#### **EXHIBIT LIST**

Reference No: HOL/10024

Petitioner: Buckinghamshire Standard Pack

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#### **HS2** in the Chilterns AONB

#### **AONB** Designation

- AONB designated in 1965 for its natural beauty, namely its distinctive landscapes of steep chalk scarp slopes and clay vales, and for containing the country's most extensive areas of beech woodland
- Public authorities should have regard to the purpose of conserving and enhancing the natural beauty of the AONB
- National planning policy seeks to restrict major development in the AONB unless there are exceptional circumstances and there is a demonstrable need in the public interest. The cost and scope for developing elsewhere is a relevant consideration
- The special qualities of the AONB are described in the statutory management plan



#### Alignment through the Chilterns AONB

The Chiltern tunnel will provide a 15.8km twin-bored tunnel commencing south of the M25 between junctions 16 and 17 and east of Chalfont St Peter, and emerging north-west of South Heath. Some 13.6km of the tunnel lies within the Chilterns AONB.

There will be a total of five ventilation shafts along the length of the Chiltern tunnel, at Chalfont St Peter, Chalfont St Giles, Amersham, between Little Missenden and Hyde Heath, and at South Heath.

Since publication of the hybrid Bill in November 2013, the Chiltern tunnel has been extended by 2.6km from Mantles Wood to north-west of Frith Hill at South Heath. This has provided an overall net reduction in land required, both during construction and operation, reducing construction impacts and construction traffic on local roads. The tunnel extension also avoided the removal of approximately 9ha of ancient woodland from Mantle's Wood, Farthings Wood and Sibley's Coppice.



#### **Route summary - Overview**

#### Within the AONB:

- 65% of the route is now in tunnel
- 26% of the route is within cuttings (or false cuttings\*)
- 5% of the route is at grade or on embankment
- 4% of the route is on viaduct

\* 'False cuttings' comprise screening earthworks adjacent to the railway.



# The Need for HS2 in the AONB (slide 1 of 2)

- A direct route between London and Birmingham would need to cross the AONB.
   All alternatives considered before the Bill was submitted had alignments through the AONB
- Three strategic alternatives to a route through the AONB were considered, two of which were rejected on environmental and cost grounds and additional journey times. Further evidence is provided on the following slide
- The impact of the original proposed scheme on the special qualities of the AONB has been assessed and reported in Volume 3 of the main ES
- Existing transport development in the AONB includes Chiltern mainline,
   Metropolitan line, and several major roads



## The Need for HS2 in the AONB (slide 2 of 2)

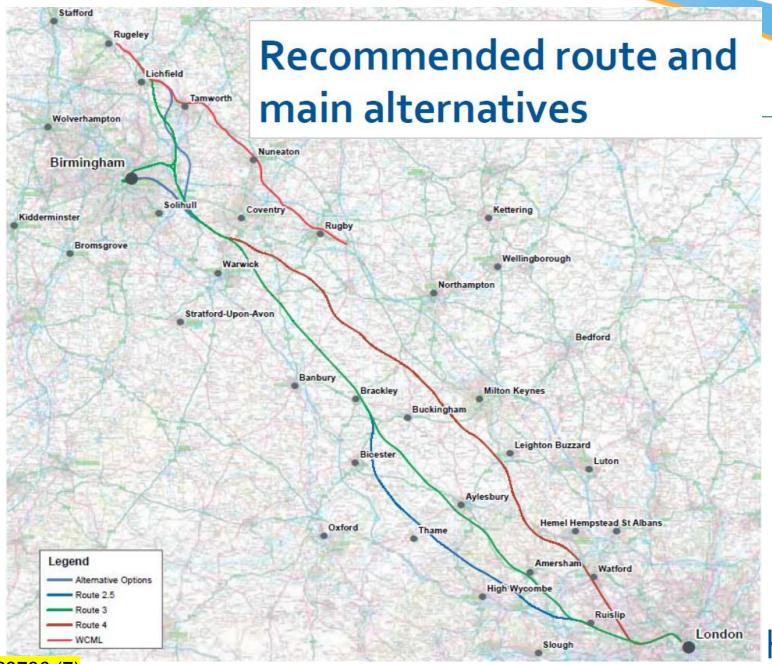
As an outcome of the appraisal process, a recommended route and two main alternatives were submitted to Government in December 2009 and published in March 2010

The recommended route (Route 3) crossed the Chilterns AONB predominantly in tunnel and then largely in cutting along the A413 and Chiltern Railway corridor, before broadly following the disused alignment of the former Great Central Main Line towards the West Midlands.

An alternative route (Route 2.5) crossed the Chilterns AONB in two tunnels separated by a 720m viaduct to span the lower reaches of the Hughenden Valley, before striking north to rejoin the recommended Route 3 and the former Great Central corridor south of Brackley. This option passed through the Chilterns at a narrower point, but would create an entirely new transport corridor through the Chilterns Area of Outstanding Natural Beauty (AONB) and would be very intrusive in the Hughenden Valley. It would also cost more and lengthen journey times, reducing overall benefits.

A second alternative (Route 4), followed the West Coast Main Line corridor and crossed the AONB at a much narrower point and has fewer direct impacts. Conversely, it had the potential for substantially more indirect impacts on the AONB's setting owing to its longer passage within the nominal 3km visual envelope and would also require a substantially longer connection to Heathrow, parts of which would need to traverse the Chiltern Hills. Route 4 would also result in greater adverse impacts for biodiversity and community integrity for the sections of route outside the AONB. In addition, it would cost significantly more and would result in longer journey times.







## Impact of the Proposed Scheme on AONB Special Qualities

<u>Steep chalk escarpment</u>: the surface section of the Bill scheme lies in an arterial valley transecting the escarpment between Coombe Hill and Boddington Hill. Impacts on the escarpment are limited to impact on its setting which will be mitigated through landscaping.

<u>Flower-rich downland</u>: no loss of flower-rich downland. Effects limited to a temporary effect on the setting of such downland during construction.

<u>Woodlands</u>: 21% of the AONB is wooded. The Scheme will result in the loss of existing ancient woodland, amounting to 0.006% of the ancient woodland in the AONB. New woodland will be planted as part of environmental mitigation.

<u>Commons, heaths and greens</u>: no loss of commons, heaths or greens as a result of the Bill scheme. Settings of these features are largely unaffected.



## Impact of the Proposed Scheme on AONB Special Qualities

<u>Historic settlement and environment</u>: Some effect on historic features through loss of part of Grim's Ditch, removal of parts of sunken lanes at Leather Lane and Bowood Lane and demolition of properties. The setting of Amersham Old Town and Shardeloes registered park/garden will be temporarily affected during construction, and the setting of Wendover will be permanently affected.

<u>Network of PRoW and ancient routes:</u> Diverted PRoWs are either reinstated on existing alignment or with short diversions. The Scheme will be seen from a number of PRoW including part of the Ridgeway National trial and the Icknield Way Path.

<u>Chalk streams</u>: temporary impact on enjoyment of chalk streams around Little Missenden vent shaft during construction, but no permanent effects on this landscape feature



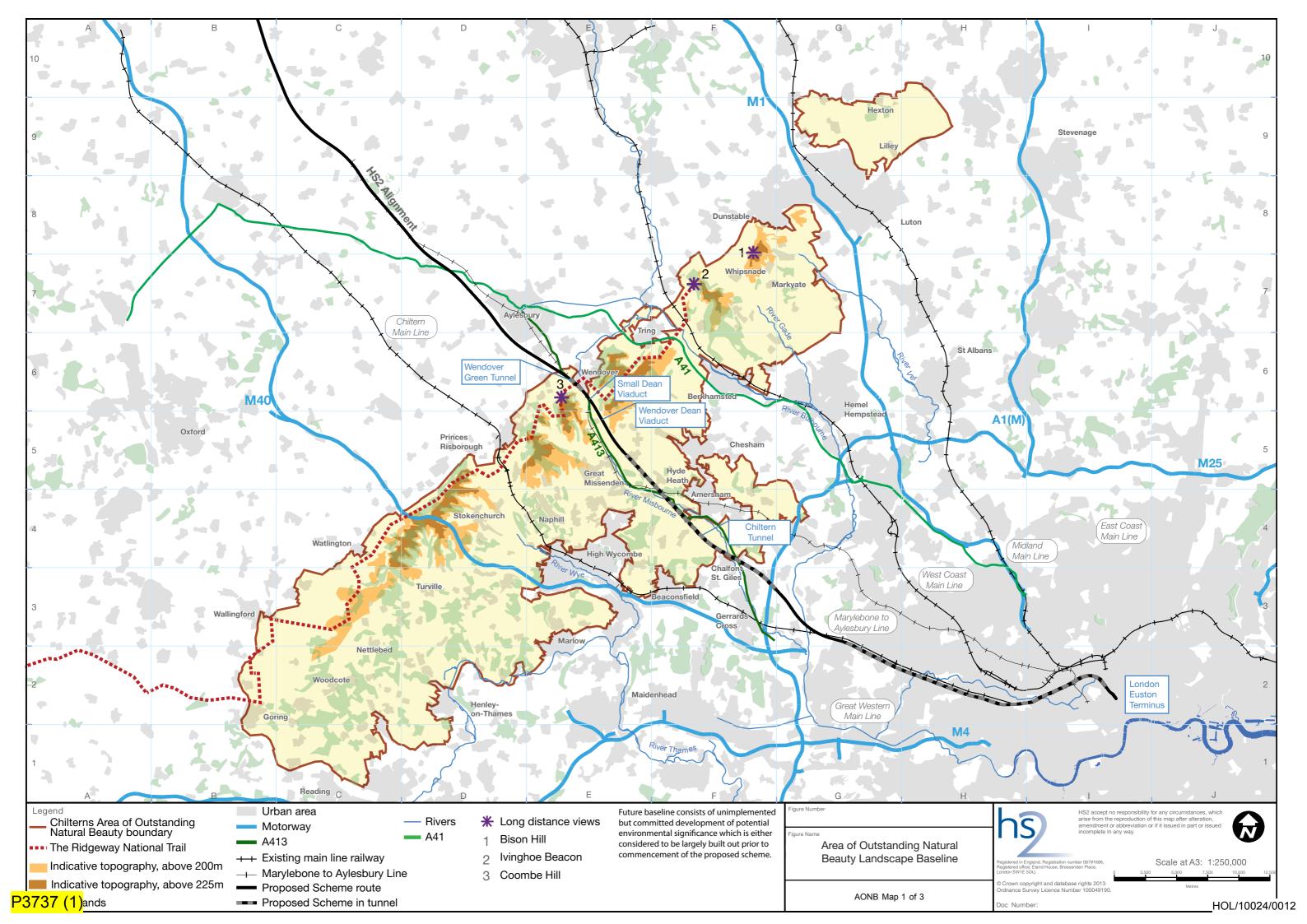
# Impact of the Proposed Scheme on AONB Special Qualities

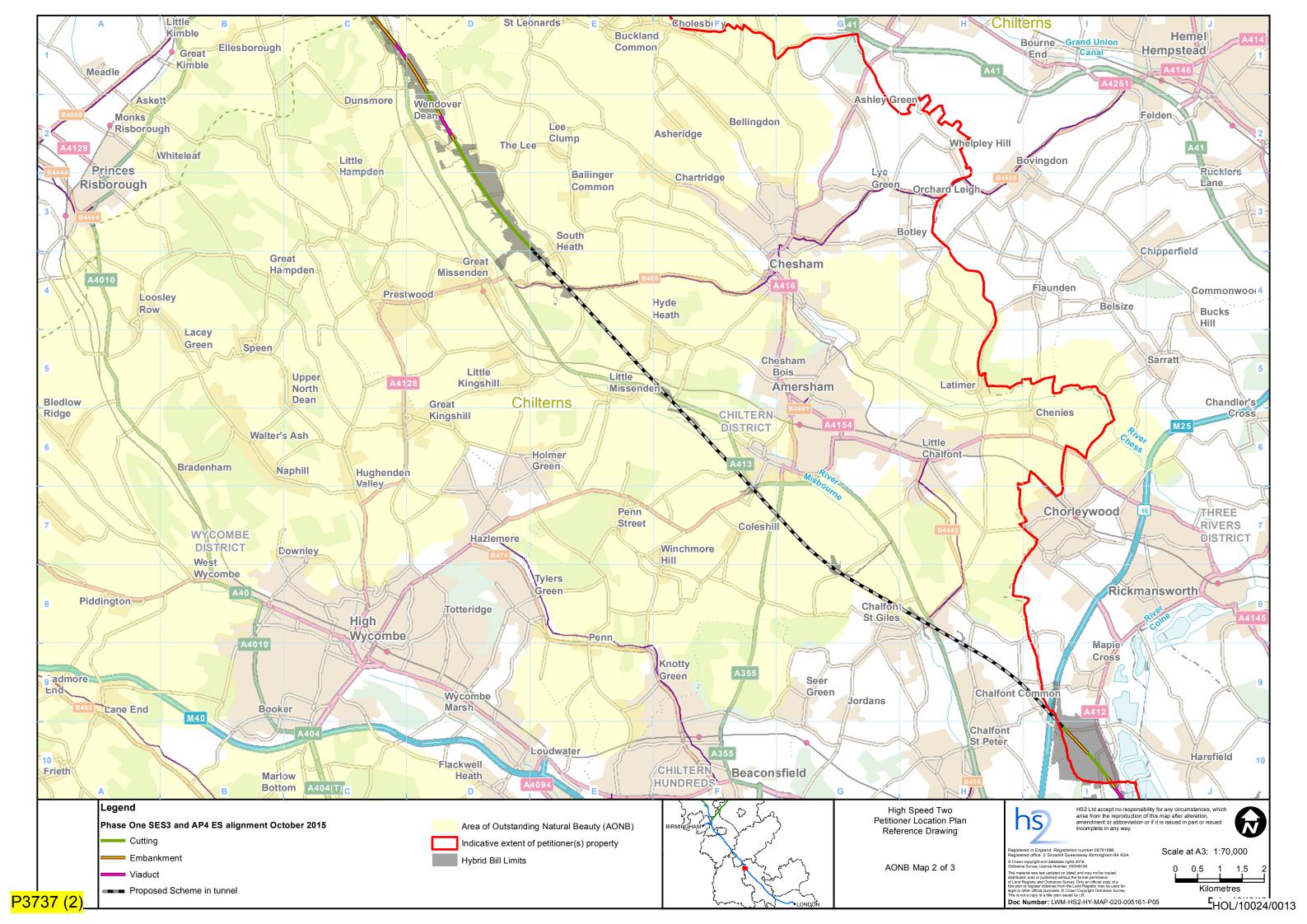
<u>Tranquil valleys</u>: the surface section of the Bill scheme is largely within a valley with existing development which is less tranquil than elsewhere in the AONB, as recognised by CPRE. However, the construction and operation of the Bill scheme will affect smaller secluded valleys at Wendover Dean and Upper Bottom House Farm. Construction of the Chalfont St Giles vent shaft will also affect the setting of a small tranquil valley.

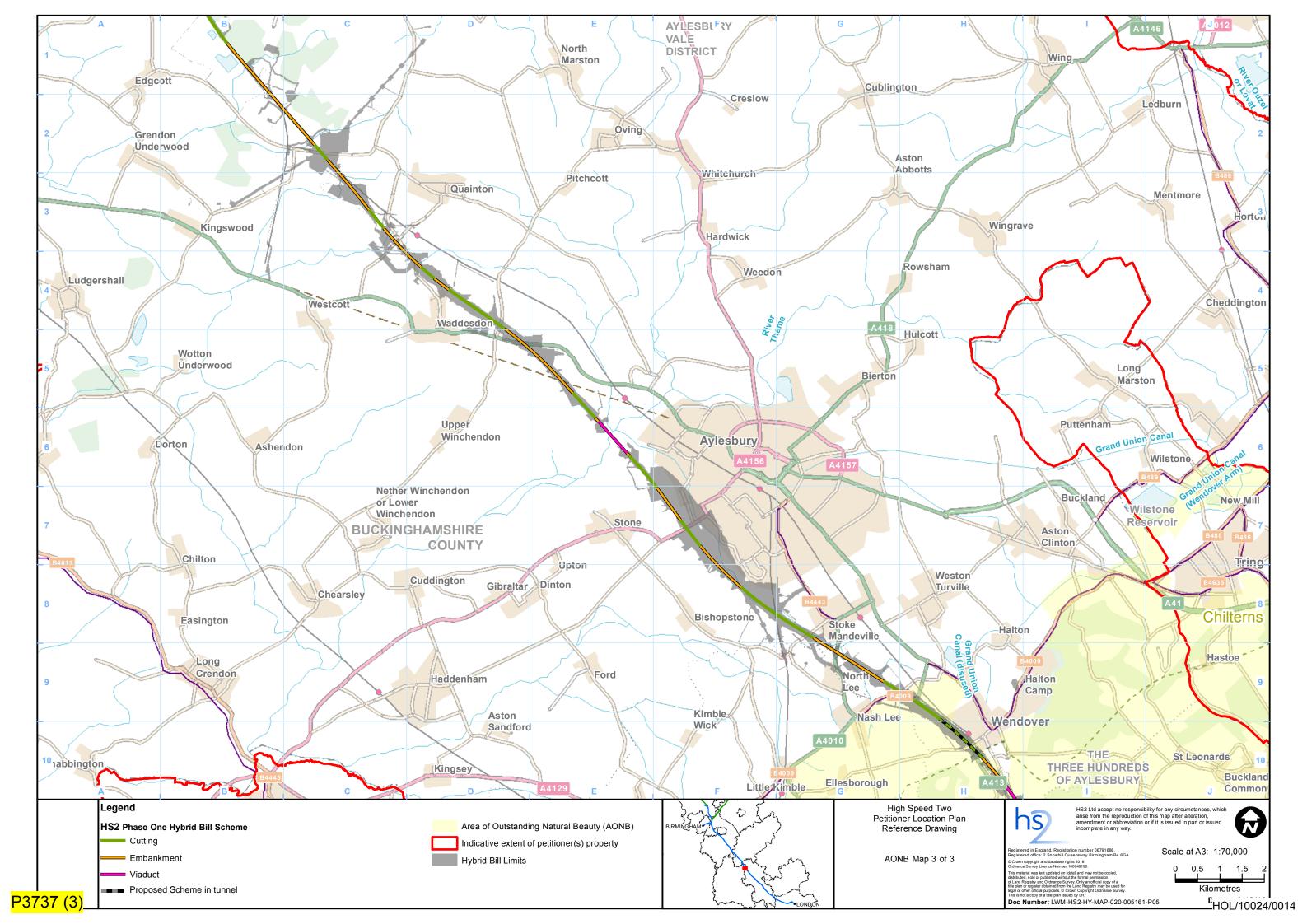
<u>Farmland</u>: farmland covers 48,000ha of the AONB. Approximately 315ha of agricultural land would be required during construction. Approximately 170ha will be restored to agricultural use after construction. There will be a significant impact on a number of agricultural holdings.

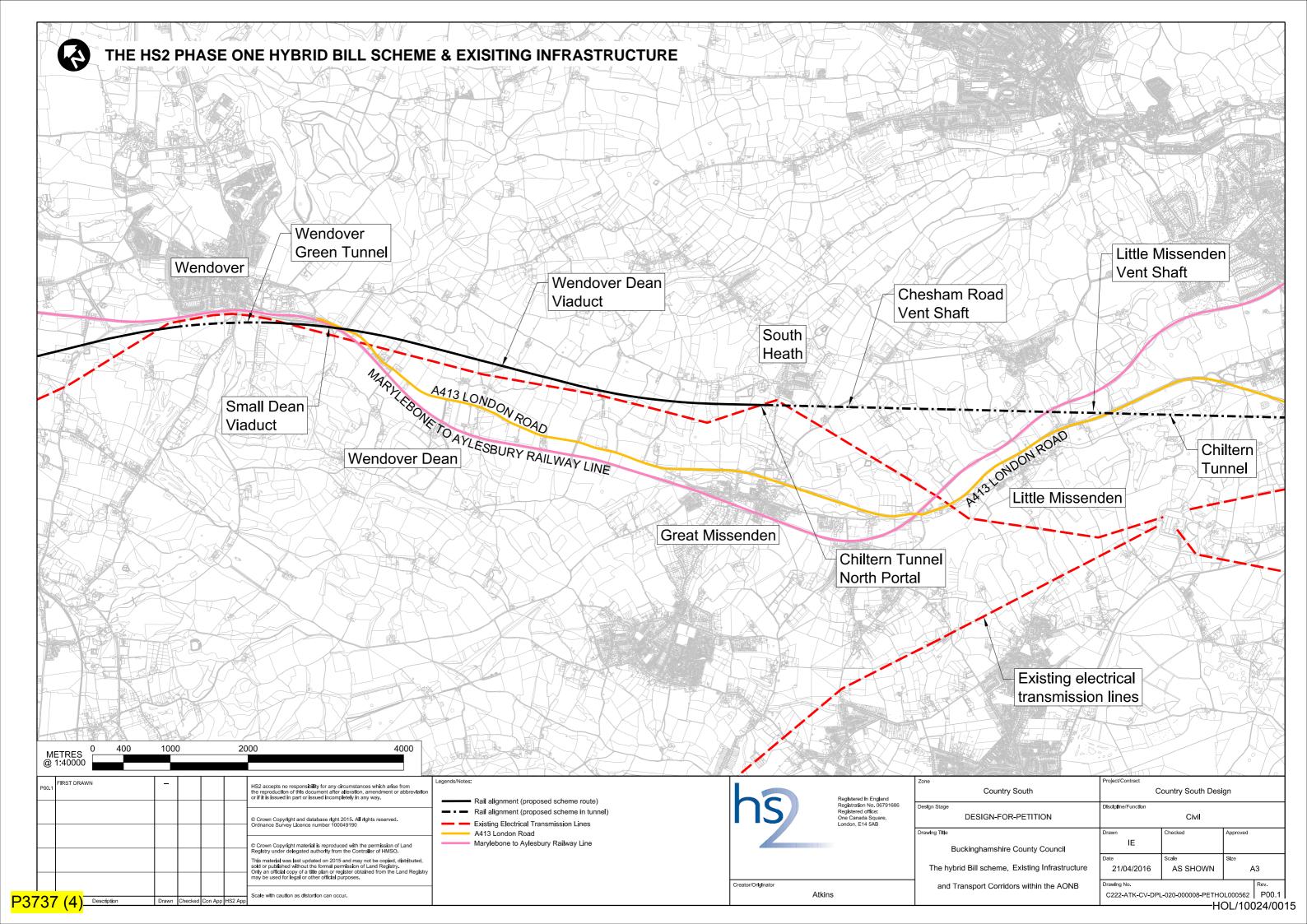
<u>Tranquillity</u>: The surface section of the route is predominantly in a less tranquil part of the AONB. There will be localised impacts on areas of high tranquillity in secluded valleys. Noise mitigation measures and landscaping will mitigate impacts during the operational phase.









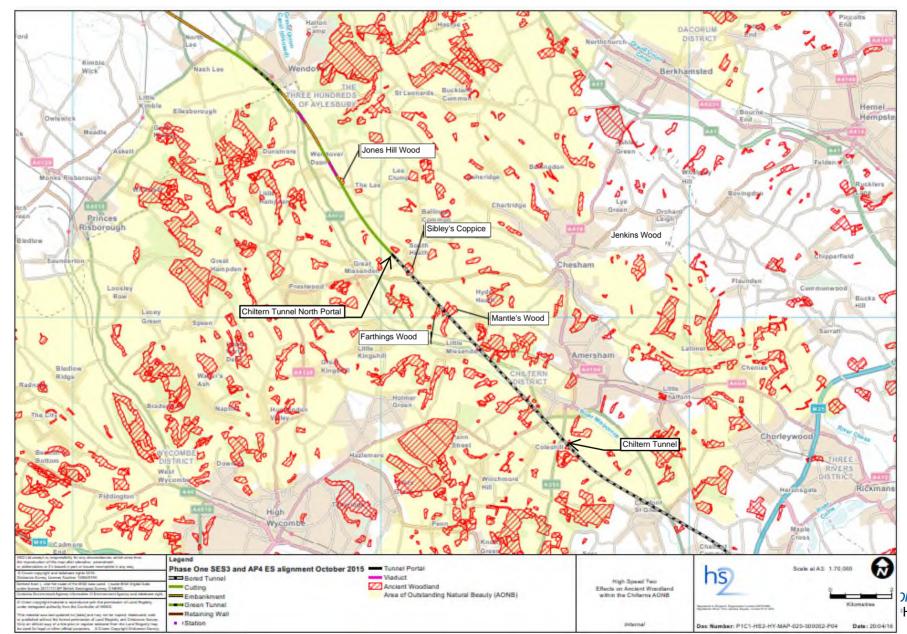


### **Chilterns AONB Review Group**

- Established by the Promoter in response to the request from local authorities and its representatives.
- HS2 Ltd. to provide funding up to £3m.
- Members include: Buckinghamshire County Council, The Chilterns Conservation Board, Chiltern District Council, Wycombe District Council, Aylesbury Vale District Council, Natural England, and HS<sub>2</sub> Ltd.
- Identifies measures for environmental enhancement in the Chilterns, in addition to those already proposed in the Environmental Statement for the proposed scheme, including: woodland planting, balancing ponds, design of footpath diversions, ecological and landscape connectivity, viaduct design and vent shaft design.
- Meetings were held on: 22th April 2016, 27th May 2016, 15th July 2016 and 9th September 2016.
- Meeting minutes are available at <a href="https://www.gov.uk/government/publications/hs2-chiltern-aonb-review-group-meeting-minutes">https://www.gov.uk/government/publications/hs2-chiltern-aonb-review-group-meeting-minutes</a>



### Ancient Woodland along the line of route within the AONB

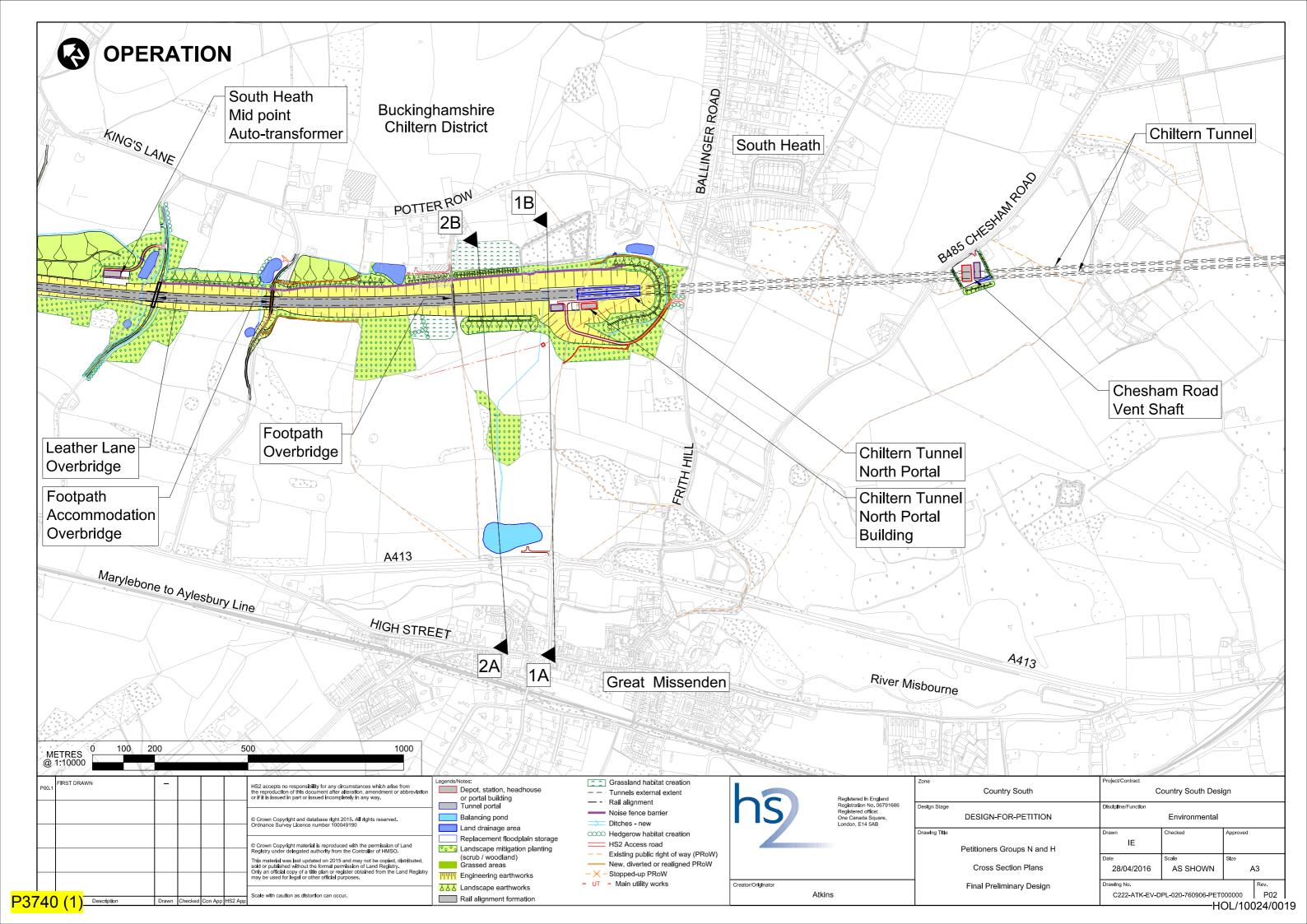


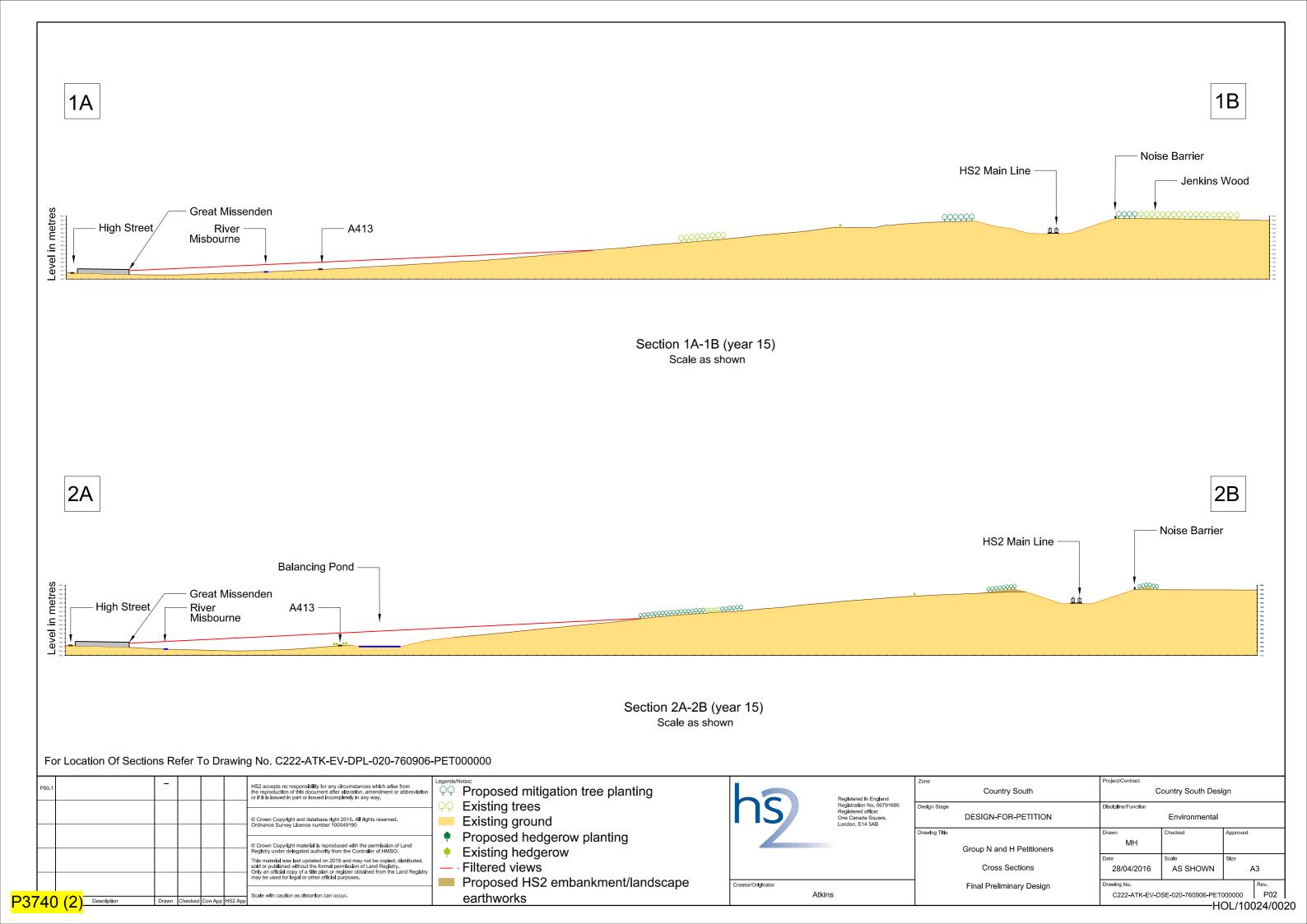
# Effects on Ancient Woodland within the Chilterns AONB

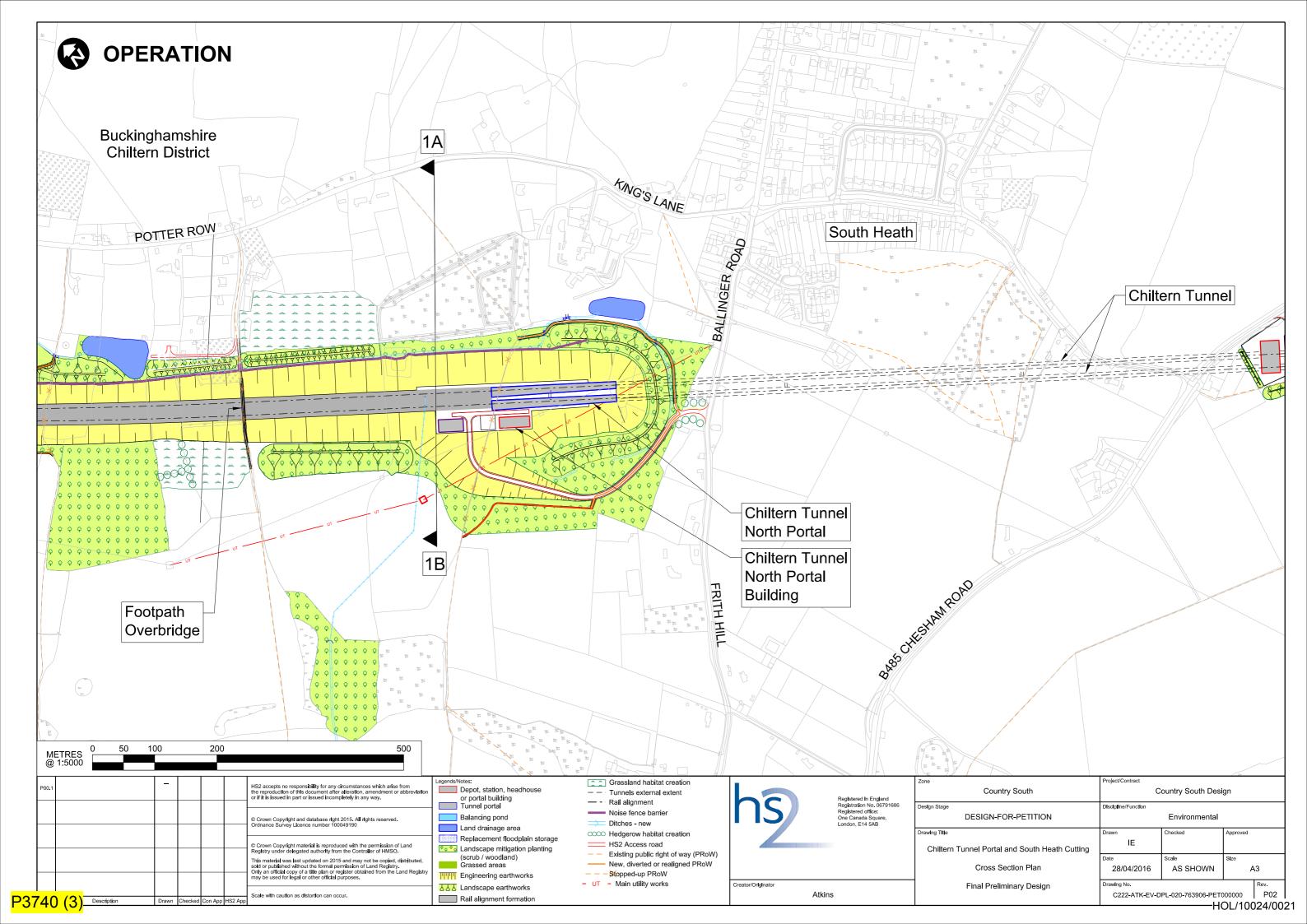
Approximately 11,000 ha of the Chilterns AONB is designated ancient woodland. The current Bill scheme results in the loss of 0.7 ha of ancient woodland at Jones' Hill Wood, which is 0.006% of the total area of ancient woodland in the AONB.

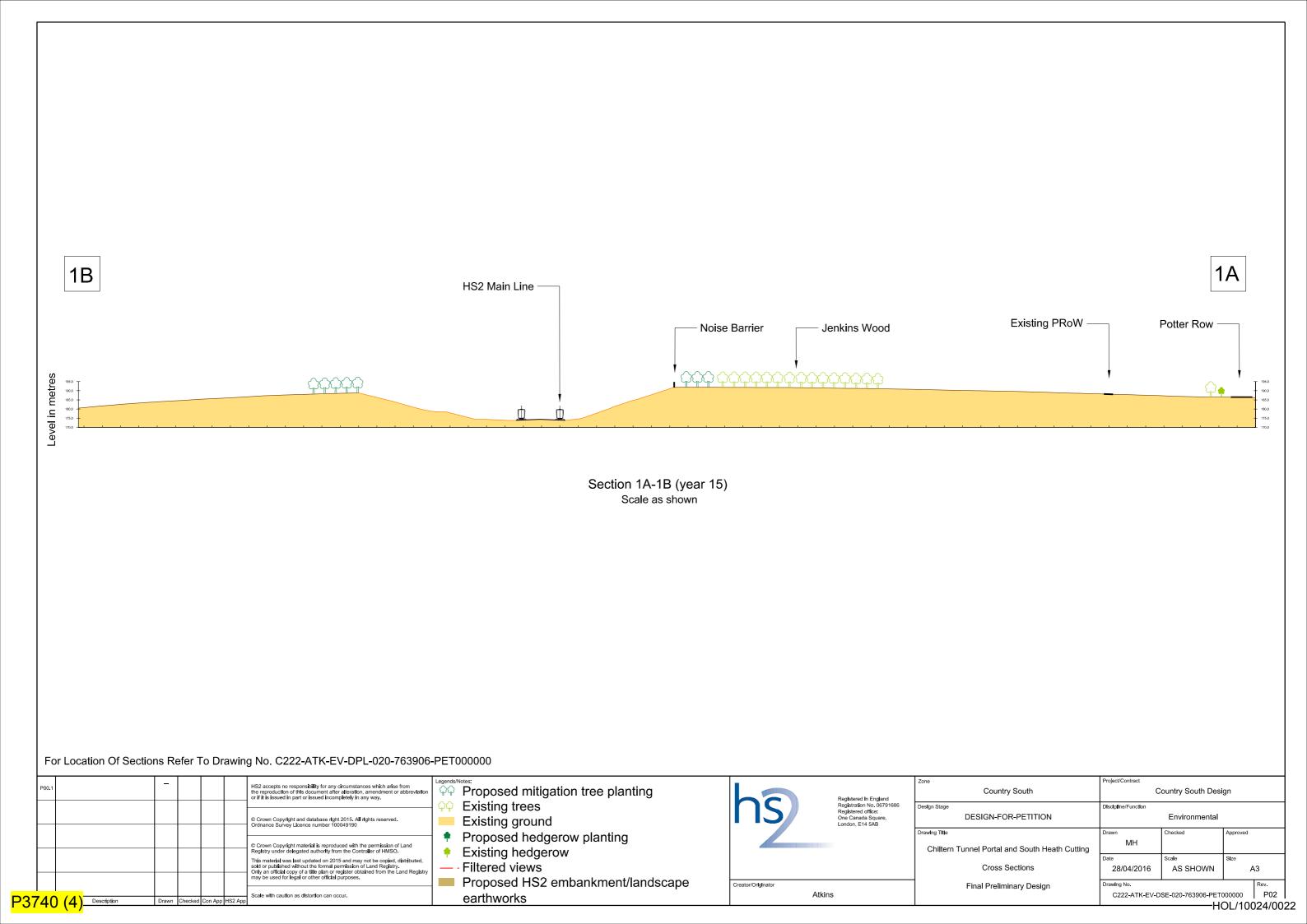
Ancient woodland is irreplaceable. However, the loss of o.7ha of ancient woodland from Jones' Hill Wood will be compensated through a range of measures. Ancient woodland soil with its associated seed bank will be salvaged and translocated to the ecological compensation and planted with 5ha of broad-leaved trees. This will increase the extent of woodland and its connectivity to other ancient woodlands parcels.

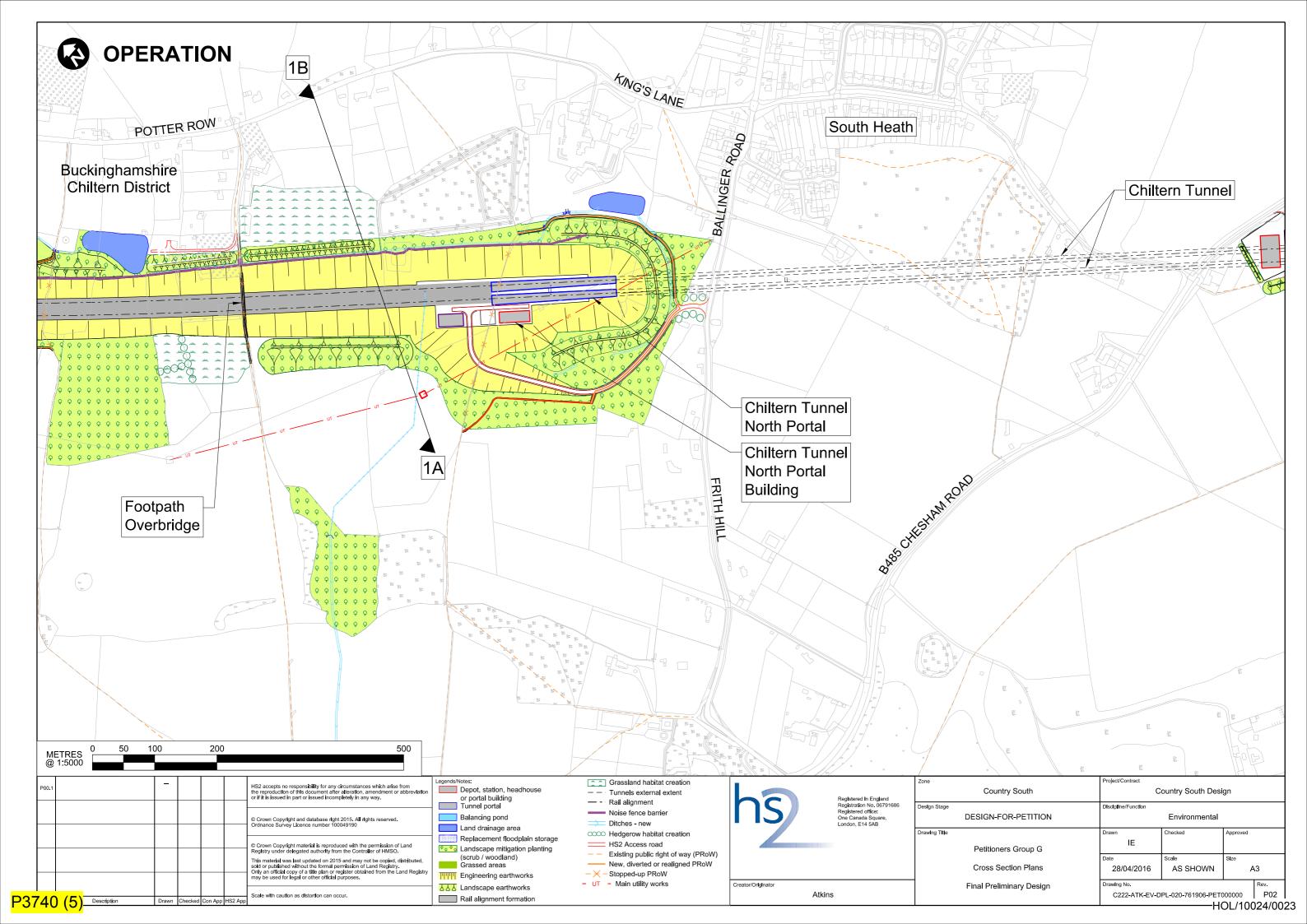


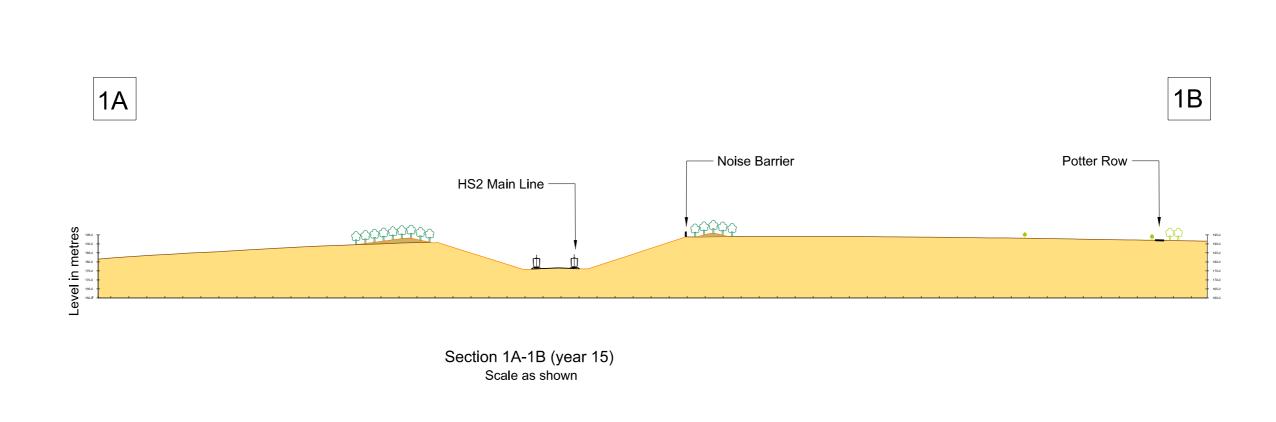












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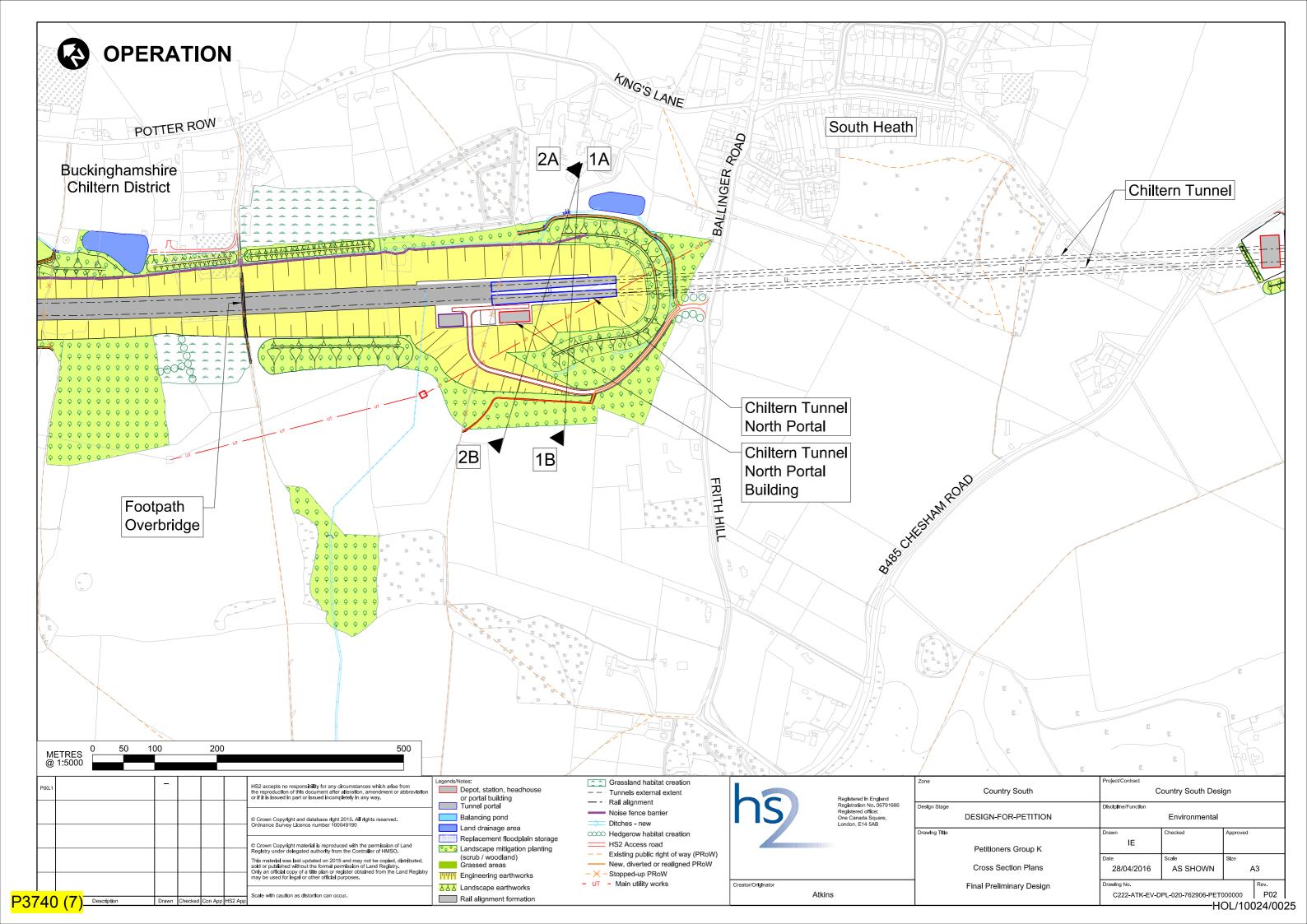
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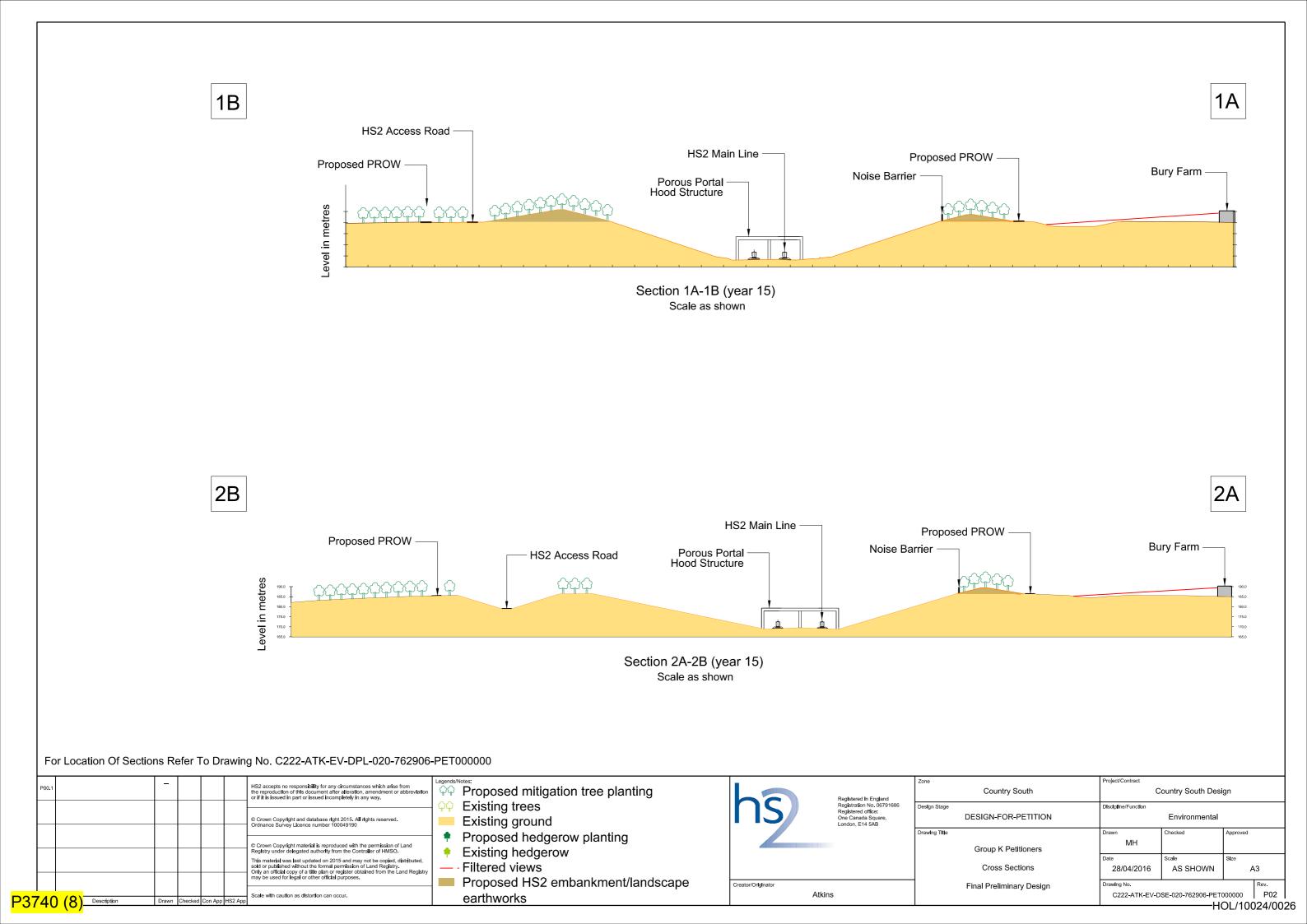
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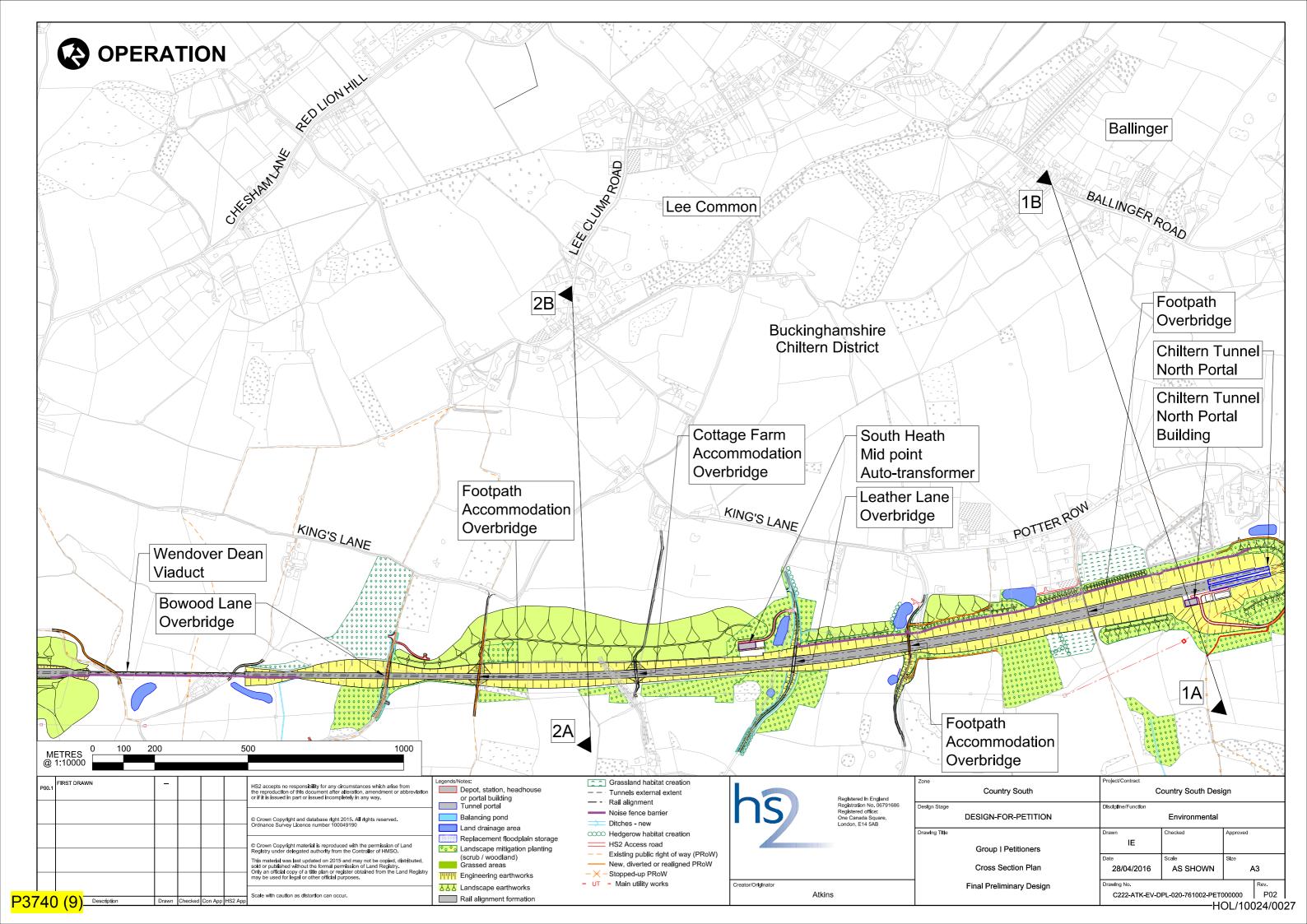
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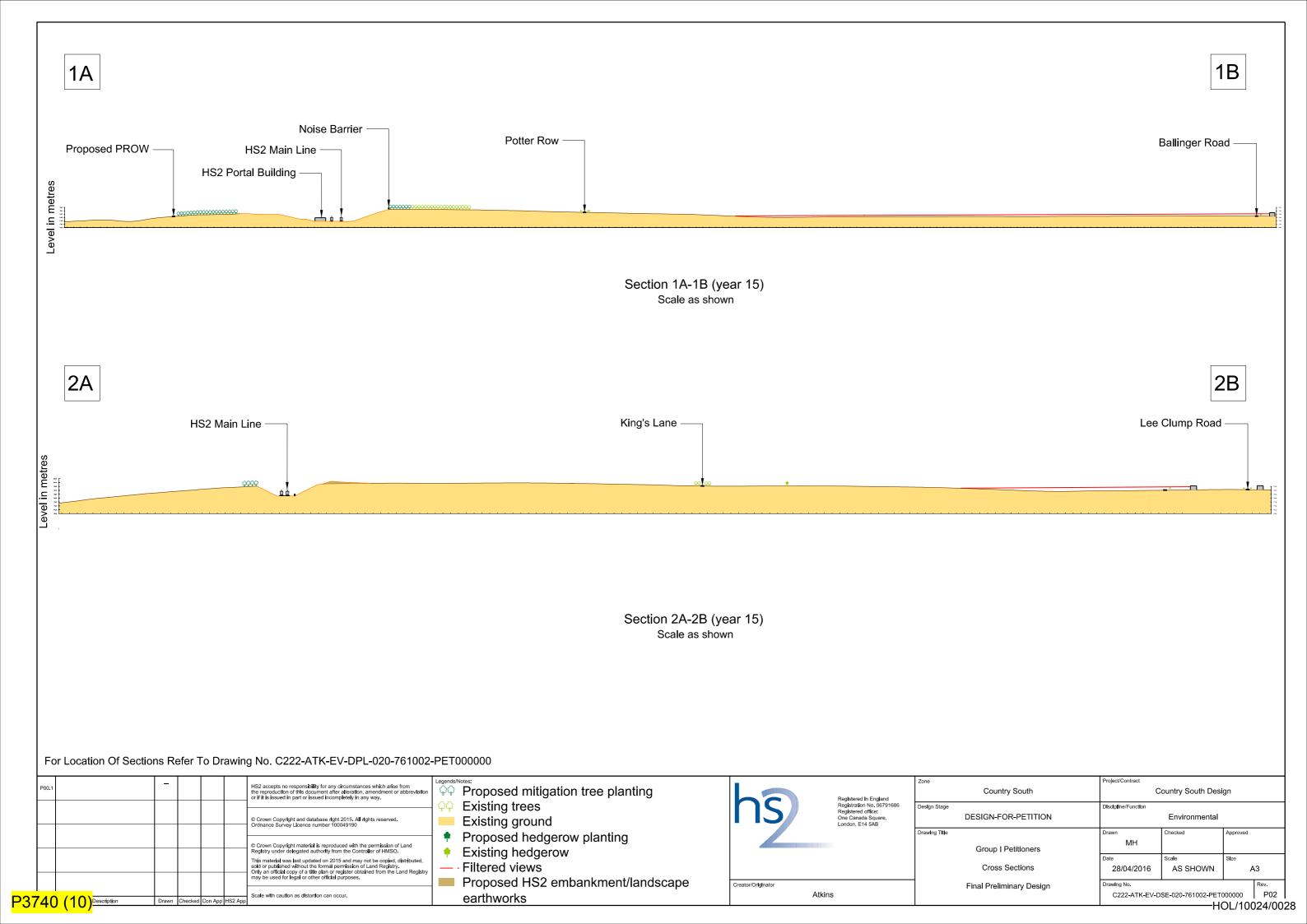
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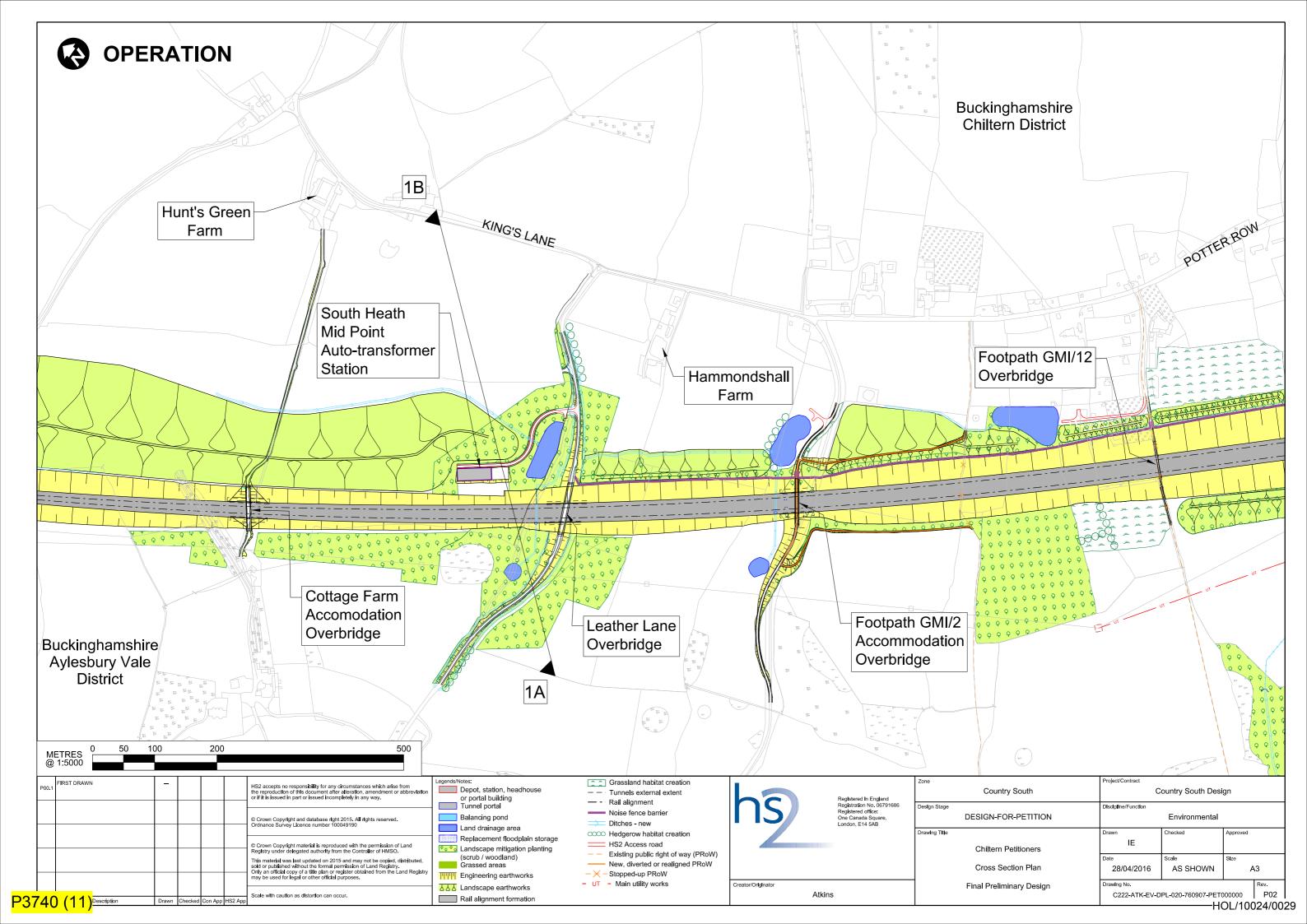
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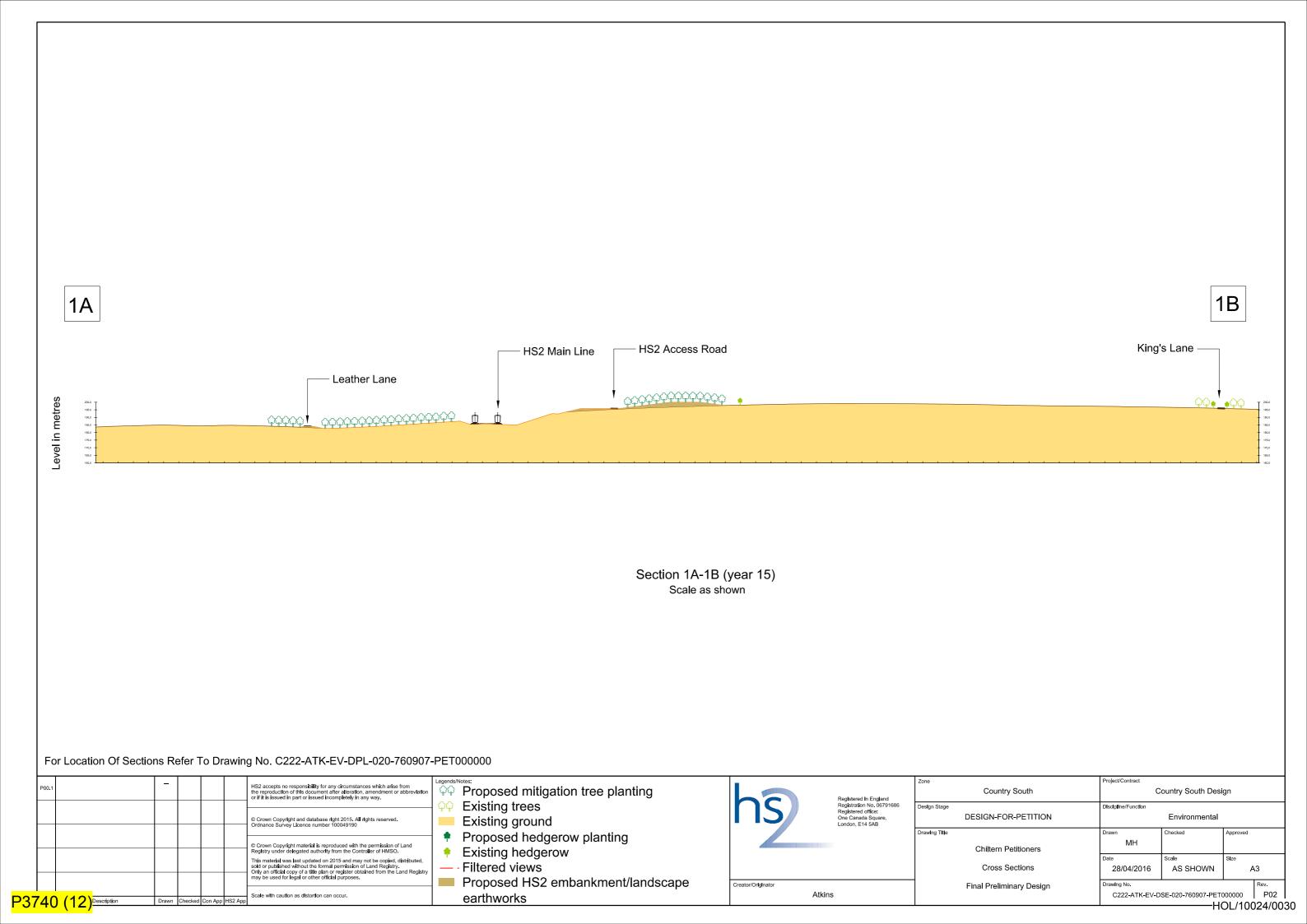


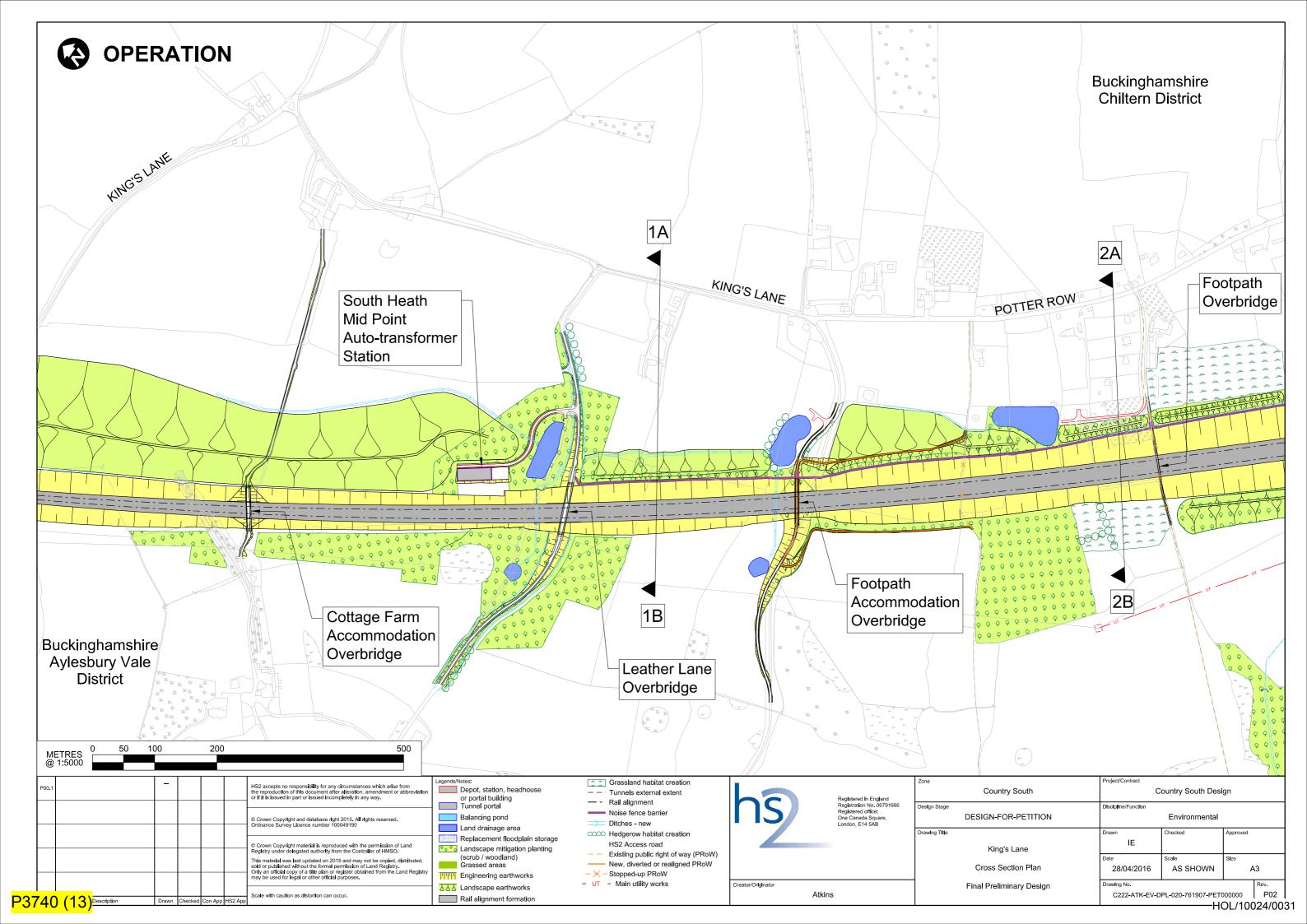


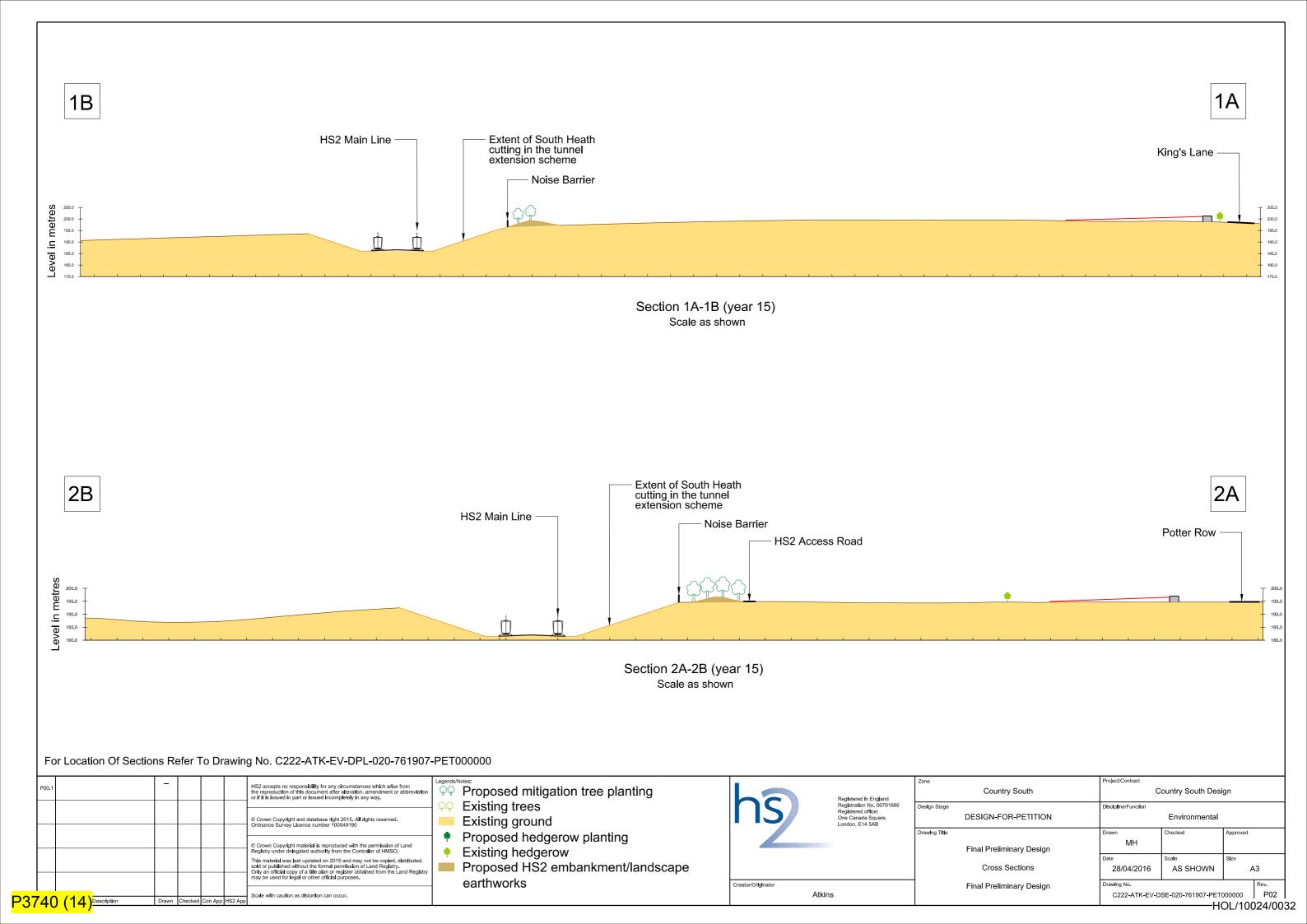


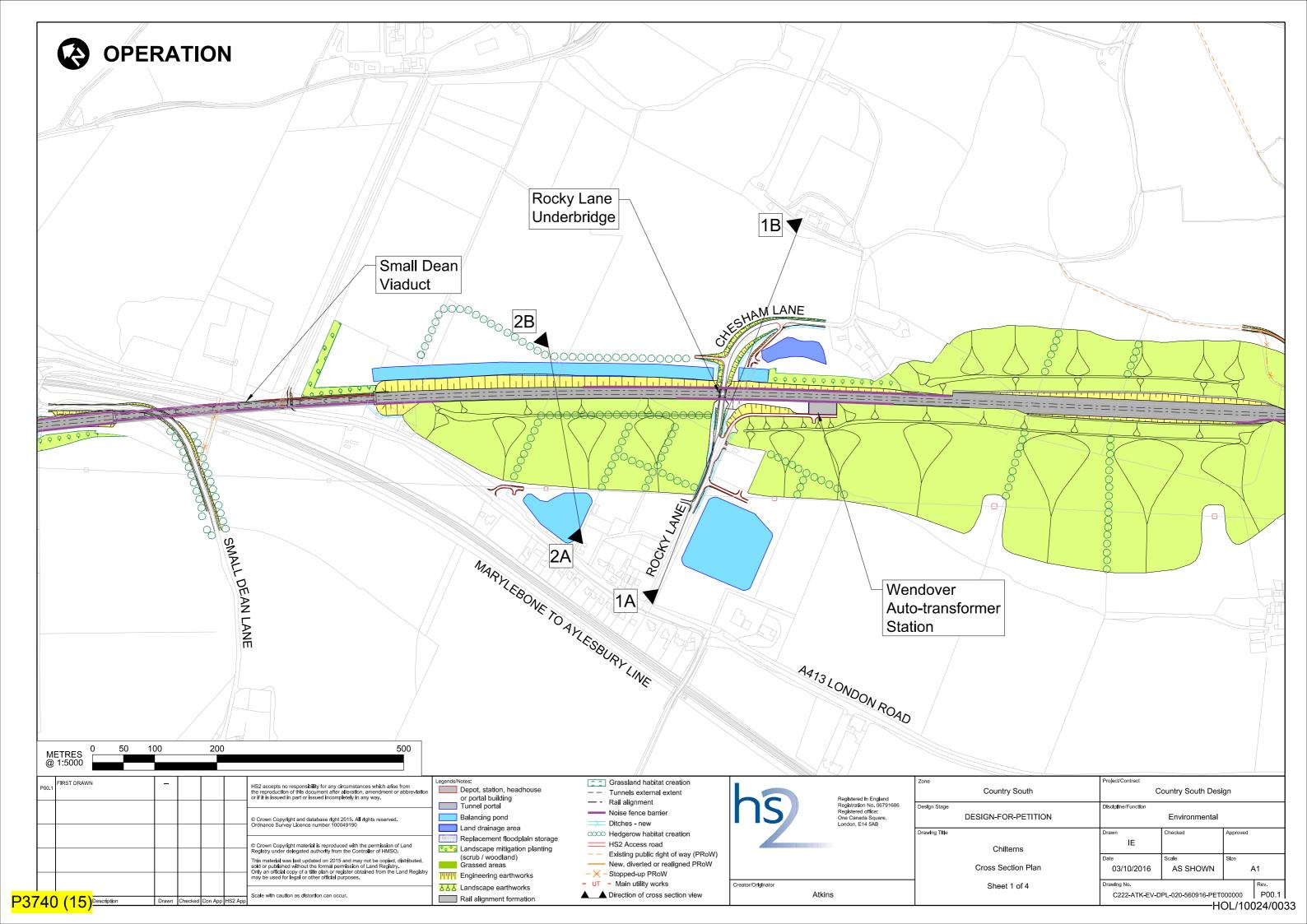


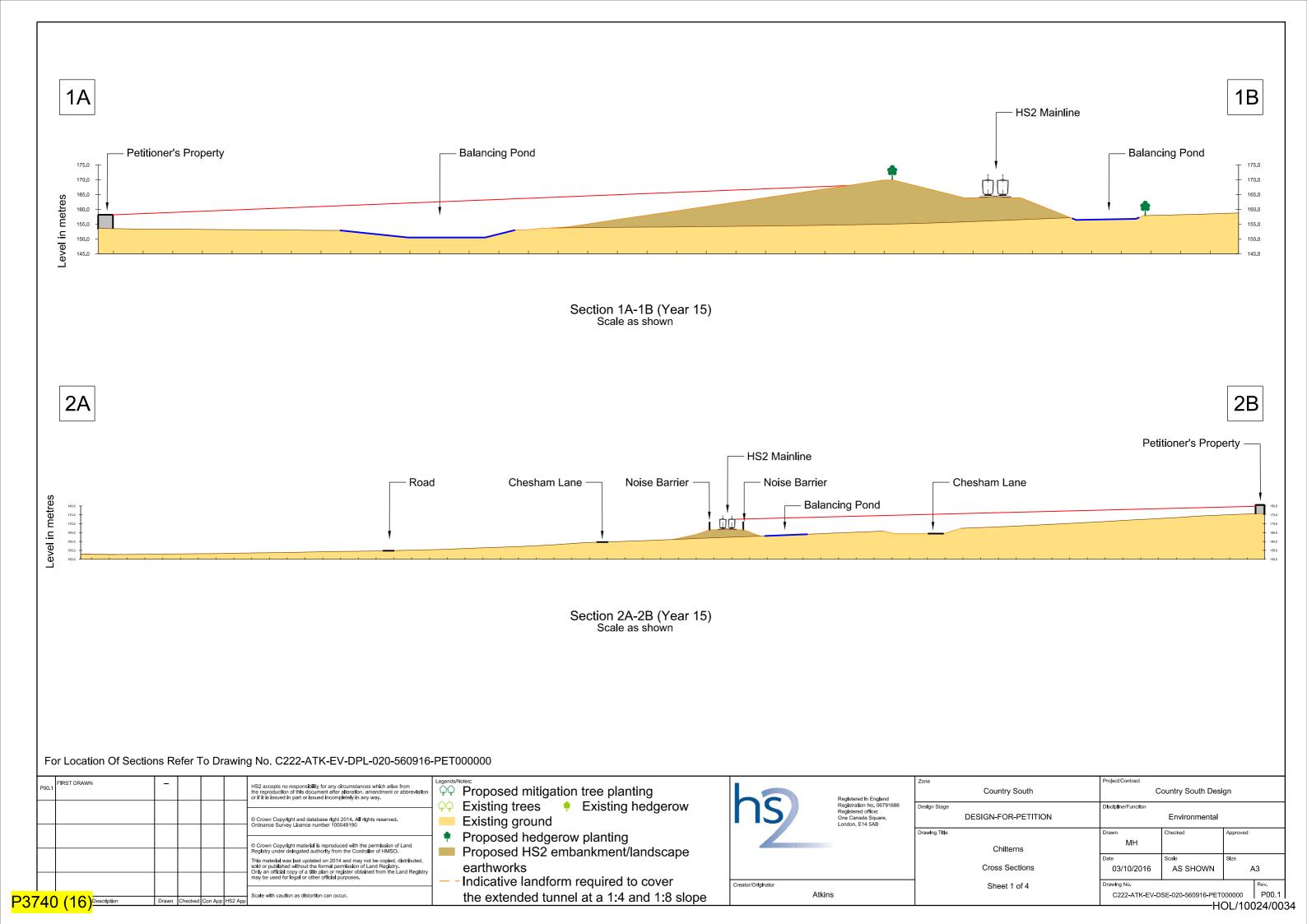


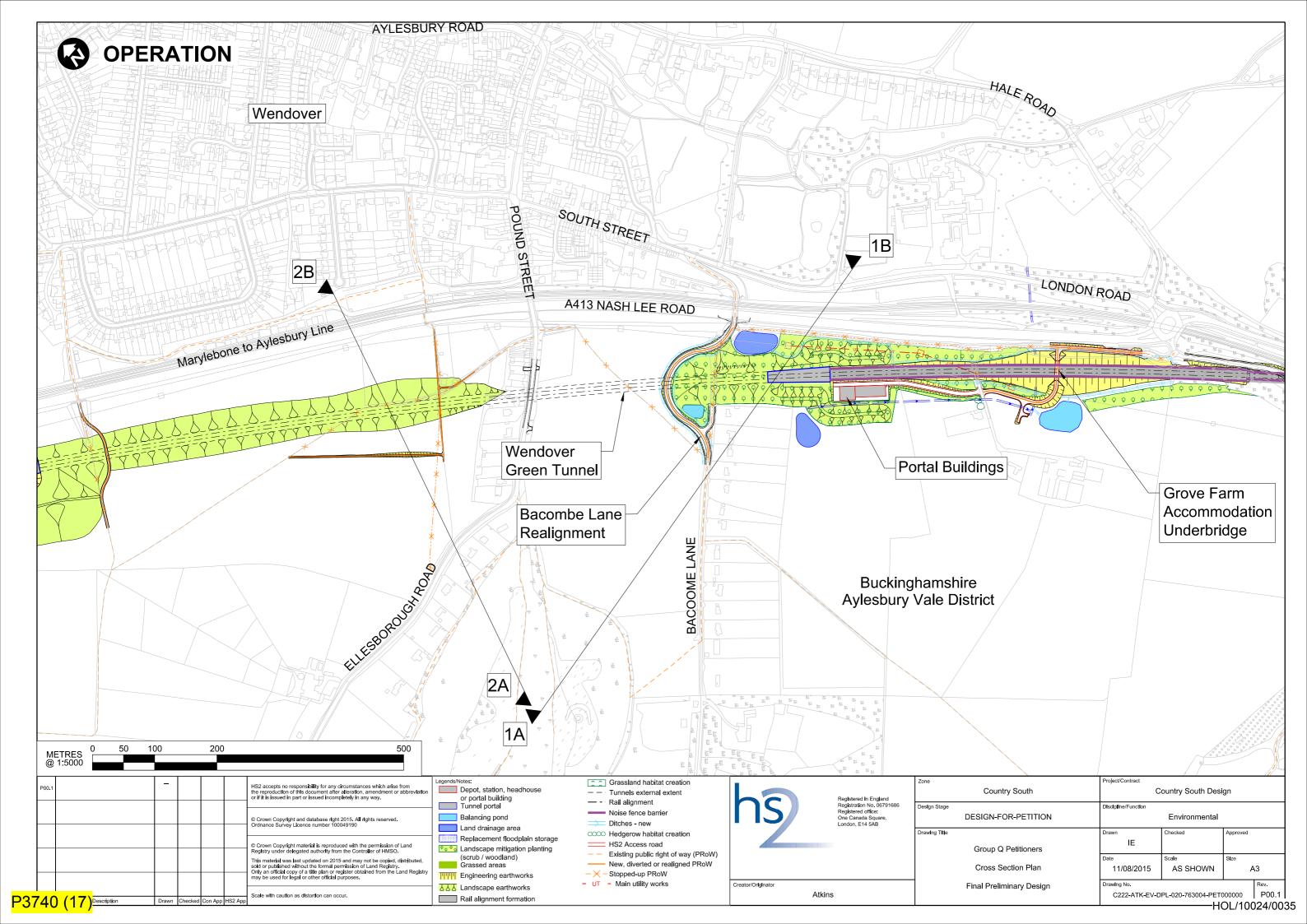


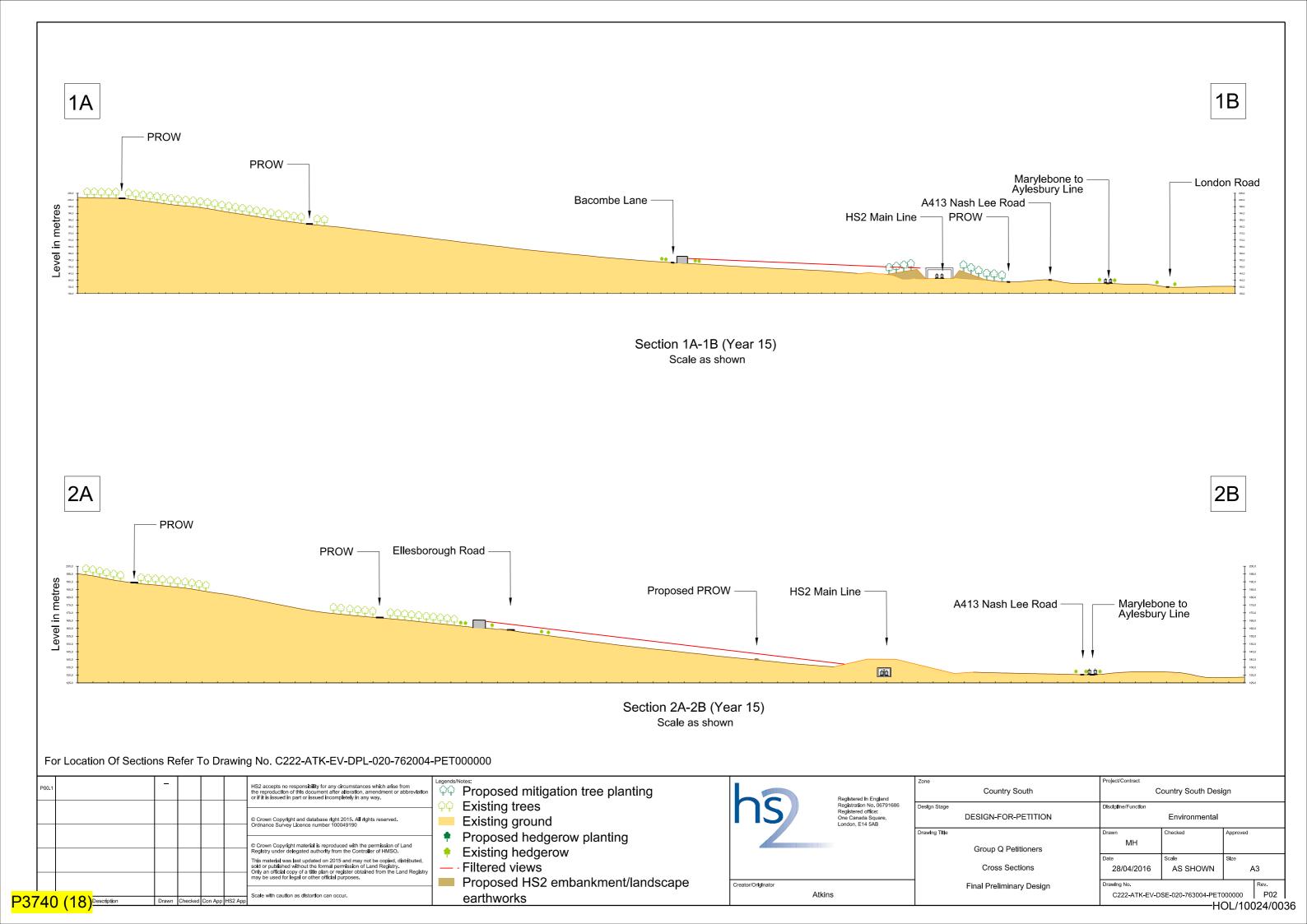


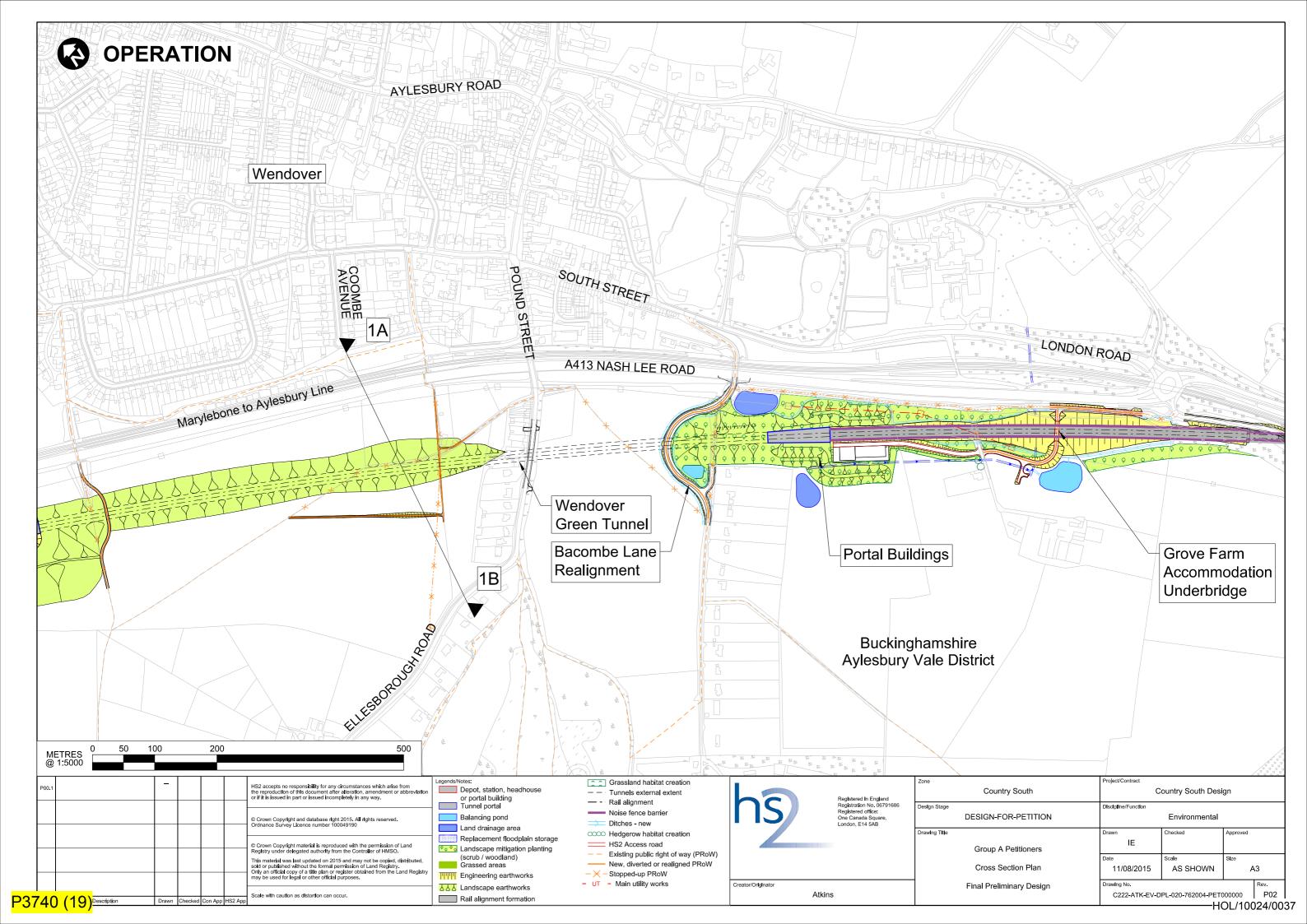


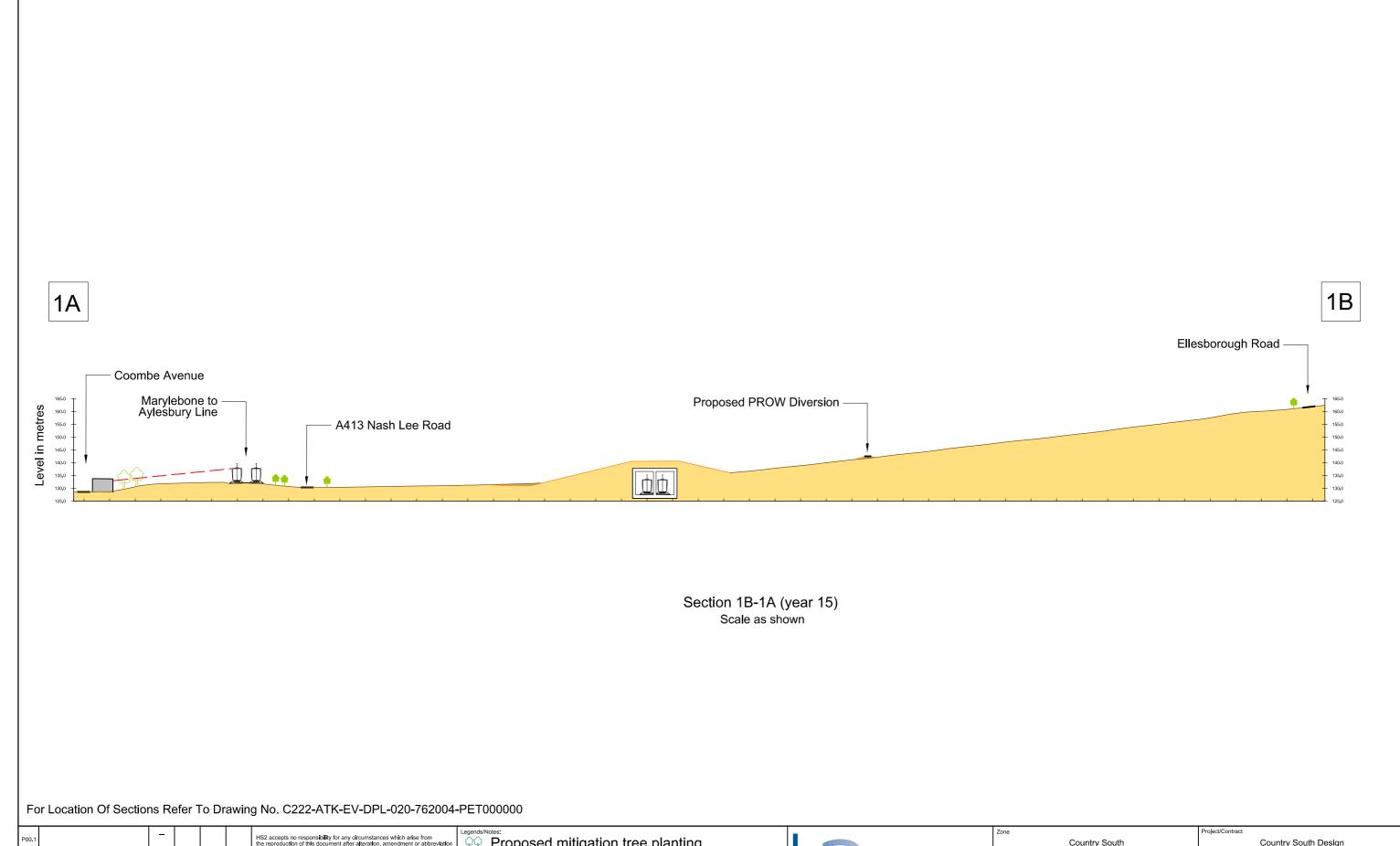












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