation value.

The grounds for considering the fencing are that the development ought to and could reasonably be carried out elsewhere within the development's permitted limited; therefore, it is only the location of the fencing, not the type, that can be considered.

The wider site restoration is being submitted under Schedule 17(12). This Part of the Schedule

sets no restrictions on the scope of consideration and simply requires the nominated undertaker to agree a restoration proposal with the Local Authority and allows for conditional approval.

New accesses on to Harvil Road are to be considered under Schedule 4 of the HS2 Act and there are consents related to drainage discharges and works to watercourses that fall under Schedule 33.

Landscape mitigation includes planting as was shown in the HS2 Environmental Statement (ES). Stands of woodland and scrub will be strategically planted and maintained, with the primary purpose to provide and maintain visual mitigation and integration of the railway infrastructure as required by the Environmental Minimum Requirements (EMRs).

The proposed design seeks to improve both ecological mitigation and enhancement, while appropriately screening the railway and associated infrastructure from sensitive visual receptors.

The landscape design will contribute to strategic place making objectives, by responding positively the character of the area and contributing to local distinctiveness through design quality.

Officers are of the opinion that the proposals would not have a detrimental impact on a site of ecological value (i.e. a designated site) or an archaeological area of importance.

In summary, in relation to the three main matters before the Council as part of this submission:

No objections are raised in relation to the fencing
No objections are raised in relation to the earthworks
No objections are raised in relation to the land restoration

2. RECOMMENDATION

APPROVAL

INFORMATIVES

3. CONSIDERATIONS

3.1 Site and Locality

The footprint of the site location comprises five main development areas of land along the Colne Valley Viaduct alignment, from the River Colne at the north-western extent through to Harvil Road at its south-eastern extent. These are interspersed by open waterbodies and lakes. The Colne Valley Viaduct spans the Colne Valley between approximately Harvil Road to the east, in the London Borough of Hillingdon and the A412 in the west, within Buckinghamshire Council.

The five sites are described in the Written Statement as follows:

- River Colne;

Starting at the realigned section of the River Colne, the site follows the eastern side of the river and then between Long Pond and the western bank of Harefield Moor Lake, until it reaches the north-western corner of Korda Lake. This narrow site is mostly surrounded by water bodies, broadleaf woodland, and dense undergrowth.

The Denham Film Studios redevelopment is located approximately 200m to the west of the site. Beyond this is Denham Garden Village. South Harefield is approximately 1km to the northeast. Despite its greater distance, the site can be viewed from South Harefield across Broadwater and Korda Lakes.

The site is largely inaccessible in its current condition. However, historically there have been informal access routes through the site along the eastern bank of the River Colne but also through the Broadwater Lake Nature Reserve.

At present, quarrying operations, principally comprising the processing of aggregate are underway in Harefield Moor Lake to the east of the site.

The construction of the HS2 works to date have removed a number of trees that were located on the eastern bank of the River Colne and the strip of land between Long Pond and the river. A larger area of vegetation clearance and land profiling has taken place between the northwest of Korda Lake and Long Pond, to form a causeway and provide a clear route for the viaduct, between the two jetties that cross Long Pond and Korda Lake.

- Moorhall Road;

This comprises the north-western corner of Korda Lake and the northern most corner of Savay Lake and is divided by Moorhall Road running southwest to northeast. The Korda Lake site to the south is currently being utilised as a construction compound linked to the building of the Colne Valley Viaduct and has a large jetty across it. The areas outside of the compound are dense woodland. The Savay Lake site was previously an informal, car park for recreational anglers and is now a construction compound for the Viaduct works. Other areas along the northern banks of Savay Lake are mostly cleared to allow for construction work but have historically been densely wooded with some areas of aquatic marginal vegetation on the edge of the lake.

The site surroundings are the open water of Korda Lake to the northwest and Savay Lake to the south. Blackford Pumping Station is found to the east and further to the northeast on Moorhall Road is the Bear on the Barge public house. Previously, the areas occupied by compounds contained a broad range of mixed deciduous woodland species.

Within this section, vegetation loss has principally been along the haul road and compound footprints. Vegetation along the access track to the east of the River Colne and along the western and southwestern edge of Korda Lake however remains largely intact. Views into the open water bodies of Korda Lake and Moorhall Road have been made more open by the works to date.

- Grand Union Canal (GUC);

This site is the point at which the Grand Union Canal will pass beneath the Viaduct and is characterised by the waterway corridor and recreational routes being bordered by densely wooded/scrub fringes and tree belts along either side.

To the west of the site is Savay Lake, while to the east is Harefield No. 2 Lake. Due to the vegetation along either side of the Canal, views between the canal and the lakes are largely filtered. The towpath running along western side of the Grand Union Canal is a designated Public Right of Way (permissive footpath) U75. The track on the eastern side of the Canal is part of National Cycle Route 6. Harefield Marina is approximately 250m to the north of the site. Other than in the location where the proposed Viaduct shall cross the canal there has been limited works and vegetation clearance, the GUC is not used as a construction access route, with the piers adjacent to the canal being reached predominantly by constructed jetties across the associated lakes.

- Harefield No. 2 Lake;

This site comprises the eastern bank of Harefield No. 2 Lake, north of the Hillingdon Outdoor Activity Centre (HOAC) and Dews Lane. The site is currently a well vegetated and naturalised bank to the waterbody. Some areas of amenity grassland associated with the Hillingdon Outdoor Activity Centre were interspersed within the broad woodland mix. To the west of the site is the open water of the lake while to the east is open agricultural land.

This location is accessible via Permissive Footpath U34 which runs north to south through the area linking with Dews Lane to the south. Harefield Marina is approximately 300m to the northwest of the location. South Harefield is approximately 500m to the north. Within this section, the viaduct, utility and replacement flood storage work, as well as the diversion of overhead electric lines, has led to a large area of vegetation clearance and ground level changes, some of which are permanent (e.g., flood storage).

and

- Land south of Dews Lane.

The largest individual parcel in the application site is the area to the south of Dews Lane. This land is now substantially taken over by construction activity. The land gently rises from Harefield No. 2 Lake up to Harvil Road and has open aspects when viewed through the boundary vegetation due to the site's openness and rising elevation.

Prior to the commencement of HS2 construction works, most of the land in this area comprised agricultural pasture separated by fragmented hedgerows and tree belts. The Newyears Green Bourne is a key feature of the site, flowing through the location from east to west and lined on either side by relict hedgerow and mature trees. Dews Dell, located on the southern side of Dews Lane near Harvil Road, is the only area of dense tree cover at this location. The southern boundary of the site is the Chiltern Main Line. The C1/S2 Contract Area boundary delineates the eastern boundary and broadly following the realigned Harvil Road and the site of the Copthall Tunnel headhouse⁶. Both boundaries are separated from the site by lines of mature trees. The bank of Harefield No. 2 Lake marks the western boundary.

Dews Cottages located on Dews Lane are the nearest residential receptor to the location. South Harefield is approximately 1km to the north and Ickenham 1.6km to the south.

The Hillingdon Outdoor Activities Centre is located at the western end of Dews Lane at the edge of Harefield No. 2 Lake. This has now been vacated due to construction activity in this area. The route of Footpath U34 passes through the site from Harvil Road in a south westerly direction until crossing the Newyears Green Bourne, where it then turns north toward the HOAC and continues north past Harefield No. 2 Lake. This route has now been stopped up due to construction work.

Other land uses of note in the area are the Dogs Trust kennels approximately 250m to the northeast and the various commercial units located on Skip Lane to the south of the Chiltern Main Line. Uxbridge Public Golf Course is also found on the southern side of the Chiltern Main Line. Principal changes to the area that have already occurred at the construction of a new Dews Lane alignment to the south of the existing Dews Lane. In addition, Harvil Road is being realigned to the east of its present footprint and includes the construction of two new overbridges (one for the future HS2 railway) and one over the present Chiltern Line.

The overall site is transected by various walking and cycle routes. The most defined of these runs along the Grand Union Canal in a north-south direction and includes cycle routes and Public Rights of Way (PRoW) on both sides. PRoW and several informal footpaths pass through the south-eastern parts of the site. An informal footway also exists from Moorhall Road along the eastern bank of the River Colne.

The wider area is semi-rural floodplain characterised by large waterbodies, agricultural fields and woods. The nearest residential centres are South Harefield to the east and Denham Garden Village and Denham Green to the west. The Denham Film Studios redevelopment is the closest residential receptor which is to the northwest of the site. Harefield Marina is a short-let residential marina located adjacent to the Grand Union Canal and is in proximity to the site boundary as a few residential properties along Dews Lane.

The location is accessed from various points. The main traffic routes include Moorhall Road which runs in a south-west to north-east direction between the A412 in Denham and to Harvil Road in South Harefield. Harvil Road runs north to south along the eastern boundary of the site and links South Harefield to Ickenham. Dews Lane, an unadopted highway, runs from Harvil Road in a south-western direction into the site providing access to properties along the lane and Harefield No.2 Lake as well as the now closed location of the Hillingdon Outdoor Activity Centre.

The area of the works falls in an area of natural riverine landscape within the Colne Valley. The open waterbodies of Broadwater Lake, Long Pond, Harefield Moor Lake, Korda Lake, Savay Lake and Harefield No. 2 Lake are the most apparent features of the area, and these have their origins in mineral extraction activities. These lakes are each surrounded by areas of dense vegetation, principally broad-leaved woodland, and have generally limited open public access, except for around the Broadwater Lake Nature Reserve and Harefield No.2 Lake. Further to the south, the valley opens out to open agricultural fields and grasslands as the land rises from the valley to Harvil Road.

The site falls partly within the Mid Colne Valley Site of Special Scientific Interest (SSSI) which is of national value. The site is also within the Green Belt and is also partly within the Mid Colne Valley

Site of Metropolitan Importance (SMI). The SMI is designated in part for its riparian habitat with a diverse assemblage of aquatic and wetland plants, species-rich grassland and wet woodland.

Most of the site to the west of the Grand Union Canal is shown on the Environment Agency (EA) Flood Map for Planning to be within Flood Zone 3 with the exception of a small area at Moorhall Road which is within Flood Zone 2. To the east of the Grand Union Canal, only Harefield No. 2 Lake and an area either side of the Newyears Green Bourne is within Flood Zone 3. The wider areas of open grassland rising to Harvil Road are not at risk of flooding.

3.2 Proposed Scheme

The Schedule 17 submissions seek approval of plans and specifications for the earthworks, fencing, walls and gate locations and site restoration of the ground level works beneath the Colne Valley Viaduct. These are essentially approved under Paragraphs 3 and 12 of Schedule 17 to the HS2 Act. The proposed works for approval, as set out in the Written Statement, submitted plans and documentation are provided below.

River Colne

Paragraph 12 Restoration

The northern extent of the landscape and habitat restoration proposals are centred around Long Pond and extend to disturbed areas within the HS2 construction footprint. The proposals include seeding of a species rich grassland, including a wet grassland mix along the banks of the River Colne and Long Pond. Small and isolated pockets of native tree planting are also proposed to replace some of the trees felled to accommodate construction activities.

A key feature of the area is the introduction of a passive recreational routes extending from the location of the future crossing of the River Colne (not part of this submission) to the existing routes starting at the south-western corner of Broadwater Lake. This path will run along the eastern side of Long Pond, using the existing access track, and then continue south to Moorhall Road also following an existing access. The southern leg of this route (from Korda Lake to Moorhall Road) is not covered by this Schedule 17 application and is subject to the agreement of the landowner. However, it is important that the relevant consents include for the provision of this proposed walking route.

At the southern end (north of Moorhall Road), the site will be restored as a mixture of native broadleaf woodland either side of the viaduct and shade tolerant neutral species rich grassland beneath. This will sit around the proposed evacuation area which comprises an area of hardstanding with vehicular connection to Moorhall Road. Pre-planted coir rolls will be installed at locations around Pier 34, together with wet grassland seeding along disturbed lake margins.

Paragraph 3 Earthworks and Fencing

At the north-western corner of Korda Lake land, will be extended into the waterbody around the base of Pier 34. The extents of the earthworks are limited to a small footprint around the pier legs

and provide sufficient cover for the buried pile cap. This will be tied back into existing ground levels and seeded. Pre-planted coir rolls/ palettes will also be installed to establish a softer and more varied lake edge habitat. There will be no permanent or temporary fencing in this area.

At Pier 30, the bank will be pulled further back to create clear water space around the pier base. The new lake edge will be profiled to allow seeding and installation of coir palettes and will tie back into existing ground levels.

The majority of outfalls in this section come directly from the piers into the water.

There will be a permanent timber post and rail fence at the back of the highway boundary along Moorhall Road and a lockable galvanised steel vehicle access gate at the entrance to Moorhall Road. Temporary timber post and wire mesh fencing is proposed around the larger new woodland blocks to provide protection against rabbit/ small mammal predation during the early plant establishment period.

Moorhall Road

Paragraph 12 Restoration

To the south of Moorhall Road the restoration will include the same mix of native woodland species, incorporating woodland shrub species to provide a varied structure and edge definition. This treatment extends to either side of the viaduct (allowing for offsets to limit future impact of vegetation on the structure). Beneath the woodland the ground will be sown with shade tolerant grasses whilst elsewhere a species rich neutral grassland is proposed and a wetland mix along disturbed (or newly created) lake edges. Pre-planted coir rolls/ palettes will also be installed to establish a softer and more varied lake edge habitat.

The construction haul road will be re-purposed as a maintenance access route from Moorhall Road alongside the viaduct. This will also allow access to Savay Lake for boats to be launched for maintenance purposes. Provision is made to create a recreational pedestrian link to the Grand Union Canal towpath from Moorhall Road, in part using the maintenance access, albeit there are limited physical works associated with this.

Paragraph 3 Earthworks and Fencing

A small area of earthworks will be undertaken to the bank of Korda Lake to allow pier P30 to be placed in the lake. An area beneath the viaduct and accessed from Moorhall Road will be left cleared to allow a location for emergency vehicle and equipment. A series of drainage outfalls from the viaduct are present in this section. Specifically, one outfall north of Moorhall Road draining via a ditch into Korda Lake and four outfalls at various points south of Moorhall Road draining into Savay Lake.

There will be localised reprofiling of land around Pier 22 to create the slipway access into the lake. These earthworks will be tied back into existing ground levels. Elsewhere all of the ground will be returned to pre-mobilisation levels.

There will be a permanent timber post and rail fence at the back of the highway boundary along

Moorhall Road and a lockable galvanised steel vehicle access gate at the entrance to Moorhall Road. A galvanised steel kissing gate alongside the vehicle entrance will be provided to facilitate pedestrian access to the recreational route. Temporary timber post and wire mesh fencing is proposed around the larger new woodland blocks to provide protection against rabbit/ small mammal predation during the early plant establishment period. Maintenance access to the fenced off planted areas is provided at key locations via vehicular field gates.

Grand Union Canal

Paragraph 12 Restoration

The restoration of this area will be a combination of native scrub vegetation, tree planting and neutral species rich grassland. This is aimed at reinforcing the vegetative corridor along the Canal whilst also providing glimpsed views to the lakes beyond.

The track forming part of National Cycle Route 6 on the eastern side of the Grand Union Canal will be maintained as part of the restoration. Similarly, footpath U75, the canal towpath, will be unaltered.

Paragraph 3 Earthworks and Fencing

Land around Pier 20 (north of the canal) will be extended into Savay Lake in accordance with the architectural narrative; Pier 20 - a buttress pier - is defined as a land-based structure. The extents of the earthworks are limited to a small footprint around the pier legs and provide sufficient cover for the buried pile cap. This will be tied back into existing ground levels and seeded. Pre-planted coir rolls/ palettes will also be installed to establish a softer and more varied lake edge habitat. There are no formal drainage headwalls associated with the Grand Union Canal crossing section.

A permanent timber post and rail fence will be installed around the build out into Savay lake to provide protection against people entering the lake from the canal towpath. It should be noted that this area is identified as a potential location for public art (delivered through HS2's Arts Strategy); this may result in a different configuration of access and fencing, but details are yet to be progressed and therefore not included within this Schedule 17.

Harefield No. 2 Lake

Paragraph 12 Restoration and Paragraph 3 Earthworks & Fencing

The proposals to the north-eastern side of Harefield No. 2 Lake will involve earthworks to provide permanent replacement flood storage. These works require the excavation of both the lake edge (for approximately 30m) and rising land immediately to the east to create a shallow bowl. In addition, three habitat scrapes will be created - two within the flood storage area; and one located further south along the lake edge. The southern scrape outside of the permanent replacement storage area and will not be directly connected to Harefield no.2 Lake

A dedicated access to the lake edge will be provided for anglers. This will comprise a shallow grade stone surfaced path (with a maximum gradient of 1:15) which links retained fishing swims to the north and south of the flood storage area to the U34 footpath and ultimately to the Harrow

Angling Society car park via existing routes which are outside of Act limits). In extreme flood events, when the route within the permanent replacement storage area will be inundated, access to the southern swims will be via the realigned U34 footpath and a new spur to the south (permissive path) which extends to the lake edge (also a stone surface).

On higher ground to the east, belts of native woodland will be established. These will provide some enclosure of the flood storage area and complement retained mature trees to the immediate south. The woodland will deliver some of the visual mitigation for the National Grid feeder station which will be designed separately and which will include further landscape mitigation informed by the Hybrid Bill proposals

The flood storage areas will be seeded with calcareous grassland mix where an exposed chalk bank is present in the excavation of the flood storage area, with a wet grassland mix introduced within the shallow excavations. Coir Pallets will be installed along the margins of the scrapes and deeper waterbodies to encourage early establishment of wetland habitats. Areas that are not lower lying on the chalk bank or planted with trees/shrubs will be seeded with a neutral grassland mix.

The U34 footpath will also be realigned through this area to provide a recreational route from Dews Lane in the south through to the current U34 as it continues north. Beneath the viaduct will be a maintenance track and set down area. This will be accessed from Dews Lane and will provide a boat launching ramp into Harefield No. 2 Lake for maintenance purposes only.

The only permanent fencing in this area will be along Dews Lane (north and south); this is a timber post and rail fence and has approval under the earlier Schedule 17 application (refer to earlier section). One localised alteration to this fencing will be the incorporation of galvanised steel kissing gates at the intersection of the U34 footpath with Dews Lane. Temporary timber post and wire mesh fencing is proposed around the larger new woodland blocks to provide protection against rabbit/deer grazing during early plant establishment period. Maintenance access to the fenced off planted areas is provided at key locations via vehicular field gates.

Drainage from the viaduct will come from five separate points into a combination of culverts and earthwork ditches before discharging into the lake.

Land South of Dews Lane

Paragraph 12 Restoration and Paragraph 3 Earthworks & Fencing

This location will support the most extensive and concentrated area of earthworks, new habitats and recreational footpaths. It will be characterised by a mosaic of species rich grassland (both wet and dry neutral), wetlands, woodland and scrub set against the backdrop of the viaduct and associated railway infrastructure and substantial areas of retained woodland and waterbodies.

The largest single earthwork feature in this location will be the southern embankment where the railway emerges from the Copthall Tunnel and joins the Colne Valley Viaduct. The embankment rises to approximately 46m AOD (8m above adjacent ground to the immediate north) and extends to the south where a level platform is created to accommodate the Auto-Transformer Feeder Station (ATFS). The Written Statement notes that the specific details of the ATFS will be brought forward by HS2 Rail Systems once this design specification is known. To the west of the

embankment is an excavated attenuation pond designed to assist with storm water runoff, including from the embankment.

A series of connected and standalone shallow waterbodies will be excavated. These will create an extensive and varied wetland habitat extending over approximately 3 ha. The western group of ponds will also form part of an integrated and sustainable drainage system for elements of the railway infrastructure. The approved earthworks as a part of the Newyears Green Bourne have been overlaid within this consent. There have been some minor adjustments to tie into the relevant profiles. However, the Written Statement states that this does not alter the overall benefit provided by the realignment and its associated replacement flood storage.

A significant portion of the site will be restored to a species rich grassland habitat including dispersed areas of scrub and (in low lying/ damp areas) wet woodland. These areas are designed to support low intensity grazing as part of the management regime.

A series of recreation access routes will cross the site. The realigned U34 footpath will divert from its original route extending from Dews Lane, running to the north of Newyears Green Bourne, and connecting with the new highway footpath on Harvil Road. This will be a surfaced route. A new permissive and unsurfaced footpath will extend from a retained section of the U34 (to the west of the new railway attenuation basin) and run to the south of the ATFS, before connecting to the proposed footpath on Harvil Road in the east. A spur from this new route will also form a short loop into the wetland habitat area.

A maintenance access track will also run from Harvil Road around the embankment to provide a vehicular route to the ATFS platform, attenuation pond and viaduct. Further maintenance access tracks are provided from Dews Lane as there will be no permanent ground level crossing of the Newyears Green Bourne. These tracks have various surface types depending on the frequency of use

Agricultural fencing is proposed for land parcels to the south of Dews Lane. This is required to support cattle grazing which, as stated above, is a critical component of the land management approach in this area. The design and alignment of this fencing and gates (including the provision of cattle corral areas) has been developed through engagement with the London Wildlife Trust.

Temporary timber post and wire mesh fencing is proposed around the larger new woodland blocks to provide protection against rabbit/ deer grazing during early plant establishment period. Maintenance access to the fenced off planted areas is provided at key locations via vehicular field gates. Security fencing will only be used where necessary to meet HS2's operational security standards. This includes provision of secure fencing around the ATFS platform, along the south embankment and at the foot of the maintenance access stairs beneath the viaduct.

The area is drained via ditches that lead to the newly created wetland habitats. On the southern side of the embankment, drainage is directed to the attenuation pond before being discharged via the wetland habitats. Other areas such as to the north of the embankment and from the viaduct discharge direct into the wetlands and the Newyears Green Bourne.

The proposals exclude details of planting along Dews Lane as the restoration scheme for these elements will form part of a separate submission, linked to the previous Schedule 17 approvals. The

general arrangement of planting along Dews Lane is however shown on plans for context.

3.3 Relevant Planning History

Section 20 to the Act grants deemed planning permission for the works authorised by it, subject to the conditions set out in Schedule 17. Schedule 17 includes conditions requiring the following matters to be approved or agreed by the relevant LPA.

- Construction arrangements (including large goods vehicle routes);
- Plans and specifications;
- Bringing into use requests; and
- Site restoration schemes.

This is therefore a different planning regime to that which usually applies in England (i.e. the Town and Country Planning Act) and is different in terms of the nature of submissions and the issues that the LPAs can have regard to, in determining requests for approval.

Schedule 17 of the Act sets out the grounds on which the LPA may impose conditions on approvals, or refuse requests for approval.

HS2 Ltd as the nominated undertaker is contractually bound to comply with the controls set out in the Environmental Minimum Requirements (EMRs). The EMRs comprise the following suite of documents:

- Code of Construction Practice (CoCP)
- Planning Memorandum
- Heritage Memorandum
- Environmental Memorandum
- Undertakings and Assurances

These controls along with the powers contained in the High Speed Rail (London - West Midlands) Act and the Undertakings and Assurances are designed to ensure that impacts which have been assessed in the Environmental Statement (ES) will not be exceeded. The Environmental Statement (ES) is an assessment of the likely significant environmental effects of the proposed HS2 railway and the proposals to avoid, reduce or remedy these likely significant environmental effects.

Colne Valley Viaduct Consent

The Colne Valley Viaduct is defined under the HS2 Act as part of Scheduled Work 2/1 and has the benefit of consent for the external appearance, associated earthworks and the location of fencing.

The Schedule 17 application for the Viaduct contained a description of the indicative landscape design. However, the application did not seek approval for the landscape design and restoration at that time, but provided the indicative landscape details to provide context for the wider Viaduct scheme.

4. ADVERTISEMENT AND SITE NOTICE

4.1 Advertisement Expiry Date: Not Applicable

4.2 Site Notice Expiry Date: Not Applicable

5.0 PLANNING POLICES AND STANDARDS

The following Local Plan Policies are considered relevant to the application. In so far as this application is concerned the most pertinent policies applicable to the proposals relate to Green Belt, Biodiversity and Flood Risk Management.

Part 1 Policies:

1. **PT1.EM2 (2012) Green Belt, Metropolitan Open Land and Green Chains**

(2012) Green Belt, Metropolitan Open Land and Green Chains

2. **PT1.EM3 (2012) Blue Ribbon Network**

(2012) Blue Ribbon Network

3. **PT1.EM6 (2012) Flood Risk Management**

(2012) Flood Risk Management

4. **PT1.EM7 (2012) Biodiversity and Geological Conservation**

(2012) Biodiversity and Geological Conservation

5. **PT1.EM8 (2012) Land, Water, Air and Noise**

(2012) Land, Water, Air and Noise

6. **PT1.HE1 (2012) Heritage**

(2012) Heritage

Part 2 Policies:

1. **DMEI 10 Water Management, Efficiency and Quality**

Water Management, Efficiency and Quality

2. **DMEI 11 Protection of Ground Water Resources**

Protection of Ground Water Resources

3. **DMEI 7 Biodiversity Protection and Enhancement**

Biodiversity Protection and Enhancement

4. **DMEI 9 Management of Flood Risk**

Management of Flood Risk

5. **DMHB 1 Heritage Assets**

Heritage Assets

6. **DMHB 14 Trees and Landscaping**

Trees and Landscaping

7. **DMT 2 Highways Impacts**

Highways Impacts

8. **DMEI 4 Development on the Green Belt or Metropolitan Open Land**

Development on the Green Belt or Metropolitan Open Land

9. **LPP G2 (2021) London Green Belt**

(2021) London's Green Belt

10. **LPP G6 (2021) Biodiversity and access to nature**

(2021) Biodiversity and access to nature

11. **LPP G7 (2021) Trees and woodlands**

(2021) Trees and woodlands

12. **LPP G9 (2021) Geodiversity**

(2021) Geodiversity

13. **LPP HC1 (2021) Heritage conservation and growth**

(2021) Heritage conservation and growth

14. **LPP SI12 (2021) Flood risk management**

(2021) Flood risk management

15. **LPP SI17 (2021) Protecting and enhancing London waterways**

(2021) Protecting and enhancing London's waterways

16. LPP SI5 (2021) Water infrastructure

(2021) Water infrastructure

17. NPPF13 NPPF 2021 - Protecting Green Belt Land

NPPF 2021 - Protecting Green Belt Land

18. NPPF14 NPPF 2021 - Meeting the challenge of climate change flooding

NPPF 2021 - Meeting the challenge of climate change flooding

19. NPPF15 NPPF 2021 - Conserving and enhancing the natural environment

NPPF 2021 - Conserving and enhancing the natural environment

20. NPPF16 NPPF 2021 - Conserving & enhancing the historic environment

NPPF 2021 - Conserving & enhancing the historic environment

6.0 COMMENTS ON PUBLIC CONSULTATION

6.1 SUMMARY OF NATURAL ENGLAND'S ADVICE

Natural England has welcomed the early engagement and pre-application meetings held on 25th February 2021 and 16th February 2022. Natural England further welcomes the overall mitigation planting which includes the habitat creation and restoration designed to complement the open water and wooded habitats associated with the Mid Colne Valley Site of Special Scientific Interest (SSSI). Natural England also supports the use of grazing animals (Where possible) as part of the future ongoing sustainable management of the restored habitats.

Schedule 17 for HS2

This planning proposal is for a development scheme or works scheduled under the provisions of the High Speed Rail (London-West Midlands) Act (2017) which form part of the High Speed Two scheme within your area. It should therefore be determined using the planning regime established by that legislation. The Act grants the work deemed planning permission, subject to certain matters and details of the deemed consent being reserved for subsequent local planning authority approval under Schedule 17.

We advise that, in determining the consultation, the planning authority should have regard to the permissions already granted under The Act, and to any relevant supporting documents to The Act.

HISTORIC ENGLAND (GLAAS)

The Greater London Archaeological Advisory Service (GLAAS) provides archaeological advice to

boroughs in accordance with the principles set out in the National Planning Policy Framework and GLAAS Charter. In the present context, GLAAS has been providing advice to yourselves and HS2 Ltd on mitigating the archaeological impact of the new railway since the project's inception and we continue to liaise closely with HS2's historic environment team and their consultants.

This application is made under the High Speed 2 (London - West Midland) Act and Historic England is a statutory consultee under Schedule 17 paragraph 18(1)(f) of the Act. This is because the site lies within the Council's Colne Valley Archaeological Priority Zone, an area that includes sites of archaeological interest. The land between Dews Farm and Harvil Road has been identified by HS2 as requiring archaeological evaluation and mitigation, with investigations having been carried out over several years in accordance with HS2's Environmental Minimum Requirements and Heritage Memorandum. Significant prehistoric and Roman remains have been found, including one location within the S17 application site where the scheme design is being altered to preserve remains in-situ.

The applicant's written statement recognises that this location, in the south-west corner of the site adjacent to the railway line contains significant archaeological deposits that must be preserved. It proposes that soils will not be disturbed in this area, seeding will not be carried out and that it will be maintained as grassland (through cutting/grazing) to prevent damage to the deposits through root growth from trees/shrubs. This is a positive outcome and means that the landscape design does not require further modification to preserve a site of archaeological interest.

This section of the route has revealed considerable archaeological interest and we encourage you to continue to press HS2 to recognise this through public interpretation/signage etc.

This response relates solely to archaeological issues.

6.2

7.0 MAIN PLANNING ISSUES - High Speed Rail(London - West Midlands) Act

7.1 The following above ground works are requested for approval in this Schedule 17: Plans and Specifications application:

EARTHWORKS

· Earthworks (Schedule 17, paragraph 3);

Possible grounds for refusal of approval

That the design or external appearance of the works ought to, and could reasonably, be modified

(a) to preserve the local environment or local amenity,

(b) to prevent or reduce prejudicial effects on road safety or on the free flow of traffic in the local area, or

(c) to preserve a site of archaeological or historic interest or nature conservation value If the development does not form part of a scheduled work, that the development ought to, and could reasonably, be carried out elsewhere within the development's permitted limits.

Appraisal

There are two stages to the determination of schedule 17s,
(1) is there sufficient evidence that the proposals would likely have an impact (relative to the considerations set out in the Act) and
(2) whether the proposals could and should be modified to avoid the harm.

With regards to the earthworks, the matters for consideration are:

- (1) the impacts on the local environment and local amenity,
- (2) matters relating traffic and
- (3) impacts on sites of archaeological or nature conservation value.

If it finds that there are adverse concerns, then the Council needs to be able to demonstrate that the earthworks can be reasonably modified.

Local Environment and Local Amenity:

There are various parcels of earthworks within the proposal. Consideration of these is dealt with separately:

Korda Lake - North

Earthworks are proposed around Pier 34 in the northwest corner of Korda Lake (incorrectly identified as Broadwater Nature Reserve on plan 1MC05-ALJ-TP-DPL-CS01_CL01-164051). These constitute minimal works in the lake around the pier footing to provide coverage over the buried pile and so the pier is effectively land based. This will allow the pile cap to be landscaped and will provide a substantive base for coir rolls to soften the waterside edge.

The works are subtle and necessary to provide a softer transition from pier to water edge. The impacts are therefore minimal, particularly so in the context of the Colne Valley Viaduct, serve a practical purpose and result in a subtle yet acceptable earthwork in the opinion of officers.

Korda Lake - South

Conversely earthworks are proposed around Pier 30 which constitute pulling the land back to ensure the Pier is surrounded in water. This keeps the design pattern of Piers being land based (as with 34) or water based (as with 30). Again, officers are of the opinion that the works are sympathetic to the wider Colne Valley design and would have negligible impact in the area. No modifications are therefore recommended.

Piers 22-26 - Moorhall Road

Minimal earthworks are also proposed around Piers 22 to 26 along a temporary construction access which will be repurposed to be a permanent maintenance track. There will also be a slipway here from which to launch boats for maintenance and emergency requirements. The works are considered to be subtle, necessary and have negligible impact. No modifications or changes are therefore recommended.

Pier 20 - Grand Union Canal

Earthworks around Pier 20 are similar to those for Pier 34. The lake is being marginally reclaimed around the base of the pier to protect the pile and to provide a consistent narrative of piers, water or land based. It softens the edge around the pier and provides a more appropriate transition. The earthworks are not considered to need modification and have negligible impact on the local

environment and amenity particularly given the context of the Colne Valley Viaduct.

Harefield Lake No.2 Flood Attenuation

Earthworks around Harefield No.2 Lake (HOAC Lake) relate predominately to a new large flood storage area that has been designed to be linked to the lake to the west. A flood compensation area was approved as part of the wider Colne Valley Viaduct approval but improvements have been sought by officers and these are now reflected in these updated designs. Impacts on a Thames Water sewer also have driven design changes. The flood attenuation areas are necessary to ensure the construction of the Colne Valley Viaduct results in negligible impact on flood risk; i.e. the rain runoff from deck and loss of storage due to piers will not result in an increased risk of flooding due to the flood attenuation ponds. Consequently, the location and extent of storage needs to be in close proximity to the viaduct.

The plans are an improvement on those previously allowed through the Colne Valley Viaduct appeal. They better reflect the requirement of Anglers by providing an appropriate wet and dry access and the area will be integrate into the local environment. Nonetheless, the works will have an adverse impact by virtue of changing a settled and organic landscape by having an artificially created 'bowl' by the side of Lake No.2. The proposal is further hampered by the fact the proposal will be used intermittingly and dependent on rainfall. However, given a) the need for a flood attenuation area, b) the fact that a similar but less desirable proposal benefits from an approval, c) the approach to landscaping and d) the accommodation of angling then officers do not consider the earthworks ought to be modified.

End of Dews Lane - HOAC

Further earthworks are proposed around Piers 13 and 14 to create a slipway into Lake No.2 from which boats will be launched for maintenance and emergency reasons. These works are necessary, not considered to have an adverse impact, and no modifications are recommended.

Newyears Green Bourne

Earthworks around the Newyears Green Bourne to create a new flood storage area also benefit from an existing Council consent. However, engineering consideration of these plans reveal that more mature oak trees would require removal than first envisaged. The new proposals would ultimately result in an increased amount of floodplain storage and a wider and more diverse habitat. These earthworks are necessary in this broad location and already benefit from a consent which is no longer environmentally sound. Consequently the changes are considered to be an improvement and no modifications are considered necessary.

South of Dews Lane - Groundworks South

The most significant amount of earthwork is in the area around Dews Lane and south towards the Chiltern Line. Some of these earthworks are necessary to create platforms for maintenance tracks as well as the major infrastructure to service the Viaduct, i.e. the autotransformer feeder station (ATFS). The actual infrastructure will be designed and proposed at a later date but the platform is proposed as part of this submission. Further earthworks are necessary to offset the new extent of hardstanding and additional runoff in the way of an attenuation pond. These earthworks are generally negative in nature as they are designed to accommodate infrastructure and be of a functional purpose. However, these are also the necessary earthworks to accommodate essential infrastructure.

The Council would need to identify appropriate modifications or alternative locations (where feasible) in order to seek changes. The works to the ATFS are part of a schedule work and

therefore cannot be moved; modifications would need to be proposed in the same area as presented. The drainage pond would need to be located near to the ATFS but has been designed sympathetically to interact with the wider altered landscape; officers consider the drainage basin is necessary and as proposed would have a negligible impact given the wider changes to the area outlined below

There are further works within the central part of the site, which includes the Newyears Green Bourne and its associated floodplain, a series of connected and standalone shallow waterbodies will be excavated. These will create an extensive and varied wetland habitat extending over approximately 3 ha. The western group of ponds will also form part of an integrated and sustainable drainage system for elements of the railway infrastructure.

A significant portion of the site will be restored to a species rich grassland habitat including dispersed areas of scrub and (in low lying/ damp areas) wet woodland. These areas are designed to support low intensity grazing as part of the management regime

The earthworks in this area meet operational requirements (e.g. ATFS platform) as well as a creative approach to mitigation (e.g. scrapes). The plans have been developed in consultation with wildlife trusts and the Council and reflect a proposed positive legacy in terms of land restoration. Much of the area will be retained by HS2 Ltd due to the presence of key and sensitive infrastructure so long term ownership is not considered an issue. Consequently, there is no need to return the land to less diverse uses such as agricultural land and opportunities have presented themselves to create a diverse habitat. The proposals are therefore to compliment and enhance the Colne Valley particularly by introducing ecological features that are not present on the area.

The earthworks in this area will have a mix of positive and negative impacts. Where negative impacts have been identified, officers need to consider whether the earthworks should be located elsewhere or modified. No such modifications have been identified that would result in less harm and therefore whilst the earthworks to accommodate the ATFS, attenuation pond and smaller pieces to create the maintenance tracks are harmful, they are not considered to be possible to modify to reduce such impacts and/or be relocated. There are other earthworks resulting in scrapes, wet woodland, wetland areas and recreational routes that would result in diverse environment that officers consider to be a positive legacy.

·FENCING/WALLS (location only) (Schedule 17, paragraph 3);

Whilst the design and appearance of fencing is not for approval under this Schedule 17: Plans and Specifications application, the different boundary treatments have been considered carefully. Only the location (not the design and external appearance) of fencing requires approval under Schedule 17.

The landscape proposals include four general fencing typologies; security fencing, stock fencing, temporary plant protection fencing and permanent land boundary fencing.

The security fencing and matching gates are located at points that are necessary for the protection of railway assets, such as the ATFS compound and following the route of the track on the south embankment and abutment.

Stock proof fencing is located in the land parcels to the south of Dews Lane where needed for the management of grazing. This comprises both timber post and strained wire fencing and timber post

and rail fencing. Temporary timber post and strained wire mesh fencing is provided for the larger areas of woodland planting across the wider site to provide establishment phase protection against predation from rabbits and other small mammals. Agricultural style field gates are located at strategic locations to provide maintenance access. Gates and fencing will be removed in accordance with the relevant landscape specifications and Habitat Management Plan for the site once there is no longer a threat to establishment by predation. There are two locations where land ownership boundaries are defined by timber post and rail fencing. This includes the interface between HS2 land and Moorhall Road (north and south), and at Pier 20 on the Grand Union Canal (which also acts as a protective barrier to prevent people entering the lake).

No objections are raised to the location of the proposed fencing.

·SITE RESTORATION

The Colne Valley Viaduct Ground Level Works -South - Restoration Proposals Report supports the restoration proposals at the Colne Valley Viaduct Ground Level Works South (CVV GLWS) site. The report sets out the details subject to agreement under Paragraph 12 of Schedule 17 to the High Speed Rail (London - West Midlands) Act 2017 Act ('the Act') and provides an indication of the further restoration proposals outside the area submitted for agreement at this present time.

The report sets out the measures that will be undertaken to achieve the habitat creation and ecology that is to be delivered. This ultimately addresses the restoration of the overall land area and provides the level of detail to demonstrate how the wider construction site will transition in to the permeant landscape design, and what that will comprise within the restoration agreement area. Principally, the planting, seeding and surfacing detail contained in this submission are subject to agreement, including the proposed use of the land.

In relation to the restoration scheme, the habitat design takes into account mitigation originally identified in the HS2 ES. This included ten ecological mitigation areas identified for mitigating impacts within Community Forum Area 7 which includes the centre of the valley and the western slopes areas. Each mitigation area had not been allocated to mitigate for a particular impact, i.e. to mitigate for the impact of the viaduct rather than any other area in CFA 7. Instead, the quantum of habitat delivery identified was considered that necessary at the time of the ES to sufficiently mitigate the ecological impacts of the, then, Parliamentary design.

In addition there was allowance for habitat reinstatement under the CVV - after construction, woodland and scrub habitats were to be allowed to re-colonise and/or they were to be replanted in the land required for construction of the railway with the exclusion of areas that are directly beneath the viaduct or in the service road. Most of these areas were marked as 'landscape mitigation planting' within the ES. It is worth stating however that the ES design as a preliminary landscape design at best and indicated, rather than specified, the manner in which the design could mitigate the proposed works. The requirement from the Parliamentary Process is that the Environment Minimum Requirements are followed and that the detailed design does not worsen the overall environmental effects of the scheme.

Most of the area of GLWS (east of Harefield No.2 lake) both north and south of Dews Lane was to be used as 'engineering earthworks', within the footprint of HS2 assets (CVV South Embankment and Ickenham ATFS) or reinstated back to its former use (mostly agricultural).

The current design proposes a multi-functional landscape with a significantly increased area of habitat creation than that proposed in the ES with these areas designed to be of higher quality (principally wetland, neutral grassland and new woodland/scrub). They will lead to further increases in biodiversity units for No Net Loss calculations than those anticipated from the ES in the 2017 baseline. Some of these gains have been made through reducing the extent of built structures with other gains achieved through restoration of agricultural land to natural habitat mosaics. Key habitat creation opportunities that are realised in the design include:

- Areas required for flood storage, specifically in the north-east corner of Harefield No. 2 lake and along the Newyears Green Bourne where post-construction restoration will lead to opportunities for wetland habitat creation, and calcareous grassland at Harefield;
- Enhancement of the Newyears Green Bourne river corridor and flood plain through wetland habitat creation, including mosaics of wet woodland and associated wetland habitat, including small flowing channels, ponds/scrapes, and wet grassland;
- Creation of grassland and tree/scrub planting areas on the embankments of the CVV and the Ickenham ATFS; and
- Mosaics of species-rich grassland, bordering wetland habitats and interspersed with low-lying scrub throughout the GLWS design.

Landscape mitigation: Mitigation that the design must take into account, includes landscape mitigation planting as was shown in the HS2 ES. Stands of woodland and scrub will be strategically planted and maintained with the primary purpose to provide and maintain visual mitigation and integration of the railway infrastructure as required by the Environmental Minimum Requirements (EMRs). Consequently, the proposed design has been cognisant of the opportunity to improve both ecological mitigation and enhancement, while appropriately screening the railway and associated infrastructure from sensitive visual receptors. The landscape design will contribute to strategic place making objectives by responding positively to the character of the area and contributing to local distinctiveness through design quality.

Target habitats: The restoration scheme for agreement comprises the following new habitats

- Neutral grassland
- Calcareous grassland
- Wet grassland
- Wetland mosaic (including ponds and scrapes)
- Woodland edge and scrub
- Wet woodland
- Broadleaf woodland.

Target species: The design of habitats and landscape planting will benefit a range of plants and animals. No specific species targets have been developed for the site. However, the creation of a variety of habitats as described above should benefit a range of species groups, including:

- Locally uncommon wildflowers and grasses of species-rich neutral, calcareous and wet grassland
- Badgers *Meles meles*
- Bats
- Birds
- Terrestrial and aquatic invertebrates
- Amphibians
- Reptiles
- Aquatic mammals (otter *Lutra lutra* and water vole *Arvicola amphibius*)

- Small terrestrial mammals.

Specific habitat features comprising reptile basking banks, reptile egg laying/compost heaps, hibernaculum, kingfisher Alcedo atthis banks and water vole banks have been incorporated into the site design to encourage some of these species to colonise the site or increase their existing populations.

Hibernacula Approximately 10 hibernacula will be included within the site boundary. These will provide habitat for species of reptile and amphibian (and a range of invertebrate species) for hibernation and as a refuge during the active period.

Basking banks Approximately eight banks will be incorporated into the earthworks design. The banks should be designed to create a small-scale mosaic of bare ground and poorly vegetated habitat that will create a warm micro-climate suitable for supporting a variety of species, e.g. reptiles, bees, solitary wasps, spiders, beetles and butterflies/moths.

Reptile egg-laying heap Grass snakes *Natrix natrix* typically nest in heaps of decomposing organic material, where heat from decomposition helps to incubate the eggs laid by the female. Compost heaps are often used by this species, as well as other reptiles, amphibians, small mammals and invertebrates as they provide suitable conditions.

Kingfisher : The design includes a single bank within the wetland mosaic in the NYGB floodplain. The feature will be suitable for nesting by this species.

Water vole banks Banks will be excavated that are suitable for burrowing by water voles.

Wetland planting To rapidly establish wetland vegetation around the margins of the ponds and scrapes within the wetland mosaic, the floodplain compensation areas, the drainage basins, and disturbed lake margins, pre-established coir pallets with fully grown wetland species will be installed.

Woodland and scrub planting Planting of trees and shrubs will establish the woody component of scrub, woodland edge, broadleaf woodland and wet woodland habitats, replicating and enhancing the species composition of woodland and scrub in the local area. Two areas south of Dews Lane have also been designed to allow woodland creation without planting of trees and shrubs i.e. through natural regeneration. Site won topsoil will be placed and allowed to colonise naturally through germination of dispersed seed from nearby woodlands. This is widely recognised to be a more sustainable and natural way to create broadleaf woodland and is used in this instance alongside a more traditional planting approach.

The report also sets out the habitat management principles which will be adopted for each of the habitat types to be created on the site. Following the establishment and management periods, the railway operator will be responsible for undertaking any longer-term management.

Requirements for monitoring and reporting on the Scheme is specified in the HS2 Environmental Minimum Requirements and the Ecological Monitoring Strategy.

The Written Statement concludes that the overall landscape restoration approach balances mitigation of the railway infrastructure with the creation of an ecologically rich landscape and

provision of public amenity in a contextually appropriate manner. Mixed native woodland and woodland edge planting will feature in areas where screening is required. This includes the sides of the embankment, the edges of the ATFS platform and along the Chilterns Mainline to the south. The opportunity to extend Dells Wood in the north of the site will also be realised through creation of mixed woodland along Dews Lane. Much of this woodland habitat (together with a section of the woodland proposed along the southern site boundary) will be established through a natural regeneration approach using site won topsoil and a reliance on germination of dispersed seed from nearby woodlands. This is widely recognised to be a more sustainable way to create broadleaf woodland and is used in this instance alongside more traditional planting approach.

OFFICER COMMENTS ON SITE RESTORATION

Natural England raises no objections to the proposals and has welcomed the early engagement and pre-application meetings Natural England further welcomes the overall mitigation planting which includes the habitat creation and restoration designed to complement the open water and wooded habitats associated with the Mid Colne Valley Site of Special Scientific Interest (SSSI). Natural England also supports the use of grazing animals (Where possible) as part of the future ongoing sustainable management of the restored habitats.

8.0 BOROUGH SOLICITOR COMMENTS

There are two specific legal issues which need to be drawn to the attention of Members of the Committee and these will be set out in turn.

The first relates to the July 2020 Court of Appeal decision which established a number of important legal principles which apply to the determination of Schedule 17 applications by qualifying authorities, of which the Council is one. The Court of Appeal held, inter alia, that HS2 Ltd must, in its capacity as the Nominated Undertaker for Phase One of the HS2 Scheme, provide sufficient information in support of their applications to authorities so as to enable them to lawfully determine them. This decision essentially reaffirms the important 'wednesbury reasonable' principle, which has been a central tenet of public law for many years, and which provides that a decision-maker must have sufficient information before it in order to make a reasonable and lawful decision.

Therefore, the first task of Members in considering this particular application is to satisfy themselves that they have been provided with sufficient information.

If they are so satisfied, Members must then turn to their second task which is to consider the application in light of the prescriptive Schedule 17 statutory language and decide whether to approve or refuse it.

Paragraph 3 of Schedule 17 relates to both earthworks and fencing and would enable the Council to either refuse the application or impose conditions if the Council considers that it is necessary to preserve the local environment or amenity, to prevent or reduce prejudicial effects on road safety or on the free flow of traffic in the local area or to preserve a site of archaeological, historical interest or nature conservation value.

In addition, paragraph 12 requires HS2 to submit a land restoration proposal to the Council .

As explained in the report, officers are satisfied with the proposals for earthworks and with the location of the proposed fences and also with the restoration proposals submitted by HS2. Provided that members are also satisfied about these matters, it is recommended that the application submitted by HS2 be approved.

9.0 OTHER ISSUES

FLOODING AND DRAINAGE

The Written Statement describes each of the water bodies in the application area from west to east, as they were considered in the ES.

The River Colne, a designated main river, forms the western most boundary of this application. Due to the Viaduct crossing the river at an acute angle, the River Colne requires realignment between two viaduct piers. This was accounted for in the ES and assumed Viaduct span lengths of 40m metres. Since the time of the ES consideration, design improvements to the CVV have meant that the span width can be increased to 80m resulting in more space for the river to pass beneath the viaduct. The Sch. 17 for the River Colne realignment, as well as the Bringing into Use of the realignment has been approved by the Council.

Long Pond is a small linear water body nestled between the River Colne and Harefield Moor Lake/Korda Lake. It is crossed by the proposed CVV. The eastern bank of the River Colne in this location is therefore sensitive to change as there is a relatively narrow land strip between Long Pond and the River Colne.

Harefield Moor Lake currently operates as a mineral washing and processing facility and is the recipient of silt arisings from this process. Broadwater Lake is a large water body previously formed by gravel extraction to the north of Harefield Moor Lake. Several small islands are present in Broadwater Lake and its extent has been defined historically by the River Colne on its western edge and the presence of the Grand Union Canal to the east. Again, Broadwater Lake, the predominant element of the Mid-Colne Valley SSSI for over-wintering birds, was formed as a result of gravel workings and also has a walking route, sailing and other recreational activities upon it.

Korda Lake, also a disused gravel pit, is one of the principal water bodies crossed in this subarea. This forms part of the River Colne floodplain and is identified as being within the EA's Flood Zone 3. Similarly, land to the west and north of the lake, including Harefield Moor Lake and Broadwater Lake are also identified as falling within the floodplain. During extensive flooding, all these lakes are hydraulically connected, and the flow is from north to south into each respective lake store. However, none of the lakes are directly connected to either the River Colne or Grand Union Canal. Korda Lake is also one of the principal waterbodies within the SSSI and prior to HS2 works, had a large number of fish swims for recreational and competition fishing.

To the south of Moorhall Road, Savay Lake, another formal gravel pit, is a large lake with a linear tree-belt approximately halfway across it. In addition, Savay Lake has several individual trees and small clusters of trees on its northern edge. Savay Lake does not have any watercourse flowing into, or out of it, but the River Colne follows its western edge and the Grand Union Canal forms its eastern edge. Savay Lake continues to provide fishing activities.

The Grand Union Canal forms a boundary between Savay Lake and Harefield No.2 Lake and follows the general direction of flow in the Colne Valley, from north to south. The Canal passes underneath Moorhall Road to the north and the Chiltern Railway line to the south. Outside of extreme flooding conditions, the Canal is not generally hydrologically connected to Harefield No.2 Lake or Savay Lake and flows, at a raised level, between the two lakes. Just to the north of the viaduct crossing of the Grand Union Canal lies Harefield Marina.

The final lake crossed by the viaduct (when travelling south) is Harefield No.2 Lake, a former gravel pit. This lake is very open with no tree belts or islands within it. Unlike the previous lakes, this lake is effectively an on-line water body into which the Newyears Green Bourne discharges approximately halfway up its eastern shore, to the south of the main buildings associated with the Hillingdon Outdoor Activity Centre. This lake then outfalls back to the Newyears Green Bourne at the southwest corner of the lake. This then passes under the Chiltern Line before passing through further lakes to the south and ultimately discharging into the River Colne, near Denham Lock.

The Newyears Green Bourne is designated main river which flows from east to west between Dews Lane and footpath U34. As it enters the HOAC land passing under footpath U34, the watercourse meanders through the site before discharging into the Harefield No.2 Lake and then continuing as the Newyears Green Bourne from the southwest corner of the lake.

Areas of Flood Zone 2 and 3 are associated with the Newyears Green Bourne and some areas of the Viaduct south embankment and associated drainage infrastructure fall within this floodplain. The ES identified the replacement flood storage to be located to the east of Harvil Road. The ES also assessed the realignment of the Newyears Green Bourne to avoid viaduct piers. At the time of the ES this was assumed to be a length of approximately 140m¹⁴. This realignment was the subject of a separate Schedule 17 approval.

The main ES concluded that there would be no permanent effects on flood risk as a result of the viaduct, on the basis that sufficient replacement floodplain storage would be provided and that the drainage of the CVV would be in accordance with Environment Agency guidance at the time. The same conclusions were reached in respect of drainage.

The Written Statement notes that replacement flood storage earthworks, and earthworks associated with the realignment of the watercourses have been previously approved by the Council. For completeness, there are replacement flood storage earthworks to the east of Harefield No.2 Lake, north of the proposed alignment of the viaduct, and along the realignment of the Newyears Green Bourne.

Flood Storage Areas

Two specific locations within the scheme are provided as replacement flood storage areas. These are the eastern bank of Harefield No. 2 Lake and adjacent to Newyears Green Bourne. Both locations have the benefit of Sch. 17 consent, specifically the area at Harefield No. 2 Lake through the Colne Valley Viaduct consent and the Newyears Green Bourne through the consent for the realignment between piers P5 and P6. However, since these consents were granted, HS2 Ltd state that small changes to the replacement flood storage areas have been required, specifically for the following reasons:

Harefield No. 2 Lake - There is an existing Thames Water Sewer and associated chambers crossing this location that is to be retained. The flood storage area at Harefield No. 2 Lake is constrained by a Thames Water gravity sewer main that runs broadly north-south through the site. The flood storage area will be built around this constraint while allowing future access for Thames Water for maintenance to its asset. The flood storage area has been designed based on the requirement to provide a 920 cubic metre replacement for losses elsewhere in the floodplain during the temporary stage of the works. The temporary stage works have been assessed up to the 1 in 20 year flood event and provide a replacement storage equivalent on a level for level basis of 1,120 cubic metres. Although the permanent works in the floodplain have a smaller overall footprint when compared to the temporary works, the requirement to provide level for level compensatory storage up to the 1 in 100 year plus climate change event means that the volumetric requirement on a level for level basis totals at 910 cubic metres. Due to the contouring and overall area (footprint) of the temporary floodplain storage, and the need to appropriately landscape this into the final landscape design, the permanent floodplain storage volume on an equivalent level for level basis equates to 2,950 cubic metres. As such, a minor beneficial floodplain surplus will be provided by the works.

In addition, more Lake edge trees of value are also present than had been assumed previously which are to be retained where possible.

Newyears Green Bourne - It was found that the original flood storage area would result in the removal of mature oak trees.

The changes proposed in the application will supersede the flood storage areas that were previously consented in these locations. HS2 Ltd advise that the designs of the flood storage areas are intended to be multi-functional by delivering new wetland habitats that enhance biodiversity while delivering on the primary purpose of flood storage.

The wetland habitats will be excavations to below the flood storage design levels, thereby not effecting the storage capacity. The provision of multi-stage profiles will be key to delivering good quality habitats for a variety of wildlife, including a diverse wetland plant community and protected species such as water vole.

The impact on fish stock for recreational anglers at Harefield No. 2 Lake has also been considered. The habitats contained within the replacement flood storage area will be managed in line with the restoration proposals document. The replacement flood storage areas are designed to only require a minimum of active management, and to regenerate as natural lake edge habitats.

Drainage

Drainage along the viaduct will capture and direct runoff to a series of downpipes within selected piers. Where piers are directly over a waterbody, runoff will be discharged directly to this. Where piers, embankments and other associated infrastructures are within the landform, ground level drainage systems largely in the form of open vegetated ditches, will attenuate and convey runoff to the waterbody as required.

The landform to the south of Newyears Green Bourne will markedly change from the existing land profiles due to the raising of the land for the embankment and the lowering of land to accommodate wetland habitats and flood storage areas. This raising and lowering of the landform will work hand in hand from a drainage perspective.

Track side filter drains along the embankment section will collect runoff from the railway to the east of the embankment. Runoff from Contract S2, the ATFS and access roads will then converge as runoff is conveyed via carrier drains to the main attenuation pond. This will in turn drain out to wetland areas and open vegetated ditches which will direct runoff to the Newyears Green Bourne.

The ATFS platform itself and the associated maintenance access tracks will drain via a combination of ditches, filter drains and carrier drains. The majority of the runoff will also be conveyed to the main attenuation pond, but there will also be a series of open vegetated ditches at the toe of the embankment which will direct flow directly into the Newyears Green Bourne.

ECOLOGY

The Written Statement provides the following information regarding the key ecological features of the site including designated sites, habitats, and species.

Designated Sites

The northern section of the site from the River Colne to Moorhall Road is contained within the Mid Colne Valley SSSI. A larger area of the overall site is also contained within the Mid Colne Valley SMI and incorporates.⁸

- Part of the construction compound north of Moorhall Road.
- A small area to the east of Savay Lake.
- Land immediately to the west of the proposed location for the National Grid substation and east of Harefield No. 2 Lake.
- Agricultural land south of Dew's Lane.

The ES concluded that there will be a loss of breeding bird habitat and disturbance to breeding birds in the Mid Colne Valley SSSI because of the Viaduct construction. Wintering birds will also be impacted, although the diversity and abundance of the wintering bird assemblage is likely to remain unaffected, due to the relatively small numbers found in the lakes with higher predicted impacts, including Korda Lake. Wintering birds are also likely to find alternative roosting and foraging areas away from the most impacted areas. The combined effects of woodland and wetland loss and decrease in numbers of breeding birds, without mitigation, were stated to result in a permanent adverse impact of significance at a national level.

The Mid Colne Valley SMI within Hillingdon is also designated for wetland and woodland habitats which support several notable species including Desmoulin's whorl snail *Vertigo moulinsiana*, glow worm *Lampyris noctiluca*, water vole *Arvicola amphibious* and harvest mouse *Micromys minutus*. Small areas of species-poor swamp habitat are present around Korda Lake and the lake itself has poor plant diversity supporting invertebrate communities associated with high nutrient levels.

The ES noted that construction of the Viaduct will reduce the extent of habitats for which the SMI is designated¹⁰. Woodland and small areas of swamp vegetation will be lost where the SMI overlaps the SSSI. The ES concluded that the combined effect of woodland, wetland and grassland loss and disturbance of the breeding bird assemblage will result in a permanent adverse effect on the integrity of the SMI that will be significant at the county/metropolitan level

Habitats

The River Colne forms an integral part of the designated sites in the area and flows through the Mid Colne Valley SSSI. As a chalk stream that qualifies as a habitat of principal importance, the River Colne is considered in the ES as being of county/metropolitan importance. Surveys of the River Colne indicate good quality habitat to support a diverse and abundant fish population. Along the river there are occasional small areas of swamp habitat, although shading from adjacent trees restricts its extent. As this habitat type is species-poor, it is of local/parish value.

To the east of the River Colne is Long Pond, a waterbody heavily shaded by woodland with poor plant diversity and supporting invertebrates associated with high nutrient level. The application boundary also includes land immediately to the north of Moorhall Road and on the southern bank of Korda Lake. Small areas of species-poor swamp habitat are present around Korda Lake and the lake itself has poor plant diversity supporting invertebrate communities associated with high nutrient levels. There is dense woodland either side of Moorhall Road and along the north-eastern banks of Savay Lake.

The woodland bordering Harefield No. 2 and Savay Lakes are on similar soils to those of the Mid Colne Valley SSSI and may qualify as wet woodland. Most of the lake shores have steep banks and are heavily shaded by woodland. Small areas of swamp vegetation are present around the shores of Savay Lake with some small areas of reedbed present. There is limited marginal vegetation along the shore of Harefield No. 2 Lake. The lakes have poor plant diversity and support invertebrates associated with high nutrient levels.

The Grand Union Canal forms part of the London's Canals SMI, designated for wetland plants and water birds. The ES assumes that the canal supports an assemblage of fish, although the habitat is largely homogenous. The extent of loss of habitat associated with the London's Canals SMI is not considered in the ES to be significant.

The Newyears Green Bourne (NYGB) is a key feature of the site, flowing through the site from east to west and lined on either side by mature trees and relict hedgerow. The NYGB is a canalised, small and shallow watercourse with poor flow. It is heavily shaded, eutrophic and does not support any notable riverine habitat.

The land use in the area around Dews Lane and Harvil Road is mainly agricultural, with regular shaped, small to medium sized fields of pasture and arable farmland. There are some areas of woodland nearby including a copse immediately south of Dews Lane, and many of the fields are bordered by hedgerows and hedgerow trees. The mixed woodland, and amenity grassland within and adjacent to HOAC also forms part of the Mid Colne Valley SMI.

Water Vole: There is suitable habitat for water vole on waterbodies throughout the route of the viaduct including the River Colne, some of the lakes, and the Grand Union Canal.

Otter: Evidence of otter using the Grand Union Canal and River Colne to the south of Moorhall Road and the Chiltern Railway Line was noted in the ES, as well as the potential for otter breeding sites in inaccessible habitat around Savay Lake and Harefield No. 2 Lake.

Reptiles: There are records of reptiles within this area from previous surveys and recent incidental records. Species found include grass snake *Natrix Helvetica* and slow worm *Anguis fragilis*.

Bats: A high abundance and diverse assemblage of bats, considered of regional importance, has

been recorded within and around this area, with the network of open water and woodland habitats providing optimal foraging opportunities and potential roosting sites.

Birds: The Mid-Colne Valley SSSI is designated for a diverse assemblage of breeding birds associated with woodland and wetland and for wintering wildfowl.

The Written Statement sets out a set of strategic and project level principles which have informed the integrated response to design. These include:

Habitat optimisation

- Habitat creation will maximise the distinctiveness and condition of created habitats in line with HS2's route-wide goal of achieving no net loss in biodiversity.
- Habitat creation will help deliver local nature conservation objectives, including contributing to Priority Habitat targets identified in the London Biodiversity Action Plan (rivers and streams; standing water; woodland; meadows and pastures; and fen, marsh and swamp).
- Creation of habitats with varying structure and function to maximise biodiversity.
- Integration of site drainage and replacement flood storage design will contribute to the creation of substantial wetland areas containing numerous small permanent and ephemeral waterbodies, wet grassland areas, and larger balancing ponds.
- Design of planting and seeding to allow successful establishment while also allowing natural processes to operate in the development of the site. Some areas of natural regeneration to be included in the design, where appropriate.
- Habitat mosaics will incorporate micro-habitat features to encourage certain target species to colonise the site or increase their existing populations. Examples of some of these features include reptile/amphibia hibernacula and basking banks; kingfisher banks and nests; and sand martin banks and nests.

Soils and Substrates

- Habitats will be created using only site-won soils and substrates, and temporary works materials.
- The use of (and manipulation where necessary) soils and substrates shall be appropriate to the target habitat types.

EMR compliance

- Habitat creation will deliver a significant positive enhancement of the site's ecology in relation to the EMR's.
- Stands of woodland and scrub will be planted and maintained to provide visual mitigation of the railway infrastructure as required by the Environmental Minimum Requirements (EMRs).

Management

- Habitat created will be managed to maximise biodiversity, as far as this is compatible with the management of the area for the operational railway line
- Created habitats will be maintained, managed, and monitored over the long term.
- Management will be delivered and directed by ecologists and conservation land managers.
- The key long-term management tool within land south of Dew's Lane will be light extensive grazing using adaptive management and 'rewilding' principles to work with natural processes.

· It is assumed that the Harefield No.2 Lake replacement flood storage site will not be actively managed but instead will be allowed to develop into successional habitats including scrub, woodland and wet woodland. If habitats of particular value develop in this area that could be lost through succession, it will be up to land managers to decide whether management is necessary to maintain them.

No Net Loss

The HS2 EMRs seek to achieve the goal for HS2 Phase One (London-West Midlands) of no net loss (NNL) in biodiversity for replaceable habitats at a route-wide level, where reasonably practicable. Overall, the no net loss calculations indicate that within the application area there will be a minor loss (approximately 5%) when the pre-construction baseline habitat score is compared to the post-construction habitat design score. However the applicant points out that great improvements have been made through the design process as the HS2 ES design, based upon the specified habitats and mitigation typologies would have resulted in an estimated 44 % loss in biodiversity. Thereby achieving a significant reduction in overall habitat loss.

Livestock grazing will be introduced as soon as possible, and once vegetation has developed to a point where it is robust enough to resist damage from grazing animals.

HS2 Ltd state that it is its ambition is to create a more diverse range of habitat types, by introducing ones which are largely absent in an area, which is dominated by woodland and deep-water bodies. The habitat proposals will help to complement existing designated sites, particularly the Mid Colne Valley SSSI and SMI, which primarily consist of deep open-water lake habitats, and semi-natural broadleaved woodland. HS2 Ltd advise that stakeholders, including Natural England, and the London and Herts and Middlesex Wildlife Trusts, have expressed a preference for creation of habitats that do not currently exist or are scarce in the surrounding environment, e.g., shallow unshaded waterbodies, grasslands, wetlands and marginal habitat, and that support the rationale for the original citations for the designated sites (e.g. overwintering birds and the diverse mosaic of habitats).

Officer Comment on Ecology

No objections are raised to the proposed development. The earthworks around the piers will have negligible impact and will retain appropriate transitions from piers to land and/or water. The flood compensation areas near to Lake No.2 and the Newyears Green Bourne will result in a positive addition to the landscape by increasing the diverse range of habitats. The changes around the Newyears Green Bourne will protect mature oaks which is supported.

The land south of Dews Lane has been presented as originally discussed with the Council and wildlife trusts. I consider this area will be a valuable addition in terms of increasing areas of ecological value that are currently absent. HS2 Ltd has responded to requests to allow these areas to be enjoyed by the public and therefore the restoration is of more than just an ecological asset which in the long term will benefit the Colne Valley and access to wildlife.

Finally, HS2 Ltd has responded positively to use of fencing to allow smaller mammals to pass around the area thus removing an impediment to creating valuable transitory networks.

HERITAGE

The HS2 Heritage Memorandum (part of the HS2 Environmental Minimum Requirements) explains that a route-wide generic written scheme of investigation: Historic Environment Research and Delivery Strategy (GWSI: HERDS) has been prepared in consultation with Historic England (HE) and the LPA's. It sets out the research framework and general principles for design, evaluation, investigation, recording, analysis, reporting and archive deposition to be adopted for the design development and construction.

The HS2 Heritage Memorandum also sets out how the historic environment (including heritage assets and their setting) will be addressed during design. The HS2 Environmental Memorandum sets out the approach to landscape and visual mitigation which takes account of the historic environment.

Historic England (GLAAS) has been consulted and raises no objections. GLAAS notes that significant prehistoric and Roman remains have been found, including one location within the S17 application site where the scheme design is being altered to preserve remains in-situ. The applicant's written statement recognises that this location, in the south-west corner of the site adjacent to the railway line contains significant archaeological deposits that must be preserved. It proposes that soils will not be disturbed in this area, seeding will not be carried out and that it will be maintained as grassland (through cutting/grazing) to prevent damage to the deposits through root growth from trees/shrubs.

GLAAS considers this to be a positive outcome and means that the landscape design does not require further modification to preserve a site of archaeological interest.

Finally, as this section of the route has revealed considerable archaeological interest GLAAS encourages the Council to continue to press HS2 Ltd to recognise this through public interpretation/signage etc.

HIGHWAY ISSUES

Access

Access to the viaduct structure and associated electrical infrastructure is essential to provide the required maintenance of this infrastructure. The Written Statement explains that within the landscape scheme, these routes have been provided to blend into the landscape as far as possible while still achieving the technical requirements for the access road types.

From Harvil Road in the south-eastern corner of the site, a tarmacked access route will provide access to the Auto-Transformer Feeder Station (ATFS) platform. This access extends from the S2 contract site which is the subject of a Schedule 17 application under consideration by the Council. Relevant Schedule 4 consents are also to be submitted by the adjacent contractor SCS.

From the access point to the ATFS, the tarmacked surface becomes an unbound stone surface and extends around the edge of the embankment to a point beneath the viaduct, where it then follows the viaduct alignment as far as the Newyears Green Bourne. This same unbound stone surface approach to maintenance access tracks also extends below the viaduct southeast between Dews

Lane and the Newyears Green Bourne as well as northwest between Dews Lane and Harefield No. 2 Lake.

Access is also required at the foot of the main embankment and extends around the northern and southern sides of this earthwork to the north and grass to the south. Dews Lane, the other main access into the worksite and area to the south of Harefield No.2 Lake has already been completed, with Schedule 4 consents in place for the temporary design.

Two permanent bell mouths will be present along Moorhall Road to provide access to the viaduct to the north and south of the road. These will be in proximity to the present haul road crossings that have already been consented under Schedule 4 to the Act. A consent for the permanent design of these under Schedule 4 to the HS2 Act will be submitted in due course, whilst they will be in the same location, the permanent road markings, radius and interaction with the public highway will be less substantial than the temporary arrangements.

Recreational Routes

The proposal will establish an important network of walking and cycling routes throughout the area. These routes will extend from the point at which the viaduct will cross the River Colne and connect to existing routes around Broadwater and Korda Lakes to link with the Grand Union Canal and Moorhall Road.

U34 diversion: The alignment of the U34 pathway has been agreed following feedback from pre-application engagement, which sought to avoid the route passing beneath the viaduct structure and to maintain an offset from the proposed National Grid site, to allow for meaningful screening. The diverted U34 footpath will extend from the realigned Harvil Road highways footpath following a route through the new meadows and broadly parallel with the Newyears Green Bourne. After crossing Dews Lane, the U34 footpath threads its way through the planted woodlands between the Harefield No. 2 Lake replacement flood storage area and the site of the future National Grid feeder station. At this point it rejoins its original alignment.

Additional permissive routes: In addition to the realigned U34 footpath, new recreational routes are to be introduced in other locations along the route of the viaduct. These comprise:

- An unsurfaced and waymarked footpath to the south of the viaduct and southern embankment, linking the retained southern spur of the U34 to Harvil Road on a route agreed with the London Borough of Hillingdon Rights of Way officer. This also includes a short spur which will extend into the wetland habitat at the western end to create a short loop. These paths support the Council's aspiration to create circular walks in the area;
- A waymarked footpath between Moorhall Road pavement and the Grand Union Canal utilising (in part) the viaduct maintenance route (surfaced) and an existing permissive route to the Grand Union Canal (unsurfaced); and
- Utilisation of existing permissive routes running to the east of the River Colne and linking south to Moorhall Road.

Angling Access: Dedicated access to the fishing swims at Harefield number 2 Lake have been provided and comprise a stone surface route through the flood storage area with connections to the adjacent U34 footpath which will provide an alternative access when the flood storage area is inundated.

10.0 REFERENCE DOCUMENTS

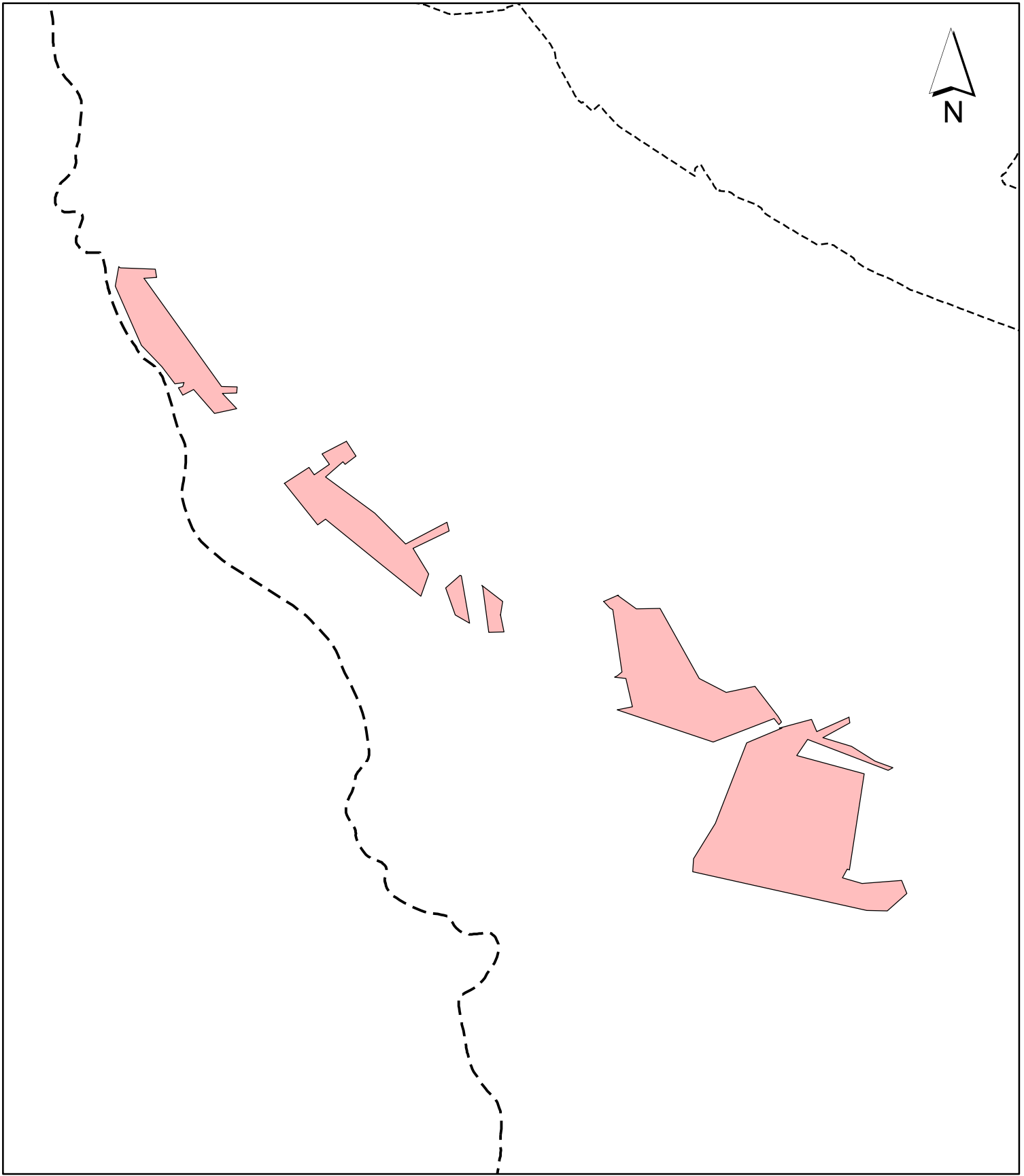
The High Speed Rail (London-West Midlands) Act 2017.



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<p>Notes:</p> <p> Site boundary</p> <p>For identification purposes only.</p> <p>This copy has been made by or with the authority of the Head of Committee Services pursuant to section 47 of the Copyright, Designs and Patents Act 1988 (the Act).</p> <p>Unless the Act provides a relevant exception to copyright.</p> <p>© Crown copyright and database rights 2020 Ordnance Survey 100019283</p>	<p>Site Address:</p> <p>Colne Valley Viaduct Wetlands Ecological Mitigation Site</p>		<p>LONDON BOROUGH OF HILLINGDON Residents Services Planning Section</p> <p>Civic Centre, Uxbridge, Middx. UB8 1UW Telephone No.: Uxbridge 01895 250111</p>
	<p>Planning Application Ref:</p> <p>73263/APP/2022/1497</p>	<p>Scale:</p> <p>1:13,000</p>	 <p>HILLINGDON LONDON</p>
	<p>Planning Committee:</p> <p>HS2</p>	<p>Date:</p> <p>July 2022</p>	