High Speed Rail (London – West Midlands) Act 2017

HS2 Ltd

London Borough of Camden

Hampstead Road Bridge

Schedule 17 Plans and Specifications Written Statement for Information

LBC.PS.10005

Document Reference: 1MC03-SCJ-IN-STA-SS01_SL12-000003

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Abbreviations and Definitions

CoCP – Code of Construction Practice

EA – Environment Agency

ES – Environmental Statement (as amended)

EMR – Environmental Minimum Requirements

GWSI: HERDS – Generic Written Scheme of Investigation: Historic Environment Research and Delivery Strategy

HE – Historic England

HS2 – High Speed 2 Ltd.

LB Camden – London Borough of Camden

LPA – Local Planning Authority

PFN – Planning Forum Note

SCS – Skanska Costain Strabag joint venture

SMI - Site of Metropolitan Importance

S1 – HS2 Area South Lot 1 - Euston Tunnels and Approaches; extending from Euston Station to Old Oak Common (exclusive).

S2 – HS2 Area South Lot 2 - Northolt Tunnels; extending from Old Oak Common to Harvil Road (exclusive).

TLRN - Transport for London Road Network

1 Introduction

1.1 Background Information

Table 1: Hampstead Road Bridge Schedule 17 Address Details and Description of Works

Site	Details
Scheme	High Speed Two
Applicant	High Speed Two (HS2) Limited
Applicant Address	*c/o Agent:* SCS Railways Joint Venture (SCS) Black Arrow House 2 Chandos Road London NW10 6NF
Site Address	Hampstead Road Bridge, Hampstead Road, Camden, London NW1 3EB The works are located at; Easting: 529,213, Northing: 182,937
Description	Submission under Schedule 17 of the High-Speed Rail (London-West Midlands) Act for a 138-metre extension of the existing Hampstead Road Bridge to provide a connection over the new HS2 rail corridor comprising of a bridge structure, and 1.8m high parapets with an exposed aggregate finish on the western side of the bridge, at the interface with Langdale Open Space, and at the interface with HS2 Euston Station on the eastern side of the bridge. The approval also includes associated earthworks for the lining walls on bridge piers 1 to 4, the northern and southern abutments, and the northern abutment retaining wall.

1.1 Terms of Reference

1.1.1 This Written Statement is compiled in accordance with the High Speed Two (HS2) Phase 1 Planning Memorandum and Planning Forum Notes (PFNs) as required by the planning regime established under Schedule 17 of the High Speed Rail (London – West Midlands) Act 2017 ('the Act').

1.1.2 This statement provides LB Camden with information to assist with the determination of the Plans and Specifications submission under Schedule 17, in relation to the above description of works.

1.1.3 The information in this Written Statement is provided for information to assist in determining the request for approval. It is not for approval.

1.2 Introduction to High Speed 2

1.2.1 HS2 is a new high speed railway network that will connect major cities in Britain. It will bring significant benefits for inter-urban rail travellers through increased capacity and improved connectivity between London, the Midlands and the North. It will release capacity on the existing rail network and so provide opportunities to improve existing commuter, regional passenger and freight services.

1.2.2 Phase One of HS2 will provide a dedicated high speed rail service between London, Birmingham and the West Midlands. It will extend for approximately 230km (143 miles). Just north of Lichfield, high speed trains will join the West Coast Main Line for journeys to and from Manchester, the North West and Scotland.

1.2.3 For further information on HS2 and the route through LB Camden please refer to the Planning Context Report for LB Camden, deposited with the Council by HS2 Ltd.

1.3 High Speed Rail (London – West Midlands) Act 2017

1.3.1 The Act provides powers for the construction and operation of Phase 1 of High Speed Two. HS2 Ltd is the nominated undertaker in relation to the works subject to this Plans and Specifications submission.

1.3.2 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.

1.3.3 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.

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

1.3.5 This Written Statement includes information supporting the Plans and Specifications submission in relation to the matters outlined in **Table 2** below.

Table 2 Schedule 17 Plans and Specifications Submission Details

Site	Details
Plans and Specifications (permanent works)	• **Paragraph 2: Buildings** – Bridge structure, deck, piers, and bridge parapets. • **Paragraph 3: Earthworks** –Southern and northern bridge abutments and the northern abutment retaining wall.

1.3.6 The works to which this application relates, and the cumulative impact of the works in conjunction with other HS2 development, have been assessed and re compliant with paragraph 1.1.3 (bullet point 2) of the HS2 Phase 1 Environmental Minimum Requirements General Principles. [1]

1.4 High Speed Two: Code of Construction Practice

1.4.1 HS2 Ltd as the nominated undertaker is contractually bound to comply with the controls set out in the Environmental Minimum Requirements (EMRs). The EMRs include the HS2 Code of Construction Practice (CoCP).

1.4.2 The works subject to this request for approval of Plans and Specifications will be undertaken in accordance with the Code of Construction Practice, and with the Class Approval issued by the Secretary of State (March 2017).[2]

1.4.3 The Schedule 17 Statutory Guidance issued by the Secretary of State (February 2017)[3] provides guidance to all planning authorities determining requests for approval under Schedule 17 to the Act. Paragraph 4.4 of the Statutory Guidance states that planning authorities should not through the exercise of Schedule 17 seek to modify or replicate controls already in place such as the Environmental Minimum Requirements.

[1] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/618074/General_principles.pdf
[2] https://www.gov.uk/government/publications/high-speed-rail-london-west-midlands-act-2017-class-approval
[3] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/592755/hs2-schedule-17-statutory-guidance.pdf

1.5 Structure of Written Statement

1.5.1 This Written Statement is structured as follows:

- A description of the location and main characteristics of the works area is provided in **Section 2**;
- **Section 3** describes the main works being undertaken in the area, as set out in Schedule 1 of the Act, and those that are the subject of this Schedule 17 Plans and Specifications submission;
- The design criteria and rationale for the works which are the subject of this Schedule 17 Plans and Specifications submission are described in **Section 4**;
- **Section 5** summarises the pre-submission consultations that were undertaken, including a list of the consultees, dates, attendees at meetings and a brief summary of the outcome of these discussions;
- A high-level programme for the works and how they fit into the wider programme for other works in the area, as set out in Schedule 1 of the Act, is provided in **Section 6**; and
- **Section 7** identifies any other main consents, or known forthcoming consents associated with the works.

2 Site Location and Characteristics

2.1 Site Location

2.1.1 The existing Hampstead Road Bridge (HRB) is situated to the northwest of Euston Station within the Regent's Park Ward of the London Borough of Camden. The existing bridge carries the A400 Hampstead Road (part of the Transport for London Road Network – TLRN) over the West Coast Mainline and forms a key north – south highway route in the area.

2.1.2 The nearest public transport links include Euston Station, Mornington Street Underground Station, and key bus routes with a stop to the south of the existing bridge. Further details of the surrounding highway network are summarised in sections 2.5.

2.1.3 Key context within the vicinity of Hampstead Road Bridge is shown in **Figure 1**.

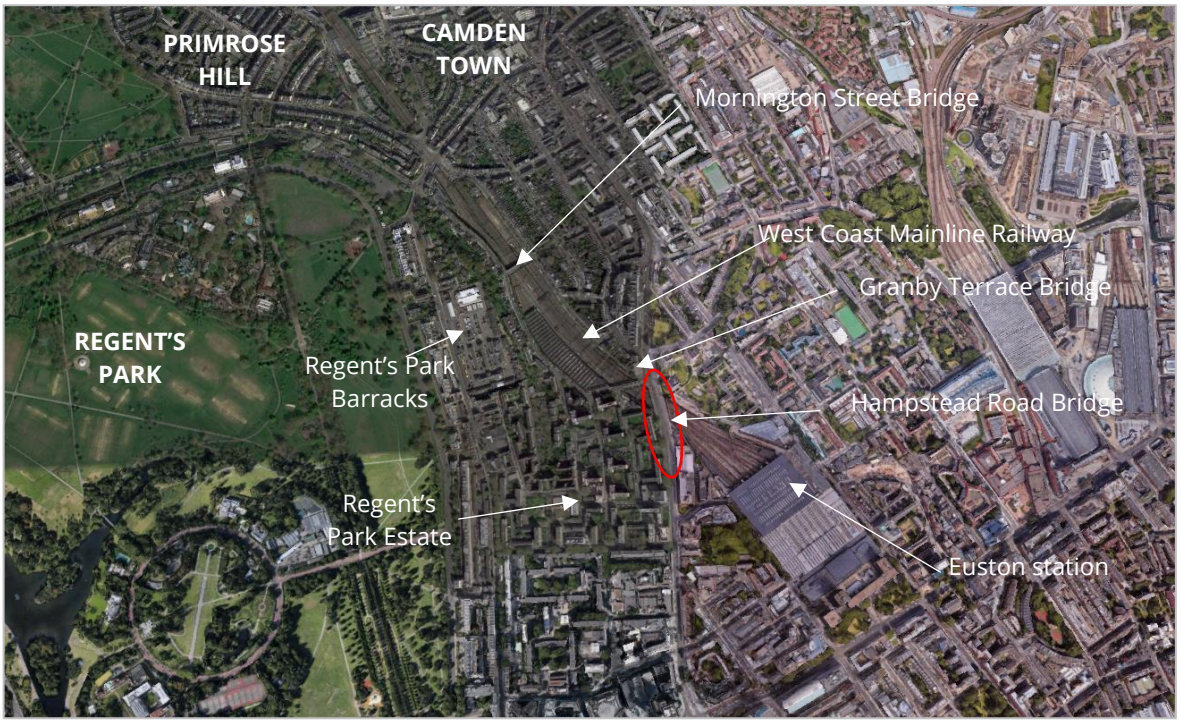

Figure 1 Aerial view of Euston and surrounding area. Approximate location of Hampstead Road Bridge shown in red. (Source: Google Earth)

2.2 Existing Site Characteristics

2.2.1 The bridge carries the A400 Hampstead Road across the West Coast Mainline and consists of three traffic lanes (including a bus lane) in each direction either side of a kerbed central island. Guard railings are located along the outside kerb on both sides, and the bridge is lined by parapet walls 1.65m in height on both sides for the entire length. The existing bridge has a slight downward slope to the south.

2.2.2 The road forms a signalled junction on the north side with Granby Terrace, which itself is also carried over the Main Line railway via an existing bridge, then a short distance further north is a further junction with Mornington Crescent and Lidlington Place, adjacent to Harrington Square Gardens.

2.2.3 The road is classified as a 'red route' (no stopping at any time), and forms part of the Transport for London Road Network. TfL is therefore the asset owner and manager, with responsibility for ongoing maintenance.

2.2.4 As illustrated in **Figure 2**, the existing bridge includes:

- Two lanes of highway and one bus lane in each direction, with footways on either side;
- A central reservation (kerbed only, without a vehicle containment barrier) dividing the northbound and southbound carriageways;
- 1.65m metre high parapet walls along the edge of both sides of the bridge deck; and
- Guard railings on top of a raised kerb segregating the main carriageway from the footways, on both sides.

Figure 2 Street level and aerial views of the existing Hampstead Road Bridge. Bottom right: Existing 1.65 metre parapet located along the outer extents of the existing Hampstead Road Bridge (Source: Google Earth). Red area illustrates location of the Hampstead Road Bridge Extension (indicative only).

2.3 Adjacent Land Uses

2.3.1 The immediate vicinity of the existing Hampstead Road Bridge is characterised by its proximity to the rail infrastructure associated with the West Coast Mainline cutting.

2.3.2 To the north and west, the area between Park Village East and Regent's Park comprises predominantly Georgian housing stock, including the Grade II* listed Nash Villas. The existing West Coast Main Line railway corridor forms a physical barrier which separates Park Village East from more Georgian housing located along Mornington Terrace to the northeast.

2.3.3 The wider setting to the south and east contains predominantly post-war housing of varying styles. The Regent's Park Estate (to the south) and housing between

Eversholt Street and Hampstead Road both consist of medium to high rise mixed-tenure housing blocks.

2.3.4 Euston Station, which is one of Britain's busiest main line rail stations and provides connections to the cities north of London (e.g., Birmingham, Liverpool, Manchester, Edinburgh and Glasgow), is located to the southeast. Railway tracks and associated operational land are located to the north and east.

2.3.5 Regent's Park lies approximately 350m to the west of the site and is one of London's largest and most significant areas of open space. Closer to the site, there are other smaller open spaces and play areas throughout the residential areas immediately to the west. Regent's Park Barracks is approximately 150m to the northwest of the site.

2.4 Environmental Characteristics

2.4.1 Approximately 550m to the west of Hampstead Road Bridge, Regent's Park contains the Regent's Park Site of Metropolitan Importance (SMI), comprising of mature parkland trees, a small enclosed woodland, an ornamental lake and a grassland area managed specifically for wildlife.

2.4.2 There are several designated heritage assets in the area, summarised in **Table 3** and **Figure 3**.

Table 3 Designated heritage assets in proximity to Hampstead Road Bridge

ID	Listed Asset	Type	Distance to Hampstead Road Bridge
1	Nash Villas along Park Village East	Grade II*	500m northwest
2	Regent's Park Barracks	Grade II	350m northwest
3	Mornington Street Bridge stone piers, i.e. pillars and associated lamp posts, western and eastern end of bridge	Grade II	440m northwest
4	York and Albany Public House	Grade II	650m northwest
5	Parkway Tunnel and Cutting	Grade II	750m northwest
6	Mornington Crescent No's 1, 2-35 and 261/263	Grade II	200m north
7	Listed buildings towards Regent's Park	Grade II*, II and I	Approximately 400m southwest
8	Regent's Park Conservation Area	-	Adjacent to west
9	Camden Town Conservation Area	-	Adjacent to north/east

2.4.3 In addition to the assets listed in **Table 3**, portions of the Park Village East western wall (parapet only) to the western side of the West Coast Mainline cutting (running along Park Village East to Granby Terrace) and the wall to eastern side of the railway cutting (running the extent of Mornington Terrace and Clarkson Row) are included as 'street features or other structures' on Camden's Local List (adopted on 21 January 2015). The Local List comprises of non-designated heritage assets.

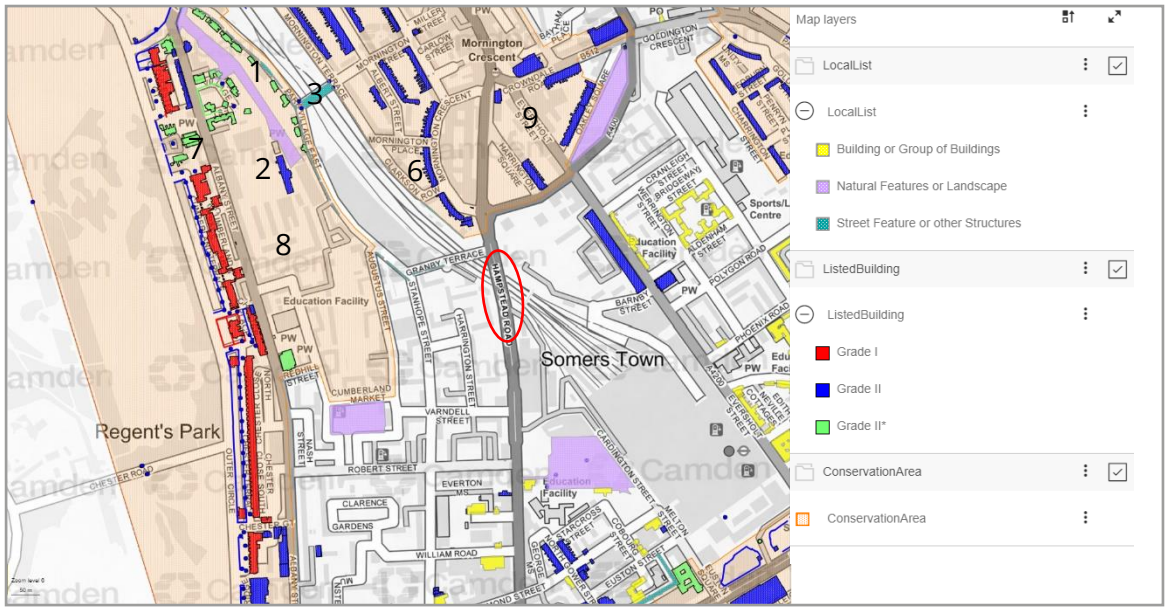

Figure 3 Heritage assets in the area surrounding Hampstead Road Bridge (approximate location in red) (source: Camden Local List)

2.5 Surrounding Highway Network

There are several strategic routes that pass through the area including the Transport for London Road Network (TLRN) roads A400 Hampstead Road, A503 Camden Road, and the A400 Camden Street/Camden High Street. The Kentish Town Road section of the A400 forms part of the Strategic Road Network. Other principal highways through the area include the A5200 York Way, A5202 St Pancras Way, A503 Camden Road, A400 Kentish Town Road, and A502 Chalk Farm Road (**Figure 4**).

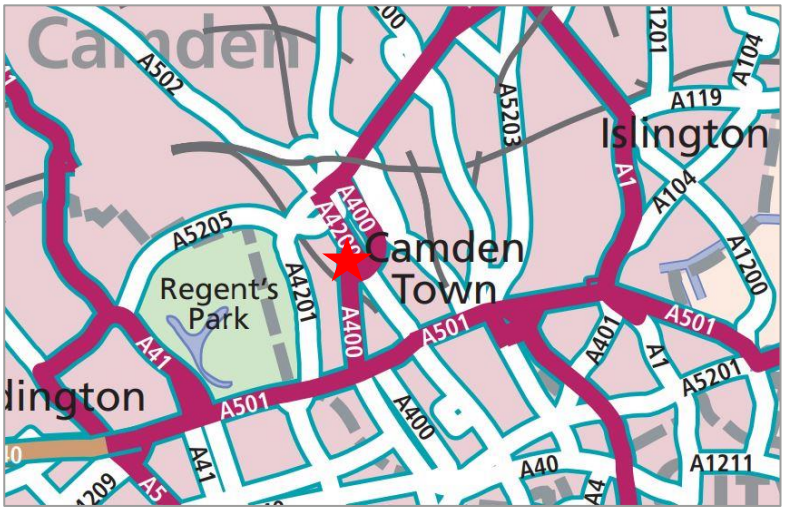

Figure 4 Highway network in area surrounding the application site. Approximate location marked by the red star. (source: Transport for London Base map)

2.5.1 The A400 Hampstead Road is a key connecting route across this part of inner London. It links with the A501 Euston to the south at a signalled split-level interchange adjacent to Warren Street London Underground Station. To the north, the A400 joins with the southern end of Camden High Street at a signalled junction with Crowndale Road, adjacent to Mornington Crescent London Underground Station. Further south, at the junction adjacent to Harrington Square Gardens, Lidlington Place becomes the A400, which links to Crowndale Road a short distance to the northeast. Granby Terrace joins the A400 Hampstead Road at a signalled junction to the south of A400 Hampstead Road's junction with Harrington Square Gardens.

2.5.2 Approximately 0.7km south of the junction with Granby Terrace, the A400 Hampstead Road has a junction with A501 Euston Road. The A501 extends westwards to join the A40 Westway, which in turn then links to the M25 and M40 motorways. Extending eastwards, the A501 connects to the A1, and to the A10 and the A11 via Commercial Street. To the west of the site, the A5205 links to the A41, which continues north to join the North Circular and M1 motorway. To the north of the site is Parkway Road which joins with the A5205.

3 Description of the Works

3.1 Introduction

3.1.1 This Written Statement supports the Schedule 17 submission for the approval of plans and specifications for Hampstead Road Bridge located in the London Borough of Camden.

3.1.2 The Plans and Specifications submitted for approval are listed in the proforma accompanying the application. A summary of the proposed works for approval is provided in Section 3.2 below.

3.1.3 Sections 3.5 – 3.7 provide information on other aspects of the works to assist in understanding the context of the works being submitted for approval. The information in Sections 3.5- 3.7 is not for approval under Schedule 17.

3.2 Works for Approval

3.2.1 The relevant scheduled works as set out under Schedule 1 of the Act to which this Schedule 17 submission relates are:

- **Work No. 1/11** - *A realignment of Hampstead Road commencing at a point 65 metres south of its junction with Robert Street and terminating at a point 53 metres south of its junction with Harrington Square. Work No 1/11 includes a bridge over Works Nos. 1/1 and 1/2 and the West Coast Main Line Railway.*

3.2.2 It should be noted that prior to the enactment of the Hybrid Billfor the project, it was proposed that the existing Hampstead Road Bridge would be replaced with an entirely new bridge structure to accommodate HS2 beneath. This approach has since been superseded by the current design which extends the existing bridge. Further information is provided in Section 4.3 (Options Considered).

3.2.3 The works for approval within this submission are summarised in **Table 4**.

Table 4 The works for approval under the HS2 Act

Paragraph 2 – Building Works
A five-span continuous overbridge, a maximum 138 metres in length. This will form an extension to the existing Hampstead Road Bridge to support the Hampstead Road highway over the new HS2 railway.
1.8m high precast concrete parapets at 3 locations: • Western bridge parapet; • the Langdale Open Space interface parapet; and • the eastern interface parapet.
Paragraph 3 - Earthworks
Lining walls on the southern abutment, northern abutment, and bridge piers 1 to 4. The lining walls will have a smooth faced concrete finish.
Northern abutment retaining wall with a smooth-faced concrete finish.

3.2.4 **Figure 5** illustrates elements for approval at highway level and **Figure 6** illustrates elements for approval at track level.

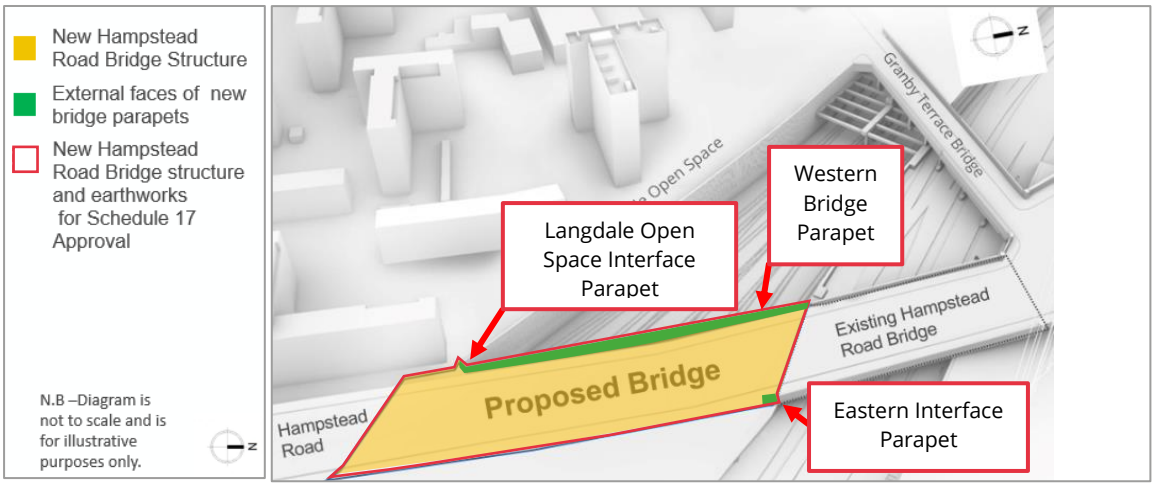

Figure 5 Elements for approval within this Schedule 17 application at highway level. For clarity, the location of the parapets for approval are shown in green.

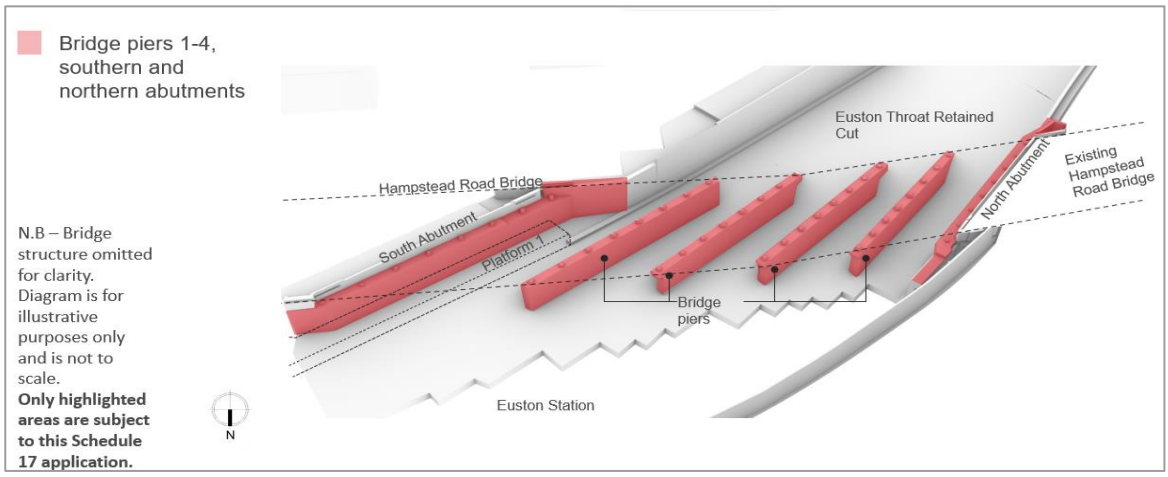

Figure 6 Elements for approval within this Schedule 17 application at track level (shown in red).

Building Works (Paragraph 2) – Bridge Structure

3.2.5 Elements for approval as Building works (under Schedule 17, Part 1, Paragraph 2 of the Act) include:

- A five-span continuous overbridge, a maximum 138 metres in length. This will form an extension to the existing Hampstead Road Bridge to support the Hampstead Road highway over the new HS2 railway; and
- 1.8m high precast concrete parapets at 3 locations;
  - Western bridge parapet;
  - The Langdale Open Space interface parapet; and
  - The eastern interface parapet.

3.2.6 The HS2 tracks will be constructed on a new alignment directly adjacent to the existing West Coast Main Line Railway, immediately to the west of Euston Station. This alignment will have the effect of widening the existing rail corridor, and consequently, large scale building demolitions, excavations and site clearance has been undertaken to facilitate construction. Given that the existing Hampstead Road Bridge will be left in situ, a new bridge structure will be put in place to link directly to the existing bridge to ensure that the highway is supported over the new HS2 tracks and existing West Coast Mainline (**Figure 7**).

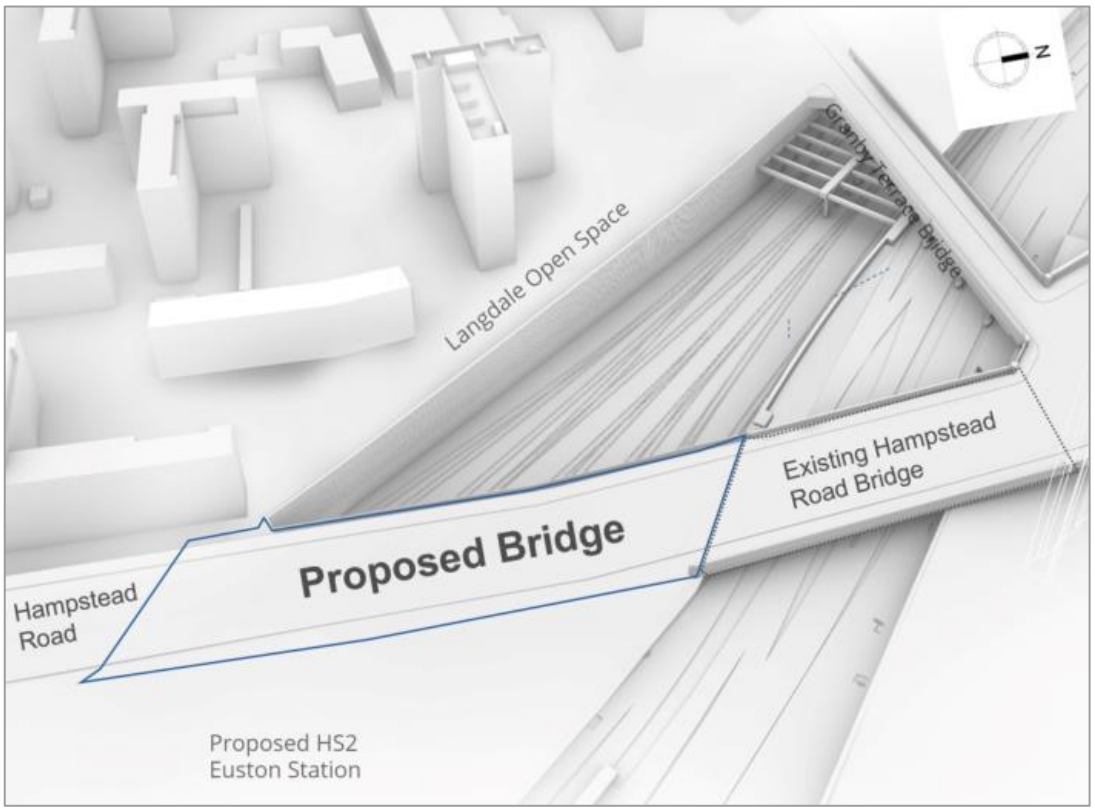

Figure 7 Hampstead Road Bridge will be extended to the south to span the new HS2 alignment (application boundary for the bridge extension is in blue)

3.2.7 The proposed section of new bridge will be constructed to link directly with the existing bridge, spanning over the new HS2 tracks beneath. It will comprise a five-span continuous overbridge, 138 metres in length, constructed with steel girders made composite with a reinforced concrete deck slab on top. The existing Network Rail bridge is approximately 70 metres in length; therefore, the new section of bridge will extend this in total proportionally by approximately three times (**Figure 8)**.

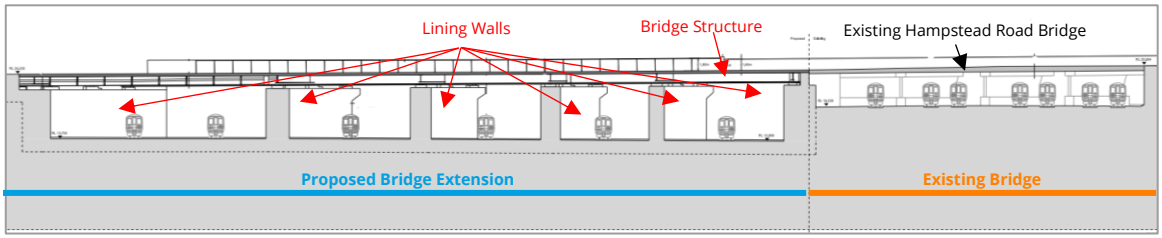

Figure 8 Long section looking north (extract from drawing 1MC03-SCJ_SDH-AR-DSE-SS01_SL12-010021). Elements for Schedule 17 approval under this submission are labelled in Red.

3.2.8 The structure of the proposed bridge extension will facilitate a highway layout that transitions to the provision on the existing bridge. The design of the highway (carriageway and footpath) is still under development and does not form part of this Schedule 17 Plans and Specification application. Please refer to Section 3.3 (Adjacent Consents) for further information.

3.2.9 At the time of writing, it is anticipated that the highway layout on the bridge will consist of the following (**Figure 9**):

- four lanes (two in each direction, one of which is a bus lane);
- footways on either side, between the bridge parapet and the outside highway kerb, and
- cycle lanes in each direction.

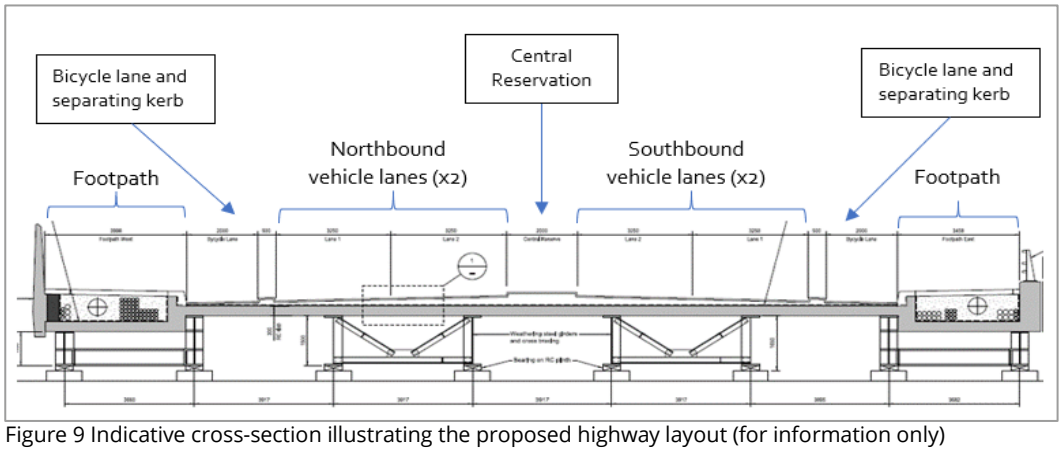

Figure 9 Indicative cross-section illustrating the proposed highway layout (for information only)

Building Works (Paragraph 2) – Western Bridge Parapets

3.2.10 There will be 1.8m high precast concrete bridge parapets situated alongside the edge of the western footway. These have been designed to achieve vehicle impact requirements on either side of the bridge and will be shaped to deter climbing. The new parapets will not have the same cross-sectional shape or height as the existing bridge's parapets, and the transition between these forms will be accomplished by a 50mm gap.

3.2.11 Bridge parapets are considered integral/inherent to the bridge structure and cannot be separated out from the rest of the bridge and are therefore classified under Schedule 17 Paragraph 2 of the Act as 'development' where the local planning authority has control over the design and external appearance of the structure.

3.2.12 The profile and materiality of the western bridge parapet has been designed to blend with the existing bridge and preserve the local environment and local amenity. A splayed, steeple-top transition provides a smooth transition between the existing 1.65m high parapets to the 1.8m high parapets on the proposed bridge extension (**Figure 10**). An exposed aggregate finish for the internal parapet face has been selected to be sympathetic to the existing parapet.

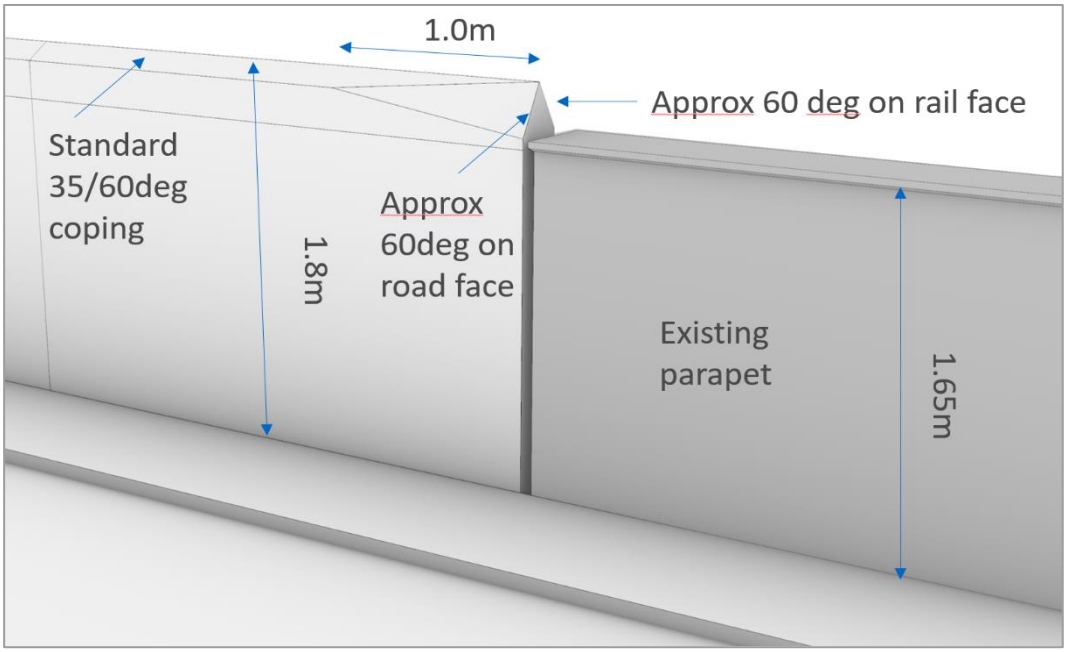

Figure 10 The Design for the Western Parapet connection to the existing bridge

Building Works (Paragraph 2) – Eastern Interface Bridge Parapet

3.2.13 The eastern edge of the bridge interfaces with the HS2 Euston Station. This requires a short section of permanent parapet that will join the existing Hampstead Road Bridge parapet to the HS2 Euston Station. **Figure 11** illustrates the location of the interface parapet (red shading), which will consist of a 1.8m high in situ parapet with a chamfer to accommodate any future development within the station boundary.

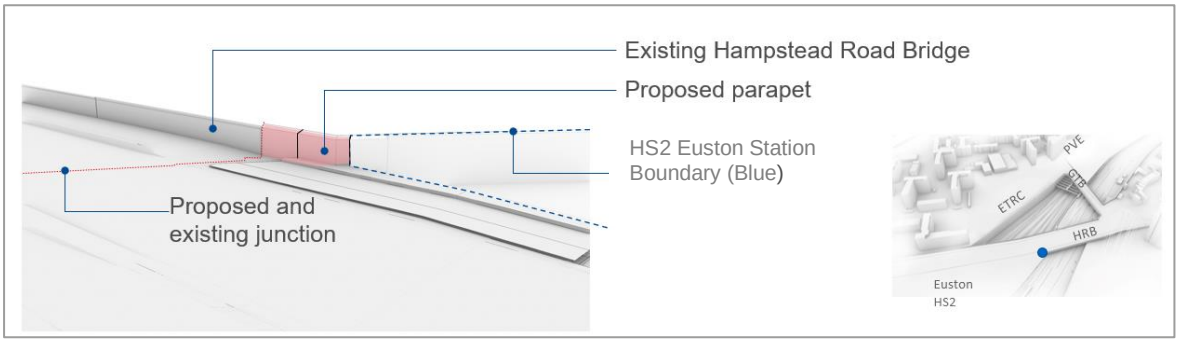

Figure 11 Design and location of the interface parapet is shown in red. The HS2 Euston Station boundary is shown as a blue dashed line.

3.2.14 The parapet will be designed to meet several technical standards due to its location over a railway. The 1.8m height is required to protect pedestrians from the electrified lines below, it will have anti-climb features such as a steeple coping to the top, and will be structurally robust to prevent vehicle incursion onto the railway.

3.2.15 A temporary parapet will be required along the remainder of HRB's eastern interface with HS2 Euston Station. This parapet is temporary and will be in place for the duration of the station's construction. As this parapet is temporary it is not f or approval under Schedule 17. Further details are provided at paragraph 3.3.7.

Building Works (Paragraph 2) – Langdale Open Space Interface Parapet

3.2.16 The southwestern corner of HRB is a key interface between the bridge, HS2 Euston Station, the pedestrian crossing across Hampstead Road, and Langdale Open Space. The parapet in this area, referred to here as the Langdale Open Space Interface Parapet, is chamfered around the corner to match the parapet along the western wall of Euston Throat Retained Cut. The purpose of the chamfer is to allow visibility from Langdale Open Space towards the station and vice-versa, creating additional space and amenity to public areas at the junction.

3.2.17 The exposed aggregate of the bridge parapet continues around the chamfer. The chamfered shape as well as the exposed aggregate is in unison with the detail further north at the junction of Granby Terrace Bridge and Euston Throat Retained Cut. **Figure 12** illustrates how this seeks to create a cohesive and singular design language for the treatment of parapets around the railway cutting (top), and the transition on the inside face of the parapet between HRB and ETRC (bottom). The design of the interface with Langdale Open Space is shown in **Figure 13.**

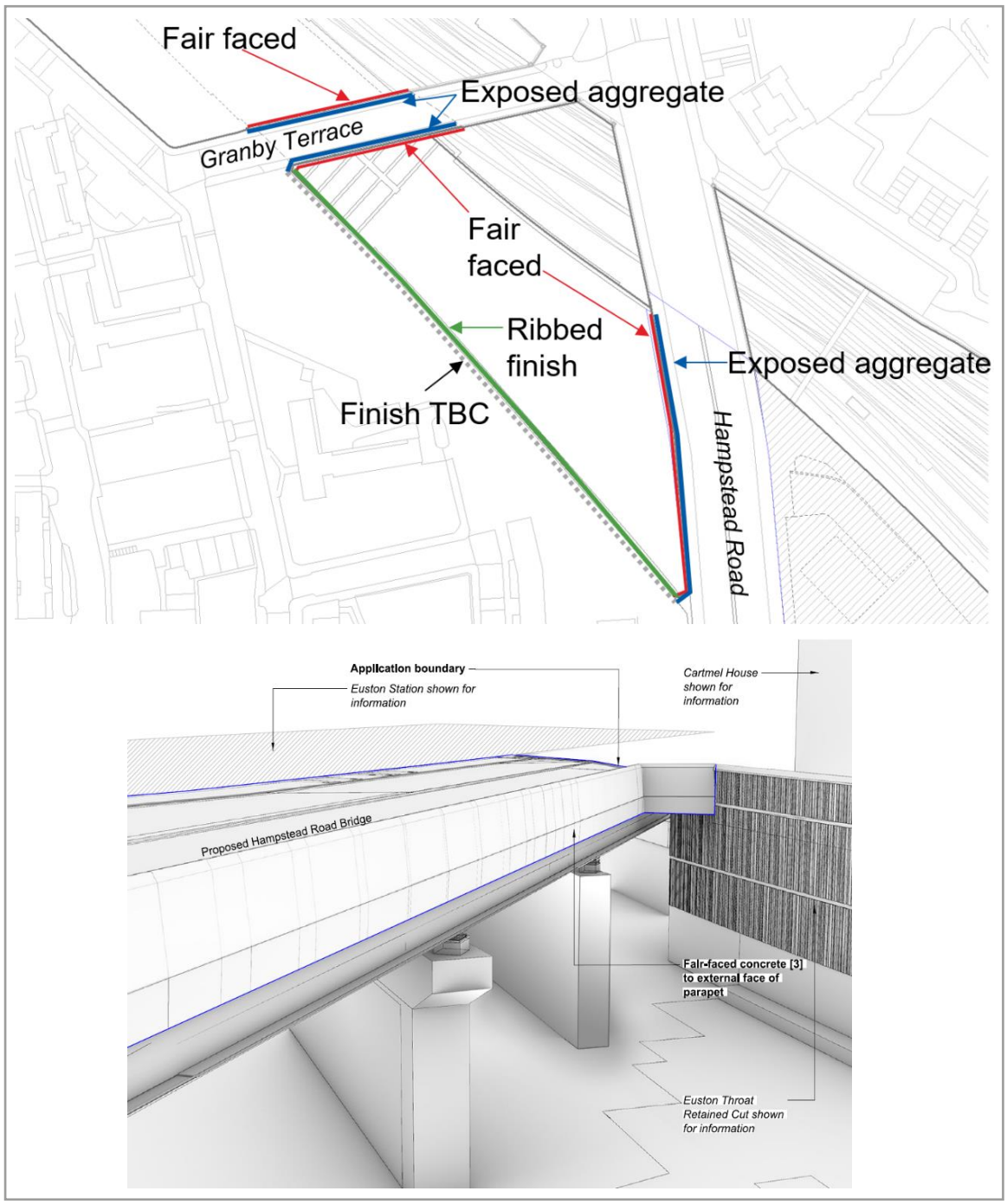

Figure 12 The parapet finishes for HRB, ETRC and GTB (top). An extract from perspective 6 of the Parapet Details drawing submitted with this application (1MC03-SCJ_SDH-AR-DDE-SS01_SL12-010042) which shows the inside face of the interface with ETRC (bottom).

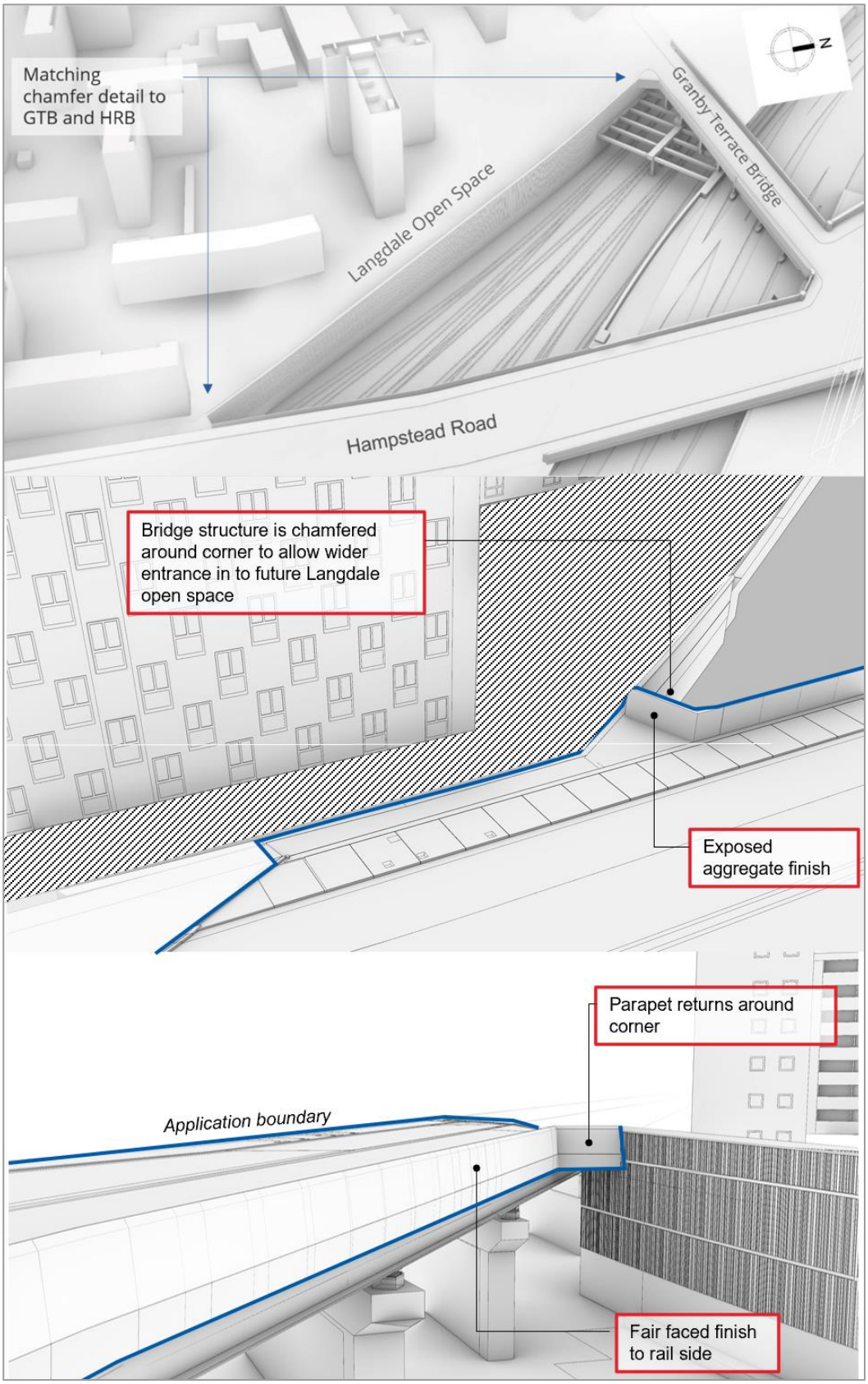

Figure 13 Design of the chamfered parapet at the bridge's interface with Langdale Open Space. Elements for approval are shown with a red box.

3.2.18 Temporary hoarding will be required along the western interface between HRB and Langdale Open Space. This will be temporary in nature and in place until Langdale Open Space is constructed (subject to a future Schedule 17 Plans and Specifications approval). As the hoarding is temporary it is not for approval under Schedule 17. Further details are provided at paragraph 3.3.15.

Earthworks (Paragraph 3) - Lining Walls

3.2.19 At track level, lining walls will be required on the southern abutment, northern abutment and on each face of bridge piers 1 to 4. [4] The lining walls will be highly visible from passing trains and their design has been given extensive consideration (as set out in Section 4.1.3).

3.2.20 The adjacent Euston Throat Retained Cut features lining walls with a ribbed barcode finish. The ribbed wall finish pattern is based on a barcode translation of "HS2" and is proposed to be used across many assets along the line. The north and south abutments both interface with these lining walls.

3.2.21 The lower 3m of the lining walls has been left as a plain finished concrete as this zone will be used to fix railway systems cabling and conduits onto and will not be readily visible.

3.2.22 An option was considered to extend the ribbed finish along both the abutments of Hampstead Road Bridge. On the south abutment the upper part of the wall is very access constrained due to the proximity of the bridge deck, thus any finish other than a smooth finish would be difficult to achieve. Therefore it was decided to leave the south abutment as a smooth finished concrete. On the north abutment, due to the step outwards towards the track, clearance for passing trains is very constrained so it was decided to also use a smooth concrete finish on these as well.

Earthworks (Paragraph 3) - Retaining Wall

3.2.23 An existing retaining wall on the southwestern side of the West Coast Main Line will be partly demolished and cut back (as illustrated in the red dashed line in (**Figure 14**). The eastern retaining wall of Euston Throat Retained Cut as well as the connecting northern abutment of the proposed Hampstead Road Bridge will be constructed directly adjacent leaving a remaining part of this existing wall.

[4] Liner walls are a layer of concrete in front of piles that provide additional structural support, a waterproofing layer, and a more aesthetic finish.

3.2.24 This existing piece of wall will be bookended by a new retaining wall which sits above the northern abutment of Hampstead Road Bridge (in **Figure 14**). The proposed finish to this is a smooth faced concrete to match the abutment.

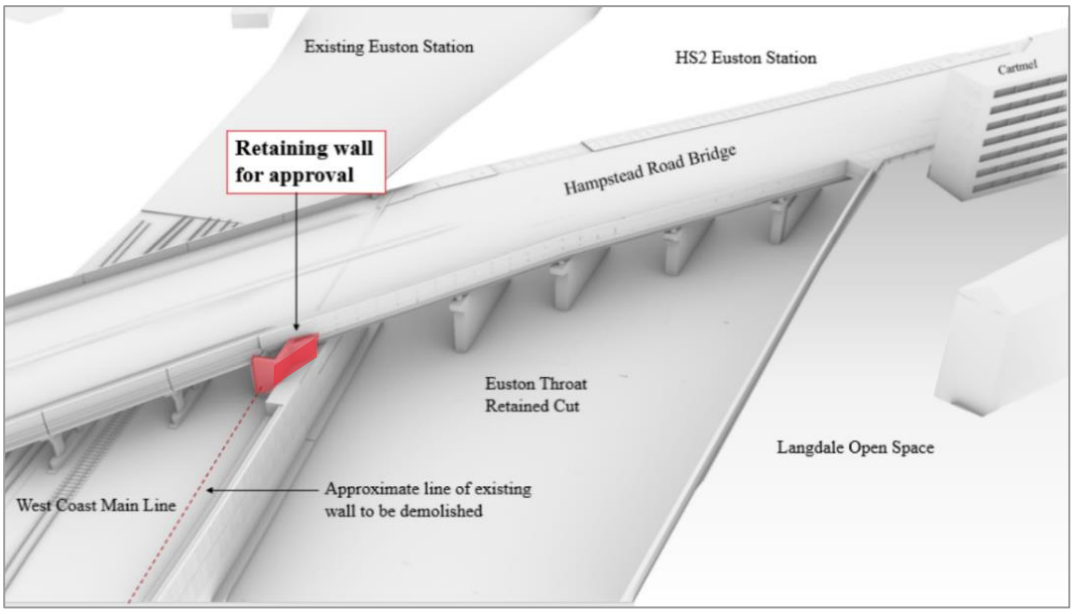

Figure 14 the location of the northern abutment retaining wall.

Works for Approval – Interface Elements

3.2.25 The extended bridge at deck level will interface the entranceway to the proposed Langdale Open space. The interface will consist of the chamfered parapet located at the southeast corner of the bridge.

3.2.26 On the western edge of the interface, a shadow gap is proposed between the existing and proposed Hampstead Road Bridge parapets (**Figure 10**). To abut the existing eastern Hampstead Road Bridge parapet, a 1.8m high interface parapet will be provided with a chamfer to enable future parapet connections with the HS2 Euston Station (**Figure 11**).

3.2.27 Below bridge deck level, under the proposed bridge extension, the bridge abutments and piers will interface with the HS2 Euston Station. Liner walls will therefore be used in the final design across the transition between interfaces, with a smooth faced concrete finish, to both the north and south abutments (shown in Error! Reference source not found. and **Figure 26** respectively).

3.2.28 The eastern edge of Hampstead Road Bridge interfaces with the proposed Euston Station development for HS2. The HS2 Euston Station design, although currently paused, will be brought forward under a separate contract with HS2 Ltd and will be subject to a separate Plans and Specifications application for approval under Schedule 17. The boundary for the Hampstead Road Bridge Schedule 17 application will run along the back edge of the footpath on the bridge.

3.3 Adjacent Consents – For Information Only

3.3.1 This application for Plans and Specifications for Hampstead Road Bridge will contain elements of adjoining consents for contextual purposes, as shown in **Figure 15**. However, as the design of these other consents will be subject to a separate consent submission, any information contained in this application will be subject to change.

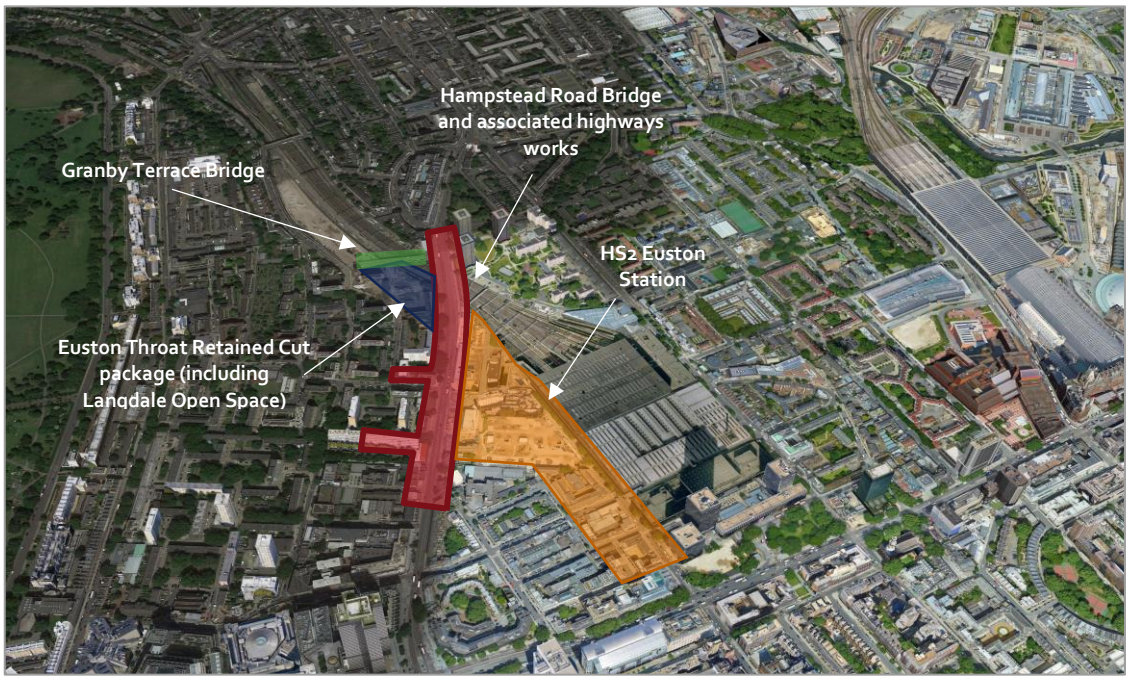

Figure 15 HS2 consents within vicinity of Hampstead Road Bridge (Note: Boundaries are indicative only)

3.3.2 This section will identify the four adjoining HS2 assets requiring consent. For clarity, the design of interfaces between the adjoining assets is dealt with at in section 3.2, and the rationale for their development is detailed in section 4.3.

Hampstead Road

3.3.3 Hampstead Road will require a separate Schedule 17 plans and specifications consent for urban realm and highways elements, and a Schedule 4 highways consent to cover highway layout. The scope of these applications are as follows:

- **Schedule 17 Urban Realm and Highways -** All permanent above-ground structures related to the highway design that require approval under Schedule 17 of the Act, in particular, lighting, pedestrian / vehicular safety barriers, signposting and bus stops. An area of earthworks will also be included that are required to raise the level of the highway to meet the bridge deck. This consent is a separate consent submission to London Borough of Camden under Schedule 17 of the HS2 Act.
- **Schedule 4** will cover Highway Layout – Includes the more detailed elements relating to the highway, in particular all street markings, highways drainage,

traffic signalling. This is the subject of a separate consent submission to Transport for London (TfL) under Schedule 4 of the HS2 Act.

3.3.4 The existing bridge contains several utilities beneath the surface of the pavement on both sides, and the new bridge will correspondingly include sufficient space beneath the pavements to accommodate the 'extension' of the utilities to those in the existing bridge in the same way. The consents required for this permanent arrangement will be sought separately by each of the relevant utility providers, under the Protective Provisions (Schedule 33 Part 2) contained within the HS2 Act.

3.3.5 The new section of bridge's proximity to the existing West Coast Mainline railway results in a detailed set of approvals being required to be obtained separately from Network Rail under the Asset Protection Agreement with HS2.

HS2 Euston Station

3.3.6 To the east of Hampstead Road is the HS2 Euston Station redevelopment. The HS2 Euston Station design, although currently paused, will be brought forward under a separate contract with HS2 Ltd and will be subject to its own Plans and Specification application for approval under Schedule 17. The boundary between the Hampstead Road application and the station will run along the back edge of the footpath of the road.

3.3.7 As the station will be developed over several years, a temporary parapet will be required along the bridge's eastern perimeter which will remain in place whilst the station is brought forward. The temporary parapet will be removed upon completion of the station development. The location of the temporary parapet (**Figure 16** in orange shading) is directly adjacent to the interface parapet on the eastern edge of the bridge.

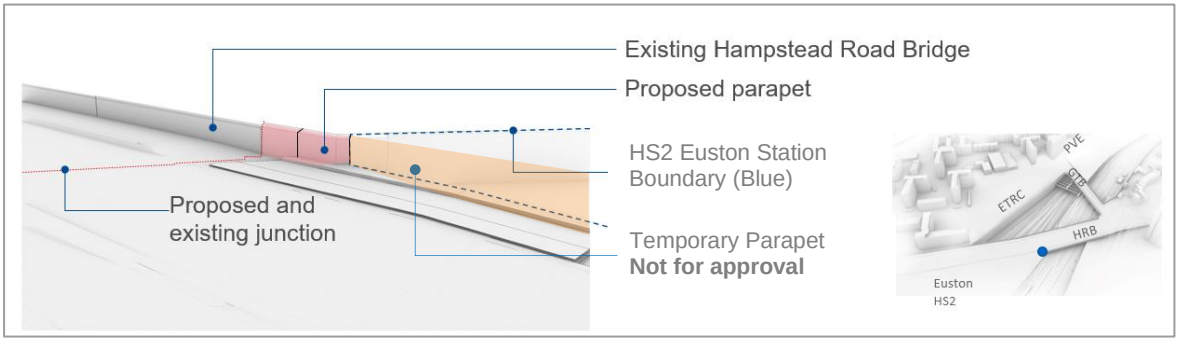

Figure 16 Design and location of the temporary parapet interface with the HS2 Euston Station. The interface parapet is shown in red, and the temporary parapet is shown in orange. Due to its temporary nature, this element is not for approval.

3.3.8 The Temporary Eastern Parapet will be a metal highways barrier. **Figure 17** is a case study image of how this may look, noting that the HRB Temporary Parapet is expected to have a solid metal infill instead of the wire mesh that is pictured. This design has been selected as it meets the technical specifications required for a temporary highways barrier (e.g. to withstand collision).

Figure 17 A case study image illustrating how the temporary parapet is expected to look (model shown is Varley and Gulliver VGSH 4000 H4a Parapet)

3.3.9 In accordance with paragraph 2 and 3 of Schedule 17 of the HS2 Act, only permanent building and construction works require approval under Schedule 17 of the HS2 Act, and this temporary parapet is therefore not for approval.

Granby Terrace Bridge

3.3.10 Granby Terrace Bridge joins Hampstead Road at a junction north of Hampstead Road Bridge. Granby Terrace Bridge is being extended to traverse both the existing West Coast Mainline and proposed HS2 line south-westwards, before terminating at Park Village East. Plans and Specification consent (2021/0356/HS2) for the extension of the existing Granby Terrace Bridge was granted by London Borough of Camden under Schedule 17 of the HS2 Act on 24 March 2021.

Euston Throat Retained Cut and Langdale Open Space

3.3.11 Euston Throat Retained Cut runs between the western end of Granby Terrace Bridge and the southern end of Hampstead Road Bridge (**Figure 18**). This package comprises an open trough structure that will accommodate a section of the new High-Speed Railway, built on a concrete slab base. It will be bound by retaining walls with reinforced concrete containment parapets. The Schedule 17 plans and specifications consent for the Euston Throat Retained Cut was granted on appeal (PINS ref: APP/ HS2/ 6) on 27 July 2020.

3.3.12 Directly south-west of the proposed Hampstead Road Bridge, there will be the entrance to an open space adjacent to the Euston Throat Retained Cut Western Retaining Wall (known as Langdale Open Space) (**Figure 18**).

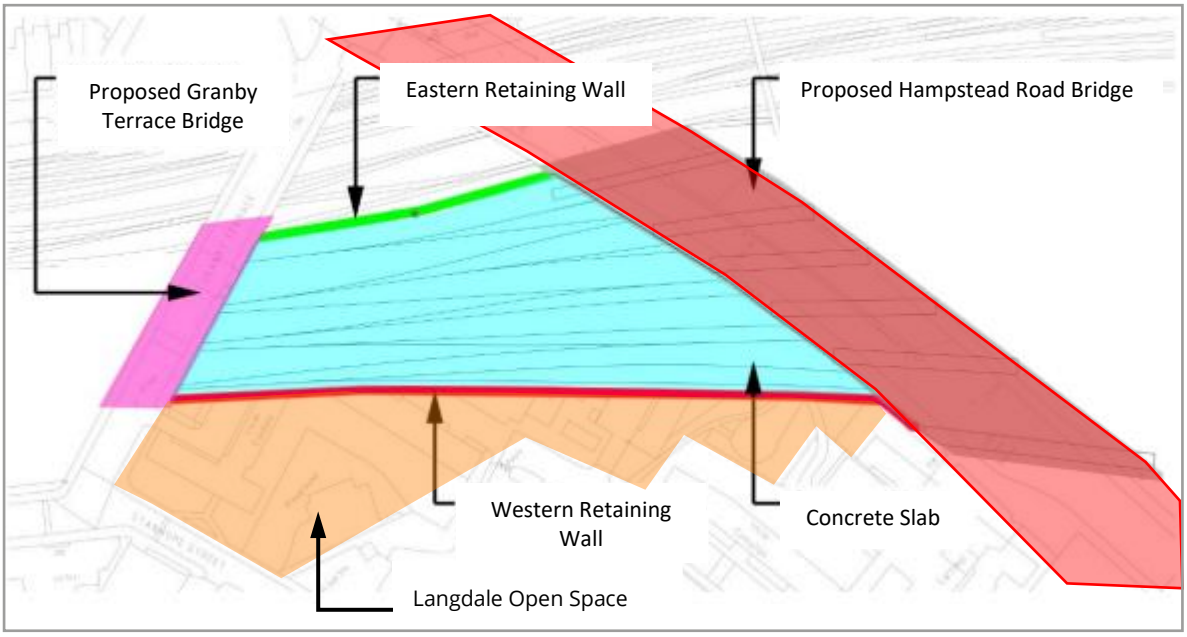

Figure 18 Diagram of Euston Throat Retained Cut (from HS2 Doc Ref: HS2-HS2-IM-TEM-000-000265)

3.3.13 In the short term, this area is required for carrying out operations ancillary to the construction of the scheduled works. In the long term, HS2 Ltd are required to restore the site (as per Paragraph 12(1) of Schedule 17 of the HS2 Act) in accordance with a scheme agreed with the local planning authority (LB Camden). This scheme must be submitted for agreement within 4 months of the discontinuation of the use of the site. This Site Restoration application will be accompanied by a Schedule 17 Plans and Specifications application which will cover earthworks required to raise the existing ground level to meet Hampstead Road Bridge.

3.3.14 Due to the current HS2 programme of works, this scheme is not being brought forward in conjunction with this application for plans and specifications approval. It will be subject to separate engagement, and a separate application in the future.

3.3.15 Hampstead Road Bridge will be constructed before the Langdale Open Space earthworks and landscaping are completed. Therefore, a temporary hoarding will be required due to the difference in level between the bridge structure and Langdale Open Space. The hoarding will only be in place until Langdale Open Space is constructed.

3.3.16 As illustrated by **Figure 19** the temporary hoarding runs along the application boundary at the edge of the Hampstead Road Bridge deck and Langdale open space.

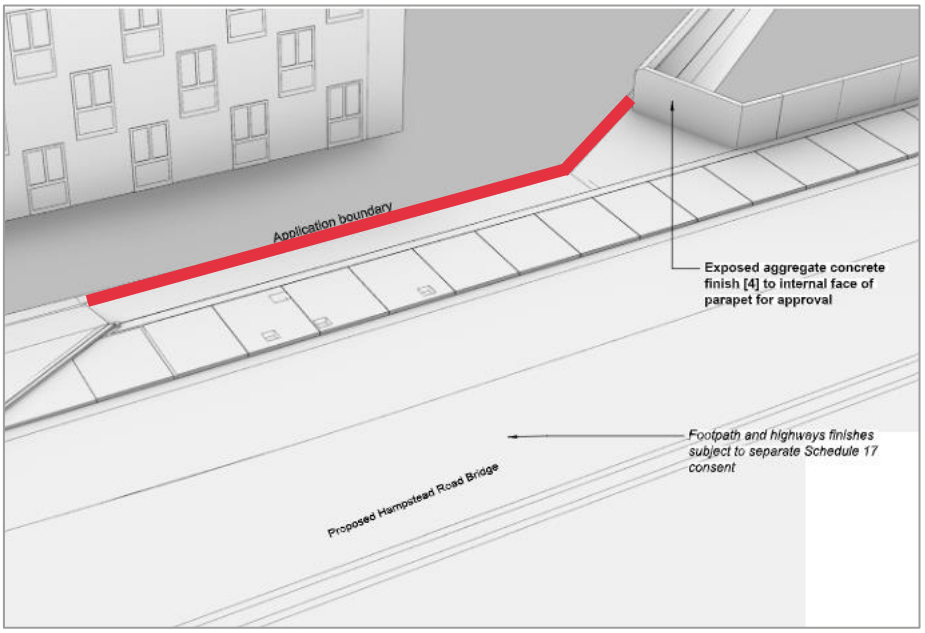

Figure 19 The temporary hoarding will run along the application boundary between HRB and Langdale Open Space. Approximate location is shown by the red line.

3.3.17 In accordance with paragraph 2 and 3 of Schedule 17 of the HS2 Act, only permanent building and construction works require approval under Schedule 17 of the HS2 Act, and the temporary hoarding is therefore not for approval.

3.4 Operational Noise

3.4.1 The extension of Hampstead Road Bridge will have 1.8m tall solid containment/safety barriers as its western parapet. Whilst this safety barrier is not designed as noise mitigation, it will provide screening from road traffic noise on Hampstead Road to the Regent's Park Estate.

3.4.2 For this reason, an assessment of the cost-effectiveness of the inherent noise mitigation provided by the safety barriers has been undertaken, and the results demonstrate that the operational sound from Hampstead Road Bridge has been reduced as far as reasonably practicable, and that additional mitigation, such as taller barriers, would not be cost-effective or provide additional material benefit compared to the current design.

3.5 Indicative Mitigation

3.5.1 As outlined in Section 3.4, the proposed bridge extension will include solid containment/safety barriers which will reduce the impacts of noise from road traffic on Hampstead Road for the residencies which are part of the Regent's Park Estate.

3.6 Construction Method

3.6.1 The works subject to this request for approval of Plans and Specifications will be undertaken in accordance with the HS2 Code of Construction Practice and the Class Approval issued by the Secretary of State (March 2017).

3.6.2 This section summarises the general construction methodology and the main temporary works arrangements. The arrangements described may alter, are for information only and do not form part of this request for approval.

3.6.3 The A400 Hampstead Road is required to stay open to vehicular, pedestrian and cycle traffic for the duration of the construction works (with exceptions of agreed road closures approximately once per year during the construction period). To facilitate this, a temporary road will be provided to divert traffic past areas of construction. A phased programme of works will also be adopted to minimise highways disruption. The temporary highway is not subject to Plans and Specification approval under Schedule 17 and therefore does not form part of this submission.

3.6.4 The utilities in the existing bridge will be temporarily relocated via the adjacent Granby Terrace Bridge to allow the construction of the new section of Hampstead Road Bridge. Upon completion of the new bridge, the utilities will be relocated into the new bridge (combining the old and new sections), thereby allowing the removal of the temporary utilities arrangements on Granby Terrace Bridge.

3.6.5 The construction sequence for Hampstead Road Bridge is illustrated in **Table 5** (overleaf).

Table 5 Construction sequence for Hampstead Road Bridge

Stage	Element	Description
1	Site Establishment	Site establishment next to Cartmel House for the Phase 1 Utility Diversion.
2	Contiguous Bored Piles	Construction of the 15 No. reinforced contiguous bored piles, capping slab and section of the southern abutment.
3	Site Restoration	Return Phase 1 Utility Diversion site back to TfL and London Borough of Camden.
4	Site Establishment	Site establishment of Zone 5, polymer plant and piling platform to be inherited from S3, S1 to apply concrete capping to piling platform. and begin the construction of the piling mat in the area (current unlet scope – removal of UCL Building foundations/temporary works and removal of petrol station tanks).
5	Piles	Partial construction of the reinforced tension piles and reinforced contiguous bored piles in the Zone 5 area. (Note - section of piles cannot be completed until utilities work is completed)
6	Temporary Road	Partial construction of the temporary road within Zone 5 on top of the newly installed piles, coordination required with HS2 Euston Station Contractor. (Note - section of piles cannot be completed until utilities work is completed)
7	Northern Abutment	C/Extend piling mat to the north of Zone 5 and southbound carriage way, guide wall construction, and construction of the northern abutment including the contiguous bored piles and the capping beam, and remaining tension piles. East wall construction to be constructed at this time, the tension piles must be done first to support the piling rig (TBC)
8	Temporary Road	Agreed road closure to enable the construction of the northern abutment and tie in detail for the temporary road North and South.
9	Temporary Road	Divert traffic to the new temporary road, traffic moved off the north and southbound carriageways on Hampstead Road.
10	Piling mat	Placement of the piling mat within the west site compound to enable the construction of the reinforced contiguous bored piles and tension piles for the western section of the bridge. The bored piles are part of the base slab, piers and abutments of the proposed Hampstead Road Bridge.
11	Bridge Structure	Construction of the capping beams and bearing plinths for the bridge.
12	Bridge Structure	Lifting and placement of the bridge beams at the locations for the west/ Northbound deck, where the bridge capping beams are completed.
13	Bridge Structure	Construction of the in-situ concrete decks where the beams have been installed. The concrete surface will be waterproofed with drainage installed. This allows the installation of the of the temporary road surfacing, the permanent parapets, and furniture. The utility ducting will be installed beneath the northbound footpath.
14	Temporary Road	Traffic to move from the temporary road onto the partially constructed Hampstead Road Bridge. Traffic to flow in both directions only on the northbound carriageway.
15	Bridge Structure	Construction of the remaining sections of the capping beams and bearing plinths for the bridge. Lifting and placement of the remaining bridge beams for the East/southbound deck. Construction of the in-situ concrete decks, waterproofing the surface with drainage and installation of the temporary road surfacing, kerbs, parapets and furniture.

3.6.6 Construction access to the Hampstead Road Bridge worksite will vary as the construction programme progresses. Site access will be from the existing SCS JV access points on Granby Terrace and Euston Throat Retained Cut. With site locations varying there will be individual access locations off Hampstead Road with the most significant happening during the temporary road diversion where an access point will be outside Lindale House.

3.6.7 The construction of Hampstead Road Bridge commenced in late 2022, the first activity being the construction of the southern abutment and lasts till the Winter of 2027 when the tension slab is completed. The main diversion of traffic from the road itself onto the temporary road starts in Summer 2025 and lasts for over a year to the Autumn 2026.

3.7 Historic Environment

3.7.1 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 LPAs. 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.

Archaeology

3.7.2 The arrangements for the management of archaeology during construction are not a matter for approval under Schedule 17, however the following provides context in respect of the Site, and the works for approval.

3.7.3 No assets pre-dating the 19th century have been identified within a 100m study area of the Site, with Rocque's map of 1756 indicating that the early post-medieval landscape had seen little urban development. However, by the early 19th century, the Site and surrounding area underwent significant development, with the loss of the rural landscape and the construction of Euston Station, opened in 1837, to the east of the Site, which truncated the surrounding landscape and subsequently dictated the development of the immediate townscape.

3.7.4 Except for Stalbridge House and Granby House, all Victorian and Edwardian development within the vicinity was lost during the early 20th century, in part due to WWII bomb damage, but primarily due to an extensive programme of post-war era slum clearance, and the subsequent championing of high-rise social housing. Subsurface archaeological remains of these structures and gardens may still survive, outside of the cutting area, and if encountered, may have the potential to contribute towards an understanding of 19th century urban expansion.

3.7.5 Truncating the landscape, Euston Station to Parkway cutting retains much of its early 20th century rail character, having been extensively broadened during the latter half of the 19th century.[5]

3.7.6 As a result of the above findings, the DRN produced for the DB Carriage Sheds (ref: 1EW02-CSJ-CO-NOT-S001-000001) indicates that further archaeological work is not required in this area. Some built heritage recording is ongoing; however, this is not within the vicinity of the application site.

[5] HS2 Phase One Environmental Statement Volume 1 Technical Appendices CFA1 Euston –Station and Approach (CH-001-001)

Heritage

3.7.7 The HS2 Heritage Memorandum 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.

3.7.8 The proposed works are adjacent to the south of the Camden Town Conservation Area (CA). Aside from the CA the closest designated heritage assets to the works are the Grade II buildings along the southside of Mornington Crescent.

3.7.9 The proposals do not physically impact any heritage asset identified in Section 2. The works will impact the setting of the CA and the grade II listed buildings on Mornington Crescent however these impacts are not considered to be greater than those reported in the ES (as amended).

3.7.10 Careful consideration of the historic environment in this area has informed the design development of the new bridge and the retaining walls, parapets and landscaping are designed to reflect the current setting of the CA to reduce impacts on the adjacent heritage assets. Detailed design is carefully considering the historic environment to propose a final design without new or more adverse effects as those reported in the ES (as amended).

3.8 Environmental Management during Construction

3.8.1 The Environmental Memorandum, which forms part of the High-Speed Rail (London -West Midlands) Environmental Minimum Requirements, sets out the arrangements for the management of environmental issues during construction, and the Code of Construction Practice (CoCP) sets out specific details and working practices that apply. The CoCP is supported by Local Environmental Management Plans (LEMPs) which include specific measures by topic, relevant to each relevant local authority area. [6]

3.8.2 Environmental management arrangements during construction do not form part of this request for approval of Plans and Specifications under Schedule 17.

[6] The LEMP relevant to the works subject to this Schedule 17 submission is P1S Local Environmental Management Plan - London Borough of Camden and can be found here: https://www.gov.uk/government/publications/local-environmental-management-plans-for-hs2-phase-one

4 Design Approach and Rationale

4.1.1 The proposed new section of Hampstead Road Bridge is an important interface with the northern part of the HS2 Euston Station. At track level, the bridge will act as an entrance point for trains accessing the station, whilst at street level the bridge's eastern edge will facilitate station entrances for road users and pedestrians.

4.1.2 The existing context in the vicinity of the bridge is a mixture of different eras, consisting of post-war flats and contemporary buildings closer to the existing Network Rail Euston Station to 19th century heritage listed residential properties to the north.

4.1.3 The function of the bridge is not only to create a structural span, but also to contain and segregate users in terms of safety and security. Much of this function lies with the bridge parapet which will be one of the most visible parts of the bridge from the public highway.

4.2 Design Constraints

Bridge Structure

4.2.1 The design of the new Hampstead Road Bridge structure has taken the following constraints into account:

- the need for sufficient vertical headroom between railway tracks and the bridge structure;
- structural requirements for the bridge design;
- the existing height and dimensions of the existing bridge;
- the need to design around location of the existing London Underground Northern Line Bank branch tunnel which runs below the positioning of the proposed piers; and
- maintaining operation of existing National Rail and London Underground lines throughout construction.

4.2.2 Due to these constraints, the clearance required for the new section of bridge above the HS2 tracks is greater than that which currently exists for the existing section above the adjacent West Coast Main Line railway, and as a result, the HS2 rail level will be set approximately 5 metres lower than the proposed bridge level. The piers and associated piled foundations will observe a 6m vertical clearance and 3m horizontal clearance around the existing London Underground Northern Line Bank branch tunnels, which is located beneath the area.

Bridge parapet

4.2.3 The design of the parapet and its functional requirements must comply with relevant highways, railway, and other relevant technical standards. Following this, the design must relate to the existing context, in terms of:

- The profile of the new section bridge, and the physical connection to the parapet of the existing bridge (as discussed at paragraphs 4.3.5 to 4.3.14), and
- the relationship of the materiality to the surrounding context.

4.2.4 In addition, the design of the extension to the adjacent Granby Terrace Bridge (granted approval on 24 March 2021 - 2021/0356/HS2) will inform the design of Hampstead Road Bridge to an extent, by virtue of its proximity and its similar nature.

4.2.5 To meet standards for containment and security, the parapet height must be 1.8m, set in 3m wide modules to comply with HS2 standards. Several other details must be considered, such as an anti-climbing profile at the top as well as the interface with the existing parapet.

Lining Walls

4.2.6 There were several constraints on the finishes of both abutments and bridge piers. Both abutments had to accommodate rail systems along the bottom 3m, and the south abutment has a complex interface with the HS2 Euston Station platforms, as illustrated in **Figure 20**.

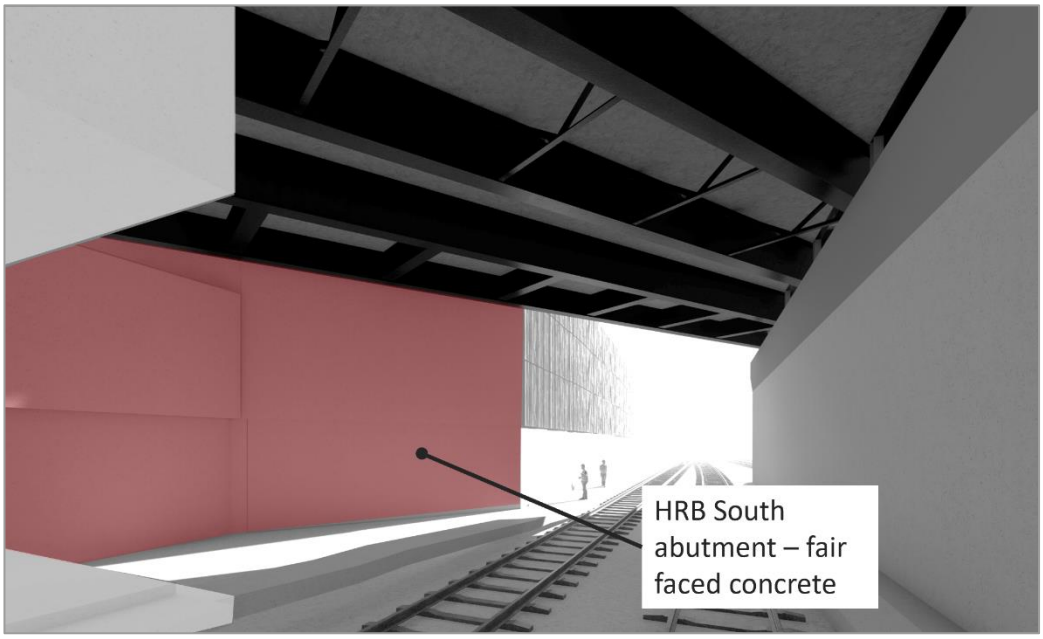

Figure 20 Proposed lining wall at the south abutment

4.3 Options Considered

Bridge Structure

4.3.1 In 2017, during the Scheme Design phase of the design development, many different options were considered for the bridge structure. Options considered included:

- complete replacement of the bridge;
- a new suspension bridge;
- a new bridge adjacent to the existing bridge; and
- extending the existing bridge.

4.3.2 Some of the criteria used for choosing an option included the suitability to the current and future context, interface with the proposed station, utilities routing, disruption to existing rail services, cost, and constructability.

4.3.3 The Euston Mitigation Measures (EMM) process concluded that extending the original bridge was the preferred option because it minimised disruption to existing rail services, was constructable in the given timeframe and was suitable for the context.

4.3.4 The new section of bridge will be approximately 138 metres in length, comprising 5 separate spans, the arrangements for which are determined by the available space between the alignment of the HS2 tracks below. As far as possible, the bridge piers will be positioned parallel to the abutments. Skew spans are required to accommodate the difference in alignment between the highway and the tracks below. This means that the bridge deck is at a 45-degree angle to the supporting piers, rather than the 90-degree angle found on a typical bridge.

Bridge parapets

4.3.5 To provide a consistent architectural language across both Granby Terrace Bridge and Hampstead Road Bridge it was proposed that both bridges have matching parapet profiles. Several options have been considered throughout all the design stages of the bridge. The criteria assessed included the structural integrity, constructability, integration with the existing parapet, security/safety, and appearance.

4.3.6 Under the Enabling Works Contract, several parapet profile designs were considered and assessed for Granby Terrace Bridge, and it was concluded that a profile with a vertical inside face be adopted, which would allow for a smooth transition with the existing parapet and enhance safety in the event of a collision. A profile with a wider base than top was chosen for several reasons, a lower centre of gravity

contributes to structural and containment requirements, combined with the fact that a narrower top face would discourage climbing. These two factors pointed to a profile which resembled the draft HS2 Common Design Element (CDE) parapet profile shown in purple in (**Figure 21**). [7]

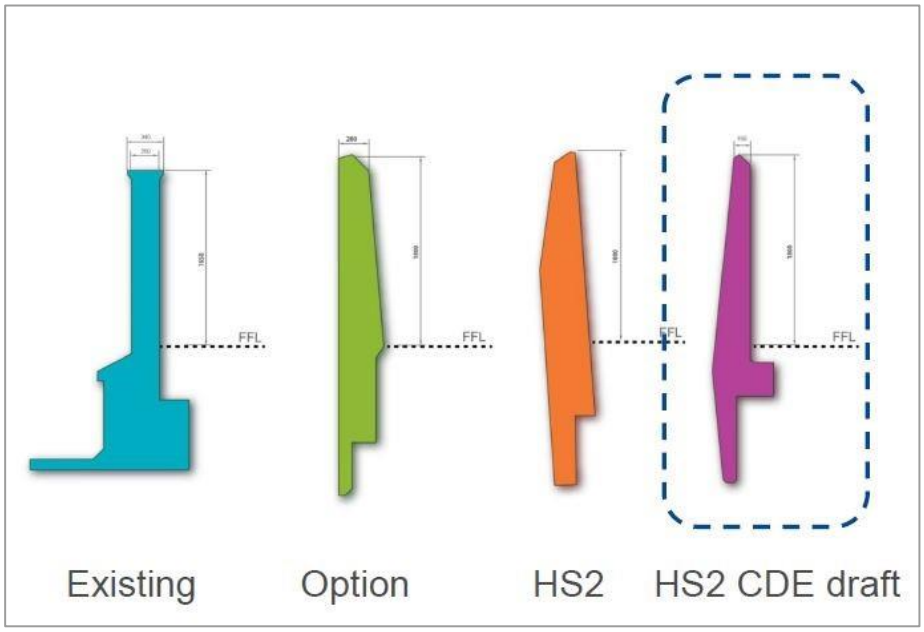

Figure 21 The various parapet options considered including the selected option

4.3.7 This parapet profile option was presented and agreed with London Borough of Camden during a pre-application meeting held on 15 May 2020 (see Section 5).

4.3.8 The transition between old and new bridge parapets is another major consideration that applies to both Hampstead Road Bridge and Granby Terrace Bridge. The existing parapet is 1.65m above the street level with a flat capping. Railway safety requires the parapet to maintain 1.8m above the street level and is to discourage climbing. There are significant differences in both profiles between old and new. Three options were considered by the architectural team: a bespoke transition panel, a shadow gap, and a pilaster (**Figure 22**).

Figure 22 Initial parapet transition options

[7] At the time of writing, the HS2 Common Design Element parapet profile has yet to be finalised and agreed.

4.3.9 The transition panel option was discarded because of difficulty in construction and the inability to maintain the required 1.8m parapet height up to the point of transition.

4.3.10 Both the bridge joints and pilaster options were suitable in this situation. The shadow gap joint chosen was considered most appropriate it was felt that it attracted less attention to the junction. This was developed further by adding a splay to the top, as also shown in **Figure 23.** The splay design allowed for an anti-climbing coping for the new parapet and softened the transition between the old and new parapets by referencing the existing parapet height.

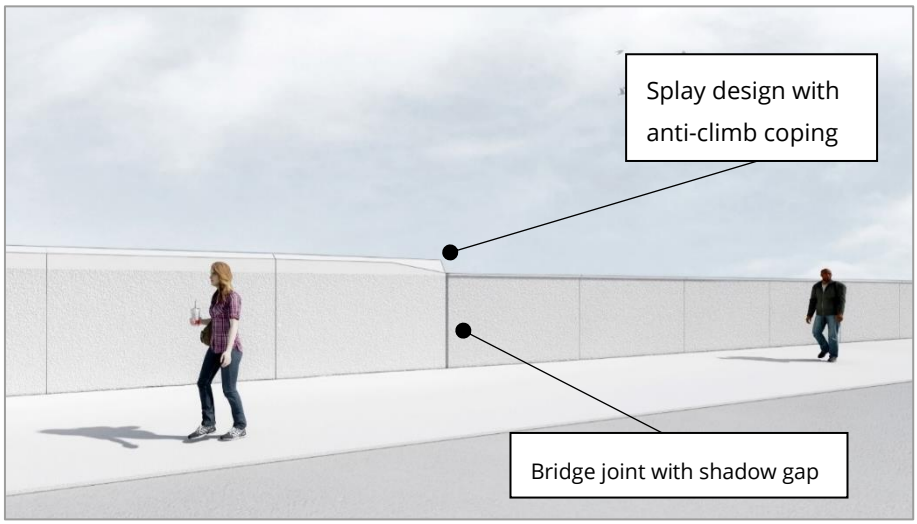

Figure 23 Splay transition panel

4.3.11 The materiality of the parapet is key to the success of the design. Of particular importance is internal face of the parapet as this will be directly opposite the proposed HS2 Euston Station northern entrance.

4.3.12 **Figure 24** illustrates the various materiality options considered. These options were compared with those based on brick, which were discarded primarily because of a

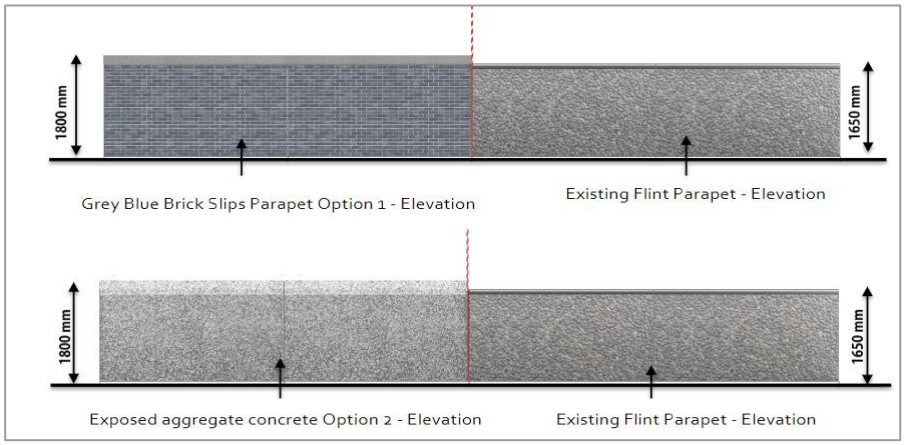

Figure 24 Parapet materiality options

visual clash with the existing parapet, the potential to attract graffiti, and the extra thickness required which would impact detrimentally on the design.

4.3.13 Exposed aggregate was chosen as the preferred option as this matched the existing parapet, is the least susceptible to graffiti owing to its uneven surface, requires the least maintenance and occupies the smallest amount of space.

4.3.14 The external face of the parapet faces onto the railway cutting, both exposed aggregate and smooth-faced concrete were considered. However as the adjoining Euston Throat Retained Cut and bridge abutments and piers will all contain a smooth faced concrete, it was decided to match this with the same finish.

Langdale Open Space – Chamfer Structure

4.3.15 The bridge's interface with Langdale Open Space is key to ensure connectivity between the new HS2 Euston Station with Langdale Open Space and the residential areas to the north.

4.3.16 Due to the level difference between the bridge extension and the open space, early designs consisted of a ramp to facilitate pedestrian access to Langdale Open Space.

4.3.17 This design had several negative effects on the urban amenity of the surrounding areas, with issues being raised such as lack of visibility to the station from Langdale Open Space and perceived poor safety for pedestrian users of the ramp.

4.3.18 Following this a study was undertaken to maximise the space available, whilst considering technical requirements. The primary constraints were the area required in the Euston Throat cutting for smoke ventilation, thus there was a limit of how much this could be covered. The result of this was the chamfer structure that has been taken forward as the selected design.

Lining walls

4.3.19 Due to the location of the adjoining HS2 Euston Station, Hampstead Road Bridge effectively forms the entrance into the station, so careful attention was paid to the design of the abutments and piers. The appearance of the elements and their interfaces with the station finishes is of upmost importance as it forms the beginning of the passenger experience of the HS2 Euston station.

4.3.20 The ribbed wall finish pattern is based on a barcode translation of "HS2" and is proposed to be used across many assets along the line (**Figure 25**) such as in Euston Throat Retained Cut. In addition, the vertical ribbed pattern helps to prevent staining and deter graffiti.

4.3.21 Two options were considered for a liner wall finish to these areas. The first option was to apply the neighbouring Euston Throat ribbed wall finish through into the station and the second option was to apply a smooth faced concrete finish.

4.3.22 For the northern abutment, a ribbed finish was initially considered. However this was rejected and a smooth concrete finish adopted due to the following reasons:

- Newer information about the location of the abutment of the existing bridge, the northern abutment had to be shifted towards the south slightly to avoid a clash.
- This created a step in the wall which also had the effect of reducing the clearance to the tracks making the space insufficient for any ribbed pattern.

4.3.23 **Figure 25** (overleaf) illustrates that the ribbed pattern concrete finish which was approved as part of the Schedule 17 for ETRC from the Euston Throat east wall terminates at the Hampstead Road Bridge northern abutment. The northern abutment is illustrated with a smooth concrete finish.

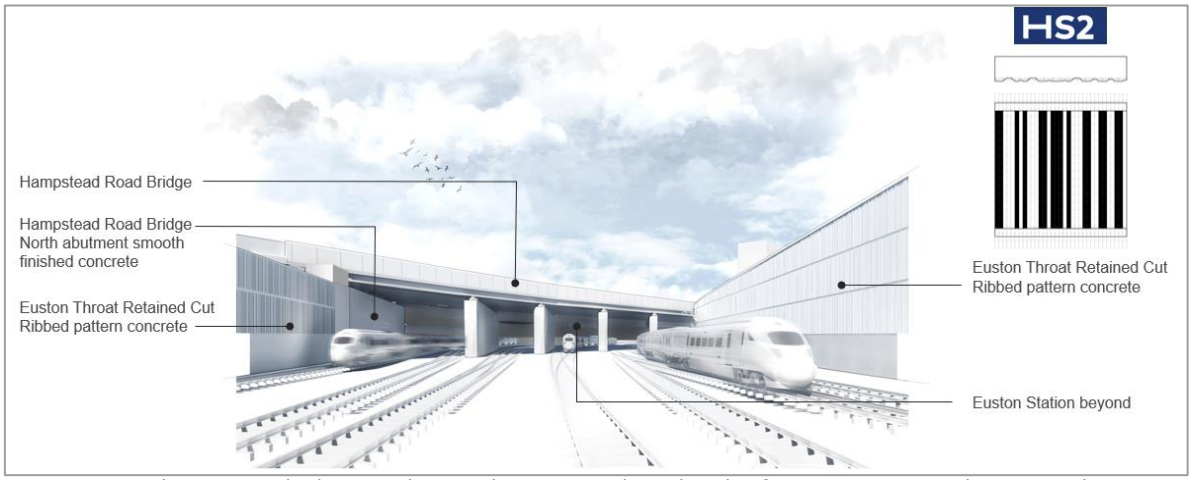

Figure 25 An indicative view looking south towards Hampstead Road Bridge from a viewpoint in the Euston Throat. The barcode finish visible at the top of each lining wall continues on from Euston Throat until the junction with the bridge deck where it turns into a smooth faced finish.

4.3.24 At the southern abutment, the decision was made to stop the ribbed pattern at the end of the Euston Throat west wall where it intersects the bridge, this creates consistency with the northern abutment as they will appear as a seamless wall.

4.3.25 The option to continue the ribbed wall pattern into the southern abutment was explored but rejected for the following reasons:

- the configuration of the station requires a 'notch' in the retaining wall (as explained previously);
- the latter access to the notched area is very constrained;
- the lower 3m of the wall would need to be smooth faced concrete to allow for rail systems conduits; and
- most of the southern abutment wall is covered by the station platform finishes.

4.3.26 Due to these reasons, if the ribbed wall finish was continued and was able to be constructed considering the access constraints, very little of it would be visible.

4.3.27 The proposal to use smooth faced concrete for the lining walls was accepted by London Borough of Camden on the 23rd July 2020 via email correspondence.

4.3.28 **Figure 26** illustrates the finishes to the north and south abutments.

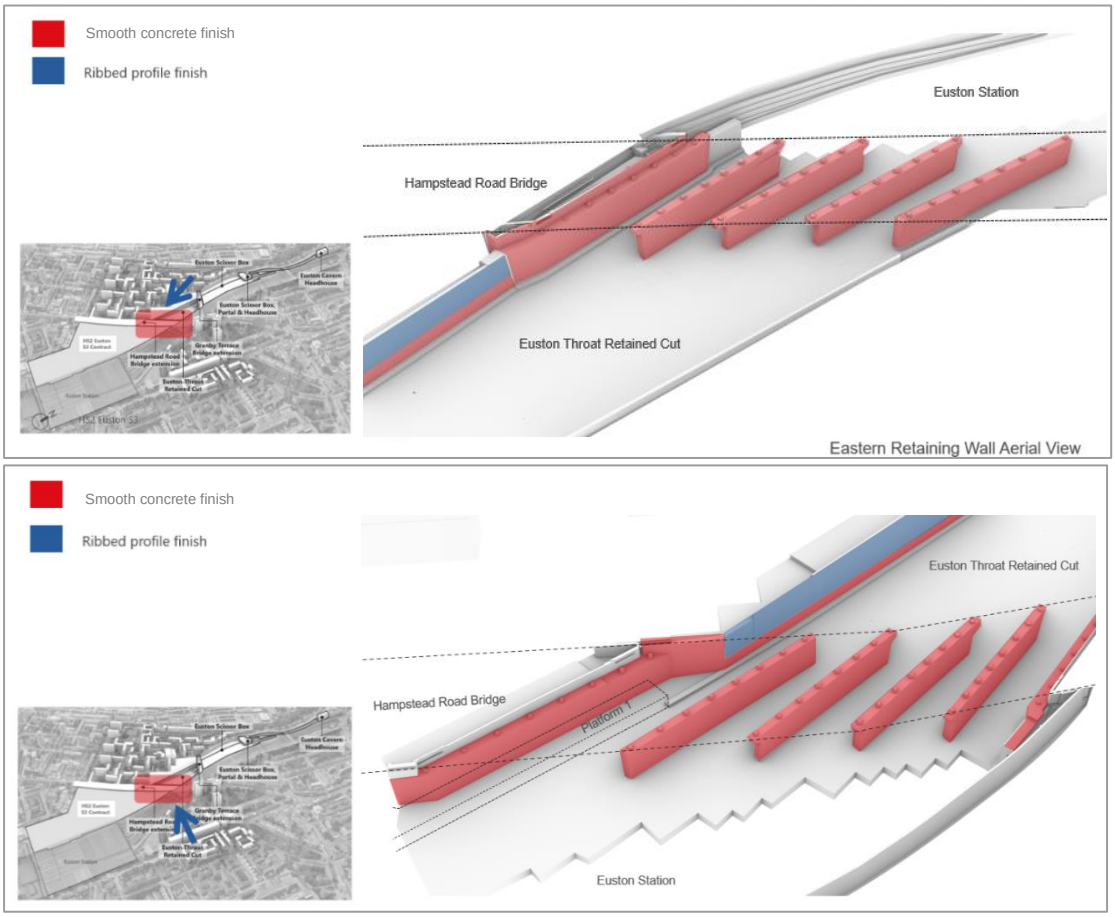

Figure 26 View of Piers and finishes of the South Abutment (top) and North Abutment (bottom).

4.4 Summary

4.4.1 This section outlined the design rationale for the elements for approval in this Schedule 17 application, as detailed in section 3.

4.4.2 The parapet profile proposed to be applied to the western parapet of Hampstead Road Bridge will have a vertical inside face with an exposed aggregate finish and a splayed transition detail. The chamfered parapet structure has been adopted at the bridge's southern interface with Langdale Open Space to improve pedestrian connectivity and visibility. The design preserves the local environment and local amenity, a key consideration for determination under paragraph 2(5) of Schedule 17 of the Act.

4.4.3 The track level finishes seamlessly combine with Euston Throat providing a fitting entrance to the station. A combination of smooth-faced and ribbed concrete finishes aligns with a common identity used along the line, ensuring a visual continuity with adjoining assets in the Euston Throat. It also provides a high-quality finish for an area highly visible from passing trains, ensuring the local amenity and environment is enhanced.

5 Pre-submission Consultation

5.1.1 Pre-submission consultation with the Local Planning Authority, statutory consultees and other relevant stakeholders is summarised in **Table 6** below.

Table 6 Pre-submission Consultation with LPA and Statutory Consultees

Consultee Name	Consultation Date	Method of Consultation / Attended by	Summary of Consultation Outcome
London Borough of Camden	07/03/2018	Schedule 17 Pre-Application Meeting between HS2 Ltd and LBC	Overview of Schedule 17 and the functionality and construction.
	15/08/2018	Workshop	SCS provided an overview of the scope of works in Camden.
	02/06/2020	Schedule 17 Pre-Application Meeting between HS2 Ltd and LBC. Attended by: - LBC Project Manager - LBC Urban Designer - HS2 Town Planning Manager - MWCC Town Planning Manager - MWCC Design Manager - MWCC Design team	Discussion of Schedule 17 application and it was agreed with LBC the profile and materiality of the parapet wall. Further feedback was required from LBC on the preferred parapet transition joint.
	24/06/2020	Email correspondence	LBC confirmed preference for a pilaster transition between proposed and existing bridge parapets.
	07/07/2020	Schedule 17 Pre-Application Meeting between HS2 Ltd and LBC. Attended by: - LBC Project Manager - LBC Urban Designer - LBC Case Officer - HS2 Town Planning Manager - MWCC Town Planning Manager - MWCC Design Manager - MWCC Design team	LBC to provide further comment on the lining wall treatment for the bridge abutments and piers.
	23/07/2020	Email correspondence	LBC confirmed acceptance of the lining treatment for the bridge abutment and piers.
	04/05/2021	Schedule 17 Pre-Application Meeting between HS2 Ltd and LBC	LBC raised comments about the following issues: - Interrelationship between the western parapet, the Euston Throat Retained Cut and the Langdale Open Space ramp. - Additional contextual information to support the application. - Details on the interface between the eastern parapet and the station scheme. - Details of the temporary parapet.

Consultee Name	Consultation Date	Method of Consultation / Attended by	Summary of Consultation Outcome
	12/07/2022	Schedule 17 Pre-Application Meeting between HS2 Ltd and LBC	SCS provided an overview of how the design has progressed, including more details on the chamfer interface at Langdale Open Space, and the lining walls at track level.
	18/10/2022	Schedule 17 Pre-Application Meeting between HS2 Ltd and LBC	Page turn of the application documents and drawings. LBC provided comments and queries on the submission.
	24/08/2023	Schedule 17 Pre-Application Meeting between HS2 Ltd and LBC	SCS provided an update on design progression and final submission programme.
Historic England	08/05/2018	Meeting between Historic England and HS2 Ltd	An overview of the Euston area structures and Schedule works including an overview of the heritage assets in the Euston area.
Greater London Archaeological Advisory Service	30/09/2020	Statutory Consultee Meeting	GLAAS confirmed no archaeological interest that affected the Hampstead Road Bridge design.

6 Construction Programme

6.1.1 A high-level programme for the works subject to this submission and how they fit into the overall programme for other works in the area is contained in **Table 7** below. The programme for works on site may vary from the indicative dates shown.

Table 7: Proposed Programme and Sequence of Works

Anticipated Start on Site Date (quarter/year)	Activity	Estimated Completion of Works (quarter/year)
Q2 2022	Phase 1 Utility Diversion	Q3 2022
Q2 2023	Section of Southern Abutment	Q3 2024
Q2 2022	Phase 2 Utility Diversion	Q2 2026
Q3 2026	Southbound Carriageway Construction – Phase 1	Q3 2026
Q1 2028	Road Closure (1)	Q1 2028
Q1 2025	Southbound Carriageway Construction – Phase 2	Q3 2025
Q2 2027	Northbound Carriageway Construction (Incl. piling & piers)	Q 32028
Q3 2028	Road Closure (2)	Q3 2028
Q3 2028	Southbound Carriageway Construction – Phase 2	Q1 2029
Q1 2028	Works under Hampstead Road Bridge	Q4 2028
Q1 2029	Road Closure (3) Deck Stitch	Q1 2029
Q1 2029	Utility Route and Deck Finishes	Q3 2029

7 Other Consents

7.1.1 Other main consents likely to be required for the works are summarised in Table 5 below. Consent requirements may alter during design development and further consents not identified in **Table 8** may be required.

Table 8: Other Consent Requirements

Consent	Consent Granting Body	Works Requiring Consent	To be submitted / approved
HS2 Act, Schedule 4, Part 3	Transport for London	Highway design and layout	To be submitted
HS2 Act, Schedule 33, Part 1	Transport for London	Alteration of existing Hampstead Road Bridge; extension of Hampstead Road Bridge.	To be submitted
HS2 Act, Schedule 33, Part 1	Transport for London	A retaining wall within 8m of the surface of the highway.	To be submitted
HS2 Act, Schedule 33, Part 5	Environment Agency	Construction works affecting ground water.	Submitted 3 March 2021, deemed exempt by the Environment Agency
HS2 Act, Schedule 2	Thames Water	Connection to Thames Water sewer.	To be submitted
HS2 Act, Schedule 17 Bringing into Use	London Borough of Camden	Scheduled works	To be submitted
HS2 Act, Schedule 17 Plans and Specification	London Borough of Camden	Hampstead Road street level structures for highways and urban realm.	To be submitted
HS2 Act, Schedule 17, Site Restoration Scheme	London Borough of Camden	Restoration of areas temporarily acquired for the re-construction of Hampstead Road, to include Langdale Open Space	To be submitted
HS2 Act, Schedule 17 Plans and Specification	London Borough of Camden	Euston Throat Retained Cut	Application 2019/6302/HS2 was dismissed by the inspector at the recent appeal decision (PINS ref: APP/ HS2/ 6).
HS2 Act, Schedule 17 Plans and Specification	London Borough of Camden	Granby Terrace Bridge	Application 2021/0356/HS2 was granted permission on 24 March 2021.
HS2 Act, Schedule 17 Plans and Specification	London Borough of Camden	HS2 Euston Station	To be Submitted