

# **HS2 Context Report**

# Prepared For London Borough of Hillingdon

May 2017

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# **Preface**

### **Purpose**

This Planning Context Report provides an overview of HS2 works that will take place within London Borough of Hillingdon (the Borough) and a programme for making requests for approval under Schedule 17 to the High Speed Rail (London - West Midlands) Act 2017 ("the HS2 Act").

The report has been prepared in fulfilment of the requirements of paragraph 16 (1) (a) of Schedule 17 to the Act, which states:

A planning authority need not consider a request for approval under Part 1 [of Schedule 17 to the Act] unless:

a) the nominated undertaker has deposited with the authority a document setting out its proposed programme with respect to the making of requests under that Part to the authority,

This document accordingly sets out the proposed programme for making requests under Schedule 17 to the HS2 Act. This document also meets the requirement of paragraph 9.2 of the High Speed Rail (London – West Midlands) Planning Memorandum (the "Planning Memorandum"), which states that the '...report is to include an indication of the location of the scheduled and non-scheduled works to which requests for approval are expected to relate.'

### **Status**

This document is deposited for information only. It does not require the approval of the planning authority.

#### Structure

This document contains three sections:

#### Section 1: Introduction to HS2

Describes in outline the HS2 project, summarises the planning regime and outlines obligations with respect to mitigation of environmental impacts.

#### Section 2: HS2 in London Borough of Hillingdon

Outlines the proposals within the Borough, and describes the permanent, preparatory and temporary works.

#### Section 3: Landscape and Restoration

Outlines landscape and restoration works proposed after construction.

#### Section 4: Programme for Requests for Approval under Schedule 17

Sets out the programme for submission of requests for approval.

#### Section 5: Planning Context Report Plans – Construction and Operation

Illustrates the location of permanent and temporary works in the District.

#### **Other Relevant Documents**

To understand the full background to the HS2 proposals and to the planning regime under which requests for approval are to be made, reference should be made to the following documents:

- The HS<sub>2</sub> Act;
- The HS2 Environmental Statement; and
- The High Speed Rail (London West Midlands) Environmental Minimum Requirements ("the EMRs").

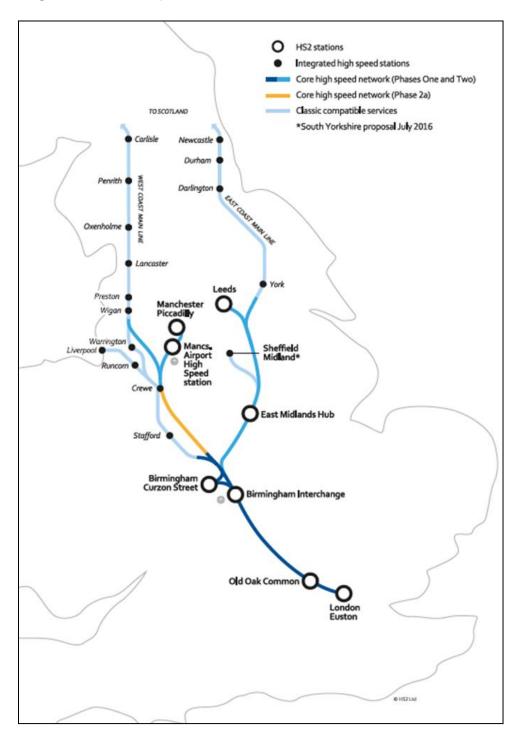
Annex 1 signposts these and other relevant documents.

# 1 Introduction to HS2

# The HS<sub>2</sub> Project

- 1.1 HS2 is the Government's proposal for a new, high speed north-south railway. The proposal is being taken forward in two phases: Phase One will connect London with Birmingham and the West Midlands and Phase Two will extend the route to Manchester, Leeds and beyond.
- 1.2 On 23<sup>rd</sup> February 2017 Royal Assent was granted for Phase One of HS2, which comprises of a new high speed railway between London and the West Midlands with stations at London Euston, Old Oak Common, Birmingham Interchange, and Birmingham Curzon Street. Figure 1 illustrates the Phase One route between London West Midlands and Phase Two proposals.

Figure 1: HS2 route map



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## **Control of Environmental Impacts**

- 1.3 The environmental impacts of the construction, maintenance and operation of HS2 will be controlled in three ways:
  - Controls within the HS2 Act such as approvals for designs and construction arrangements;
  - Policies, commitments and undertakings entered into outside of the Act, including the EMRs; and
  - Existing legislation, unless expressly or impliedly dis-applied or modified by the Act.
- 1.4 These controls are summarised below.

#### **Environmental Statement**

- 1.5 The HS2 Phase One Environmental Statement (ES) was published in November 2013. It has been supplemented by a number of additional volumes as further information has become available, and in light of proposed changes to the project<sup>1</sup>.
- 1.6 The ES identifies the likely significant effects that will arise from the construction and operation of HS2 and identifies the range of mitigation measures that could be used to reduce or eliminate these effects. The assessment is based on a number of assumptions about design and construction practices.
- 1.7 As the project is taken forward to detailed design and construction there may be changes to assumed construction methods and design, subject to the requirements of the Act, the EMRs, and any approvals required from consent granting bodies, and in response to the requirements of any relevant Undertakings or Assurances.

#### Controls in the Act

#### The Planning Regime

1.8 Section 20 to the HS2 Act grants deemed planning permission under Part 3 of the Town and Country Planning Act 1990 ("the TCPA") for the works authorised by the HS2 Act. This permission is subject to the requirement that certain approvals need to be obtained from the relevant planning authorities under the planning regime established by Schedule 17 to the Act. The conditions in Schedule 17 are enforceable by the planning authority in accordance with the TCPA.

- ..9 The principal works authorised by the HS2 Act are described in Schedule 1 (the "scheduled works"). The descriptions in Schedule 1 to the HS2 Act set out the type of work and their location, for example:
  - Work No.1/1 A railway (23.48 kilometres in length) partly in tunnel, commencing at a point 235 metres east of the junction of North Gower Street with Drummond Street passing north-westwards and terminating beneath a point 80 metres north-west of the bridge carrying Ickenham Road over the Marylebone to Aylesbury Railway. Work No. 1/1 includes shafts at Coburg Street, Mornington Street, Granby terrace, Parkway, Adelaide Road, Alexandra Place, Canterbury Works and Greenpark Way, a station at Old Oak Common and a Crossover Box at Victoria Road.
- 1.10 The scheduled works must be constructed in the locations and to the levels relevant to each scheduled work shown on the deposited plans and sections (the 'Limits of Deviation'). The scheduled works may deviate vertically downwards from the levels shown to any extent, and may deviate upwards up to 3 metres subject to the upper limits defined for certain works such as stations, depots or shafts.
- 1.11 Section 2 to the HS2 Act authorises, within the Act limits, the construction and maintenance of a wide range of other development for the purposes of or in connection with the scheduled works, or otherwise for Phase One purposes. Section 2 also authorises, within the Act limits, the carrying out and maintenance of landscaping and other works to mitigate adverse effects of the construction, maintenance or operation of the works and to carry out and maintain works for the benefit or protection of land affected by the works.
- 1.13 Such ancillary works may be constructed within Act limits as defined on the deposited plans. The HS2 Act only grants deemed planning permission for the construction of works which are not scheduled works if they are with the scope of the ES that accompanies the HS2 Act.
- 1.14 Schedule 2 to the Act authorises further works, including surveys and investigation of land, support of buildings, works to trees, discharge of water, and temporary works to certain waterways.
- 1.15 Schedule 17 to the Act defines the detailed planning regime which will apply to the planning authority affected by works to construct and operate HS2.
- 1.16 The planning regime under Schedule 17 is different to that of the TCPA. It differs from the TCPA process in how it defines the matters that require approval and the grounds that the planning authorities can have regard to in determining requests for approval. The grounds for the imposition of conditions and/or the refusal of Schedule 17 submissions are limited in comparison to the TCPA process. This is because the works already have deemed planning permission through the Act and there are other complementary controls imposed through the HS2 Act and EMRs.
- 1.17 Schedule 17 requires the nominated undertaker to submit the following details to planning authorities, for approval or agreement:

<sup>&</sup>lt;sup>1</sup> An Environment Statement has been published with the Additional Provision tabled by the Promoter in September 2014. In addition, Supplementary Environmental Statements and Additional Provision Environmental Statements were published and tabled by the Promoter in July 2015, September 2015, October 2015 and December 2015.

- Plans and specifications of certain works;
- Matters ancillary to development ("construction arrangements");
- Road Transport (lorry routes);
- Bringing into use; and
- Site restoration schemes
- 1.18 Planning authorities who have given the Secretary of State undertakings, as set out in the Planning Memorandum, with respect to the handling of planning matters under Schedule 17, have become 'qualifying authorities'. The main provisions of the Planning Memorandum are summarised in Section 1.51 below.
- 1.19 The Borough has become a qualifying authority.
- 1.20 In relation to qualifying authorities, the operations or works for which plans and specifications will be submitted for approval are identified in Table 1.

Table 1: Operations or works requiring approval of plans and specifications

PLANS AND SPECIFICATIONS	
BUILDING WORKS (paragraph 2 of Schedule 17)	The erection, construction or alteration of any building, other than a temporary building.
OTHER CONSTRUCTION WORKS (paragraph 3 of Schedule 17)	Road vehicle parks;  Earthworks;  Sight, noise or dust screens;  Transformers, telecommunication masts or pedestrian accesses to railway lines;  Fences or walls, and  Lighting equipment.
WASTE AND SPOIL DISPOSAL AND EXCAVATION (Paragraph 7 of Schedule 17)	Disposal of waste or spoil.  Excavations of bulk materials from borrow pits.

1.21 In relation to qualifying authorities, development must be carried out in accordance with matters ancillary to development (construction arrangements) approved by the relevant planning authority (paragraph 4 of Schedule 17).

- 1.22 Schedule 17 enables the Secretary of State to make a class approval for construction arrangements, except in relation to construction camps (paragraph 5 of Schedule 17). A class approval was made by the Secretary of State on 24<sup>th</sup> March 2017, following consultation with the planning authorities affected, for the following generic construction arrangement matters: handling of re-usable spoil and topsoil; storage sites; site screening; artificial lighting; suppression of dust; road mud control measures. The approval of construction camps is not included in the class approval.
- 1.23 Where lorry movements exceed 24 to/from a construction site, the lorry route must be approved (paragraph 6 of Schedule 17) by the relevant qualifying authority.
- 1.24 The relevant qualifying authority approves a bringing into use request for approval (paragraph 9 of Schedule 17), for most scheduled works, apart from any which are below ground, and maintenance depots. The purpose of bringing into use requests is to ensure that appropriate mitigation has been incorporated, and no such work can be brought into use without such approval.
- 1.25 A site restoration scheme will be submitted for agreement with the relevant planning authority in accordance with paragraph 12 of Schedule 17.
- 1.26 The planning authority must have regard to statutory guidance issued by the Secretary of State in accordance with paragraph 26 of Schedule 17 to the HS2 Act.

#### Other Consents in the Act

1.27 In addition to the planning regime described above, Schedules 4 and 33 to the HS2 Act contain provisions setting out the protections to be provided for various bodies with statutory responsibilities likely to be affected by the works.

#### Schedule 4 – Accesses to highways affecting traffic

1.28 To control the impact of constructing new or altering existing accesses onto the local road network, local highway authorities have an approval role. For the opening of an access onto, or the alteration of, a road at a place shown on the deposited plans the works must be carried out in accordance with plans and specifications approved by the highway authority. In addition the local highway authority may require the access to be moved elsewhere within the Act limits where that is reasonably capable of being done. If an access is required at a location other than that shown on the deposited plans, the consent of the highway authority is required, subject to its approval of plans and specifications.

#### Schedule 4 – Stopping up, diversion and interference with the highway

During construction the temporary closure, diversion or interference with highways will be required. In order to address local impacts the Act provides for highway authority input. Where a highway is specified within the Act, the nominated undertaker must consult the highway authority about the exercising of the powers before doing so. Where the powers are to be exercised in

relation to a highway not specified within the Act the nominated undertaker must obtain the consent of the highway authority.

#### Schedule 33 – Highways

- 1.30 Part 1 of Schedule 33 requires the nominated undertaker in exercising the powers in the Act in relation to highways to have regard to the potential disruption of traffic and to seek to minimise such disruption so far as reasonably practicable, and gives highway authorities rights of approval over various matters concerning details of the works affecting highways.
- 1.31 Additional controls are contained in Schedule 4. Where the nominated undertaker constructs a new or alters an existing highway, the construction or alteration must be completed to the reasonable satisfaction of the highway authority, who shall certify that fact in writing to the nominated undertaker.
- 1.32 Where the nominated undertaker constructs or realigns a highway that is constituted or comprises a carriageway, it must be carried out in accordance with plans, sections and specifications approved by the highway authority.

#### Schedule 33 - Water

- 1.33 The construction of HS2 will have impacts on inland waterways and land drainage, flood defences, water resources and fisheries. In order to address these impacts the Act includes a range of controls for the relevant authorities.
- 1.34 The impacts on inland waterways are addressed in Part 4 of Schedule 33, this gives the Canal and River Trust the power to approve plans and specifications for works affecting waterways for which it is responsible.
- 1.35 Part 5 of Schedule 33 states that before beginning to construct any "specified work" (in the main, those affecting drainage, flood storage and flood defence, the flow or purity of water and conservation of water resources), the nominated undertaker will submit plans, including method statements, for the works to the Environment Agency or local drainage authorities (i.e. lead local flood authorities, or internal drainage boards) for approval. Works will be constructed in accordance with the approved plans.
- 1.36 The Environment Agency or local drainage authorities may, amongst other matters, make conditions requiring the nominated undertaker at its own expense to construct such protective works as are reasonably necessary to safeguard any drainage work against damage or to ensure its efficiency for flood defence purposes is not impaired during the construction of the specified works.
- 1.37 These provisions have effect instead of the normal consenting regime which would apply, for example, under the Land and Drainage Act 1991, or the Environmental Permitting Regulations 2010.

#### Schedule 33 - Other Controls

1.38 Schedule 33 – Protective provisions also include the requirement for consultations and agreements from statutory utilities undertakers.

#### Schedule 18 – Listed Buildings

- 1.39 The HS2 Act disapplies the normal controls requiring conservation area consent and listed building consent under the Planning (Listed Building and Conservation Areas) Act 1990, for the demolition, alteration or extension of listed buildings and unlisted buildings. The disapplication applies to the extent specified in Schedule 18 to the Act.
- 1.40 In recognition of the removal of the requirement for listed building consent, heritage agreements have been entered into between the nominated undertaker, Historic England and relevant local authorities. These agreements require approvals to detailed method statements in relation to the works subject to the disapplication of the normal listed building controls.

## **Environmental Minimum Requirements**

- 1.41 There are a variety of control mechanisms and mitigation strategies outside of the HS<sub>2</sub> Act. These are captured in the EMRs.
- 1.42 The EMRs are a suite of documents that have been developed in consultation with local authorities and other relevant stakeholders. The nominated undertaker is contractually bound to comply with the controls set out in the EMRs, through the Development Agreement with the Secretary of State.
- 1.43 The controls contained in the EMRs, along with powers contained in the HS2 Act and the Undertakings given by the Secretary of State, will ensure that impacts which have been assessed in the ES will not be exceeded, unless any new impact or impacts in excess of those assessed in the ES:
- results from a change in circumstances which was not likely at the time of the ES<sup>2</sup>;
- would not be likely to be environmentally significant<sup>3</sup>;
- results from a change or extension to the project, where that change or extension does not itself
  require environmental impact assessment (EIA) under either (i) article 4(1) of and paragraph 24 of
  Annex 1 to the EIA Directive<sup>4</sup>; or (ii) article 4(2) of and paragraph 13 of Annex 2 to the EIA
  Directive<sup>5</sup>; or
- would be considered as part of a separate consent process (and therefore further EIA if required).
- 1.44 In addition to general principles, the EMRs comprise:
- a number of specific requirements, including that the nominated undertaker will use reasonable endeavours to adopt mitigation measures that will further reduce any adverse environmental impacts caused by HS2, insofar as these mitigation measures do not add unreasonable costs to the project or unreasonable delays to the construction programme;
- the undertakings and assurances given to Parliament and petitioners by the Secretary of State during the passage of the High Speed Rail (London West Midlands) Bill (the Bill); and
- the Code of Construction Practice, Planning Memorandum, Heritage Memorandum, and Environmental Memorandum.

#### **Undertakings and Assurances**

1.45 During the passage of the Bill through Parliament, the Secretary of State entered into a range of undertakings and assurances. The HS2 Act Register of Undertakings and Assurances contains all the undertakings and assurances given to petitioners and to Parliament before and during the passage of the Bill. The register forms part of the EMRs and as a result the nominated undertaker is contractually bound to deliver them.

#### Code of Construction Practice

- 1.46 The Code of Construction Practice (CoCP) is Annex 1 of the EMRs. It sets out specific details and working practices in relation to site preparation (including site investigation and remediation, where appropriate), demolition, material delivery, excavated material disposal, waste removal and all related engineering and construction activities.
- 1.47 The CoCP sets out the measures that nominated undertaker and contractors are required to implement in order to limit disturbance from construction activities, as far as reasonably practicable:
  - General requirements related to community relations, hours of work, pollution incident control
    and security, etc;
  - Agriculture, forestry and soils;
  - Air quality;
  - Cultural heritage;
  - Ecology;
  - Ground settlement;
  - Land quality;
  - Landscape and visual;
  - Noise and vibration;
  - Traffic and transport; and
  - Water resources and flood risk.
- 1.48 Local Environmental Management Plans (LEMPs) will be prepared for each local authority area.
- 1.49 The LEMPs will include a number of specific measures by topic, as relevant to each local authority area. The LEMPs will build on the general environmental requirements contained in the CoCP and will set out how the project will adapt and deliver the required environmental and community protection measures within each relevant local authority area.

<sup>&</sup>lt;sup>2</sup> i.e. a situation that could not reasonably have been anticipated at the time of the ES.

<sup>&</sup>lt;sup>3</sup> This covers all effects (both positive and adverse) where those effects are simply of no environmental significance.

<sup>&</sup>lt;sup>4</sup> 2011 consolidated EIA Directive (2011/92/EU).

<sup>&</sup>lt;sup>5</sup> Broadly, this would not allow those changes or extensions to the project which would give rise to adverse environmental effects within the EIA.

1.50 The nominated undertaker and/or its contractors will engage with the local communities, local authorities and other stakeholders in order to develop the LEMPs.

#### Planning Memorandum

1.51 The Planning Memorandum is Annex 2 of the EMRs. It sets out in detail the responsibilities and requirements in relation to planning matters for those authorities that choose to become qualifying authorities. It also sets out requirements for the nominated undertaker in the implementation of Schedule 17 of the HS2 Act.

#### Heritage Memorandum

1.52 The Heritage Memorandum is Annex 3 of the EMRs. It provides a framework for the nominated undertaker, Historic England, local authorities and other stakeholders to work together to ensure that the design and construction of Phase One is carried out with proper regard to the historic environment.

#### **Environmental Memorandum**

1.53 The Environmental Memorandum is Annex 4 of the EMRs. It provides a framework for the nominated undertaker and representatives of the National Environment Forum to work together to ensure that the design and construction of the HS2 Phase One is carried out with due regard for environmental considerations.

#### **Planning Forum**

- 1.54 The HS2 Phase One Planning Forum was established to help co-ordinate and secure the expeditious implementation of the planning provisions in the Act. The primary objectives and functions of the Planning Forum are:
- To prepare notes on related matters, which will set out standards and practices to be followed by those implementing the planning regime.
- To consider common design items for certain structures associated with the railway (such as bridges, acoustic barriers or retaining walls).
- 1.55 The Planning Forum has a number of sub-groups:
- Highways Subgroup.
- Environmental Health Subgroup;
- Heritage Subgroup; and
- Flood Risk and Drainage Subgroup.

#### **Environmental Management System**

- 1.56 As part of the sustainability policy, the nominated undertaker will develop an environmental management system (EMS) in accordance with *BS EN ISO 14001*. The EMS provides the process by which environmental management, both within its organisation and in relation to its operations, is undertaken to ensure the relevant findings of the ES are addressed through the construction phase.
- 1.57 The nominated undertaker will require each of its main contractors to have an EMS certified to *BS EN ISO14001*. Their EMS will include roles and responsibilities, together with appropriate control measures and monitoring systems to be employed during planning and constructing the works for all relevant topic areas. Where the lead contractor is a joint venture, the EMS will be certified to cover the activities of the joint venture.

#### Management of Construction Traffic

- 1.58 The HS2 Routewide Traffic Management Plan (RTMP) describes the principles and objectives for the management of transport, highways and traffic during the delivery of the works. It codifies the discussions held with the highway authorities along the HS2 Phase One route via the Highway Subgroup to the Planning Forum and takes into account the best practice used during the delivery of similar large construction projects.
- 1.59 The RTMP document will be supplemented with a series of Local Traffic Management Plans (LTMPs) along the route. LTMPs will set out the full range of local controls, significant works programmes for highways and other appropriate matters.
- 1.60 Regular local Traffic Liaison Group (TLG) meetings have been established with local highway authorities so that matters such as LTMPs and site specific traffic management schemes can be reviewed prior to submission or approval and the implementation of schemes reviewed and other monitoring reported, along with other matters of interest discussed and co-ordinated.

#### Excavated Material & Waste Management

- 1.61 Measures to reduce potential impacts from waste management are described in section 15 of the CoCP. An integrated design approach has been developed to use excavated material to satisfy the fill material requirements wherever reasonably practicable. This approach will reduce the need for imported materials and reduce the amount of excavated material requiring off-site disposal. This includes reuse of all topsoil and agricultural subsoil as close to the point of excavation as practicable.
- 1.62 All waste generated from the design, construction and operation will be managed in accordance with the waste hierarchy. This places waste prevention as the preferred option at the top, followed by reuse, recycling and other recovery, with landfill disposal at the bottom as the last resort. Information Paper E<sub>3</sub> provides further detail.

#### Management of Noise and Vibration

- 1.63 The nominated undertaker will obtain consents under Section 61 to the Control of Pollution Act 1974, which will include noise limits and vibration limits where relevant and site specific management and mitigation requirements for noise and vibration, both on and off site.
- 1.64 In relation to the control of construction noise and vibration, Information E23 provides further detail. Information Papers E20, E21 and E22 provide further detail on operational noise from the railway.
- 1.65 Noise and vibration monitoring will be carried out at different times during the lifetime of the railway. Where noise and vibration performance deviates from expected conditions, actions will be taken as described in Information Paper F4.

## **Existing Legislation and Other Safeguards**

1.66 Unless a piece of existing legislation is expressly or impliedly dis-applied or modified by the HS2 Act, it will continue to apply. For example, environmental permits in relation to discharges will still be required and the Control of Pollution Act 1974 (COPA) will continue to apply.

#### **Oversite Development**

- 1.67 The HS2 Act does not grant approval for any oversite development. Consent for any such development will be applied for and determined through normal planning processes. However, the HS2 Act does authorise works to enable future oversite development, for example the construction of additional foundations or deck structures.
- 1.68 The HS2 Act also puts in place requirements in respect of the environmental assessment of oversite development. It defines the circumstance where the planning application for such development proposed to replace a building demolished or substantially demolished for HS2 must be accompanied by an environmental impact assessment.

#### Safety and Security

- 1.69 HS2 will create a railway designed, built and operated with world-class health, safety and security standards. All HS2 infrastructure will be designed in accordance with appropriate standards and policies for public safety. The following are some key design principles that will be applied:
- Adoption of hostile vehicle mitigation and blast resilient glazing and facades where appropriate;
- Application of Crime Prevention Through Environmental Design principles across all of the HS2 network but with particular emphasis on all publicly accessible spaces;
- Selection of vandal-resistant materials and designs;
- Appropriate use of surveillance systems and lighting;

• Integration of natural way-finding into designs to configure spaces that are easy to navigate and use of signage that is clean and unambiguous.

# 2 HS2 in the London Borough of Hillingdon

#### Introduction

- The HS2 route through the Borough will be approximately 9km in length, the majority of which will be via the twin bored Northolt tunnel. The area has a mixed land use pattern of residential properties, industry, water features, recreational facilities, farmland and road and rail links.
- 2.2 The HS2 route will enter the Borough in tunnel from the London Borough of Ealing to the South-East and will travel North-West parallel to the Northolt Rail Corridor. The tunnel will ascend via a portal west of Ickenham Road and the route will continue through a series of cuttings and embankments to Harvil Road. The route will then pass on viaduct over the Colne Valley before moving into South Buckinghamshire.
- 2.3 Section 5 of this report illustrates the location of works in the Borough. This section describes the permanent, preparatory and temporary works in the Borough.
- 2.4 As the project is taken forward to detailed design and construction there may be changes to assumed construction methods and design, subject to the requirements of the Act, the EMRs, and any approvals required from consent granting bodies, and in response to the requirements of any relevant Undertakings or Assurances.

#### **Permanent Works**

### Lord Halsbury Memorial Playing Fields to West Ruislip

- 2.5 After entering the Borough via tunnel to the north of the Lord Halsbury Memorial Playing Fields, the route will proceed northwest in twin bore tunnels along an alignment approximately parallel with the Chiltern Main Line and the London Underground Central Line.
- 2.6 A vent shaft will be located on former industrial land adjacent to the Braintree Road Industrial Estate in South Ruislip. The South Ruislip vent shaft will include a surface headhouse building measuring approximately 19m wide, 44m long and 15m in height. An auto-transformer station will be located adjacent to the vent shaft headhouse.

## West Ruislip to Harvil Road

- 2.7 The route continues in tunnel, staying generally parallel to the Chiltern Main Line and the London Underground Central Line. A tunnel portal will be constructed at West Ruislip, west of Ickenham Road and south of Ruislip golf course to allow the line to ascend to surface level. The portal will include cut & cover box and open ramp structures constructed using diaphragm walls, with a combined length of approximately 500m. A surface headhouse on top of the portal structure will be approximately 32m long by 30m wide and 5.5m in height.
- 2.8 In the vicinity of the portal, there will be a diversion of the Ickenham Stream along the north side of the ramp structure westwards to the River Pinn, a footbridge constructed over the ramp structure and modifications to the existing railway adjacent to the portal.

- 2.9 From the portal, the surface route will be on embankment prior to crossing the River Pinn and Breakspear Road South via bridges of approximately 10m and 7m height respectively.
- 2.10 West of Breakspear Road South the route will initially run along Gatemead embankment and then through the Copthall cutting up to Harvil Road, reaching a maximum depth of 20m below existing ground level.
- 2.11 The sustainable placement of surplus excavated material is proposed at the following locations:
  - between Harvil Road and Breakspear Road South; and
  - north of Newyears Green Lane and south of Bayhurst Wood.

### Harvil Road to Colne Valley

- 2.12 A section of Harvil Road, approximately 750m in length, will be realigned approximately 75m to the east of its current location and raised by a maximum of 10m to cross over the route. This will require three new bridges on the realigned Harvil Road over the route, the Chiltern Main Line and Newyears Green Bourne. The Ickenham auto-transformer feeder station, for the railway, will be located just west of the realigned Harvil Road.
- 2.13 After passing under the realigned Harvil Road overbridge the route will continue north-west on the Colne Valley South Embankment, which will be approximately 190m long and up to 10m high.
- 2.14 The route will run on viaduct through the Colne Valley. The viaduct will measure approximately 3.4km long, start approximately 19om west of Harvil Road and vary between 11m to 15m above the ground/water level. It will pass above the Harefield No.2 Lake, Grand Union Canal, Savay Lake, Moorhall Road, Korda Lake, Long Pond and the River Colne, where the viaduct continues northward into South Buckinghamshire District Council. Approximately 65 per cent of the viaduct structure is in the Borough and 35 percent is in South Buckinghamshire District.
- 2.15 A new National Grid feeder station will be located approximately 250m north-east of the proposed route, with associated access track from Dews Lane.
- 2.16 Permanent diversions of the River Colne (of approximately 170m) and Newyears Green Bourne (of approximately 140m) are required to avoid the viaduct piers.

# **Preparatory and Temporary Works**

- 2.17 Building and preparing the railway for operation will comprise the following general stages:
- advance works, including: site investigations; site surveys; preliminary mitigation works;
   preliminary enabling works;
- diverting utilities;
- civil engineering works, including: establishment of construction compounds;

- site preparation and enabling works including demolition, site clearance; main earthworks and structural works;
- railway installation works, including: infrastructure installation; connections to utilities; and changes to the existing rail network;
- site restoration; and
- system testing and commissioning.

#### **Primary Utility Works**

- 2.18 Numerous utilities will need to be diverted for the works, the principal works and diversions in this area include the diversion of:
  - 600mm Affinity Water main at Copthall Cutting;
  - 48 inch National Grid gas main at Copthall Cutting;
  - 18 inch National Grid gas main at Harvil Road;
  - 1143mm Thames Water sewer diversion from Ruislip Golf Course to south of The Greenway;
  - National Grid Electricity Transmission overhead 275 kv power line diversion
  - Ickenham auto-transformer feeder station; and

Connections and substations for tunnel boring machine power supply at West Ruislip.

### **Worksites and Compounds**

- 2.19 Construction of the HS2 route will require engineering works along the entire length of the route, and within land adjacent to the route. This will comprise two broad types of activity:
- civil engineering works, such as earthworks, tunnelling and construction and erection of bridges and viaducts; and/or
- railway installation works, such as laying ballast or slabs and tracks, and/or installing power supply and communications features.
- 2.20 Construction of the route will be subdivided into sections, each of which will be managed from compounds. The compounds will act as the main interface between the construction work sites and the public highway, as well as performing certain other functions. Compounds will either be main compounds or satellite compounds, which are generally smaller. Some compounds will be used for civil engineering works and others for railway installation works, and in some cases for both. In addition, there will also be smaller site compounds for some utilities works.

Table 2: Compound name and construction activity

Compound Name	Principal Construction Activity											
Northolt tunnel and	- Northolt tunnel construction support											
earthworks main compound	Copthall cutting											
compound	- construction and operation of tunnel lining segment pre-casting facility											
	- railway installation works											
	- tunnel fit out											
	- excavated materials railhead											
	- tunnels logistics railhead											
South Ruislip vent shaft	- South Ruislip vent shaft											
main compound	- headhouse structure											
	- railway installation works											
	- tunnel fit-out											
	- vent shaft fit-out											
	- South Ruislip auto transformer station fit-out											
	- vent shaft access roads											
Breakspear Road South	- Breakspear Road South underbridge											
satellite compound	- River Pinn underbridge											
	- Gatemead embankment											
	- pharmaceutical research facility access road											
	- utility diversions											
	- conveyor and narrow gauge service railway for tunnelling logistics											
Harvil Road realignment	- new Harvil Road bridge over the Chiltern Main Line											
satellite compound	- new Harvil Road overbridge over proposed HS2 alignment.											
	- new Harvil Road bridge over Newyears Green Bourne											
	- Harvil Road embankment for road realignment											
	- Copthall Cutting											
West Ruislip portal satellite	- portal and ramp structure west of Ickenham Road											
compound	- portal structure											
	- Surface head-house structure - diversion of public footpath over footbridge											
	- diversion of Ickenham Stream (canal feeder) to River Pinn											
	- tunnel boring machine train assembly and launch											
	- conveyor and narrow gauge service railway for tunnelling logistics, from West Ruslip portal ramp to Northolt tunnel and earthworks main construction compound											

14

Compound Name	Principal Construction Activity
composita riame	i ilitalpui constitucioni,
	- embankment construction
	- portal building fit-out
	- installation of a new siding
Ickenham auto-	Ickenham auto- transformer feeder station installation
transformer feeder station	
satellite compound	
Colne Valley viaduct and	Colne Valley viaduct and embankments
South Embankment	
Satellite Compound	
Colne Valley Viaduct	Colne Valley viaduct and embankments
Satellite Compound	
Colne Valley Viaduct Jetty	Colne Valley viaduct and embankments
Storage Satellite	
Compound	
Colne Valley Viaduct	Colne Valley viaduct and embankments
Storage Satellite	
Compound	
Uxbridge Golf Course Haul	Uxbridge Golf Course Haul Road
Road Satellite Compound	

## Roadheads and Material Transfer Stockpile Areas

- 2.21 The following road heads will be used for the storage and loading and unloading of bulk earthworks material which is moved to and from the site on public highways:
  - South Ruislip Vent Shaft (Victoria Road);
  - Harvil Road and Ickenham Road roadheads; and
  - Colne Valley Roadhead.
- 2.22 Additional temporary stockpile sites may be required during work on particular elements of the route and will be adjacent to the works within the existing area of land required for construction.
- 2.23 A temporary railhead to facilitate construction works and allow removal of surplus excavated material will be provided between Breakspear Road South and Harvil Road.

#### **Demolition Works**

2.24 The buildings that will need to be demolished within are listed in Table 3

Table 3: List of structures to be demolished

Description of structure	Location
The Ruislip Rifle Club	Between the Ruislip Golf Course and the Chiltern Main Line
Part of the driving range shelter	Ruislip Golf Course
An outbuilding	The north-east corner of Ruislip Golf Course car park
12 buildings in the south of the pharmaceutical research facility	West of Breakspear Road South
Gatemead Farmhouse	West of Breakspear Road South and east of the pharmaceutical research facility
A stable and outbuilding at Oak Farm	East of Breakspear Road South and north of the Chiltern Main Line
The Lodge	West of Breakspear Road South
Harvil Road bridge	Over the Chiltern Main Line
Harvil Road bridge	Over Newyears Green Bourne
An outbuilding opposite Dew's Farm Cottages	Dew's Lane
Residential property at Dew's Farm and three associated outbuildings	Dew's Lane
Three community buildings associated with HOAC	In the northern section of the HOAC site at the western end of Dew's Lane
National Grid pylon	Adjacent to Harefield Moor
National Grid pylons	Adjacent to Grand Union Canal
National Grid pylon	Adjacent to the woodland block called The Alders

### Archaeology

- 2.25 HS2 Ltd has sought to design the railway and to approach the task of construction in ways that reduce the impact on archaeological remains, as far as is reasonably practicable.
- 2.26 In accordance with the requirements of Heritage Memorandum and Code of Construction Practice, the nominated undertaker will develop an integrated investigation programme to deliver all archaeological works identified in the ES and as developed during the detailed design process. The programme will set out the key stages of investigation, for example:
- detailed desk-based assessment (where appropriate to inform location specific mitigation);
- field evaluation (where appropriate to inform location specific mitigation); and
- location specific mitigation (for example preservation in situ or archaeological excavation).
- 2.27 The investigation programme will be developed in light of, and in conjunction with, the overall construction programme and will be reviewed and updated, as necessary. The programme will aim to undertake as much of the work as possible in advance of any construction activities.

# **Geotechnical Investigations**

2.28 Geological investigations and intrusive site investigations (involving boreholes and trial pits) will be undertaken where necessary, to inform the detailed design.

# 3 Landscape and Restoration

- 3.1 Different landscape types will be incorporated into HS2 works at various stages of the project. Some early landscape works may be proposed for example new planting to compensate for the loss of prior habitat or to help integrate HS2 into the surrounding landscape. Planting and landscape techniques will be used for different purposes for example to visually screen the railway, new structures or to reduce railway noise. Where possible, screen planting will be incorporated into the design along new embankments or cuttings in order to provide a combination of landscape integration, visual screening, and or ecological habitat connectivity.
- New areas of woodland will be created along the route. This includes woodland to compensate for the loss of habitat and new planting to help integrate HS2 into the surrounding landscape.

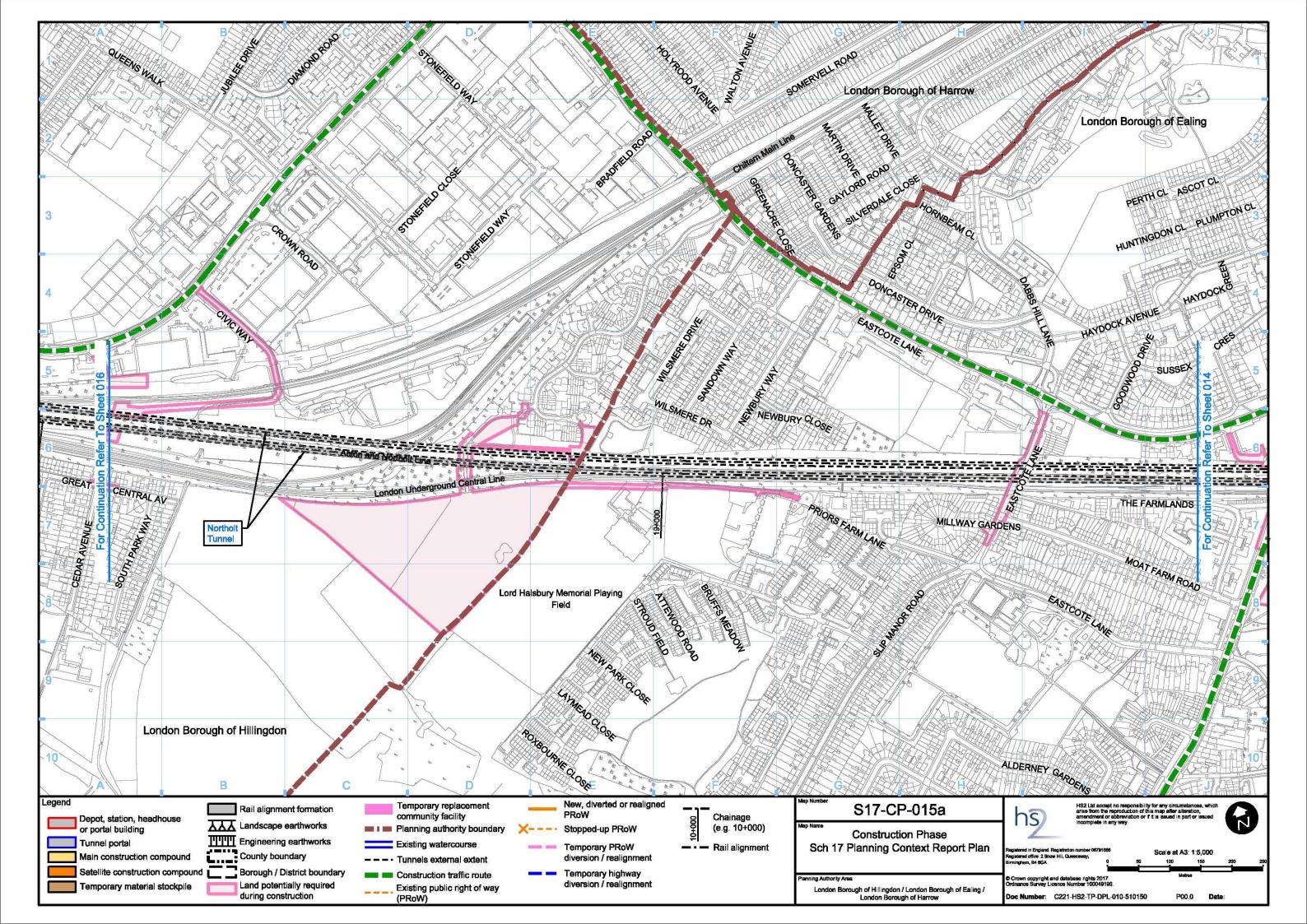
  Certain areas of grassland will be created specifically to compensate for habitat loss resulting from the scheme.
- Upon completion of construction works, land that is not required for operation of the railway will be restored. At this early stage of the design of the project, the presumption is that land would be restored as far as possible to its pre-existing condition. This will include reinstatement of field boundaries and hedgerows where possible. Hedgerows will be used to replace existing hedgerows removed during construction, to mitigate the impacts on wildlife or to create new visual screens. Any new planting, grassland and habitat creation will be maintained to ensure they become established and are properly maintained.

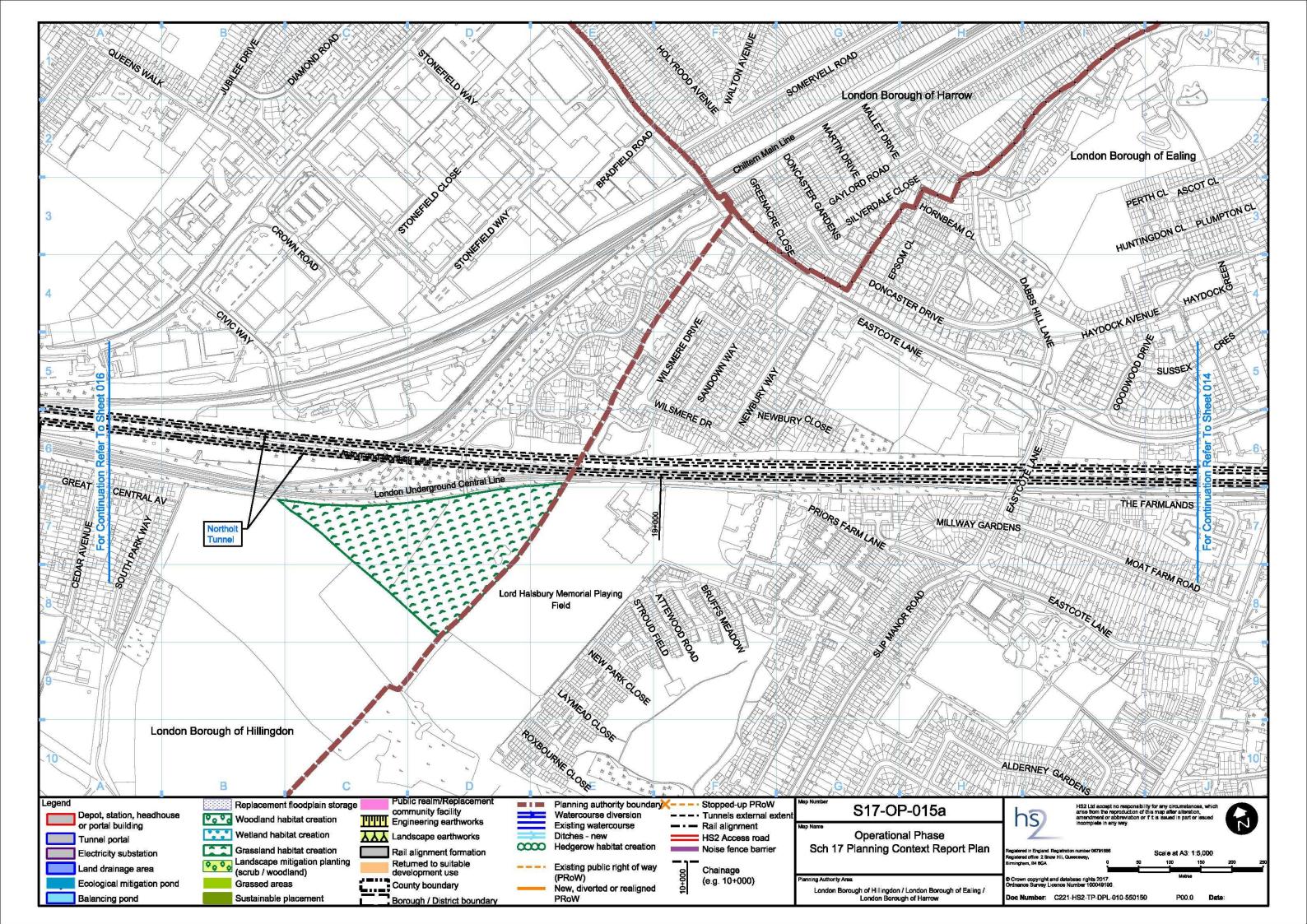
# 4 Schedule 17 Requests for Approval – Programme

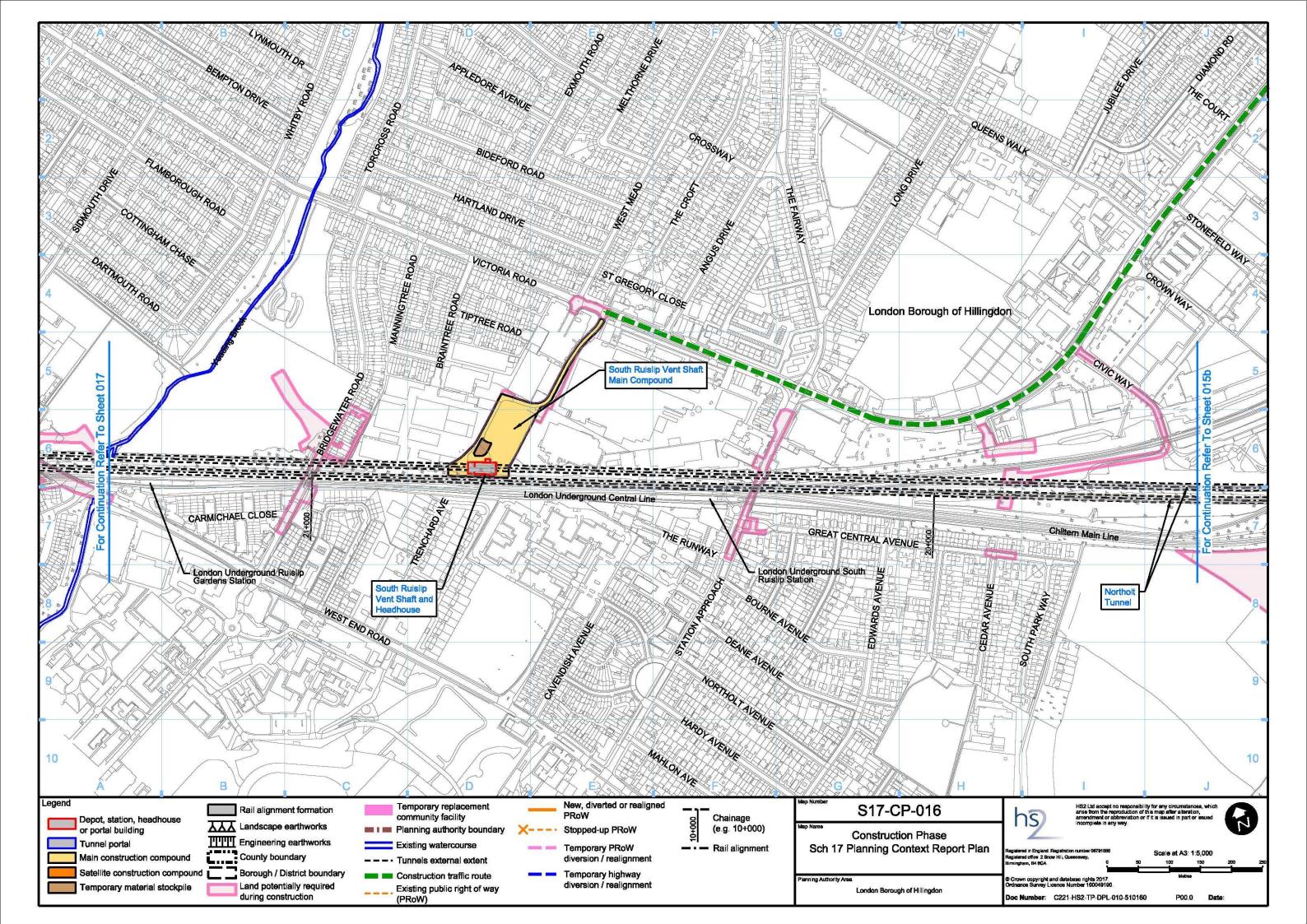
Requests for Approval 201				2017 quarters				ters 2018 quarters						019 q	Juarte	rs	2020 quarters				2	021 q	uarte	rs	2	2022 0	quarte	ers	2	2023	3 quar	ters		2024	quart		2025	quar	ters	2026 quarters				
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Ickenham Auto-transformer Feeder Station Electricity Substation								·				·			3	•																								3				
lckenham feeder station buildings																																												
Ickenham Feeder Station access and foundation pad																																												
Advanced planting site to the North of the Ickenham Feeder Station																																												
Wetland habitat creation to the South East corner of the existing Hillingdon Outdoor Activity Centre (HOAC) recreation lake																																												
Grassland and newt pond habitat creation at and to the east of the existing Hillingdon Outdoor Activity Centre lake and planting at Dews Lane																																												
Wetland habitat creation adjacent to the north and south of Hillingdon Outdoor Activity Centre (HOAC) lake																																												
Ecological mitigation ponds on land formerly belonging to Merck Sharp and Dohme																																												
Revised Access and widening of Dews Lane																																												
Permanent earthwork changes to the entrance of the Colne Valley Storage Compound																																												
Wetland Habitat creation in Broadwater Lake and Harefield Moor Lake																																												
South Ruislip Vent Shaft																							1																					
South Ruislip Auto-transformer Station																																												
West Ruislip Portal																																												
Footpath U81 Overbridge																																	$\perp$											
West Ruislip Retained Embankment																																												
River Pinn Underbridge																																												
Breakspear Road South Realignment																																												
Gatemead Embankment																							1																					
Copthall East Cutting (formerly Brackenbury Cutting)																																												

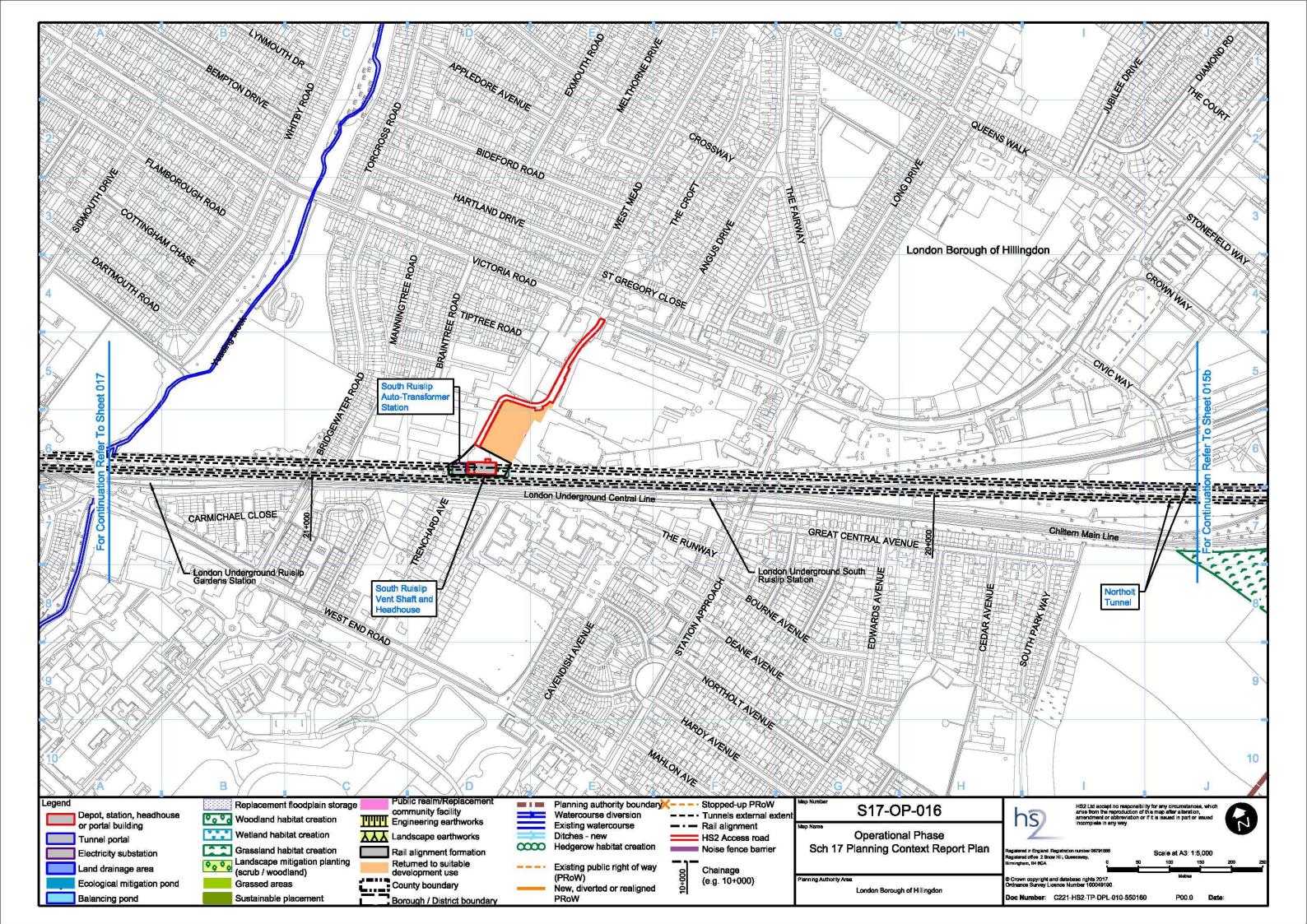
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Copthall Cutting																																										
Merck Sharp and Dohme Access road (permanent)																																										
Watercourse activities (diversion of Newyears Green Bourne																																										
Watercourse activities (diversion of Ickenham Stream)																																										
Watercourse activities (diversion of River Pinn)																																										
Sustainable placement between Harvil Road and Breakspear Road South																																										
Sustainable placement north of Newyears Green Lane and south of Bayhurst Wood																																										
Harvil Road Realignment and associated works																																										
Earthworks for the River Colne Diversion and creation of floodplain storage																																										
Colne Valley Viaduct south embankment and Colne Valley Viaduct																																										
Bringing into Use																																										
Lorry routes																	_																									
Class Approval																																										

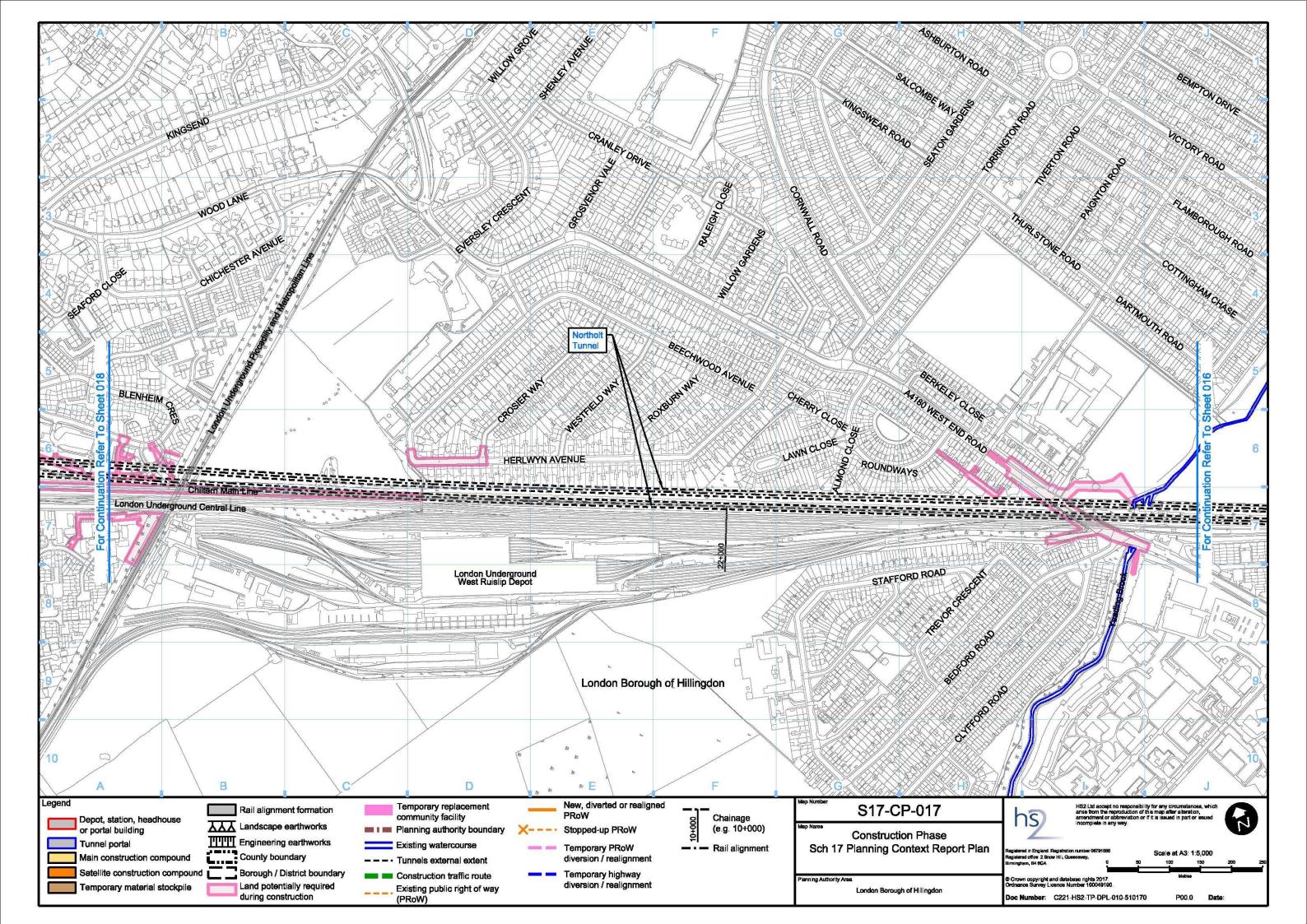
5 Planning Context Report Plans – Construction and Operation

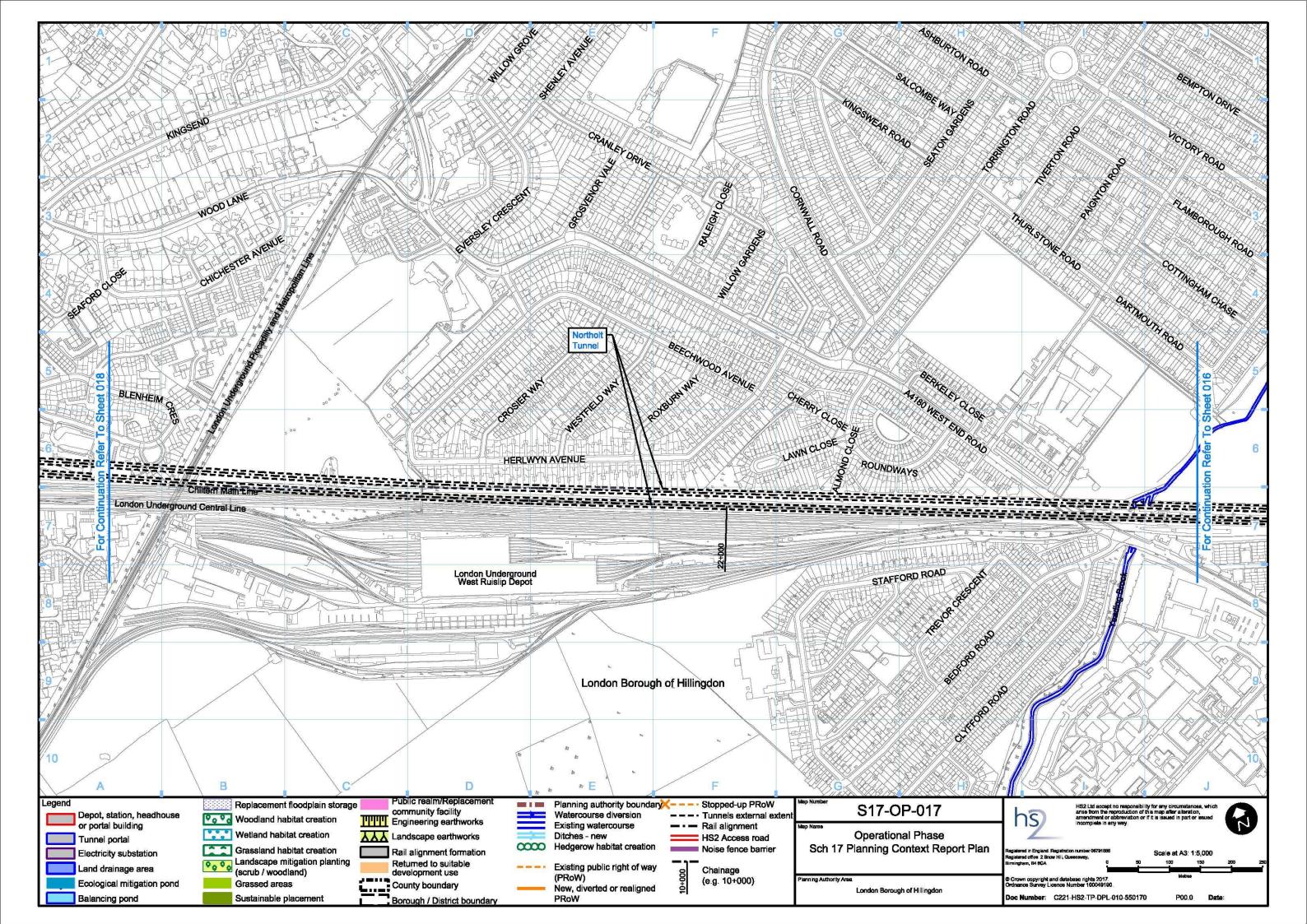


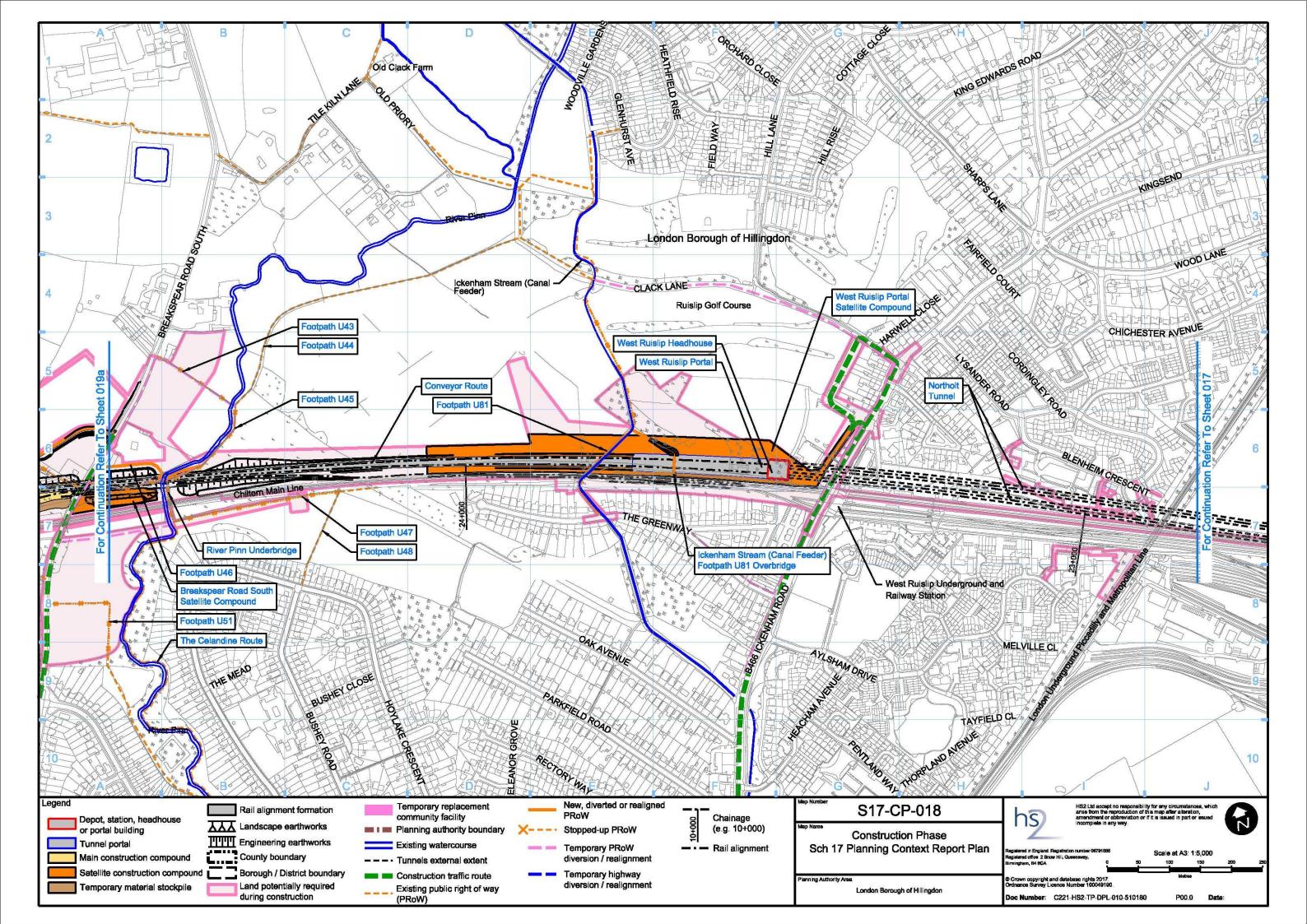


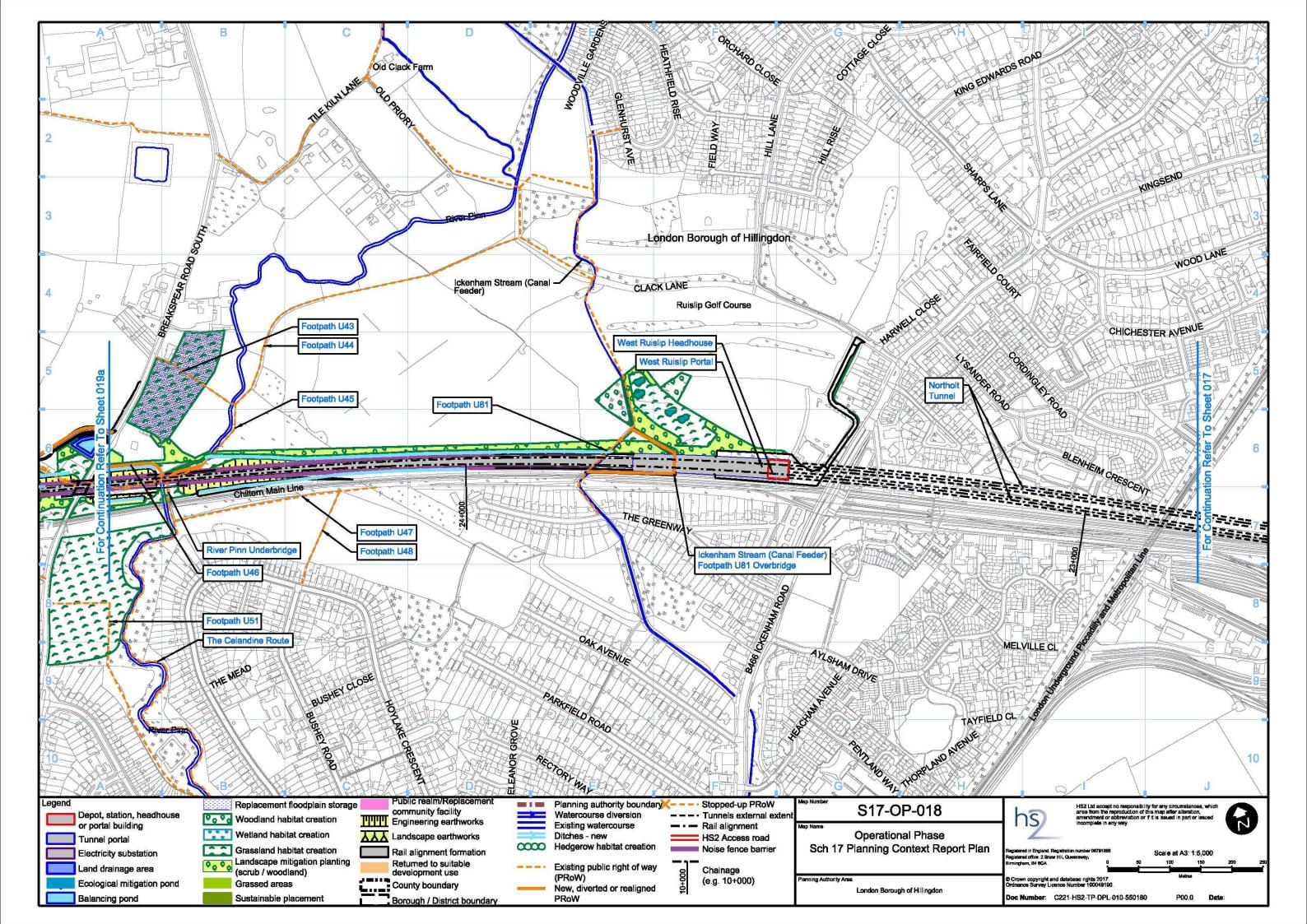


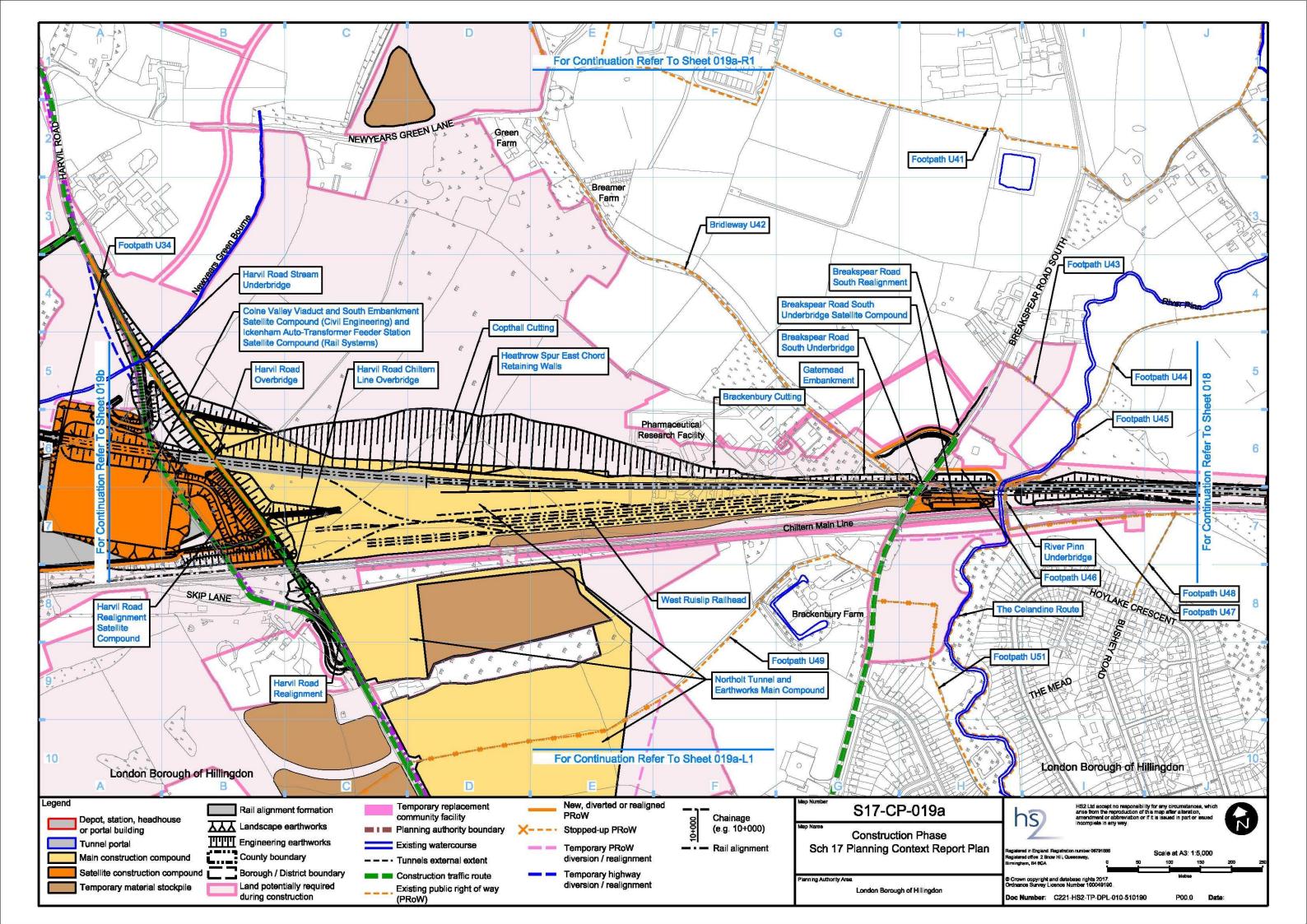


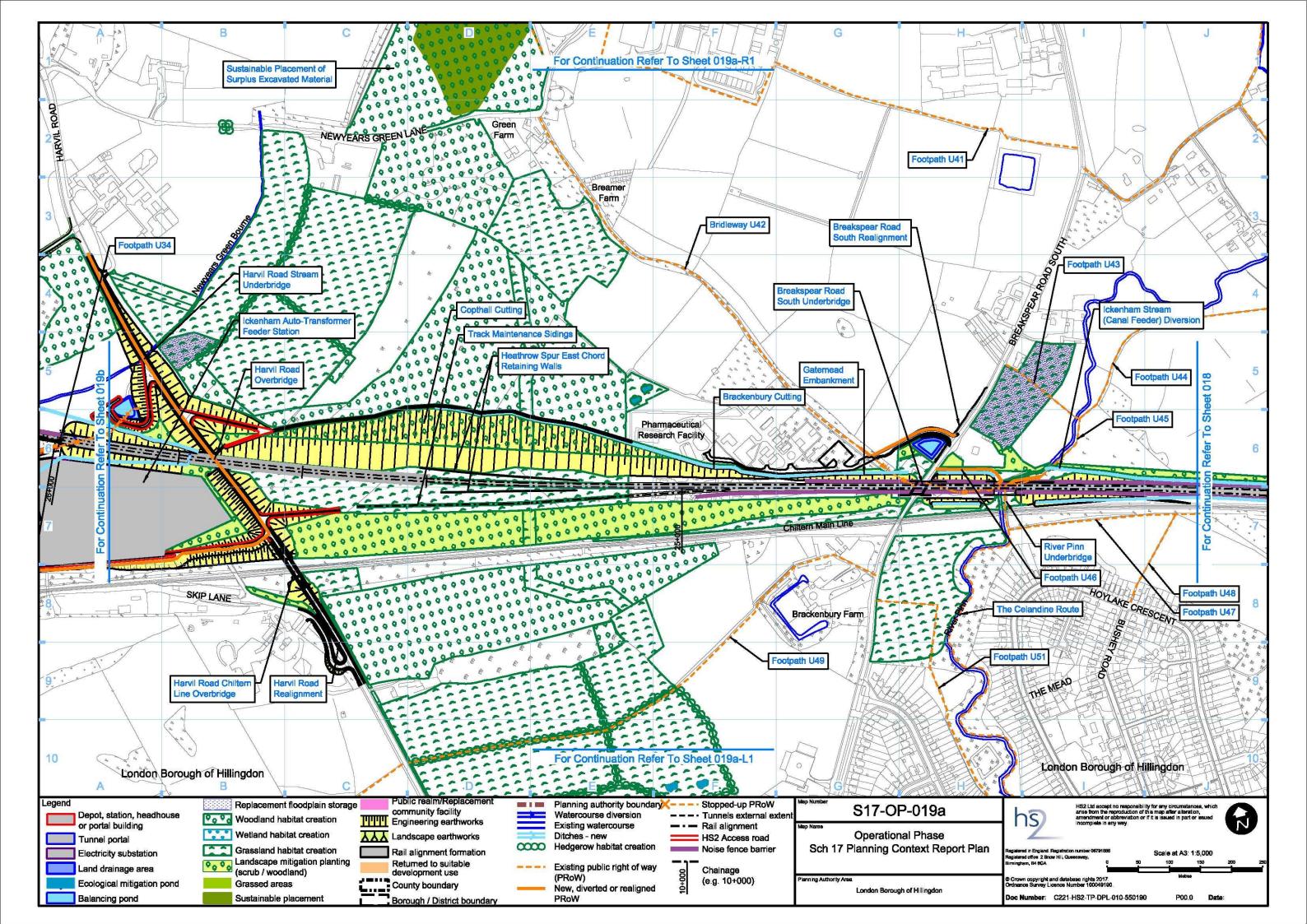


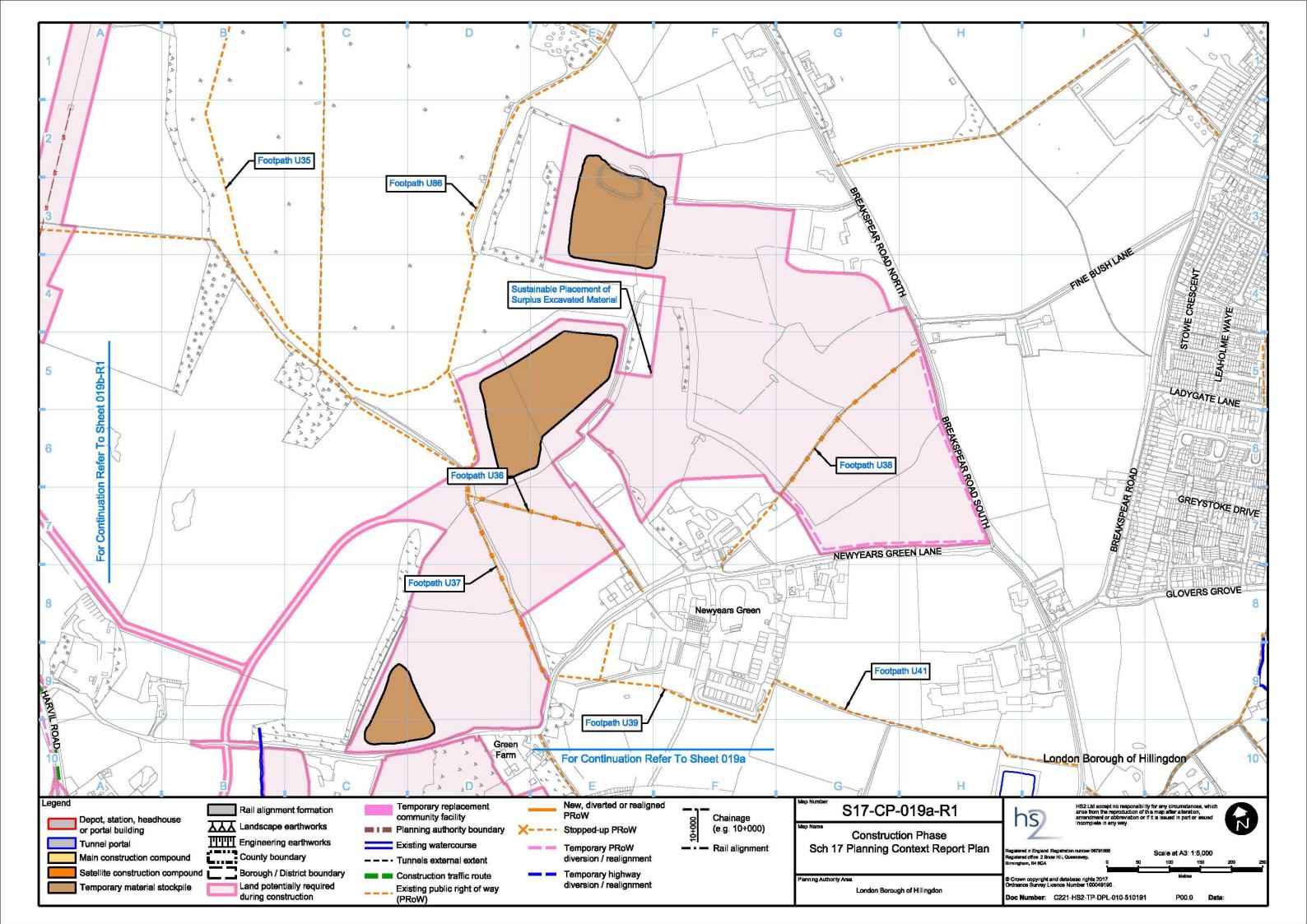


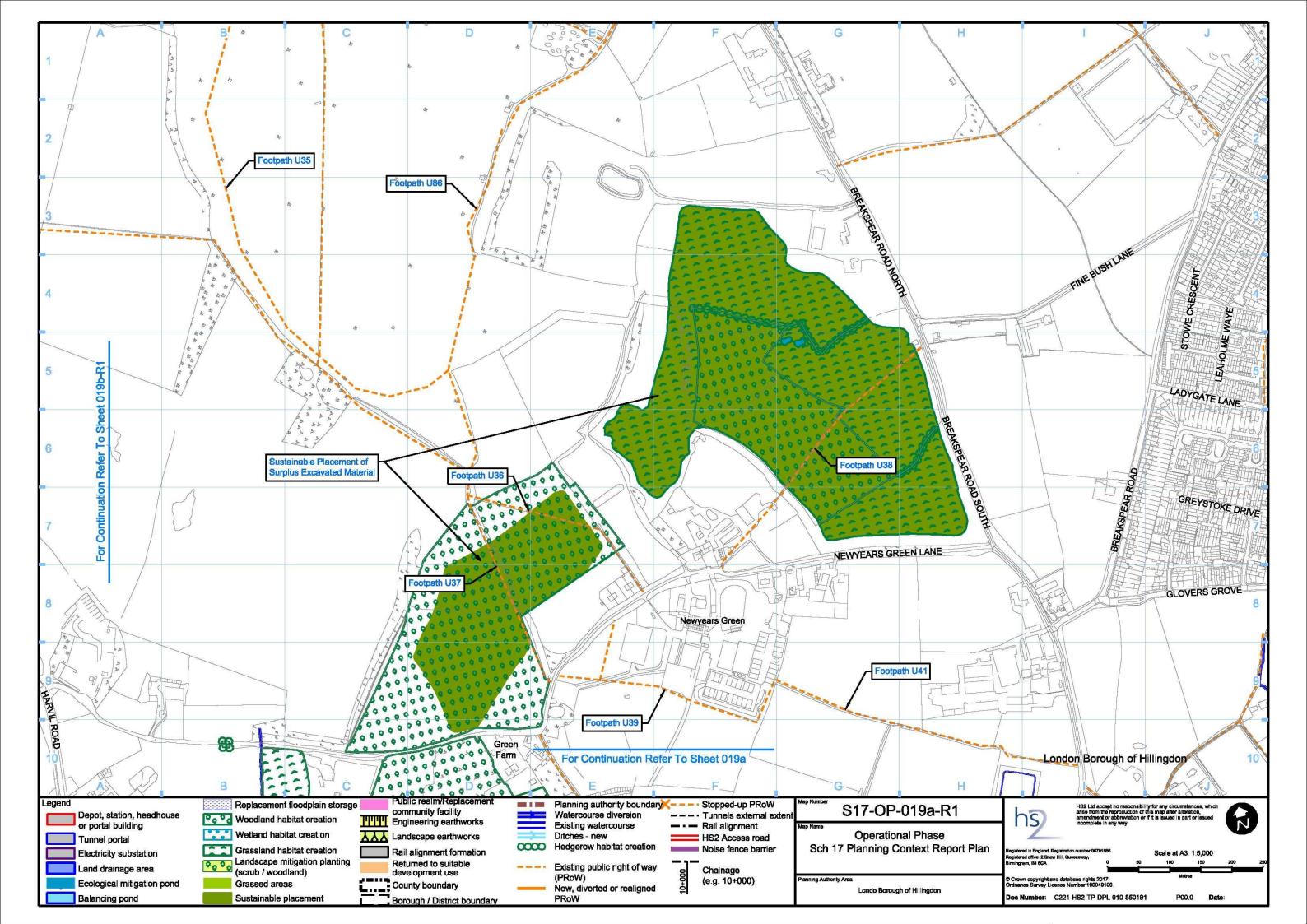


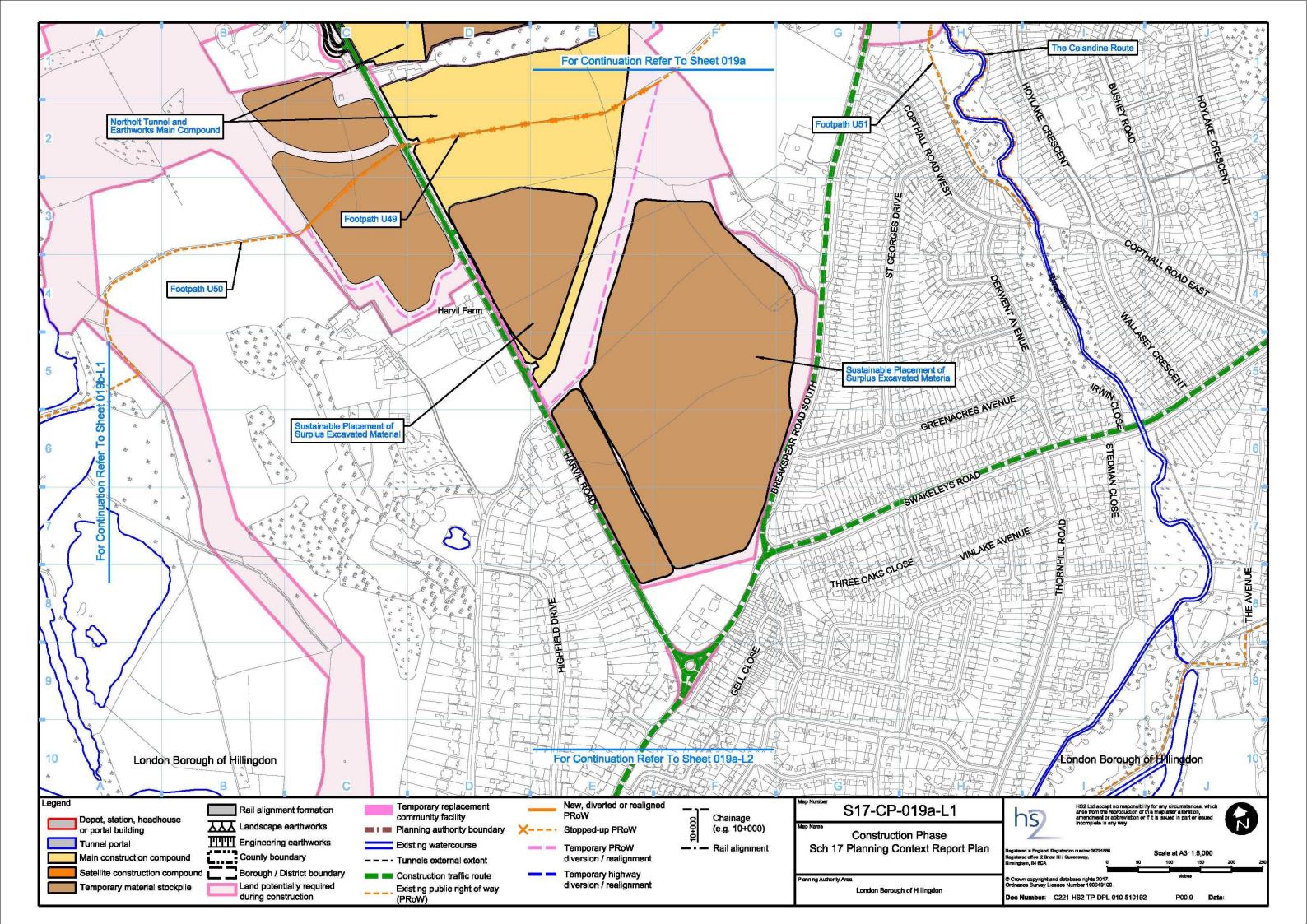


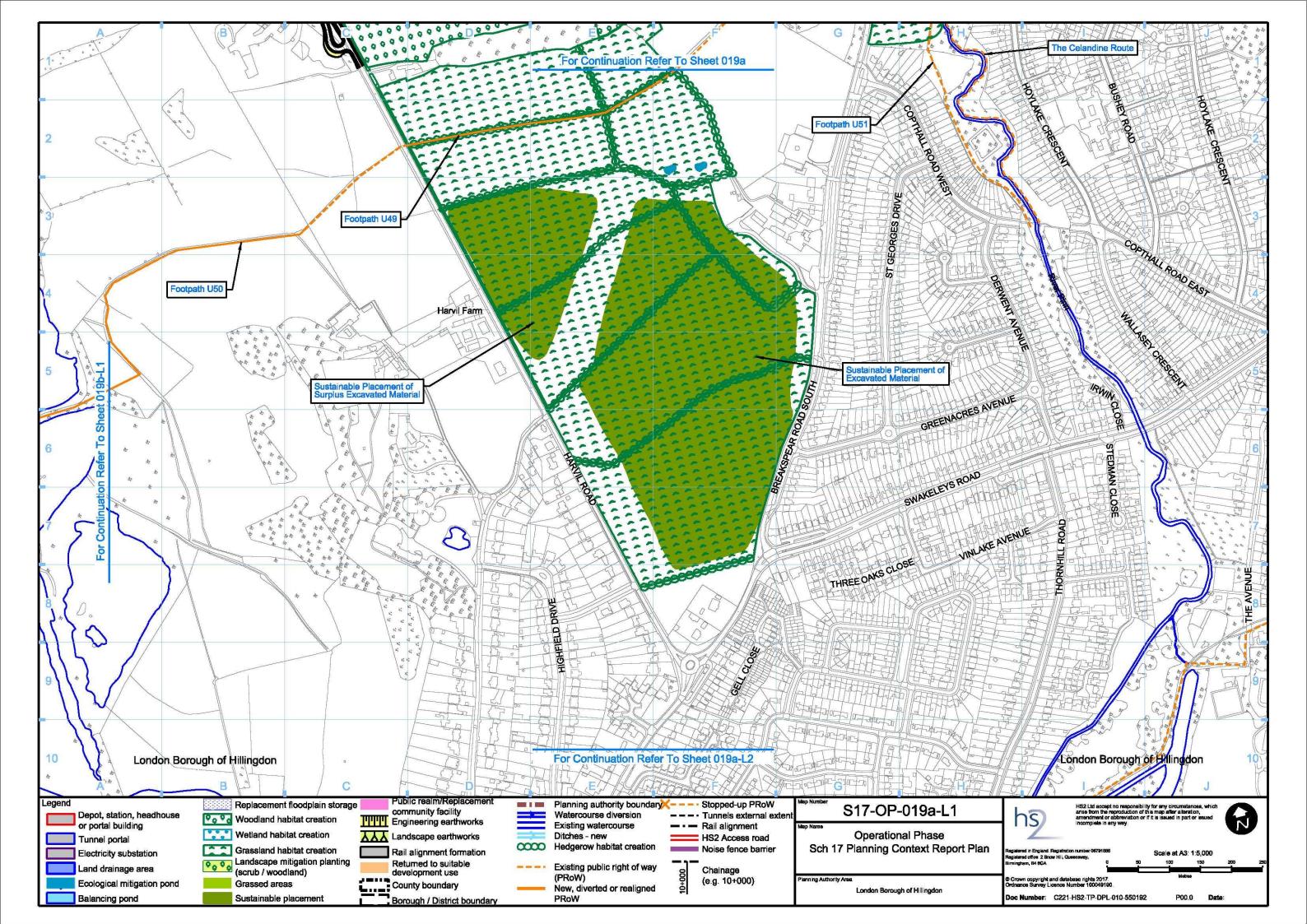


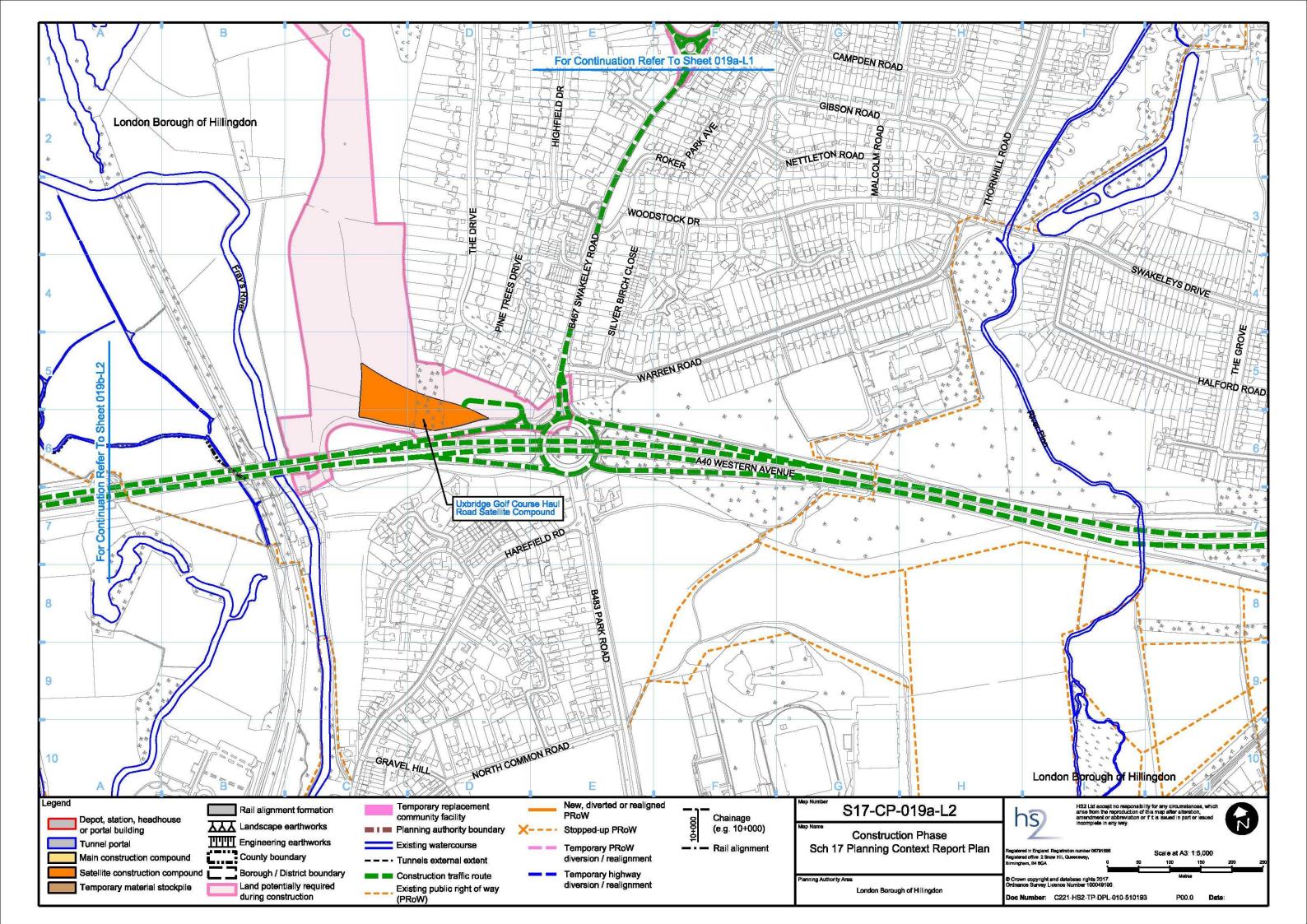


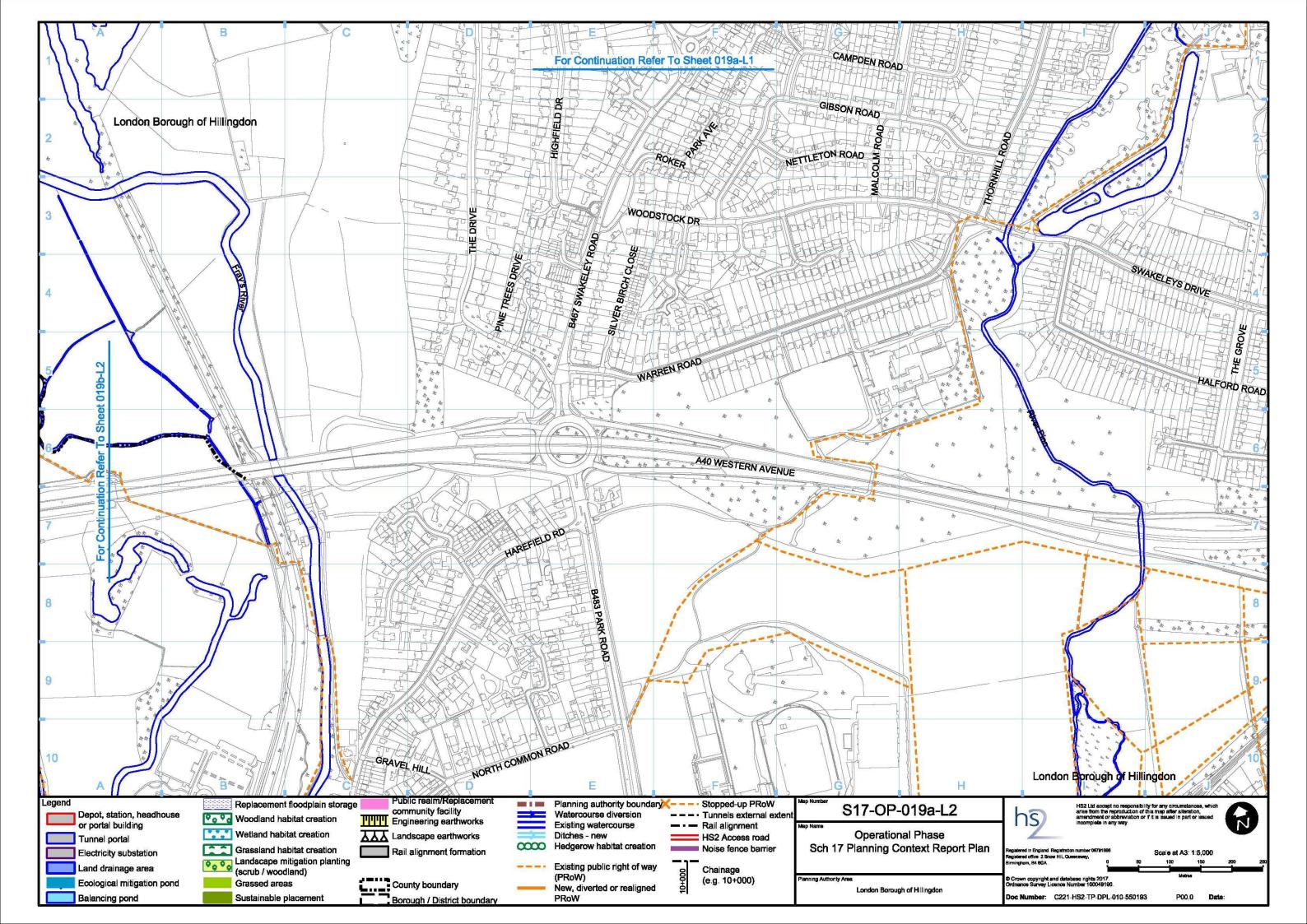


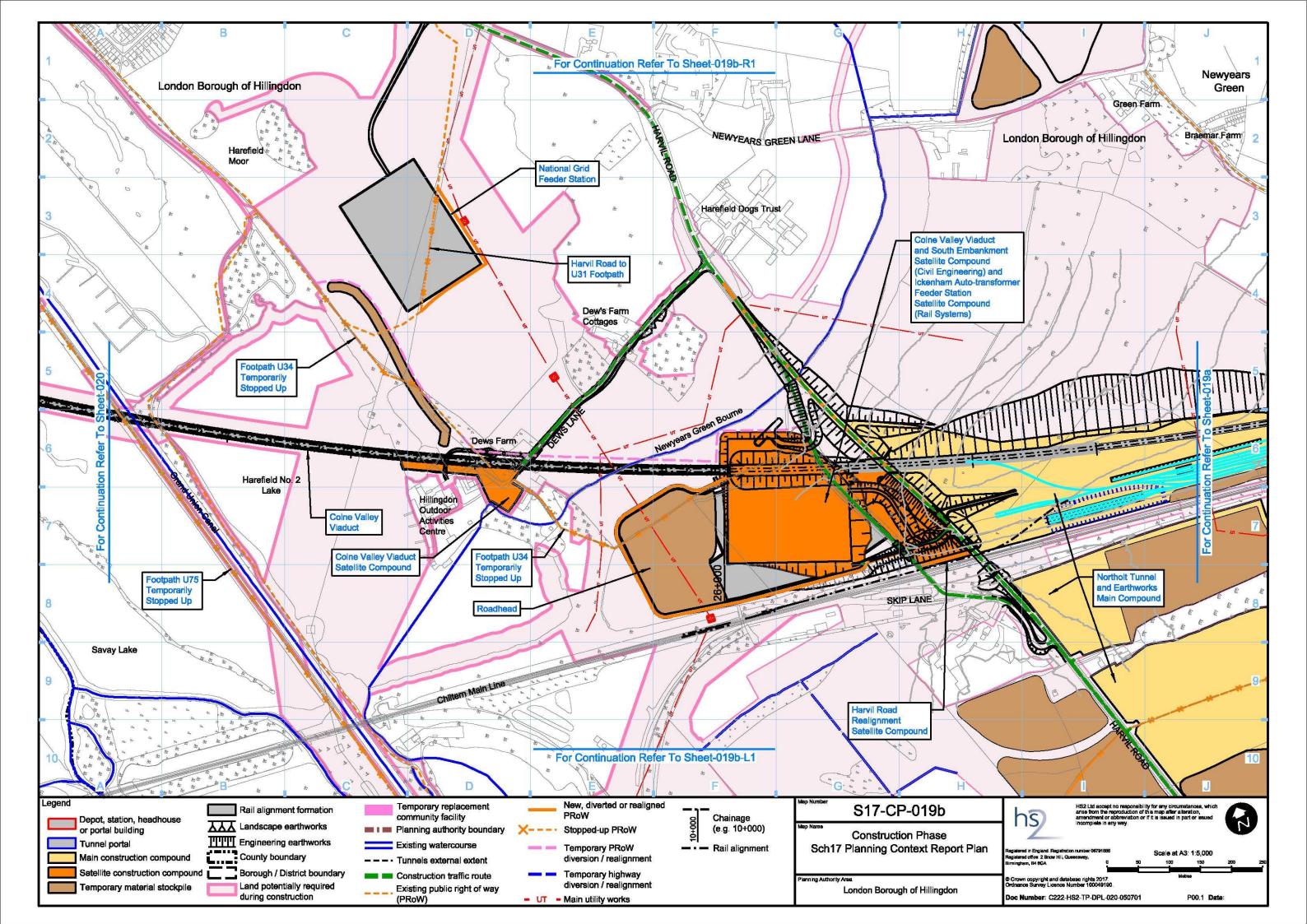


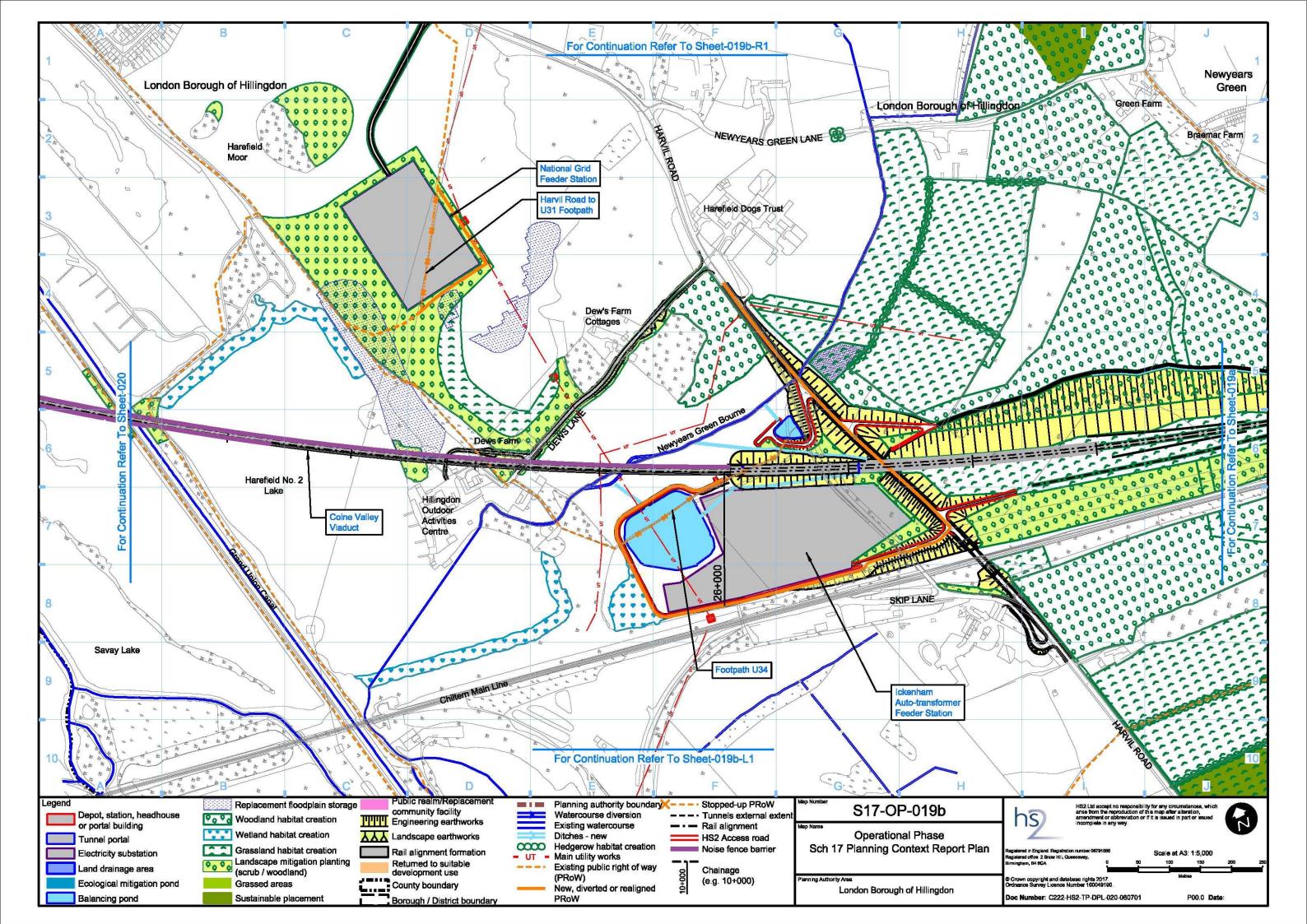


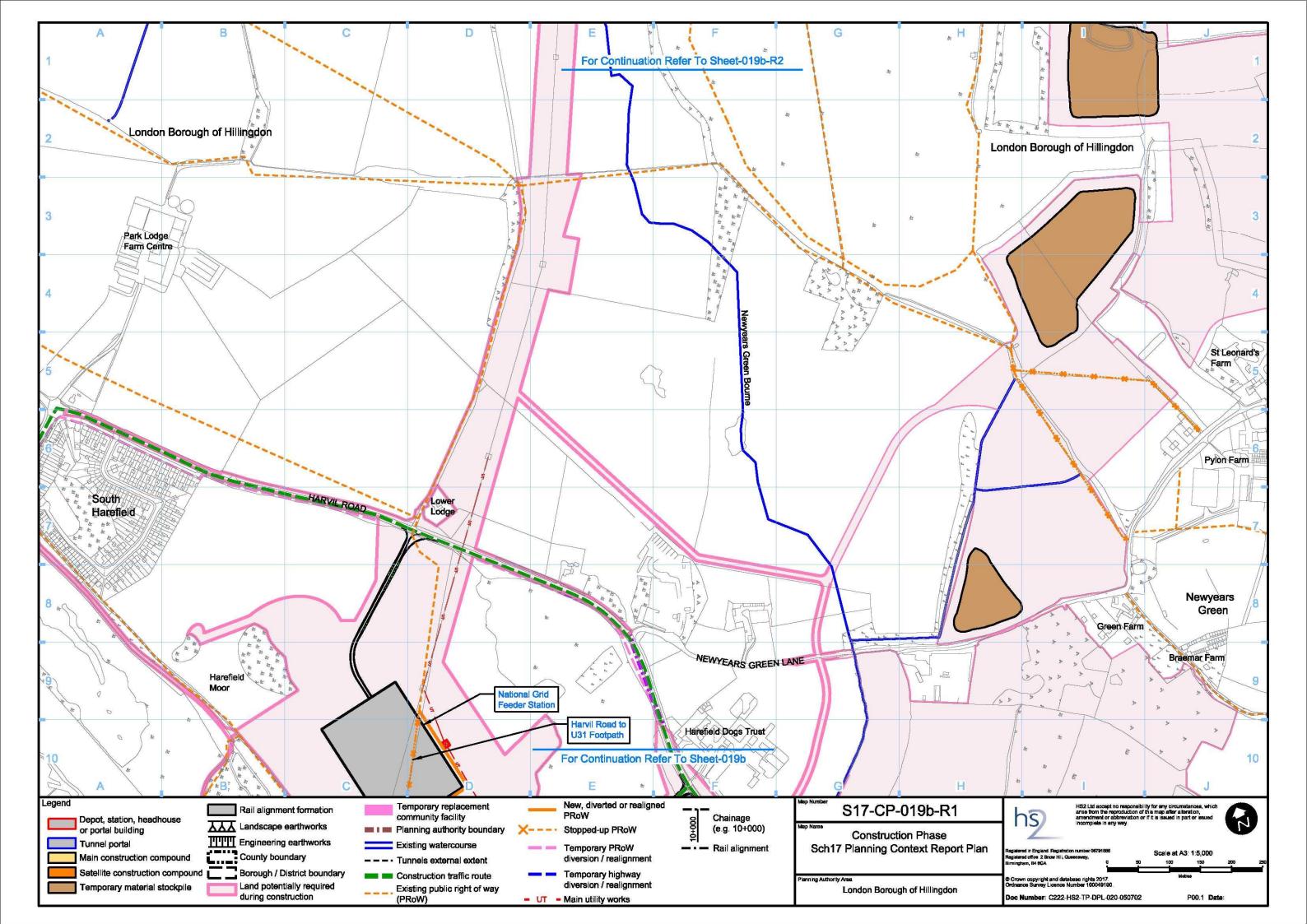


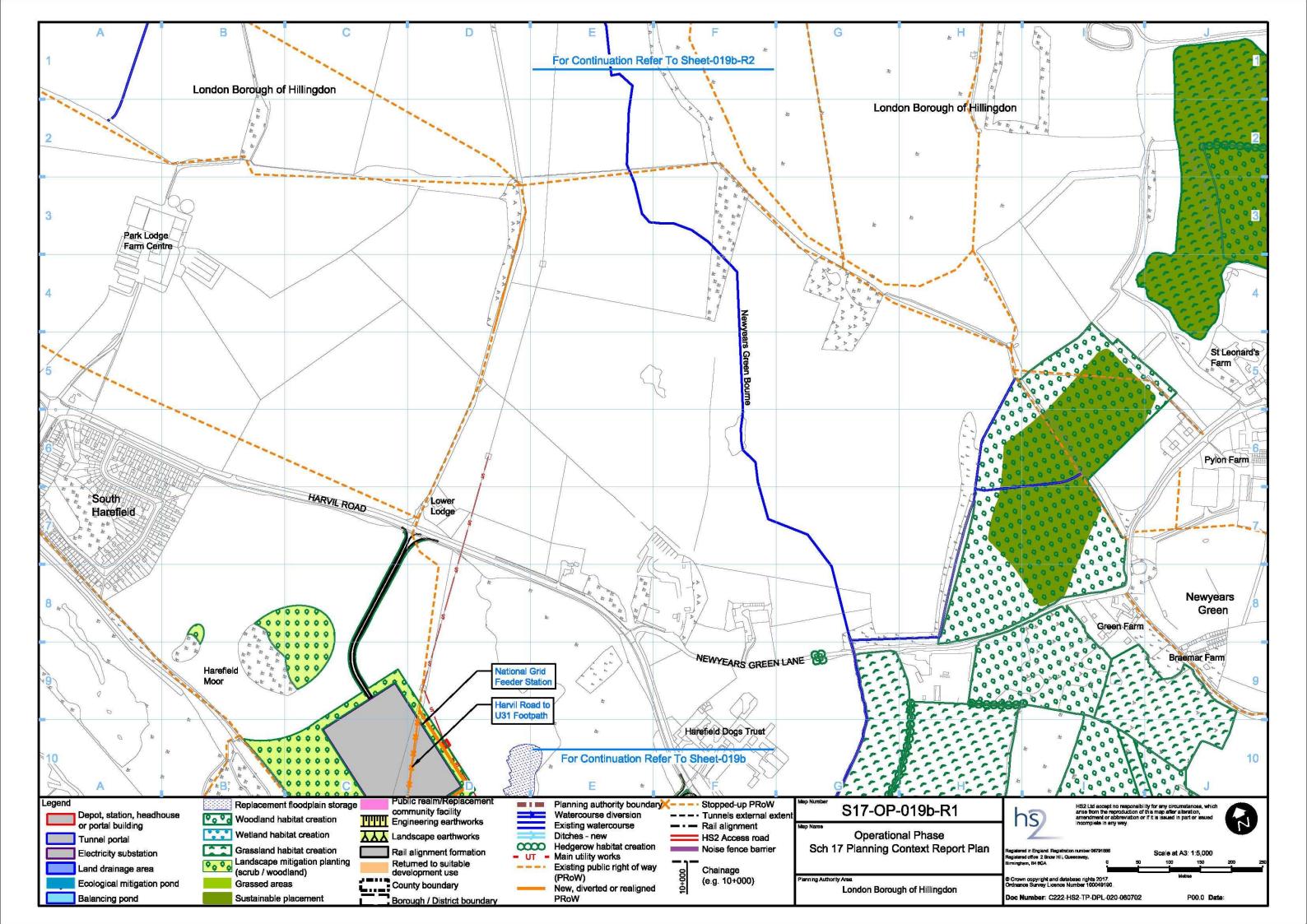


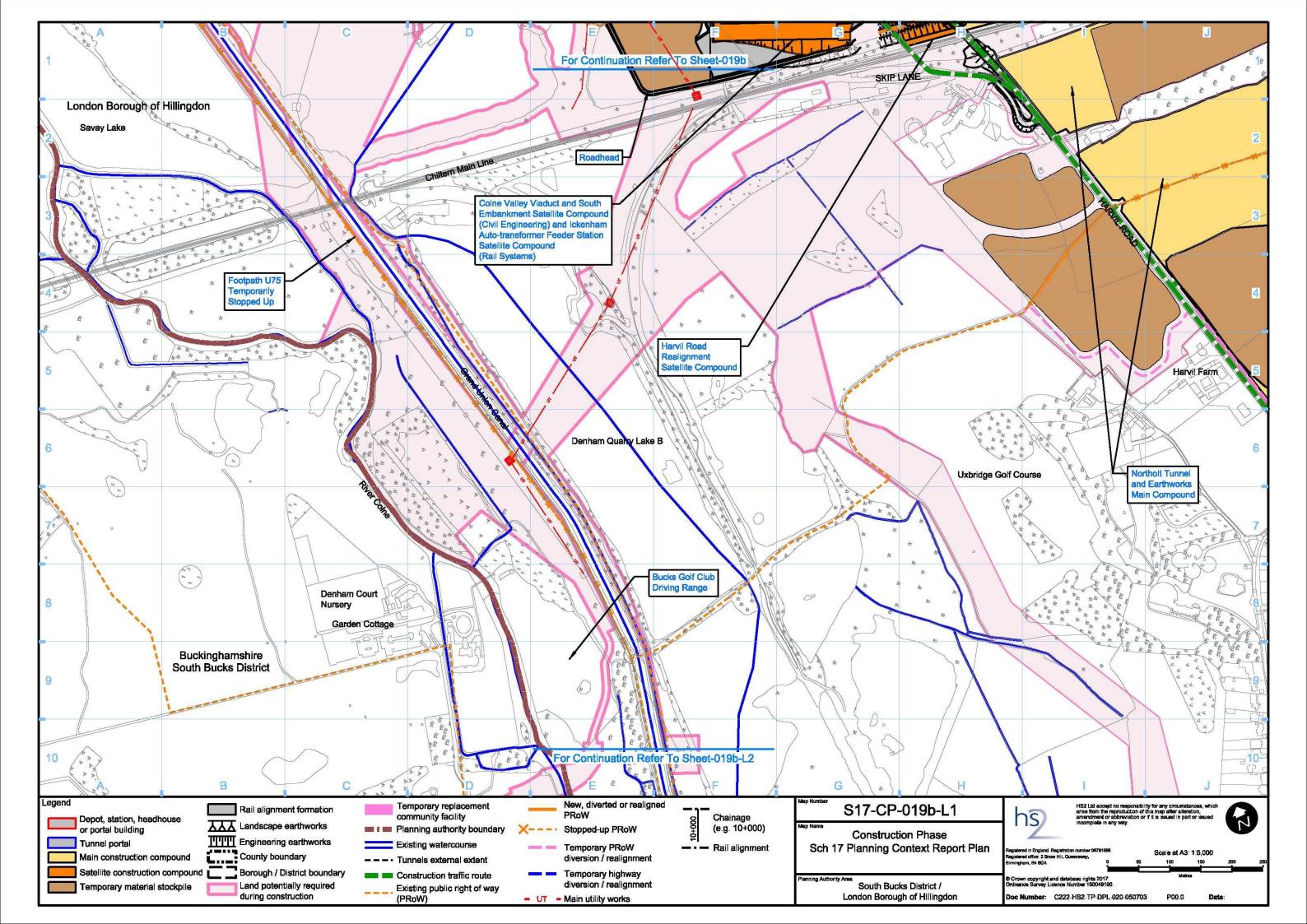


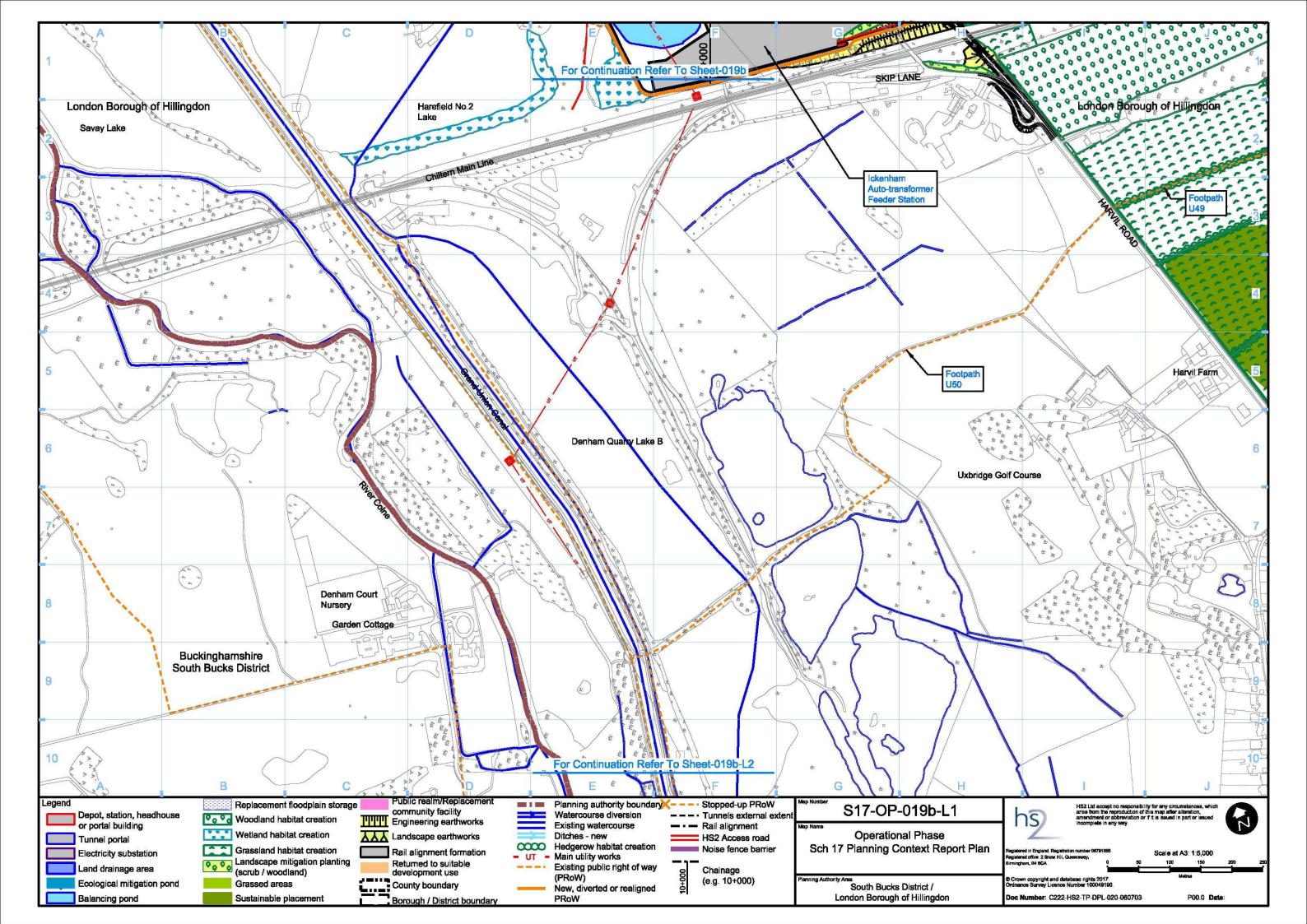


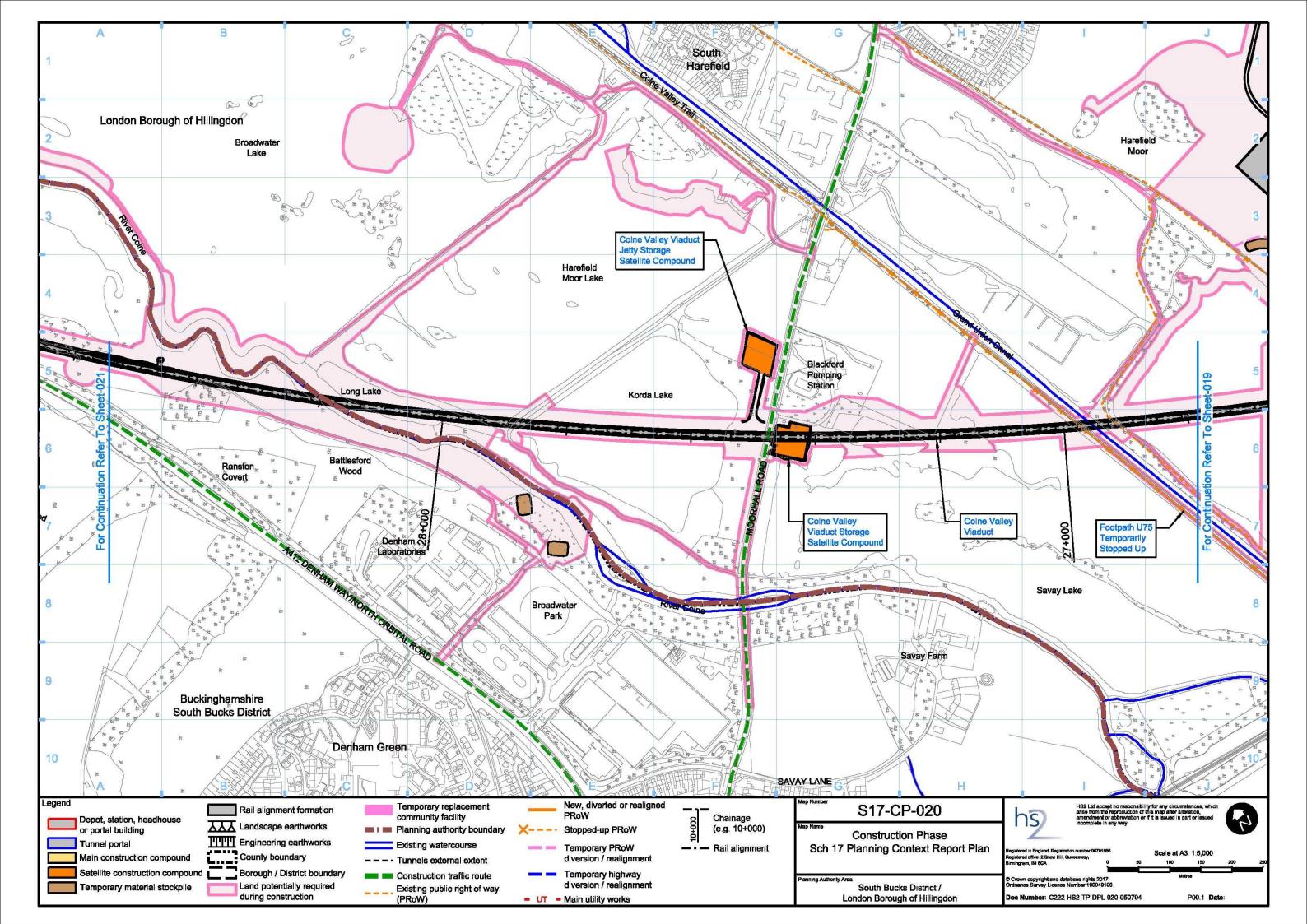


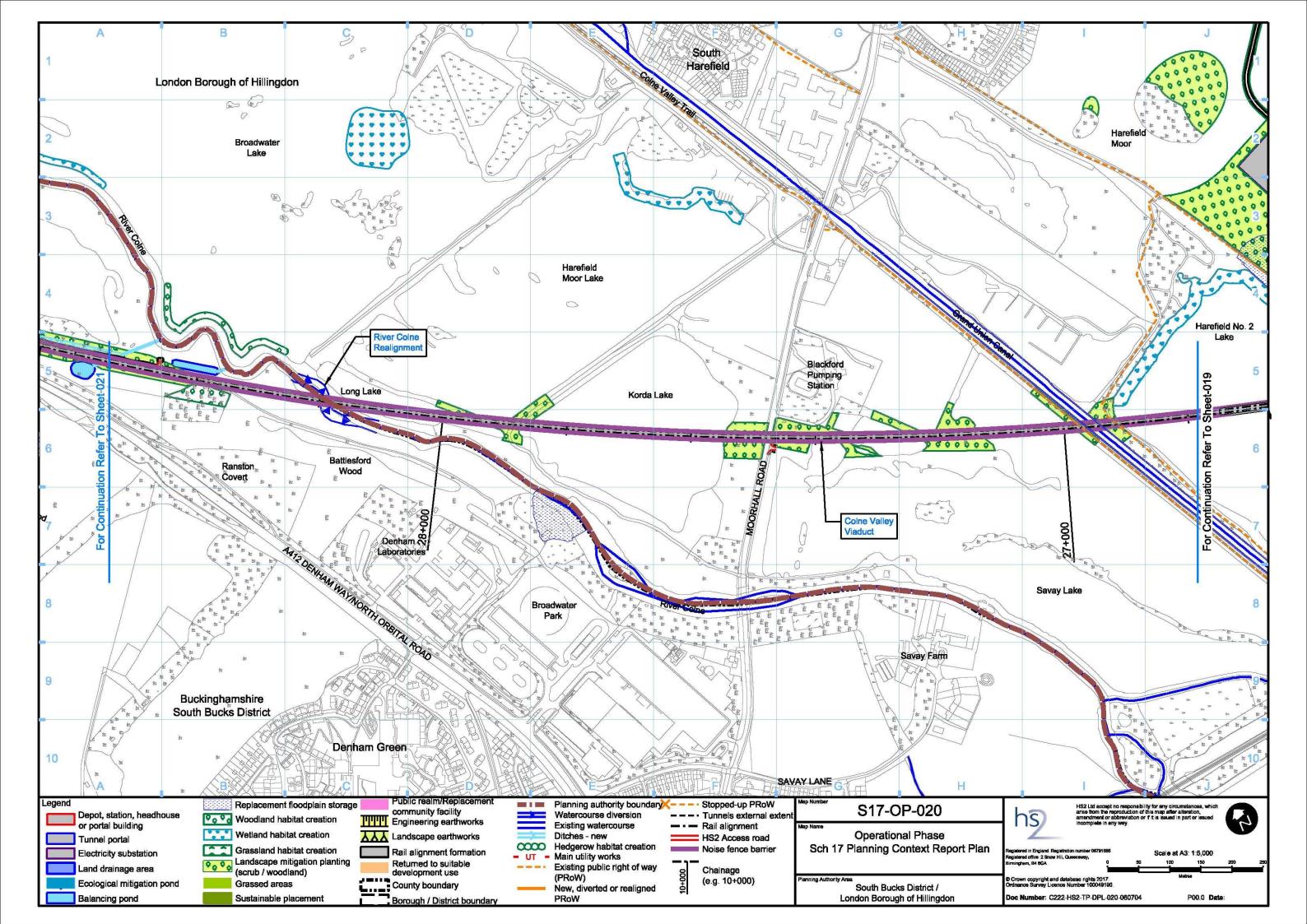


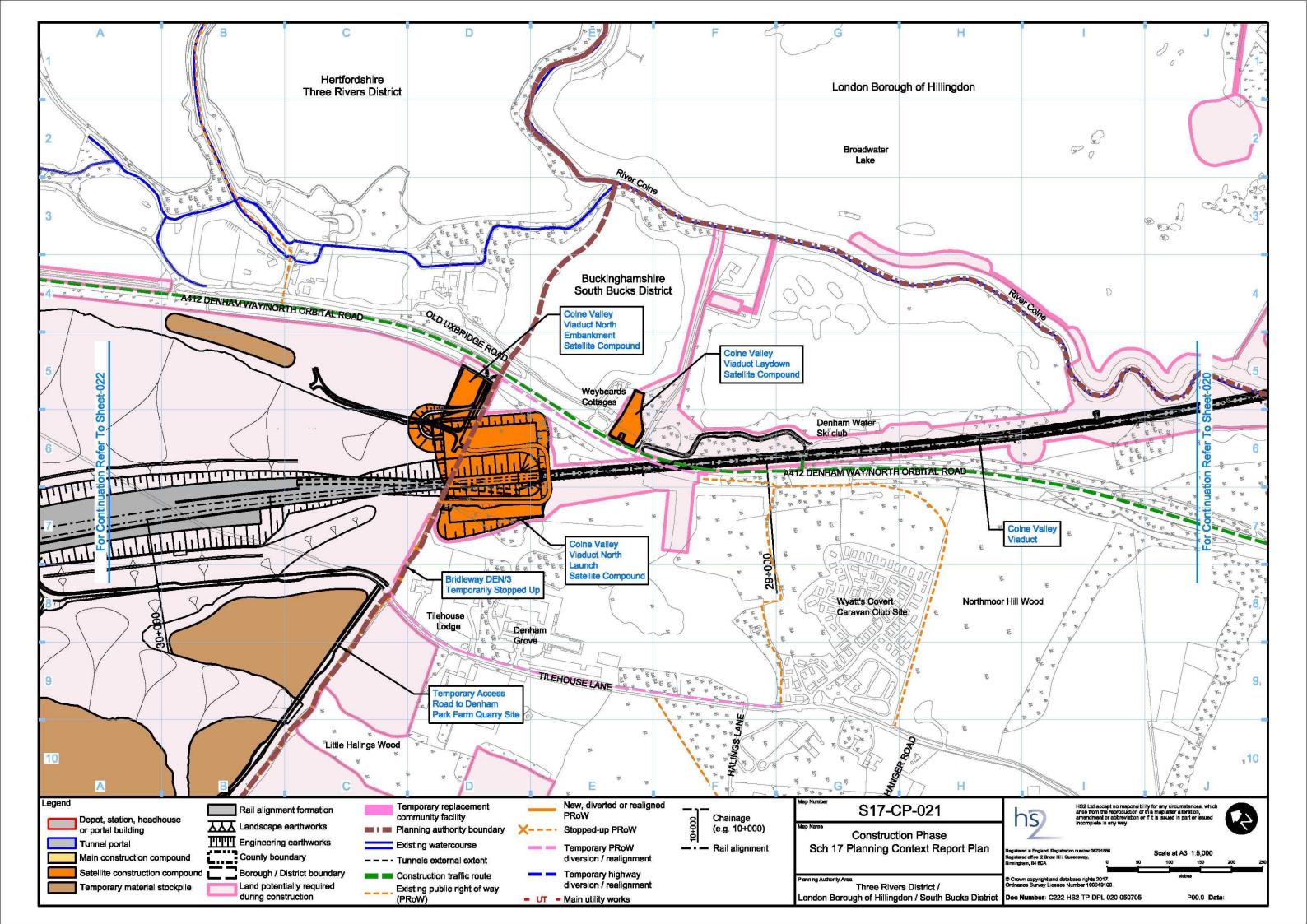


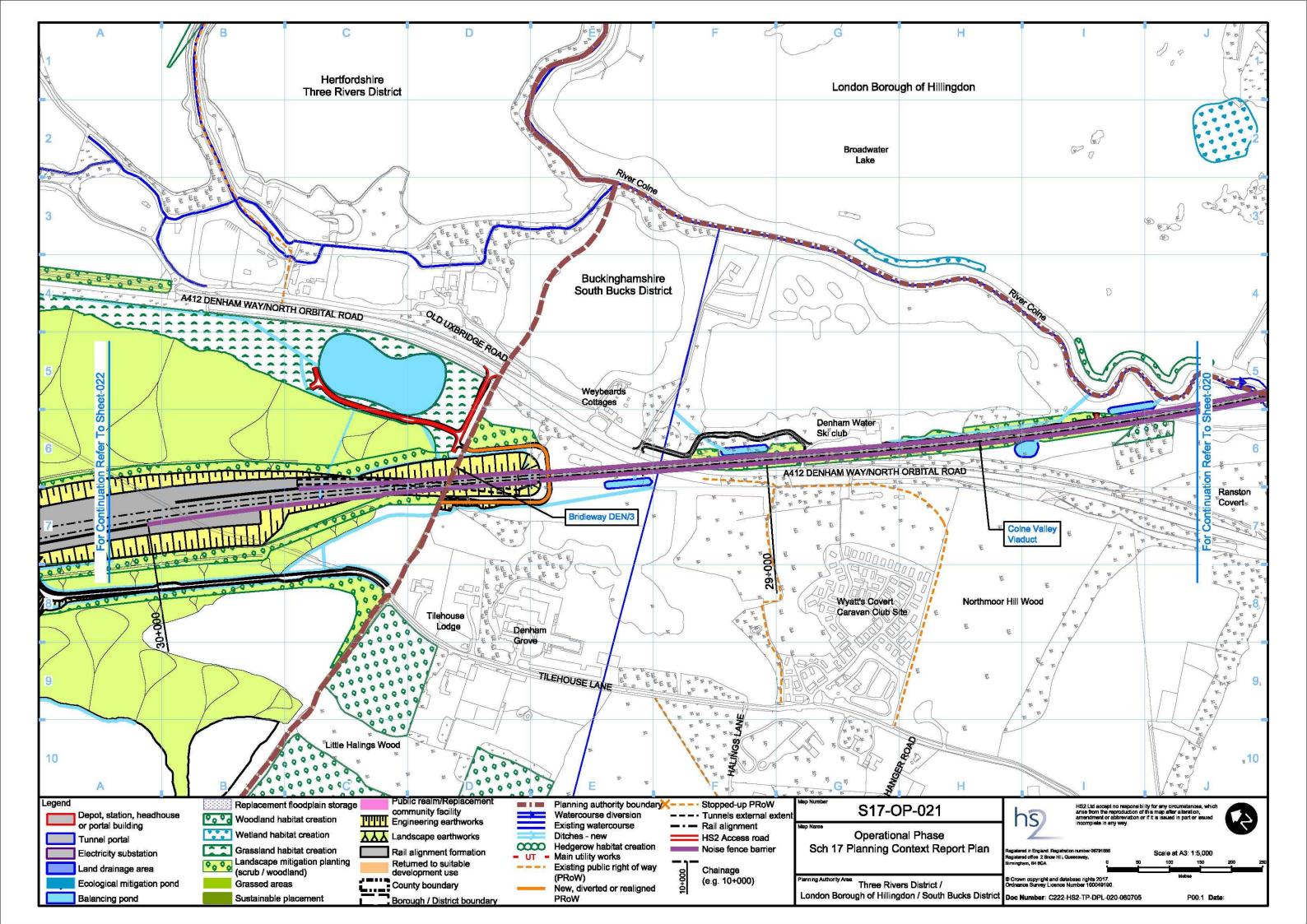


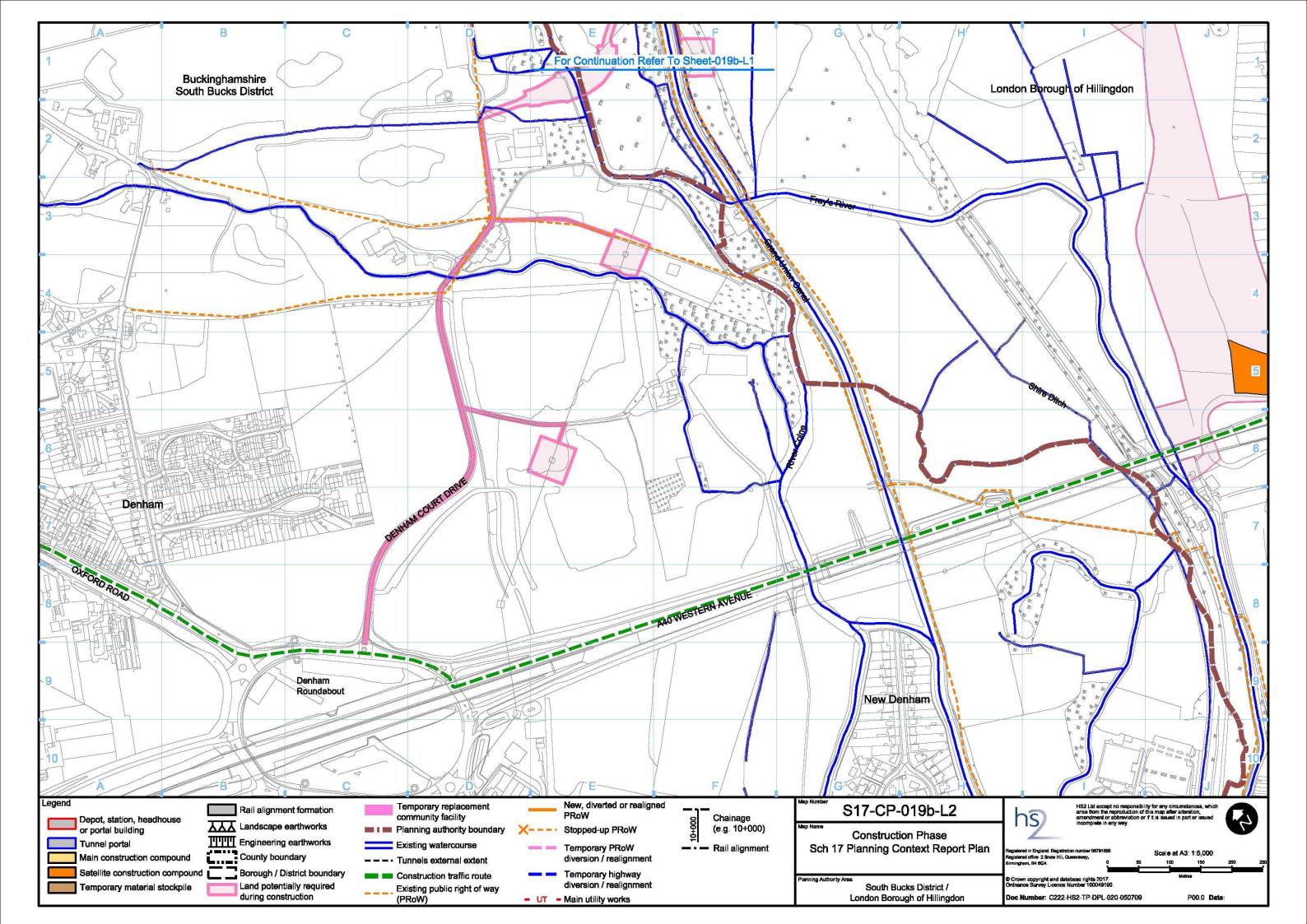


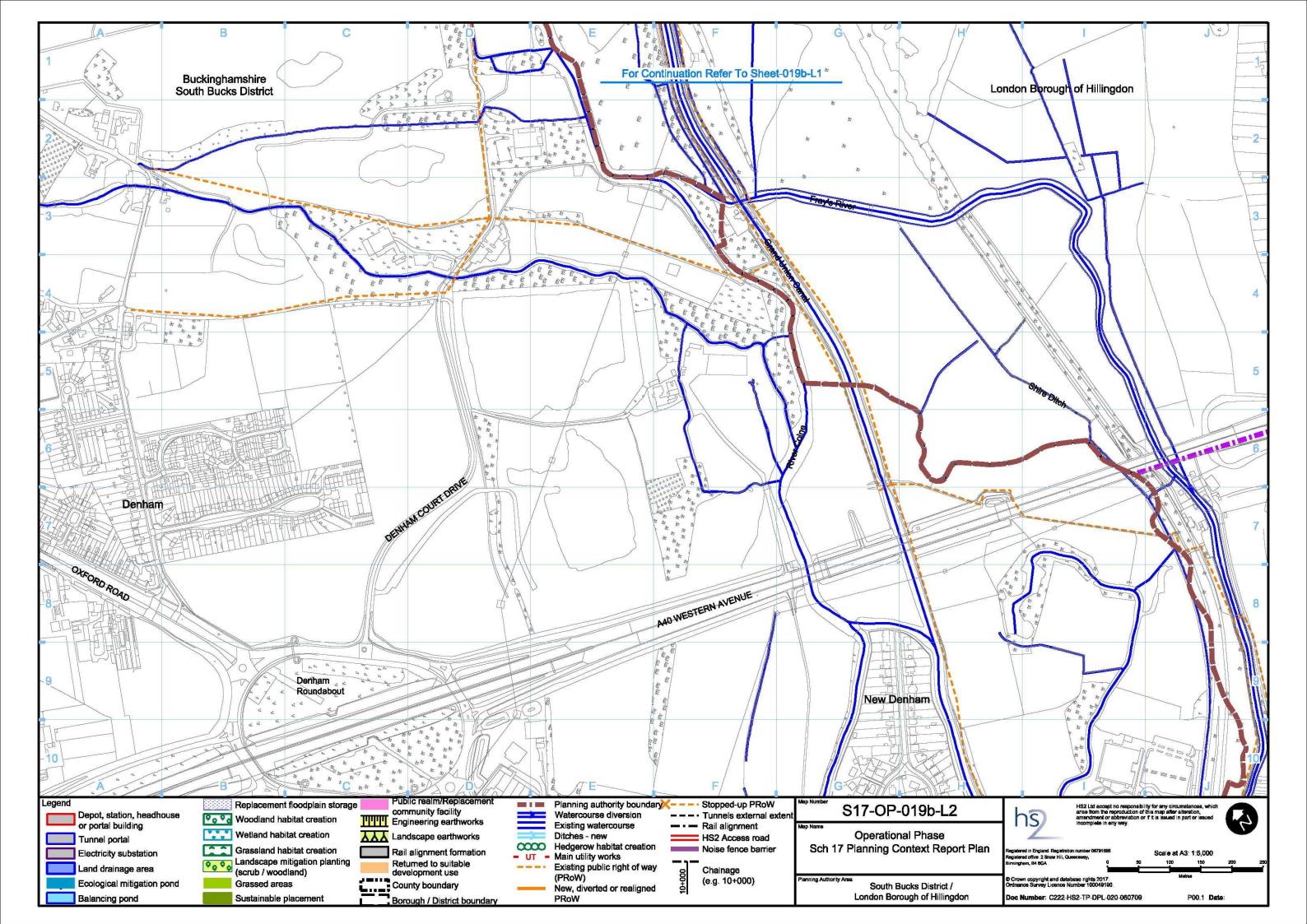


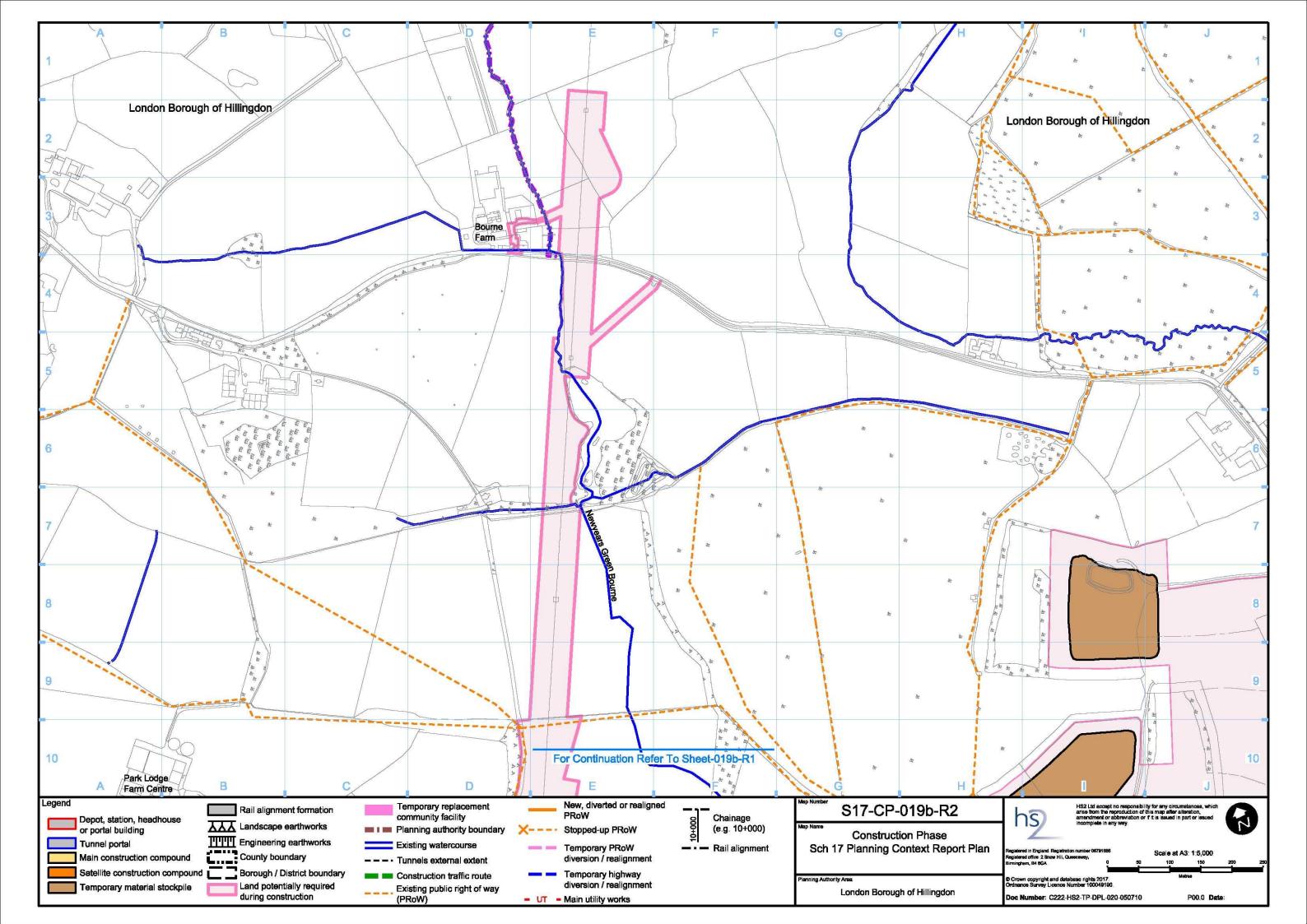


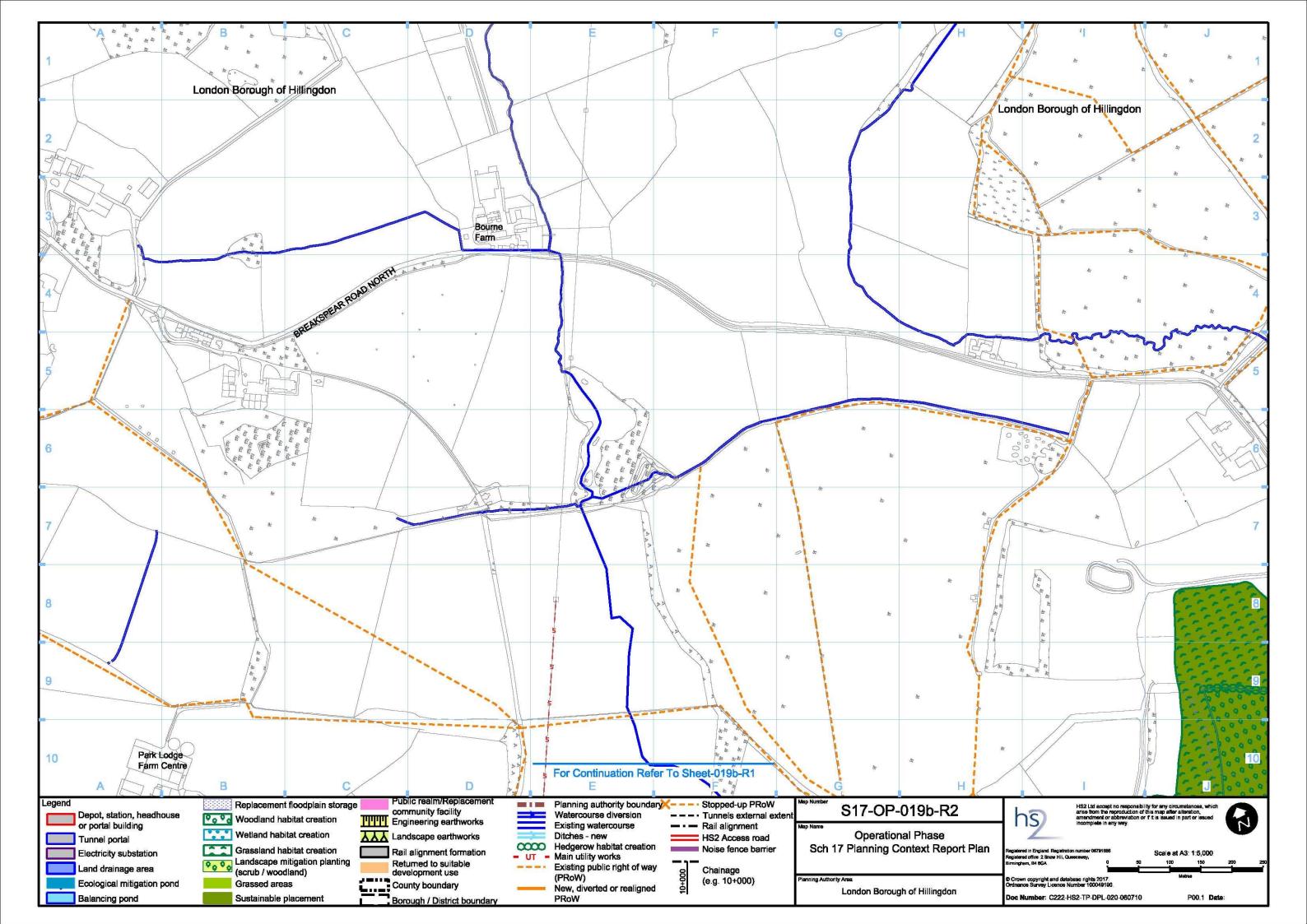


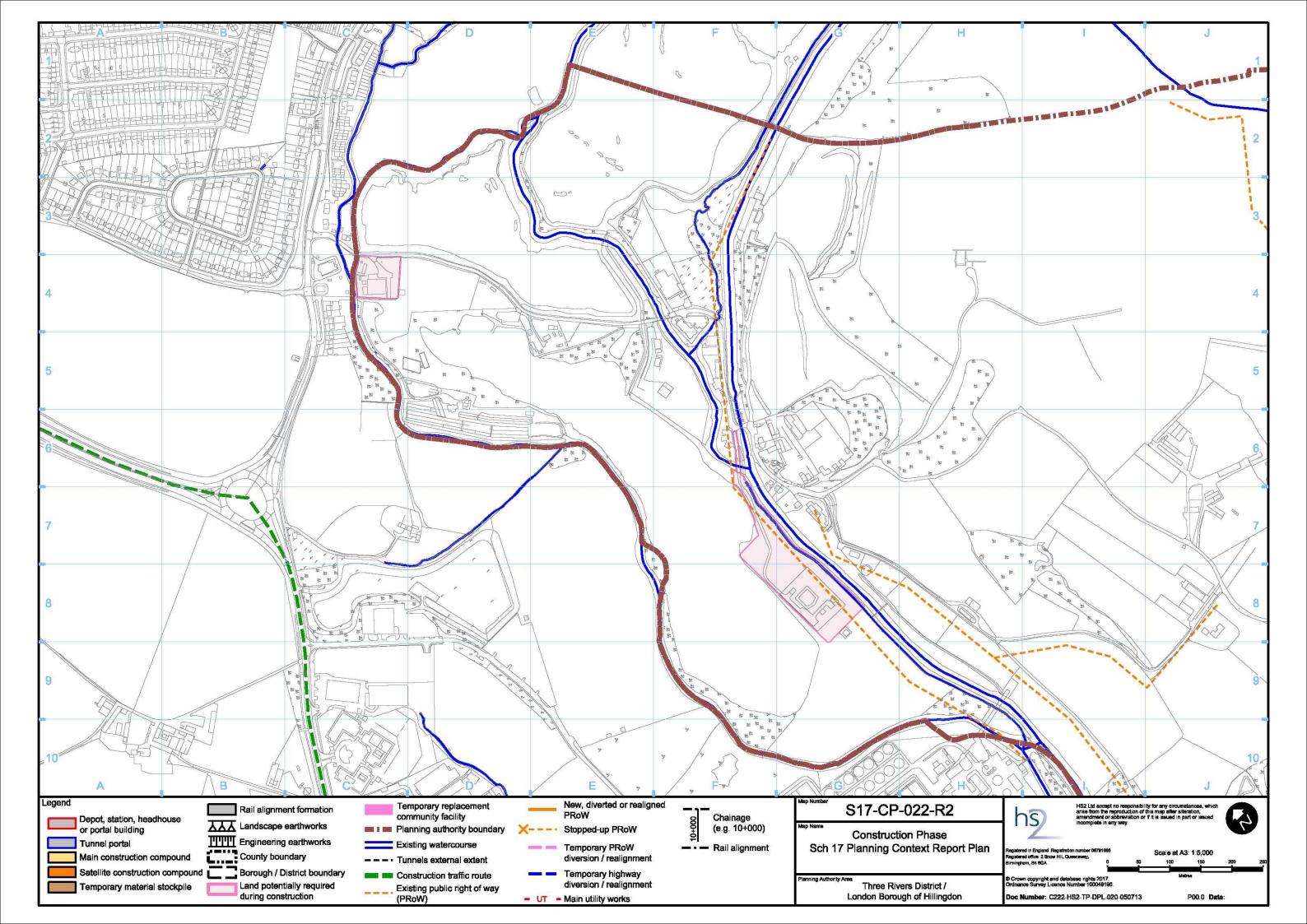












## Annex 1 Signposting

Document	Link
High Speed Rail (London – West Midlands) Act 2017	http://www.legislation.gov.uk/ukpga/2017/7/contents/enacted
Schedule 17 Fee Regulations	http://www.legislation.gov.uk/uksi/2017/223/contents/made
Schedule 17 Appeal Regulations	http://www.legislation.gov.uk/uksi/2017/227/contents/made
High Speed Rail (London – West Midlands) Environmental Minimum Requirements	https://www.gov.uk/government/publications/environmental-minimum-requirements
	https://www.gov.uk/government/publications/high-speed-rail-london-west-midlands-bill-register-of-undertakings-and-assurances
Schedule 17 Statutory Guidance	https://www.gov.uk/government/publications/high-speed-rail-london-to-west-midlands-act-2017-schedule-17-statutory-guidance
Phase One Information Papers	https://www.gov.uk/government/collections/high-speed-rail-london-west-midlands-bill#information-papers
Phase One – Planning Forum Notes	https://www.gov.uk/government/publications/planning-forum-notes
Phase One Environmental Statement	https://www.gov.uk/government/collections/hs2-phase-one-environmental-statement-documents
	https://www.gov.uk/government/collections/additional-provision-september-2014
	https://www.gov.uk/government/collections/supplementary-environmental-statement-and-additional-provision-2-july-2015
	https://www.gov.uk/government/collections/supplementary-environmental-statement-2-and-additional-provision-3-september-2015
	https://www.gov.uk/government/collections/supplementary-environmental-statement-3-and-additional-provision-4-october-2015
	https://www.gov.uk/government/collections/supplementary-environmental-statement-4-and-additional-provision-5-december-2015