HS2

High Speed Rail (London – West Midlands) Act 2017

HS2 Ltd

London Borough of Hillingdon

Access Road and Auto Transformer Station - South Ruislip Vent Shaft Headhouse S2

Schedule 17 Plans and Specifications Written Statement for Information

LBH.S231.PS.18-1

Document Reference: 1MC04-SCJ_SDH-IN-STA-SS05_SL06-000001

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1.1 Background Information

Table 1 – South Ruislip Vent Shaft Access Road and ATS 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 NW10 6NF
Site Address	Braintree Industrial Estate, South Ruislip, Hillingdon, HA4 0EJ
Description	The proposed development is for a vehicle access road and Auto Transformer Station (ATS) structure with associated boundary fencing and artificial lighting, associated with the approved South Ruislip Vent Shaft Headhouse Schedule 17 (reference: 7215/APP/2020/2901).

1.2 Terms of Reference

1.2.1 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.

1.2.2 This statement provides the London Borough of Hillingdon with information to assist with the determination of the Plans and Specifications submission under Schedule 17, in relation to the above description of works.

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

1.3 Introduction to High Speed 2

1.3.1 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.

1.3.2 Phase One of HS2 will provide a dedicated high-speed rail service between London, Birmingham and the West Midlands. It will extend for approximately 230 kilometres (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.

1.3.3 For further information on HS2 and the route through the London Borough of Hillingdon please refer to the Planning Context Report for the London Borough of Hillingdon, deposited with the Council by HS2 Ltd.

1.4 High Speed Rail (London – West Midlands) Act

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

1.4.2 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.

1.4.3 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.

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

1.4.5 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
South Ruislip Vent Shaft Access Road and ATS - Plans and Specifications (permanent works)	• Paragraph 2: Building works – Design and appearance of the building that houses ATS machinery (location approved by previous NSR Schedule 17 application); • Paragraph 3: Earthworks – associated with regrading for the ATS building, regrading for the access road and access road retaining wall; • Paragraph 3: Fences – associated with security fencing (location only) for the access road; • Paragraph 3: Sight screens – an open roof metal clad transformer enclosure; and • Paragraph 3: Artificial lighting equipment – associated with the access road and ATS building.

1.4.6 The works to which this application relates, and the cumulative impact of the works in conjunction with other HS2 development, have been assessed and are compliant with the HS2 Phase 1 Environmental Minimum Requirements General Principles[1].

1.5 High Speed Two: Code of Construction Practice

1.5.1 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).

1.5.2 The works subject to this request for approval of Plans and Specifications will be undertaken in accordance with the CoCP)[2] and the Class Approvals[3] issued by the Secretary of State (March 2017).

1.5.3 The Schedule 17 Statutory Guidance issued by the Secretary of State (February 2017 and amended on 5th May 2021)[4] provides guidance to all planning authorities determining requests for approval under Schedule 17 to the Act. Paragraph 20 of the Statutory Guidance states that planning authorities should

[1] Department for Transport (2017) High Speed Rail (London-West Midlands) Environmental Minimum Requirements General Principle, available: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/618074/General_principles.pdf
[2] Department for Transport (2017) High Speed Rail (London - West Midlands) - Code of Construction Practice, available: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/593592/Code_of_Construction_Practice.pdf
[3] Department for Transport (2017) High Speed Rail (London-West Midlands) Act 2017 Class approval for matters ancillary to development under Schedule 17; available: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/604840/hsr-act-2017-class-approval-matters-ancillary-development-schedule-17.pdf
[4] Department for Transport (2021) High Speed Rail (London-West Midlands) Act 2017 Schedule 17 Statutory Guidance https://www.gov.uk/government/publications/high-speed-rail-london-to-west-midlands-act-2017-schedule-17-statutory-guidance/high-speed-rail-london-west-midlands-act-2017-schedule-17-statutory-guidance

not through the exercise of Schedule 17 seek to modify or replicate controls already in place such as the Environmental Minimum Requirements.

1.6 Structure of Written Statement

1.6.1 This Written Statement is structured as follows:

- A description of the location and main characteristics of the area in which the works will be carried out 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 approach 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 application site (hereafter known as 'the site') is located in the London Borough of Hillingdon ('LBH'), within the locality of South Ruislip. It is located adjacent to the Chiltern Mainline railway (Marylebone to Aylesbury line) and the London Underground Central Line. The site itself is vacant, features areas of handstand and is currently used for the storage of bulk materials. The area immediately surrounding the site is largely industrial in nature, with some retail uses. Across the wider locality, South Ruislip is predominantly residential in nature.

2.1.2 LBH is an outer west London Borough that spans from the northern districts of Harefield and Northwood to the south where it borders Heathrow Airport. The borough is bordered to the east by the boroughs of Harrow, Ealing and Hounslow (from north to south) and by South Bucks and Slough to the west. A section of the Colne Valley Regional Park falls within the north-western corner of the borough.

2.1.3 The main urban centres of LBH are Ickenham, Ruislip, Uxbridge and Hayes. The High Street (A4180) and Victoria Road are both located in Ruislip are the closest district centres to the site. LBH is divided by the M4 Motorway which runs east-west in the south of the borough, while the A40 arterial road runs parallel to the M4 Motorway further north. 4,970 hectares of LBH is designated Green Belt, equivalent to (approximately) 44% of the borough's land surface (Hillingdon Local Plan, 2012).

2.1.4 The site is in the north-east of LBH. Within this area there are a number of green spaces including Ruislip Woods, Ruislip Common, Ruislip Golf Course, Bayhurst Woods, Broadwater Lake and Uxbridge Golf Course. Figure 1 below shows the area surrounding the schedule 17 application.

Figure 1: Site location context

2.2 Surrounding Land Use

2.2.1 The site itself is vacant, features areas of handstand and is currently used for the storage of bulk materials. It features unmaintained perimeter vegetation along the rail corridor boundary. Access to the site is via a private road, off Victoria Road (adjacent Old Dairy Lane which services the ASDA and CineWorld complex).

2.2.2 Immediately north of the site is the Braintree Road Industrial Estate, which is outlined as a Locally Significant Industrial Site within the Hillingdon Local Plan. The industrial estate houses a variety of small-scale manufacturing, motor repair and textile businesses. North-east of the site is vacant land which is currently used for storage of bulk materials such as cars. A large Aldi and B&M Home Goods store, with associated car parking, is located to the north-east of the

vacant site, with loading docks for these stores located an approximate 50m from the application boundary.

2.2.3 To the east of the site is a large ASDA and CineWorld complex, with associated perimeter car parking.

2.2.4 Immediately south of the site is the Chiltern Mainline railway and London Underground Central Line, beyond this to the direct south/south-east is the Odyssey Business Park which includes a variety of professional office suites. Beyond the rail corridor to the south-west of the site is the single lane residential road, Trenchard Avenue, which represents the nearest residential receptors.

2.2.5 To the west, beyond the immediate rail corridor, is another single lane residential road, Portal Close, which also has a junction with West End Road (A4180).

Figure 2: Surrounding land uses

Environmental Characteristics - Ecology

2.2.6 The application site does not fall within or near any statutory ecological designations, as shown on Figure 3. It has been assessed in the Environmental Statement[5] ('ES') that that the proposed works will have no adverse impacts on any statutory ecological designations. For information, the nearest statutory designation is Islip Manor Local Nature Reserve (LNR) which is located approximately 1.2km southeast of the site.

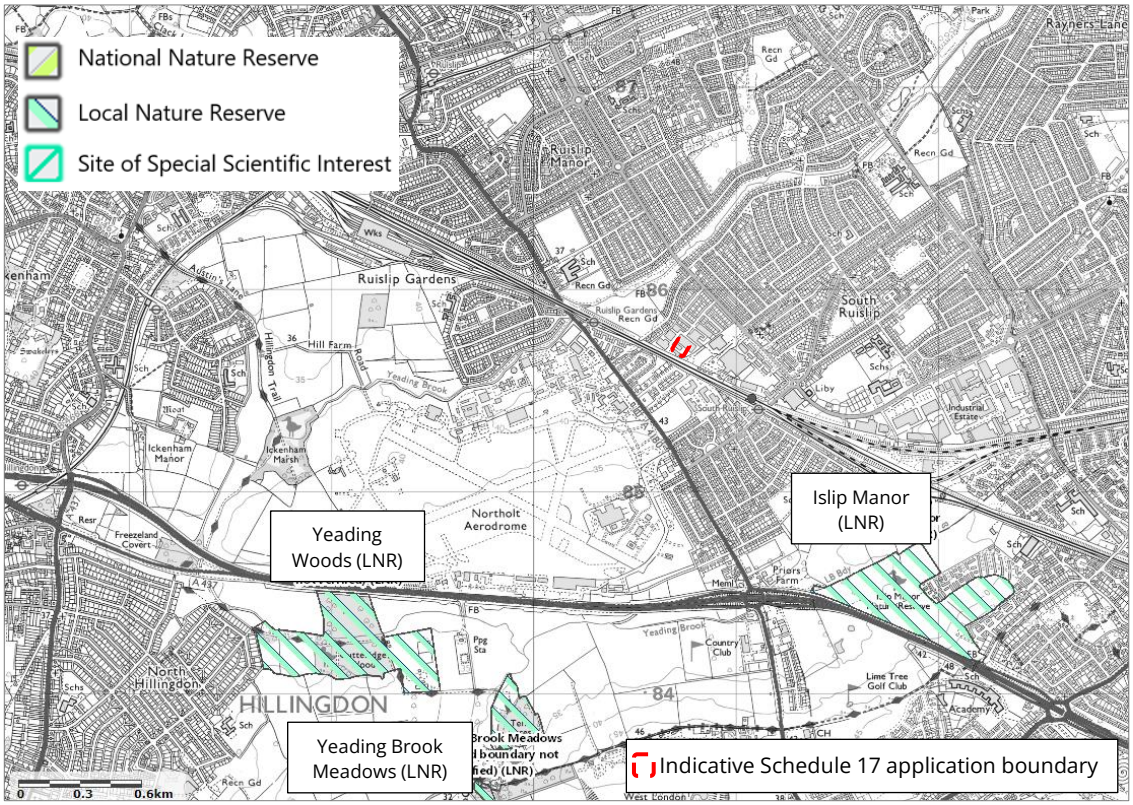

Figure 3: Environmental characteristics surrounding the site

2.2.7 The site falls within an area identified by Natural England as an 'Open Mosaic Habitat'[6]. Any loss of habitat associated with the ATS has previously been considered in the approved South Ruislip Vent Shaft Schedule 17 (reference: 7215/APP/2020/2901), which sought to mitigate this loss through ecological planting within the vent shaft headhouse compound. With regards to the access road (subject to this application), the loss of any open mosaic habitat is to be

[5] See 'Environmental Statement: CFA Report – South Ruislip to Ickenham/No6 | Ecology' (page 111): https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/398115/Volume_2_CFA6_South_Ruislip_to_Ickenham.pdf

[6] "Open mosaic habitats can be extremely diverse, including such wide-ranging sites as railway sidings, quarries, former industrial works, slag heap, bings and brick pits. Brownfields with open mosaic habitats show evidence of previous disturbance, either through soil being removed or severely modified by previous use, or the addition of materials such as industrial spoil, with spatial variation developing across the site." (Source: Natural England, https://naturalengland-defra.opendata.arcgis.com/datasets/03b0e55ff4204dcbb5e2f4e153c585e8_0?geometry=-23.044%2C50.523%2C18.770%2C55.162)

mitigated through similar ecological planting adjacent the access road. Section 3.3 provides further details on the impacts and mitigation measures for the mosaic sites. Soft landscaping will be included for approval as part of a later site wide Schedule 17: Site Restoration Scheme application.

Heritage Characteristics

2.2.8 The site does not contain any statutory listed or locally listed heritage assets, as shown on Figure 4 below. It has been assessed in the ES[7] that the proposed works will have no adverse impacts on any statutory listed or locally listed heritage assets. For information, the nearest heritage assets to the site are three Grade II Listed Buildings located within 300 – 500m of the site, as shown on Figure 4.

2.2.9 The approved South Ruislip Vent Shaft Schedule 17 (reference: 7215/APP/2020/2901) included the location of the ATS and was assessed to have no significant impact on any heritage assets or their setting. The access road (subject to this application) has also been determined to have no significant impact on any heritage assets or their setting. More details on this are contained in Section 3.5.

[7] See 'Environmental Statement: CFA Report – South Ruislip to Ickenham/No6 | Ecology' (page 83): https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/398115/Volume_2_CFA6_South_Ruislip_to_Ickenham.pdf

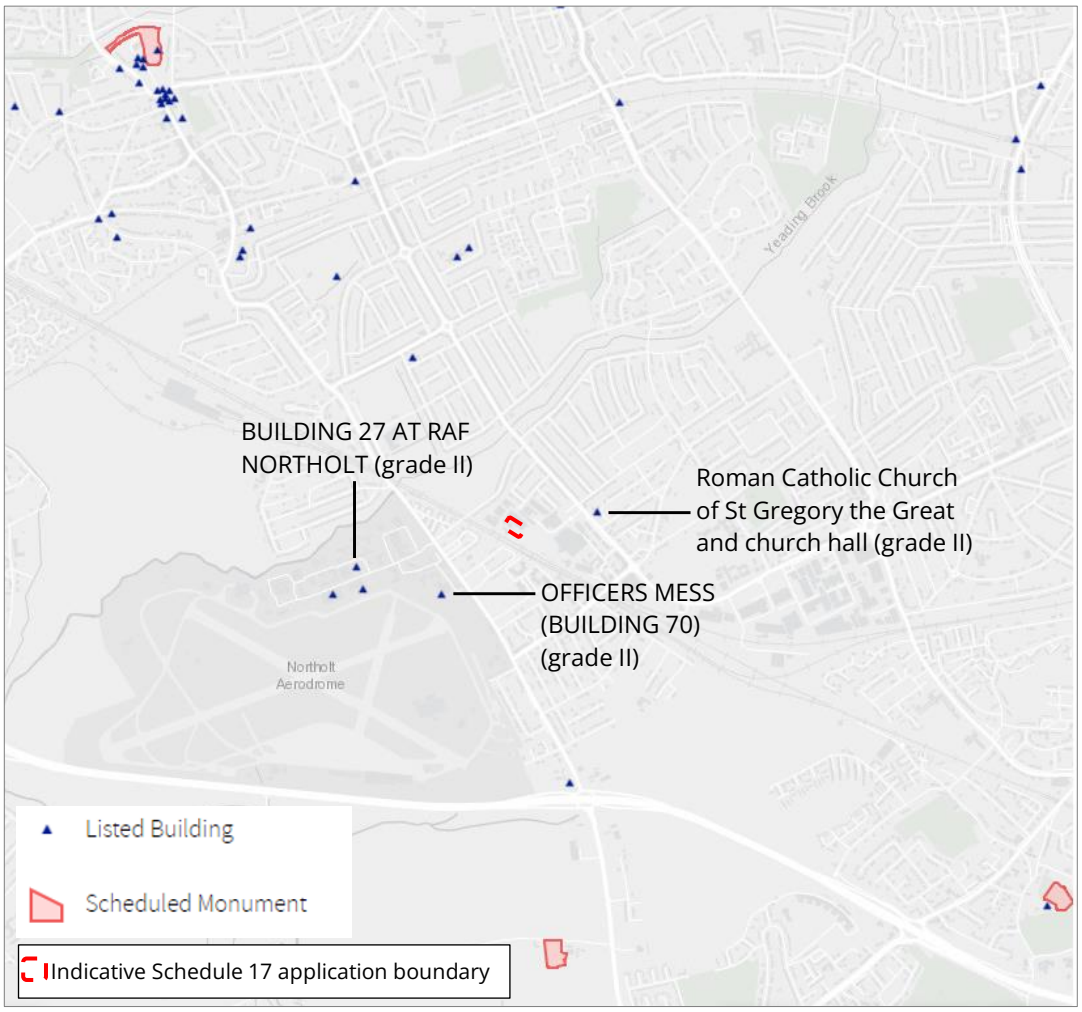

Figure 4: Scheduled Monuments and Listed Buildings within proximity of the application site and the wider area

Source: Historic England, https://historicengland.org.uk/listing/the-list/map-search

2.2.10 For information, investigations undertaken during preparation of the ES[8] did however identify seven non-designated heritage assets within 500m – 1km of the South Ruislip Vent Shaft site, these being:

- Royal Air Force (RAF) Northolt (ES ref: RUI010) (built heritage asset);
- Central Line (ES ref: RUI017) (built heritage asset);
- Ruislip Gardens Station (ES ref: RUI031) (built heritage asset);
- South Ruislip station (ES ref: RUI033) (built heritage asset);
- Potential deposits associated with 'Bone Field' (Bourne Field) (ES ref: RUI063) (archaeology asset);
- Middlesex Arms, Long Drive, Ruislip (ES ref: RUI067) (locally listed building asset); and
- 201 West End Road (Commanding Officer's House), Ruislip (ES ref: RUI069) (locally listed building asset).

2.2.11 It has been assessed in the ES that the proposed works will have no adverse impacts on any non-designated heritage assets.

[8] https://webarchive.nationalarchives.gov.uk/20140613010121/http://assets.dft.gov.uk/hs2-environmental-statement/volume-5/cultural-heritage/Vol5_CFA6_Cultural_heritage_Impact_assessment_tables_CH-003-006.pdf

2.3 Surrounding Highway Network

2.3.1 The South Ruislip Vent Shaft site is not directly connected to a public highway. A private road connects the site with Victoria Road to the north-east. The most significant major trunk road near the site is the A40 Western Avenue, which connects with the M25 and M40.

2.3.2 Further west, the A40 joins the M40 motorway, which provides access northwards to Oxford and Birmingham and the London orbital M25 motorway which encircles Greater London. This surrounding highway network is shown on Figure 5**Error! Reference source not found.** below.

Figure 5: Highway network in area surrounding South Ruislip Vent Shaft

2.3.3 In terms of the local highway network, the site is located near Long Drive railway bridge, which is a main access to the South Ruislip London Underground railway station. The site is nearby Bridgewater Road, which crosses the existing railway lines to connect with A4180 West End Road. The surrounding road network is shown on Figure 6 below.

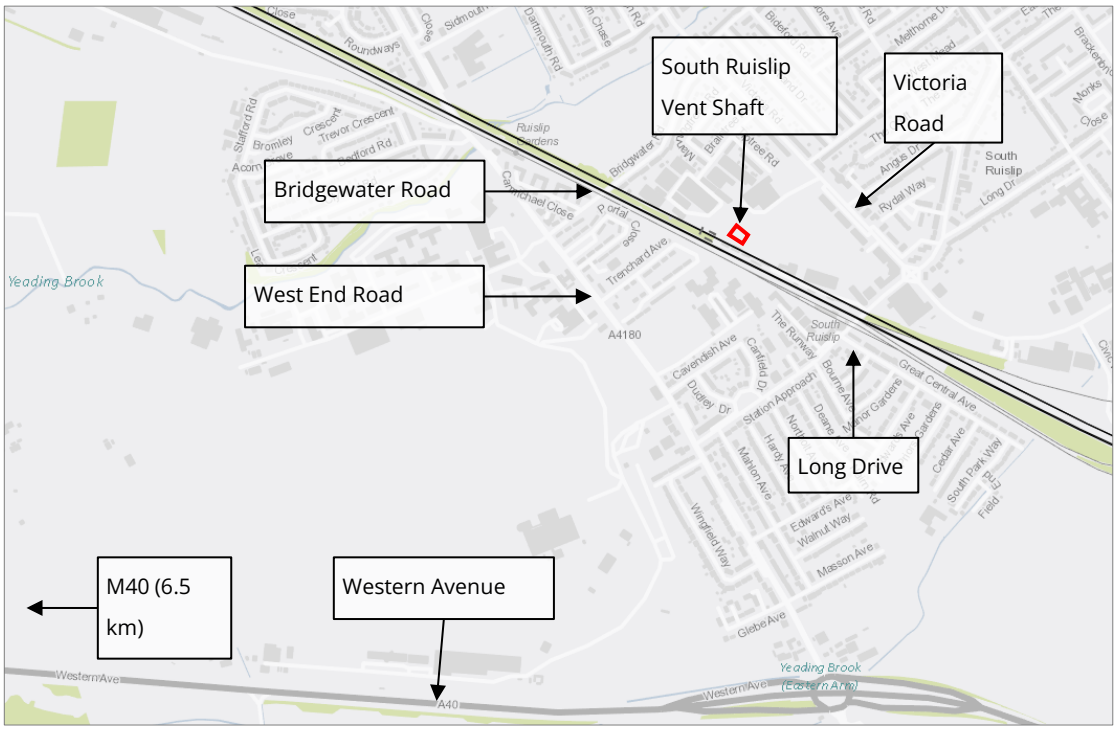

Figure 6: Road network in immediate area surrounding South Ruislip Vent Shaft

3 Description of the Works

3.1 Introduction

3.1.1 This Written Statement supports the Schedule 17: Plans and Specifications submission for the approval of plans and specifications for works associated with the South Ruislip Vent Shaft access road and ATS.

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 Section 3.3 summarises the indicative mitigation relevant to the works being submitted in accordance with paragraph 7.5.2 of the Planning Memorandum.

3.1.4 Sections 3.3 – 3.6 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 3.3 – 3.6 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: Plans and Specifications submission relates are:

- Work No. 1/15 - A railway (22.77km in length) partly in tunnel commencing by a junction with Works Nos. 1/1 and 1/16 at a point 40m north-east of the junction of Stanhope Street with Granby Terrace passing north westwards and terminating at a point 84m north-west of the bridge carrying Ickenham Road over the Marylebone to Aylesbury Line, and including shafts at Salusbury Road, Westgate, Greenpark Way, Mandeville Road and South Ruislip, a station at Old Oak Common and a crossover box at Victoria Road.

3.2.2 Consent for works at South Ruislip Vent Shaft under Schedule 17 is being sought under two separate Schedule 17: Plans and Specifications applications. The boundaries of these applications are illustrated in Figure 7, and summarised as follows:

- South Ruislip Vent Shaft Headhouse (reference 7215/APP/2020/2901; approved December 2020): headhouse building, sight screens, road vehicle parking, ATS (location only), earthworks, fencing (location only) and artificial lighting equipment; and

- South Ruislip Vent Shaft access road and ATS (this application): ATS building (design and external appearance), access road, artificial lighting equipment and fencing (location only).

3.2.3 An area to the north east of the permanent site boundary will also subject to a future Schedule 17: Site Restoration Scheme application. This is illustrated in green in Figure 7.

Figure 7: South Ruislip Vent Shaft Schedule 17 application split

3.2.4 The works submitted for approval under this Schedule 17: Plans and Specifications application comprise the elements shown on drawing for approval 1MC04-SCJ_SDH-AR-DGA-SS05_SL06-430011. The following sections describe the elements for approval in this submission under Schedule 17.

Building

Auto Transformer Station (ATS) switchgear room

3.2.5 Only the design and external appearance of the ATS switch gear room is for approval within this Schedule 17: Plans and Specifications application. The location of the ATS building has already been approved as part of the South Ruislip Vent Shaft Schedule 17: Plans and Specifications application (reference: 7215/APP/2020/2901).

3.2.6 The approved ATS structure location is to the north of the headhouse building and south of the proposed access road. The purpose of the ATS structure is to ensure a sufficient and consistent power supply to the equipment in the headhouse building and shaft.

3.2.7 The ATS structure is comprised of two key connected structures totalling a combined area of 261.28m^2:

- Switchgear room: measuring approximately 6.3m (length) x 9.3m (width) x 6.3 (height) (including parapet).
- ATS enclosure: measuring approximately 10.0m (length) x 10.5m (width) x 5.2m (height); and

3.2.8 The ATS switchgear room is for approval as a building work and the ATS enclosure is for approval as a visual screen (described below).

3.2.9 The purpose of the switchgear room is to house the switchgear equipment. It will have a single door for personnel access located on the north side and a double door for equipment access (for replacement and maintenance) adjacent to the hardstanding.

3.2.10 The switchgear room will be an enclosed structure, the external finish featuring dark grey engineering brick and metal clad louvred doors and panels in dark grey. The roof will be flat, and both the roof and parapet of the switchgear room will include a single-ply PVC waterproof membrane. The design of the switchgear room is illustrated in Figure 8, with the design rationale set out further in Section 4.3.

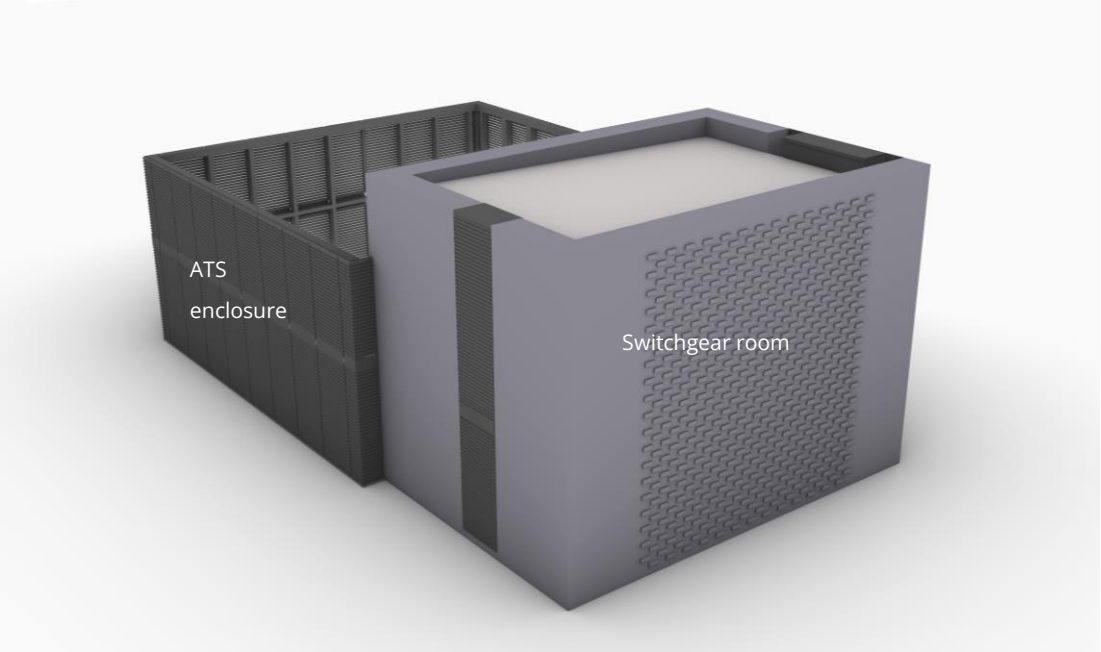

Figure 8: ATS proposed design of key elements

3.2.11 The general arrangement and locational context of the ATS structure (and broader site) is illustrated on drawings for approval 1MC04-SCJ_SDH-AR-DGA-SS05_SL06-430011 and 1MC04-SCJ_SDH-LS-DGA-SS05_SL06-431202.

3.2.12 The proposed elevations and sections of the ATS structure are illustrated on drawings for approval 1MC04-SCJ_SDH-AR-DSE-SS05_SL06-432021 and 1MC04-SCJ_SDH-AR-DEL-SS05_SL06-433031.

3.2.13 The proposed materials of the ATS structure are illustrated on drawing for approval 1MC04-SCJ_SDH-AR-DPH-SS05_SL06-439091. The proposed illustrative elevations are included on drawing for information 1MC04-SCJ_SDH-AR-DEL-SS05_SL06-433032.

Sight screens

ATS enclosure

3.2.14 Only the design and external appearance of the ATS enclosure is for approval within this Schedule 17: Plans and Specifications application. The location of the ATS enclosure has already been approved as part of the South Ruislip Vent Shaft Schedule 17: Plans and Specifications application (reference: 7215/APP/2020/2901).

3.2.15 As described above, there are two key interconnected elements relevant to the ATS structure. The ATS switchgear room is for approval as a building work (described above) and the ATS enclosure is for approval as a visual screen.

3.2.16 The transformer enclosure will be set around the main transformer equipment to help screen the structure from adjoining residential receptors. The enclosure will only extend around the perimeter, and there will be no roof cover to the enclosure. It will have a single door to allow access by personnel, and a double door to enable equipment access (for replacement and maintenance).

3.2.17 The transformer enclosure will have an external finish featuring metal clad louvred doors and panels, in a dark grey finish, and will be designed to allow for ventilation, as well as providing security for the equipment inside. The design of the transformer enclosure is illustrated in Figure 8 above.

3.2.18 The general arrangement and locational context of the ATS structure (and broader site) is illustrated on drawings for approval 1MC04-SCJ_SDH-AR-DGA-SS05_SL06-430011 and 1MC04-SCJ_SDH-LS-DGA-SS05_SL06-431202.

3.2.19 The proposed elevations and sections of the ATS structure are illustrated on drawings for approval 1MC04-SCJ_SDH-AR-DSE-SS05_SL06-432021 and 1MC04-SCJ_SDH-AR-DEL-SS05_SL06-433031.

3.2.20 The proposed materials of the ATS structure are illustrated on drawing for approval 1MC04-SCJ_SDH-AR-DPH-SS05_SL06-439091. The proposed illustrative elevations are included on drawing for information 1MC04-SCJ_SDH-AR-DEL-SS05_SL06-433032.

Earthworks

Access Road

3.2.21 Earthworks approval is required at the access road to create the required level change to provide a level surface for the road itself. Additionally, approval is required for a retaining wall along the northern side of the access road, required to retain the proposed access road earthworks level change.

3.2.22 The access road will be topped with asphalt and will have a concrete kerb along its entire length. The total area of the access road is 315.12m^2. The retaining wall will be constructed using brick clad concrete. The earthworks arrangement and retaining wall is illustrated in Figure 9 below.

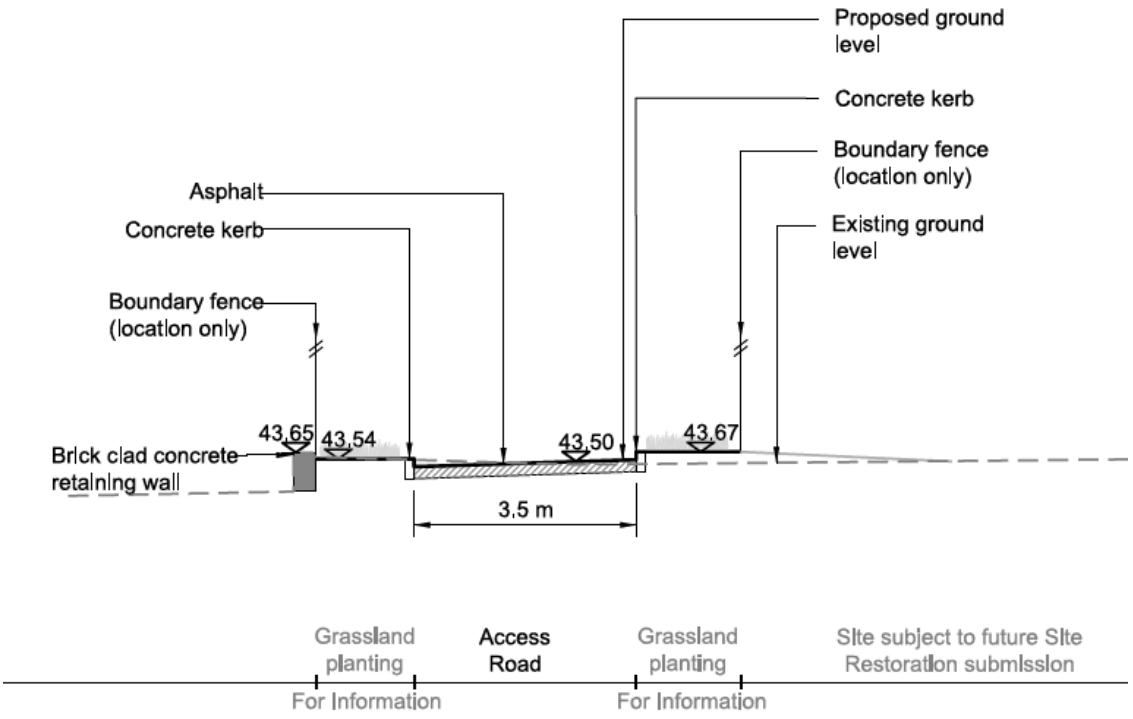

Figure 9: Access road earthworks section looking north east from South Ruislip Vent Shaft compound towards access gate

3.2.23 The proposed earthworks for the access road are illustrated on drawings for approval 1MC04-SCJ_SDH-LS-DGA-SS05_SL06-431201 and 1MC04-SCJ_SDH-LS-DSE-SS05_SL06-432200.

ATS structure

3.2.24 Earthworks will be required to create the level surface for the construction of the ATS building, which will be slightly below the existing ground level. Surrounding the perimeter of the ATS structure will be gravel, which to the southwest integrates with the hardstanding approved in the previous South Ruislip Vent Shaft Schedule 17: Plans and Specifications application (reference: 7215/APP/2020/2901). To the north-eastern side, the ATS structure earthworks will integrate with landscaping, which will be approved under a site wide Schedule 17: Site Restoration application to be brought forward at a later date[9].

3.2.25 The earthworks arrangement is illustrated in Figure 10 below, and on drawings for approval 1MC04-SCJ_SDH-LS-DGA-SS05_SL06-431201 and 1MC04-SCJ_SDH-LS-DSE-SS05_SL06-432200.

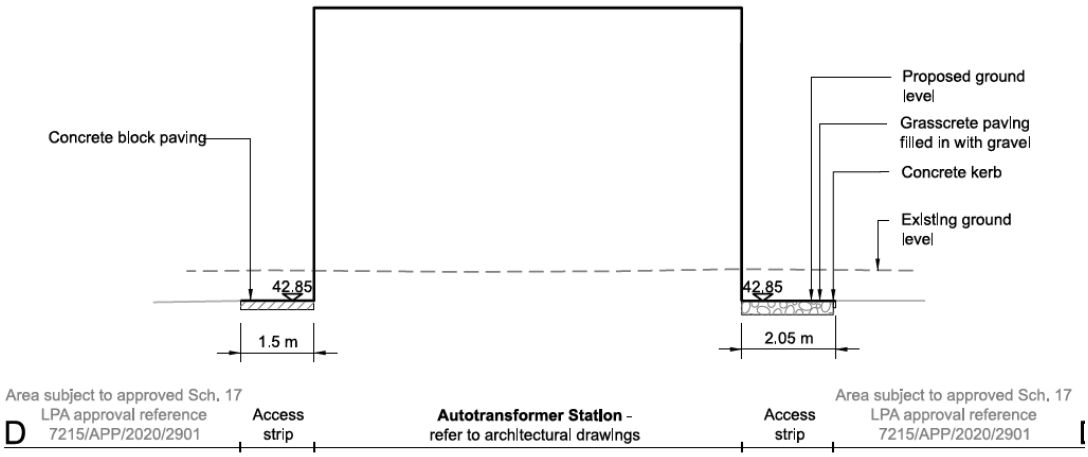

Figure 10: ATS earthworks section looking northeast through the ATS

Fencing

Access Road Fencing

3.2.26 The location only of fencing is for approval as part of this Schedule 17: Plans and Specifications application. HS2 boundary fencing will be located along the perimeter of each side of the access road, the purpose of which is to both demarcate land ownership as well as to deter intruders. The dedicated access road will provide constant unhindered access to the South Ruislip Vent Shaft compound for when this is needed by HS2 Operations and Maintenance Staff. For information, the boundary fencing will be 1.8m in height and the materiality will be open mesh steel panels.

3.2.27 A vehicle access gate will be located at the north end of access road which will tie into the boundary fencing. To the south, the boundary fencing will then tie in with the HS2 security fencing surrounding the perimeter of the South Ruislip Vent Shaft compound, approved as part of the previous South Ruislip Vent Shaft Schedule 17: Plans and Specifications application (reference: 7215/APP/2020/2901), by stepping up from 1.8m to 2.8m. The fencing arrangement along the access road is illustrated below in Figure 11.

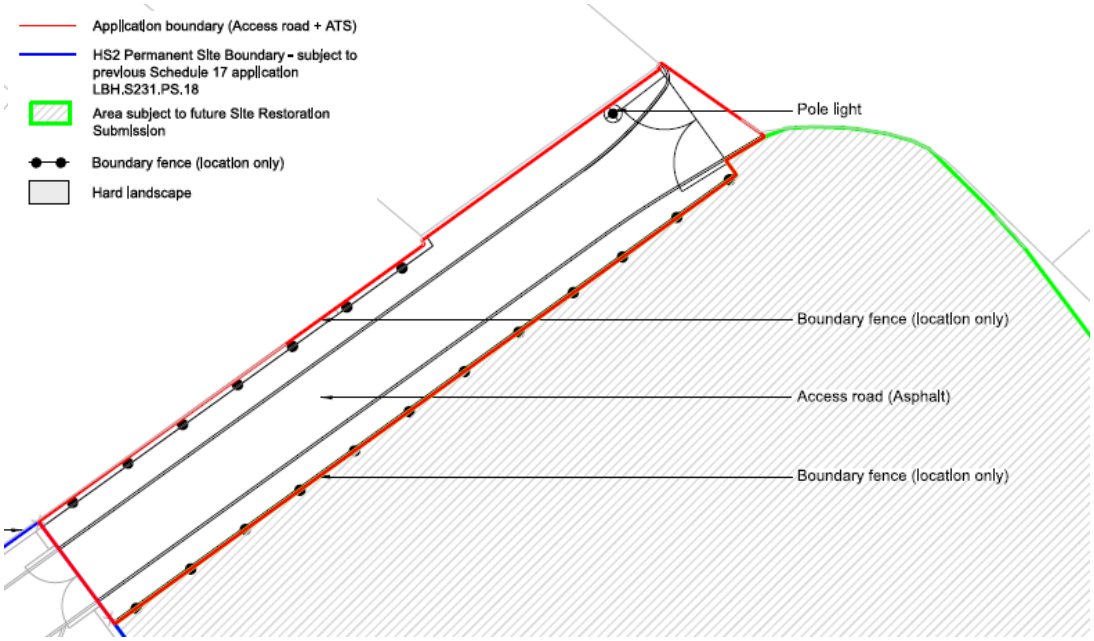

Figure 11: Access road boundary fencing (location only for approval)

3.2.28 The location of proposed fencing is illustrated on drawing for approval 1MC04-SCJ_SDH-LS-DGA-SS05_SL06-431201.

Artificial Lighting Equipment

ATS structure and access road

3.2.29 The ATS structure (switchgear room and enclosure) will include external artificial lighting, with 6 luminaires fixed to the structure itself. A pole-mounted luminaire 3m in height will be located at the access junction. Under Schedule 17, only the design of the artificial lighting equipment itself and location are subject to approval. As such, lux levels are not for approval under Schedule 17, however these are provided for information on plan as well.

3.2.30 Under normal operating conditions, the compound will not be illuminated in order to minimise light pollution, with the exception of the compound entry and key access points to the ATS structure. These areas will be permanently lit throughout night-time period to ensure a minimum illumination level of 5 lux.

3.2.31 Details of lighting equipment, including column height and finish, are shown on drawing 1MC04-SCJ_SDH-EL-DDE-SS05_SL06-434002. Operational and Unoccupied site lux levels are shown on drawings for information 1MC04-SCJ_SDH-EL-DGA-SS05_SL06-430002 and 1MC04-SCJ_SDH-EL-DGA-SS05_SL06-430003, respectively.

3.2.32 Operational zones have been revised and are shown on drawing 1MC04-SCJ_SDH-EL-DGA-SS05_SL06-430001. The operational zones have been implemented in order to minimise the illuminated areas when the site is occupied, in order to consequentially minimise the impact on the surrounding environment and local wildlife.

3.2.33 All luminaires provided will be at a colour temperature of 2700K in order to minimise the impact on the surrounding environment and local wildlife. The colour temperature refers to the colour / warmth of the light of the luminaire. The warmer the light, the lower the colour temperature is (for reference candlelight is ~1500K and daylight is ~6500K). Colour temperature of 2700K is the threshold in which we are in line with the HS2 Technical Standard for Ecology and meet the recommended specification for lighting in close proximity to suitable bat commuting and foraging habitat.

Other works

3.2.34 The following elements are subject to approval within separate Schedule 17 applications:

- Headhouse and Compound: South Ruislip Vent Shaft Schedule 17: Plans and Specifications application (reference 7215/APP/2020/2901), approved in December 2020, included the headhouse building, road vehicle parking, ATS (location only), earthworks, fencing (location only) and artificial lighting equipment for approval. It is of note that a subsequent amendment to this application, capturing a series of small changes, will be brought forward at a later date;
- Soft landscaping: Soft landscaping illustrated on indicative mitigation plans as part of this and previous Schedule 17: Plans and Specifications application will be subject to a separate site wide Schedule 17: Site Restoration Scheme application at a later date. This is described further in Section 3.3; and
- Surplus land: Land to the north of the headhouse compound, which is required for construction purposes only and does not form part of the permanent HS2 compound, will be subject to the same site wide Schedule 17: Site Restoration Scheme application as discussed under soft landscaping.

3.3 Indicative Mitigation

3.3.1 In addition to the works for which approval of Plans and Specifications is required, the overall mitigation scheme in this location includes elements which are subject to a subsequent Schedule 17: Site Restoration Scheme application. The application of indicative mitigation measures, mitigating the loss of

biodiversity, applies within the boundary of this Schedule 17: Plans and Specifications application and includes ecological planting along the access road to mitigate the loss of open mosaic habitat on the site. This is achieved through planting native scrub and wildflower grassland habitat.

3.3.2 The mitigation will comprise part of the overall mitigation scheme in relation to the scheduled works and whilst this will be subject to a future site wide Schedule 17: Site Restoration Scheme application, details have been included as part of this application for information to provide LB Hillingdon planning officers with the full context of the proposals in totality and to provide the opportunity to discuss mitigation proposals at this stage.

3.3.3 With regards to the mitigation of noise impacts, works have been designed to be compliant with the EMRs, technical standard and Information Paper E22, as far as is practical to do so at this stage in the design process. HS2's Railway Systems Contractor will be responsible for the design, construction and commissioning of the stationary systems later in the project and assessing for operational compliance with the environmental controls established by the Act. This will ensure that adverse noise impacts will be avoided as far as practical and reasonable to do so.

3.3.4 Details of the indicative mitigation submitted for consultation in accordance with paragraph 7.5.2 of the Planning Memorandum are shown on drawings outlined in Table 3 below and are the subject of a separate consultation.

3.3.5 The indicative mitigation submitted in the approved South Ruislip Vent Shaft Schedule 17: Plans and Specifications application (reference: 7215/APP/2020/2901) included proposals which provided landscape screening between the South Ruislip Vent Shaft Headhouse and adjacent industrial receptors.

Table 3 – Drawings and documents with indicative mitigation proposals

Document number	Document title
1MC04-SCJ_SDH-LS-DGA-SS05_SL06-431200	Landscape GA Plan - Indicative Mitigation
1MC04-SCJ_SDH-LS-DSE-SS05_SL06-432201	Indicative Mitigation Cross Sections

3.4 Construction Method

3.4.1 This section summarises the general construction methodology and the main temporary works arrangements. The arrangements described may alter and are

for information and background only. Therefore, they do not form part of this request for approval.

3.4.2 ATS structure:

- Installation of piles
- Construct shallow raft slab foundations and substructure (including services trenches);
- Erect steel framing for switchgear room and transformer enclosure;
- Construct switch room roof;
- Erect masonry walls to switchgear room and install louvre cladding to transformer enclosure;
- Complete below ground services and drainage connections to wider site infrastructure;
- Install building services MEP equipment and services;
- Complete external works hard and soft landscaping; and
  Handover to Rail Systems for RS equipment installation and fit out.

3.4.3 Access Road Permanent:

- Site clearance and earthworks;
- Stone sub-base;
- Drainage and service duct installation;
- Concrete kerb installation and backing;
- Asphalt base course; and
  Asphalt wearing course.

3.4.4 Access Road Temporary:

- Site clearance and earthworks;
- Granular sub-base ;
- Type 1 base
- Drainage and service duct installation;
- Concrete kerb installation and backing;
- Asphalt base course; and
- Asphalt wearing course.

3.5 Historic Environment

3.5.1 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 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.

3.5.2 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.

3.5.3 Volume 2 of the ES outlines how the location of the South Ruislip Vent Shaft and associated buildings have been chosen on the basis of their setting in a modern industrial area, where their appearance will be similar to surrounding buildings, reducing any potential impact on identified heritage assets.

3.5.4 The approved South Ruislip Vent Shaft Schedule 17: Plans and Specifications application (reference: 7215/APP/2020/2901) which included the location of the ATS was assessed to have no significant impact on the historic environment. For the access road (included in this application), the works for approval have also been assessed to have no significant impact on the historic environment.

3.6 Environmental Management during Construction

3.6.1 The Environmental Memorandum (part of the HS2 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. The LEMP relevant to the works subject to this Schedule 17 is Local Environment Management Plan London Borough of Hillingdon[10].

3.6.2 Table 5.1 of the Environmental Memorandum identifies key worksites along the HS2 route that are particularly environmentally sensitive in terms of nature conservation, terrestrial and aquatic ecology, water resources, geomorphology, recreation and amenity, landscape, public open space and agricultural land. The South Ruislip Vent Shaft site is not defined as a Key Environmentally Sensitive Worksite.

[10] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/803295/P1S-HS2-EV-REP-S000-000007_-_LBH_SCSJV.pdf

4 Design Approach and Rationale

4.1 Overview

4.1.1 The South Ruislip Vent Shaft access road and ATS will be constructed to provide the following functions for the operational HS2 railway:

- For allowing vehicle access for HS2 personnel to the South Ruislip vent Shaft headhouse building and associated compound; and
- To ensure a sufficient and consistent power supply to the equipment in the vent shaft headhouse building and shaft.

4.2 Design Objectives

4.2.1 The key design objectives of the South Ruislip access road and ATS, which are brought together in this Schedule 17: Plans and Specifications application, are:

- Consistent design approach, to achieve commonality between material finish of the approved South Ruislip Vent Shaft headhouse building (approved: December 2020, reference: 7215/APP/2020/2901) and the proposed ATS;
- Integration of the access road and ATS into with the existing industrial context, through robust architecture and landscape linked to lineside character;
- Creating ecological connectivity, stepping stones and continuation of the green corridor throughout the site;
- Creation of ecological mosaic of habitats; and
- Opportunity to support the natural environment by creating biodiverse habitats for wildlife.

4.3 Proposed Design

ATS structure

4.3.1 The proposed design for the ATS is determined by the requirement to accommodate the ATS equipment and provide visual screening, ventilation and security.

4.3.2 The architectural material finish of the ATS aligns with the South Ruislip Vent Shaft headhouse building (which itself aligns with a wider design strategy for all headhouses within the HS2 S1 and S2 contract areas), whilst responding to the specific character of the immediate context.

4.3.3 The South Ruislip Vent Shaft Headhouse is located within the Network Rail corridor, so an overarching theme is for the project to enhance the green corridor and for buildings to be considered as sculptural elements within this enhanced landscape.

4.3.4 To address the different local characteristics of each vent shaft headhouse whilst maintaining an overall common identity, a palette of materials has been developed which can be customised to each site. The principal materials used for the South Ruislip Vent Shaft Headhouse building are timber, brick and metal. The ATS design responds to this, using brick and metal as the principal materials. Brick and metal were chosen as they are most suitable to the form and function of the ATS.

4.3.5 Brickwork is a key material proposed on the ATS. The brick is a robust dark grey, selected to compliment the silver-grey timber cladding on the headhouse building and features areas of projecting or perforated brickwork to visually break up large areas of wall. It is intended that the brickwork, will seamlessly blend with the surrounding landscaped setting. Further afield, the brickwork will reflect the typically industrial typology of the locality. Figure 13 shows the proposed ATS design, including patterned brickwork.**Error! Reference source not found.**

4.3.6 Factory-coated dark grey metal is the final material addressing the technical requirements of panels, doors, louvers and other metalwork components.

4.3.7 A massing study was undertaken to ensure that the mass of the ATS was considered within the site setting and responsive to the headhouse design. Minimum height standards for both elements of the ATS were used to limit the height of the structure. As such, the ATS is 6m high at its highest point, which is lower than the headhouse building and surrounding industrial and commercial buildings.

4.3.8 The landscaping design included within the previous Schedule 17: Plans and Specifications application for the headhouse building (reference: 7215/APP/2020/2901) incorporated significant screening along the northern extent within the compound. This landscape screening will therefore also serve the ATS, which is located between the headhouse and the northern boundary

security fencing. This landscaping will be included for approval as part of a later site wide Schedule 17: Site Restoration Scheme application and is illustrated in for information.

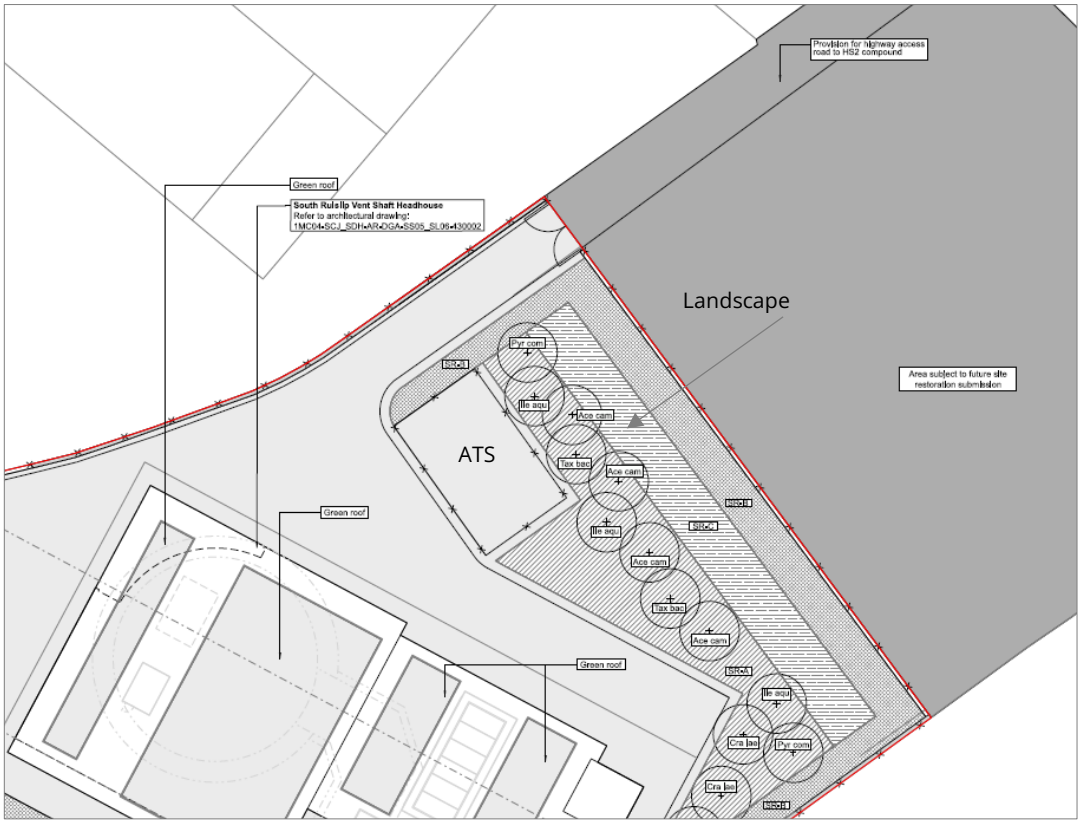

Figure 12: Excerpt from P&S Schedule 17 application (reference: 7215/APP/2020/2901) showing proposed landscape screening

Access Road

4.3.9 The proposed design for the access road consists of concrete block/slab paving. The incorporation of sufficient space and appropriate dimensions for vehicle movements are a key element in the design and layout of the access road. The width of the access road has been dictated by vehicle tracking.

4.3.10 Grassland planting has been provided either side of the access road to provide visual softening and integrate with the ecological planting included in the South Ruislip Vent Shaft compound, as per the previous Schedule 17: Plans and Specifications application (reference: 7215/APP/2020/2901).

Drainage

4.3.11 The proposed ATS will be located on a plinth with a sump underneath to hold any accidental fuel spillages. This will also allow for any pollutants to be detected and

prevented from discharging into the surface water systems. Where no pollutants are detected, then water can be pumped into the surface water drainage network. The system was designed with a suitable level of resilience for a failure event.

4.3.12 In terms of drainage flows, the overall proposed drainage system discussed with LBH during the previous Schedule 17: Plans and Specifications application (reference: 7215/APP/2020/2901) generally remains unchanged. This system incorporated in the proposed ATS structure and access road in its initial design.

4.4 Design Constraints

4.4.1 The design of South Ruislip Vent Shaft access road and ATS has considered the following constraints:

- Existing topography and proposed level changes across the site;
- Neighbouring industrial and retail uses;
- Potential expansion of the adjacent retail and entertainment development;
- The need to minimise disruption to existing rail corridor to the south, to enable services to be maintained throughout the construction and operation of HS2;
- Operational function requirements for the ATS building;
- Maintenance requirements for the headhouse building and ATS.

4.4.2 Design measures to address the above constraints have included integrated ATS and headhouse design material finish and landscaping which incorporates native vegetation and ecological enhancements.

4.5 Options Considered

4.5.1 Since the passage of the Hybrid Bill through parliament, with the accompanying Environmental Statement, the location of the ATS moved from the west of the vent shaft headhouse to the north-east, adjacent to the security fence that forms the northern most boundary (this is the location included within the approved Schedule 17: Plans and Specifications application (reference: 7215/APP/2020/2901)). This has helped to reduce the 'bulk' of buildings along the site's southern boundary. Moving the ATS has also helped to improve circulation for the emergency vehicles within the compound.

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 4.

Table 4 – Details of pre-submission consultation undertaken

Consultee Name	Consultation Date	Method of Consultation / Attended by	Summary of Consultation Outcome
London Borough of Hillingdon	09/02/2018	Meeting and Presentation	• Provided a 6 month look ahead for Schedule 17 consents. • LBH requested that South Ruislip vent shaft structures were submitted as a separate standalone Schedule 17 application.
Community information session (x3)	Autumn 2018	Open information session (one in Ruislip)	• Construction and lorry routes. • Permanent design of the vent shaft headhouse building.
London Borough of Hillingdon	28/09/2018	Meeting and Presentation	• Schedule 17 Consultation Meeting-Scheme Design Update. • Discussion around the material and finish of the building, site configuration and key design objectives.
South Ruislip Residents Association	January 2019	Presentation attended by: South Ruislip Residents Association (including elected Councillors)	• Construction and lorry routes • Permanent design of the vent shaft headhouse building
London Borough of Hillingdon	08/04/2020	Presentation followed by virtual meeting attended by Ian Thynne (London Borough of Camden) and Lucy Neal (SCS Railways for HS2 main works)	• Discussion around the access road subject to a future application for a site restoration, impact on drainage and watercourses and headhouse finish. • Council requested that the written statement must include a brief explanation of the function of the vent shaft headhouse including other functions outside the venting e.g. evacuation.
London Borough of Hillingdon	08/06/2020	Presentation followed by virtual meeting Attended by Ian Thynne (London Borough of Camden)	• Council requested information on the function of the South Ruislip vent shaft headhouse be included in the Schedule 17 application

Consultee Name	Consultation Date	Method of Consultation / Attended by	Summary of Consultation Outcome
		and Lucy Neal (SCS Railways for HS2 main works)	(addressed in Section 4.1: Overview and 4.3: Chosen Design) • Council requested information on the security aspects (such as lighting / boundary fencing etc) and approach to dealing with antisocial behaviour at South Ruislip vent shaft headhouse be included in the application (addressed in Section 4.3: Chosen Design). • Council requested information on the anticipated use of the South Ruislip site with reference to maintenance / access / parking arrangements (addressed in Section 3.2: Works for Approval) • Council request detail on the design efforts to minimise the visual impact of the South Ruislip vent shaft headhouse on the surrounding locality (addressed in Section 3.3 Indicative Mitigation and 4.3: Chosen Design).
London Borough of Hillingdon	14/01/2022	Meeting and Presentation (online)	• Presentation on the South Ruislip Vent Shaft ATS and Access Road Schedule 17. • LBH Planning Officer raised concern regarding flooding/pooling of water at ATS lowered ground level.

6 Construction Programme

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

6.1.2 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 5 below. The programme for works on site may vary from the indicative dates shown.

Table 5 – Proposed Programme and Sequence of Works

Activity	Anticipated Start on Site Date (quarter/year)	Estimated Completion of Works (quarter/year)
Site set up	Q3 2020	Completed
Retained structures (temporary and permanent)	Q1 2021	Completed
Headhouse piling	Q2 2022	Q1 2023
Shaft temporary Works SCL and excavation	Q3 2022	Q4 2023
Shafts construction	Q3 2023	Q2 2024
MEP shaft and headhouse works	Q2 2024	Q4 2025
Head house construction	Q2 2024	Q4 2025
Demobilisation	Q3 2025	N/A

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 6 may be required.

Table 6 – Other Consent Requirements

Consent	Works Requiring Consent	To be submitted / approved
HS2 Act, Schedule 17 Plans and Specifications	South Ruislip Vent Shaft headhouse building and compound	Approved: December 2020 (reference: 7215/APP/2020/2901)
HS2 Act, Schedule 33, Part 5	Piling works associated with the construction of the vent shaft headhouse will be required	Approved (reference: SCS-000-0077)
HS2 Act, Schedule 2	Consent required from Thames Water for the permanent discharge connection to a nearby sewer	To be submitted: TBC 2022
Schedule 17: Bringing into Use	Work No. 1/15 (including indicative mitigation)	To be submitted: TBC 2022
Schedule 17: Site restoration	Restoration of land within construction site compound excess to final land acquisition boundary.	To be submitted: TBC 2022