EXHIBIT LIST

Reference No: HOC/00128
Petitioner: Stone Town Council and Chebsey Parish Council
Published to Collaboration Area: Monday 16-Jul-2018

Table 276 from: Environmental Statement Volume 5: Technical appendices Traffic and transport: Transport Assessment (TR-001-000) Part 2

Table 276: Typical vehicle trip generation for construction sites in the Stone and Swynnerton area

Compound type	Location	Access to / from compound to main road network	Indicative start/set up date	Estimated duration of use (years)	Estimated duration with busy vehicle movements (months)	Average daily combined two-way vehicle trips during busy period and within peak month of activity	
						Cars/LGV	HGV
Satellite	Yarlet Embankment satellite compound	Stone Rural Bridleway 0.1135 for site setup followed by haul road thereafter to the A34 Stone Road	January 2021	Civil engineering - 4 years	3	56-77	82-98
			January 2025	Rail systems - 1 year and 6 months	3	18-30	up to 10
Satellite	Yarlet North Cutting satellite compound	B5026 Eccleshall Road for site set-up and servicing and followed by haul road to Stone railhead thereafter to the M6	January 2021	4 years 3 months	1	152-209	171-171
Satellite	Stone Connection satellite compound	via Stone railhead main compound	October 2021	6 months	3	94-222	up to 10
Main	Stone railhead main compound	M6 and Yarnfield Lane and on to the A34 The Fillybrooks	July 2024	3 years and 3 months	5	258-840	39-135
Transfer node	Transfer node associated with Yarnfield North Embankment satellite compound	Yarnfield Lane for site setup and servicing and followed by haul road to Stone railhead thereafter to the M6	January 2021	4 years 3 months	12	N/A	935-1185
Satellite	Yarnfield North Embankment satellite compound	Yarnfield Lane for site setup and servicing and followed by haul road to Stone railhead thereafter to the M6	January 2021	4 years 3 months for civils but compound remains further 1 year and 9 months due to worker accommodation	19	264-363	129-189
Satellite	M6 Meaford Viaduct satellite compound	Yarnfield Lane for site setup and servicing and followed by haul road to Stone railhead thereafter to the M6	January 2021	4 years 3 months	4	24-33	74-95

Table 1 from: Stone & Chebsey Council Written Statement 30-April-2018

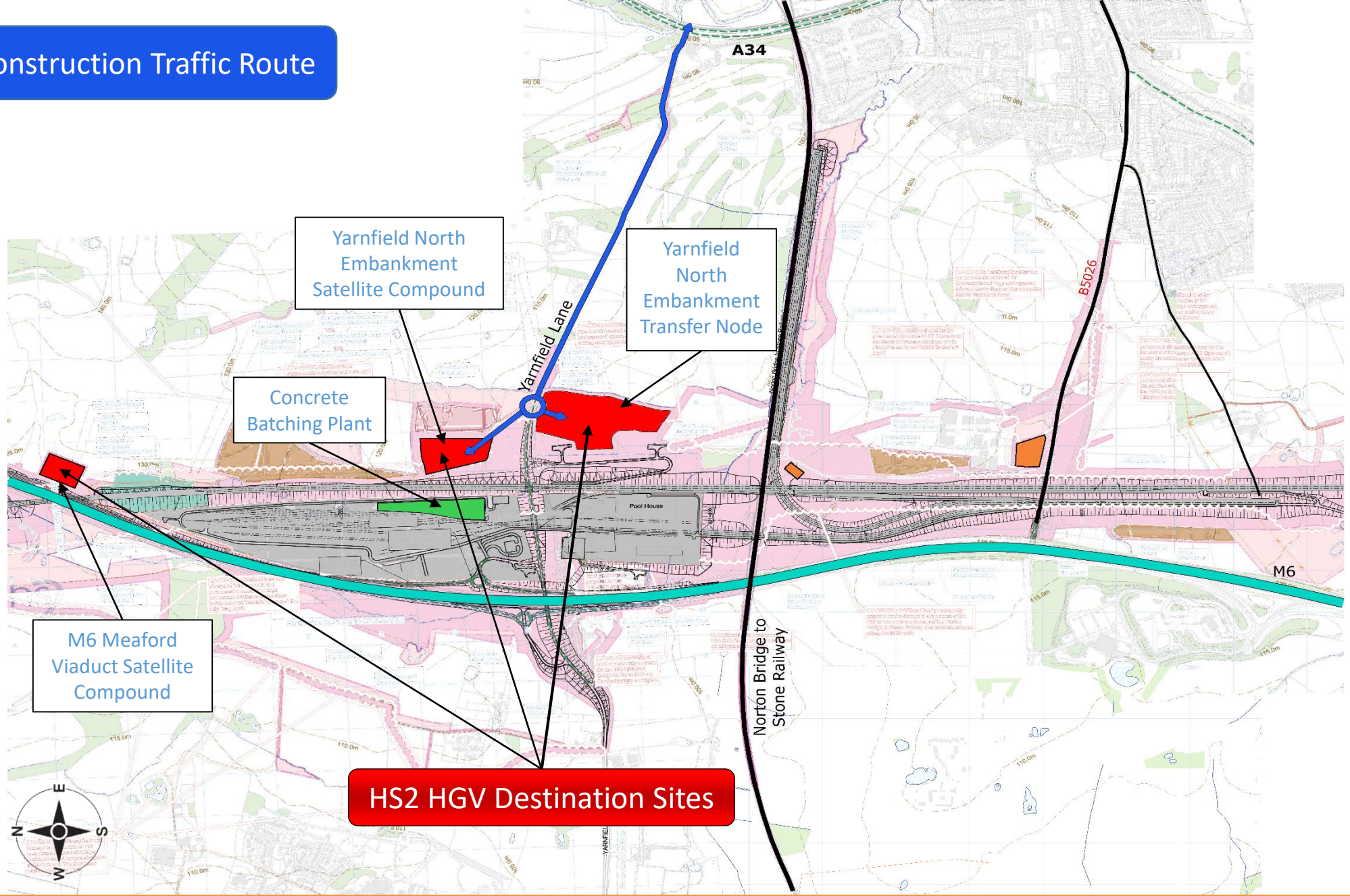
Table 1 Summary of HS2 HGV numbers using Yarnfield Lane from March 2022 to access/egress the northbound carriageway of the M6 Motorway

HS2 Construction Facility	Estimated period of use*	Busy period	**No of HGVs (Table 276)**	
	Date	Months	Average	Peak
Yarnfield North Embankment Transfer Node	Jan 21 to Mar 25	12	935	1185
Yarnfield North Embankment Satellite Compound	Jan 21 to Mar 25	19	129	189
M6 Meaford Viaduct Satellite Compound	Jan 21 to Mar 25	4	74	95
Sub Total			**1138**	**1469**
50% of all HGV traffic, i.e. using western section of Yarnfield Lane to connect to M6 northbound.			569	735
HGV frequency (10 hour working day)			63 seconds	49 seconds
50% of Transfer Node HGVs			468	593
HGV frequency (over 10 hour working day)			76 seconds	61 seconds

* Note, Table 276 suggest that HGVs would be travelling to its new M6 sliproads from October 2021, which HS2 Ltd has now revised to March 2022, i.e. was 9 months to construct from January 2021, but now is stating as 15 months.

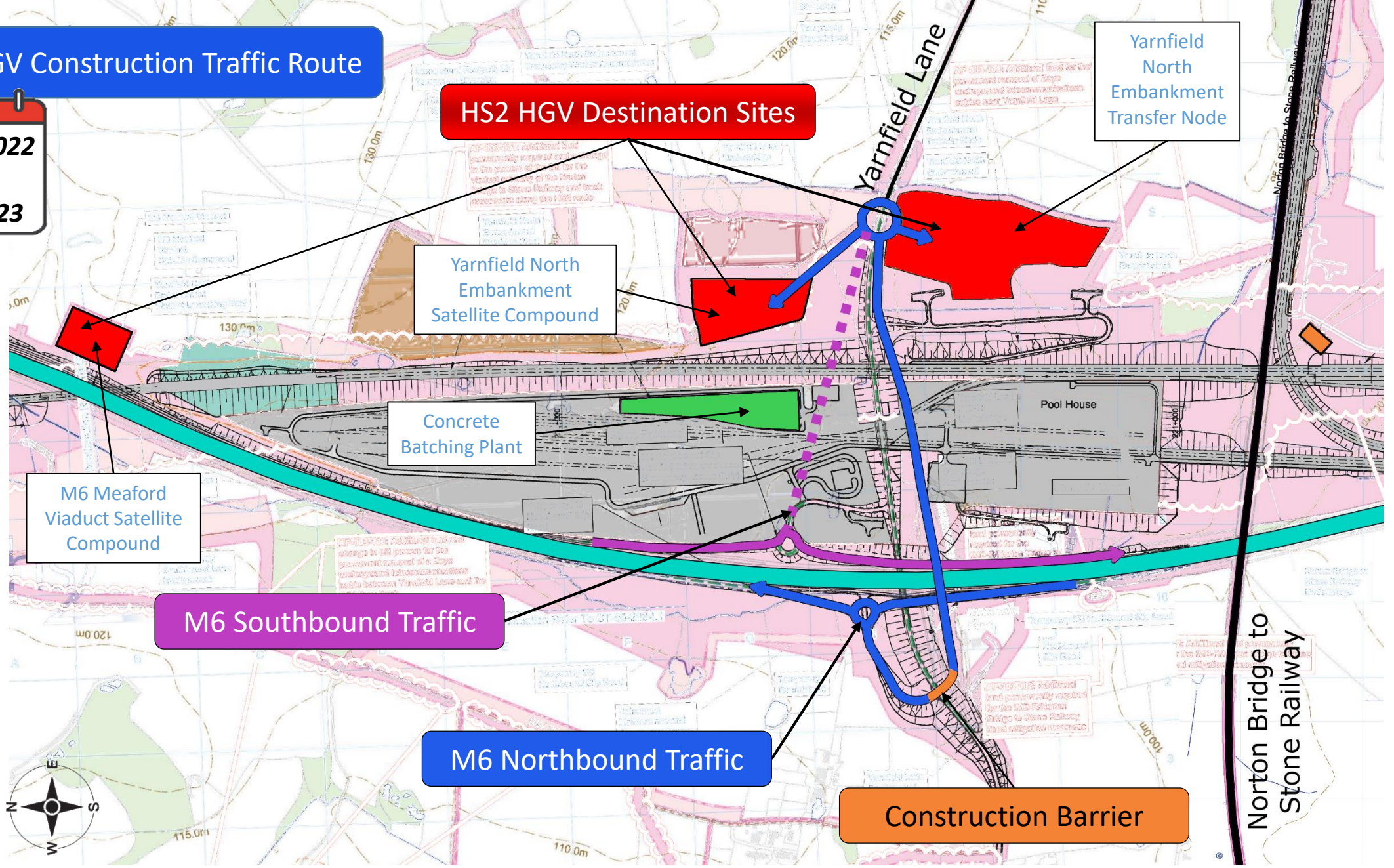
HS2 HGV Construction Traffic Route

Jan 2021 to March 2022



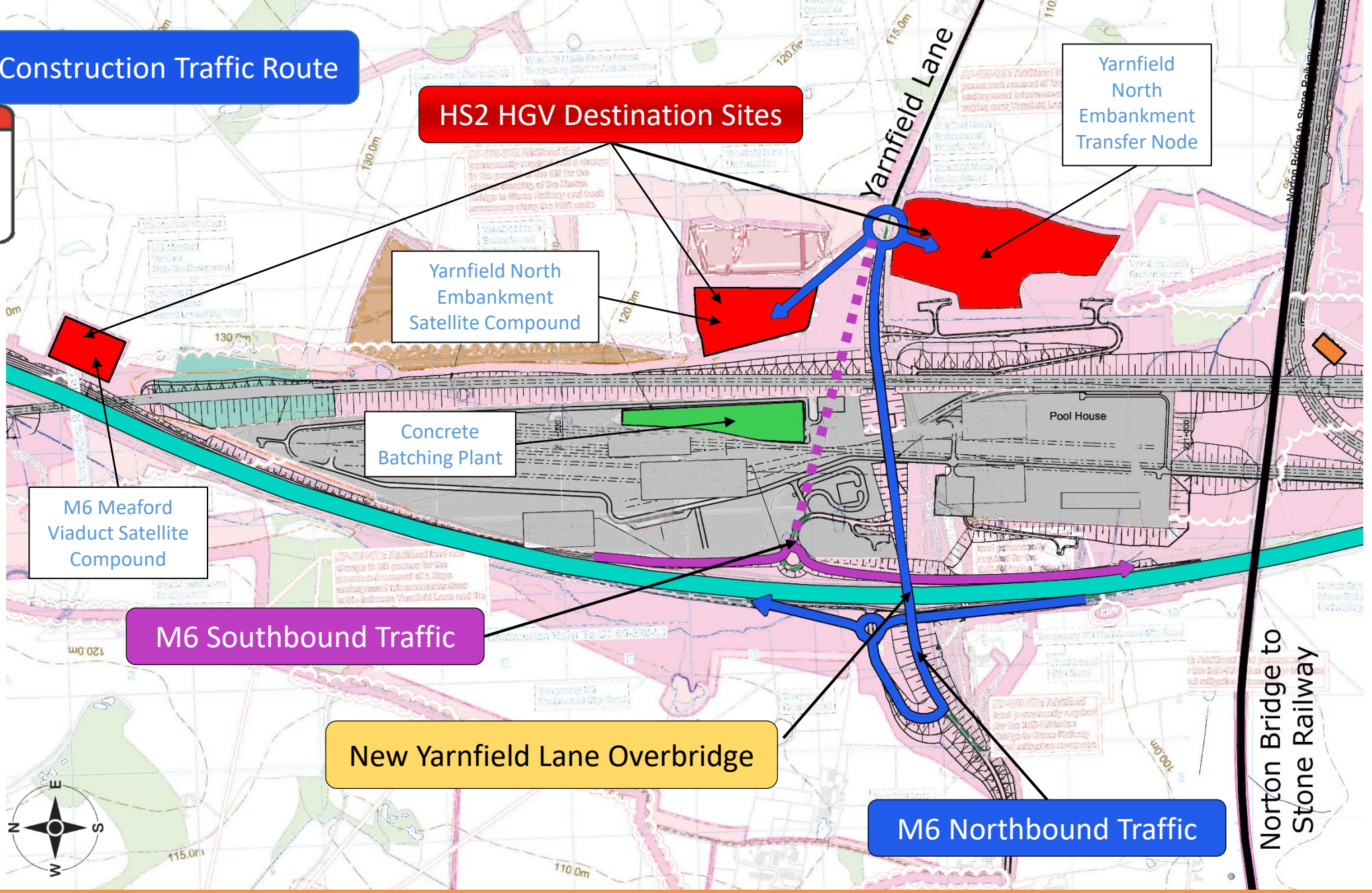
HS2 HGV Construction Traffic Route

March 2022 to June 2023



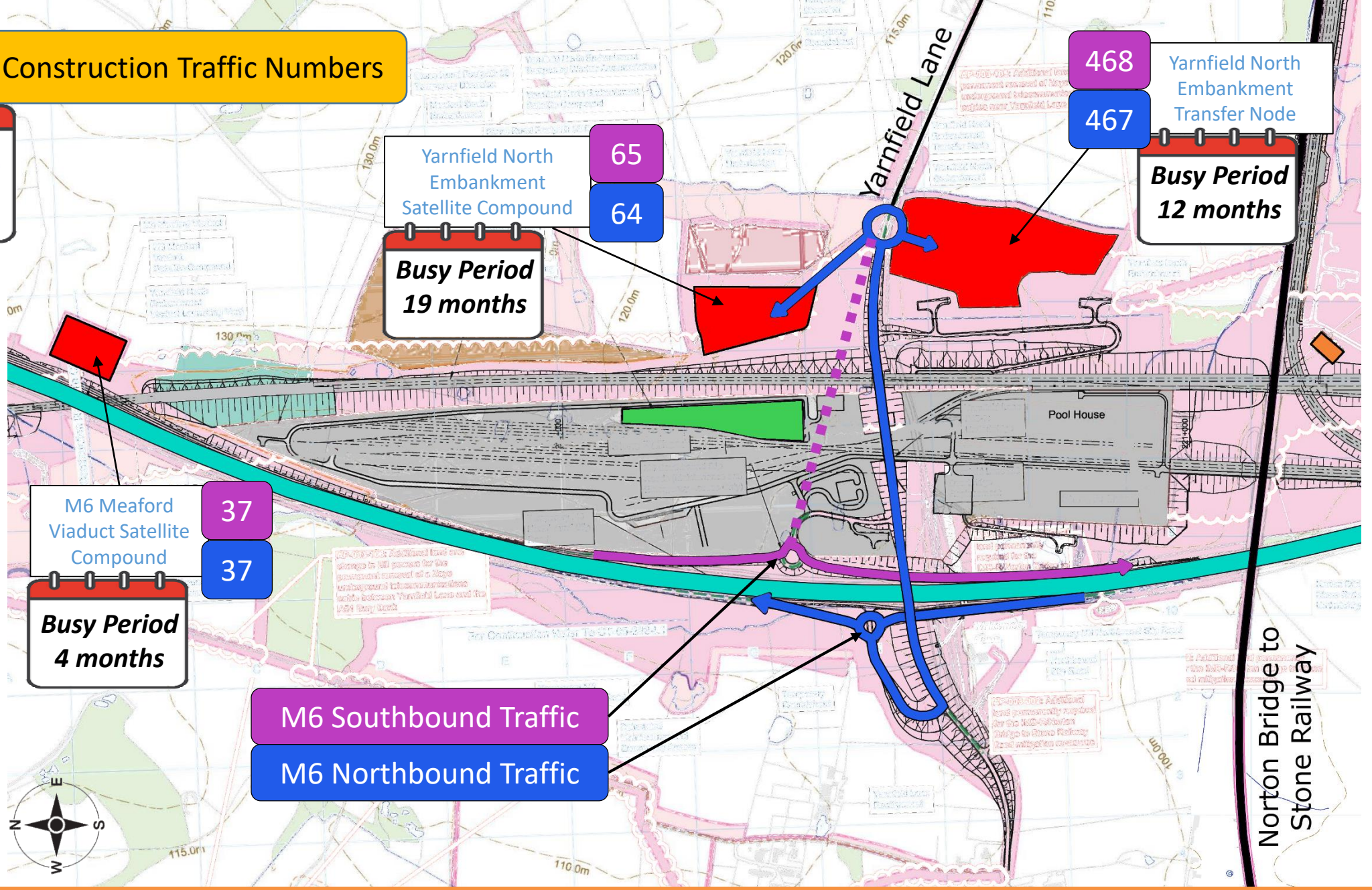
HS2 HGV Construction Traffic Route

July 2023 to Dec 2024

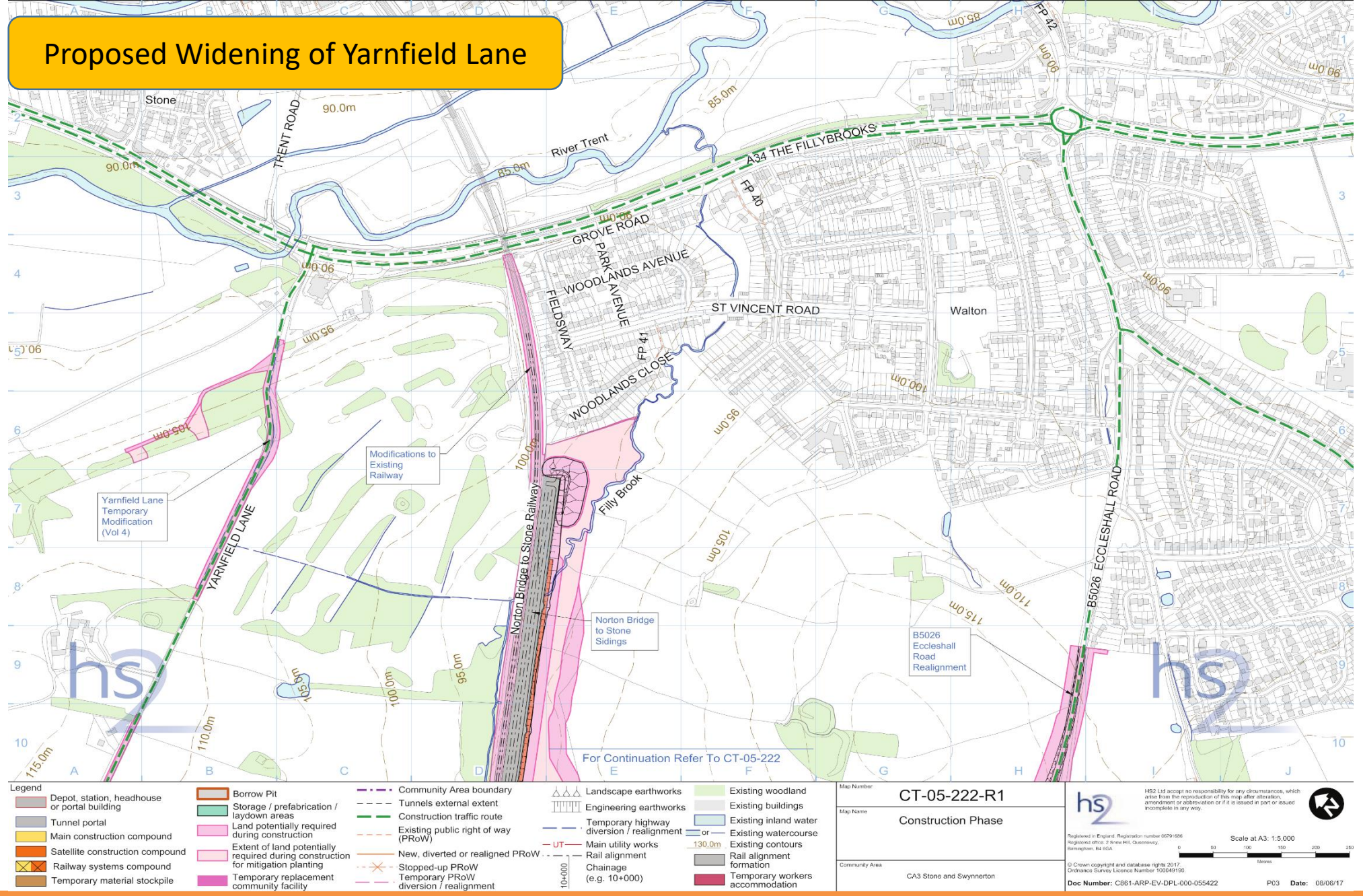


HS2 HGV Construction Traffic Numbers

July 2023 to Dec 2024



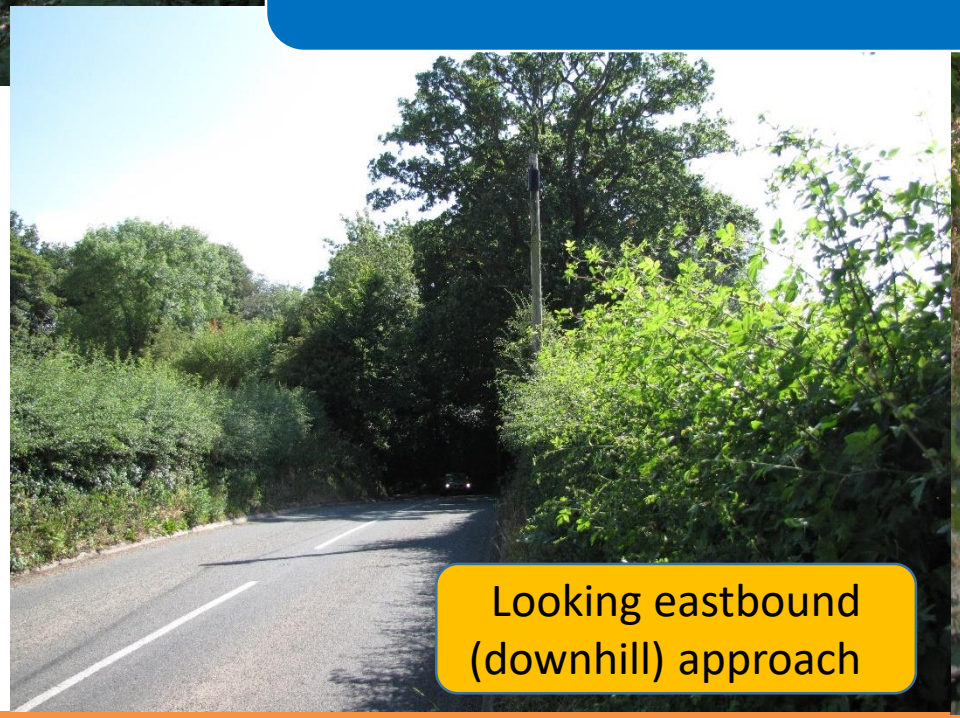
Proposed Widening of Yarnfield Lane

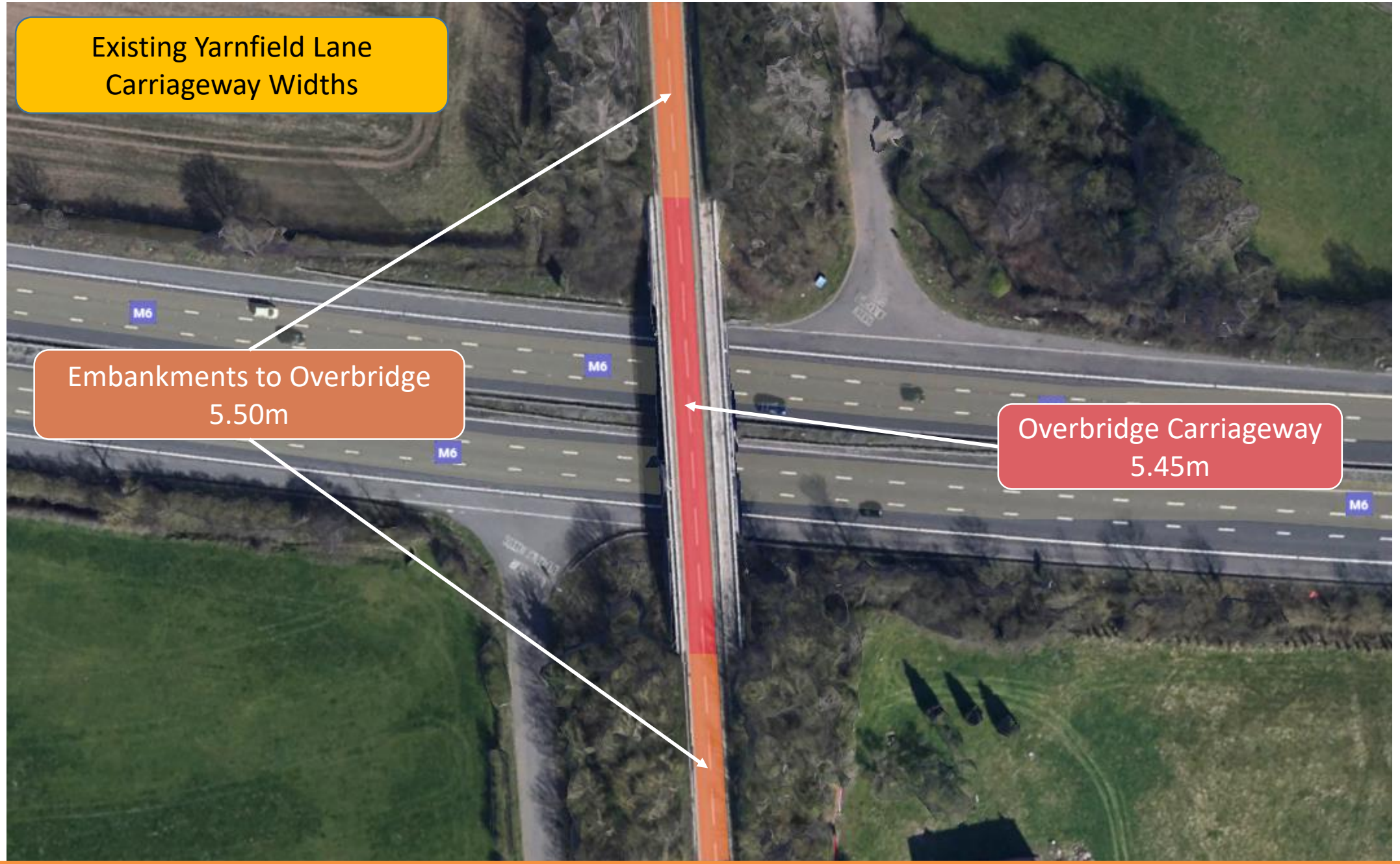


Signalised Yarnfield Lane / A34 Junction

Yarnfield Lane/A34 Gradient Aerial View

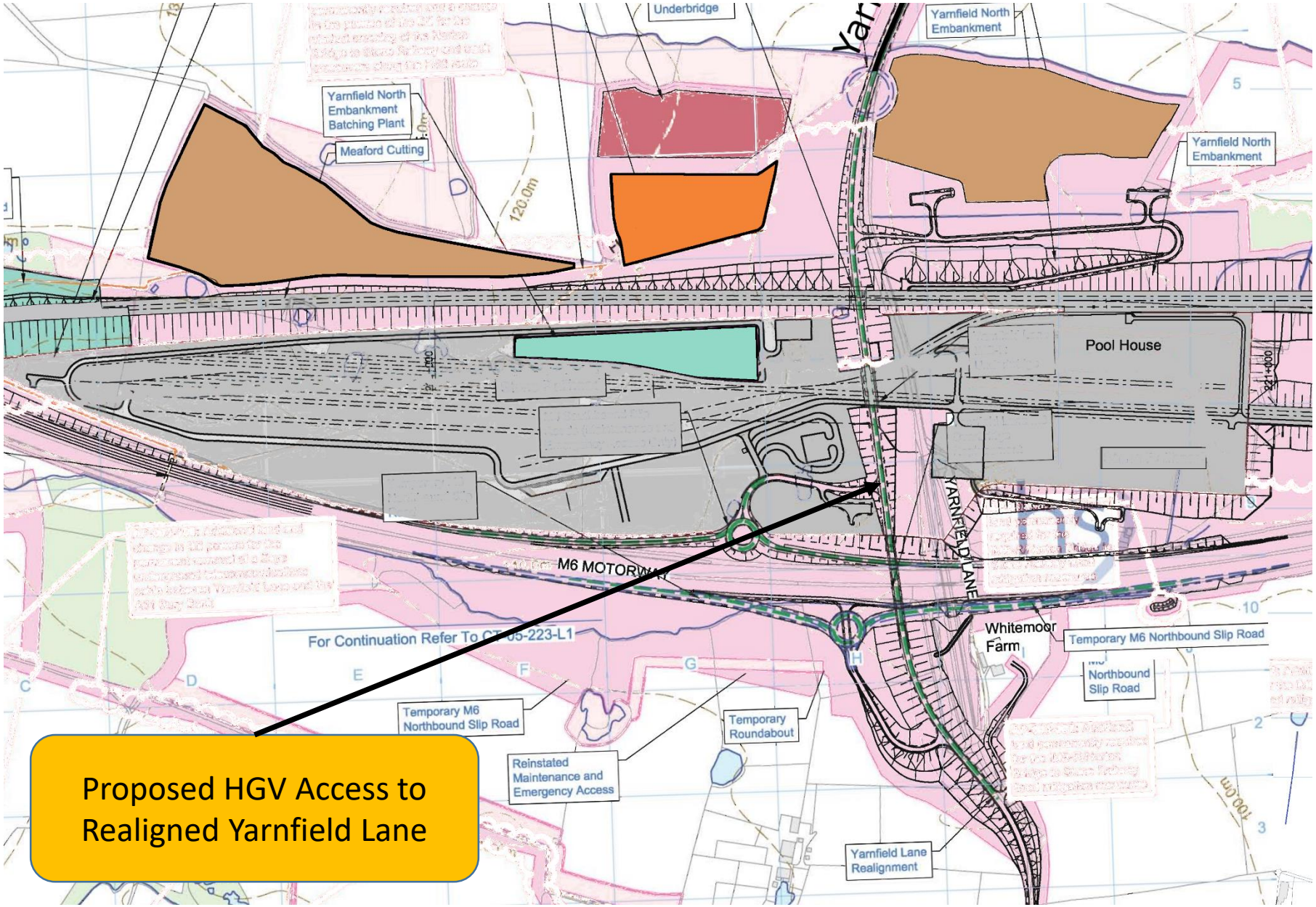
Yarnfield Lane:
Steep wooded section images




Existing Yarnfield Lane Carriageway Widths
Embankments to Overbridge 5.50m
Overbridge Carriageway 5.45m
M6
M6
M6
M6


Visibility looking westbound from existing M6 overbridge

HGV Crossing Existing Yarnfield Lane Overbridge


Underbridge
Yarnfield North Embankment
Yarnfield North Embankment Batching Plant
Meaford Cutting
Yarnfield North Embankment
Pool House
YARNFIELD LANE
M6 MOTORWAY
For Continuation Refer To CT-05-223-L1
Whitemoor Farm
Temporary M6 Northbound Slip Road
Northbound Slip Road
Temporary M6 Northbound Slip Road
Temporary Roundabout
Reinstated Maintenance and Emergency Access
Yarnfield Lane Realignment
Proposed HGV Access to Realigned Yarnfield Lane

Technical Standard - Roads

Document no.: HS2-HS2-HW-STD-000-000001

Revision	Author	Date	Issued for/Revision details
P01	James Fearnley	02/07/2015	Initial issue (based on HS2-HS2-HW-DAS-000-000002 P01)

Carriageway width – two-lane roads

C.6.2	Realigned or diverted rural roads should generally match the existing, subject to a minimum of 5.5 metres (the minimum for two cars to pass in safety at low speed). This minimum width shall be increased to 6.0 metres for lengths with occasional use by buses or heavy goods vehicles and 6.8 metres for roads where buses or heavy goods vehicles are likely to pass each other on a regular basis.

Philip Atkins, OBE
Leader of the Council
Councillor for Uttoxeter Rural
County Electoral Division

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County Councillor Jill Hood

My Ref: PA / SM / CM 210 Your Ref: Date: 11 July 2018

Dear Jill

HS2 Phase 2a - Highway Improvements Yarnfield Lane

Thank you for raising the question, on behalf of your community, regarding the width of road that would be required by the highway authority should HS2 Ltd. contractors use Yarnfield Lane as a construction route.

We are still many months away before HS2 Ltd. engage with the authority in terms of the required consents and approval process sent out in the Hybrid Bill, and of course you will understand that the County Council cannot fetter its discretion at this stage in relation to any applications it might receive. Having spoken to officers they have confirmed that the Council would in the normal course of events, require a minimum width of 6.8m were a road like Yarnfield Lane to be used for construction traffic of the type and intensity that the ES indicates will arise.

I would hope that HS2 Ltd. submit proposals for widening as part of their application as it would be in line with their own Technical Standards for realigned or diverted roads. The details are found in – Roads: Document no.: HS2-HS2-HW-STD-000-000001 Revision: P01, which states in section C.6.2:

"Realigned or diverted rural roads should generally match the existing, subject to a minimum of 5.5 metres (the minimum for two cars to pass in safety at low speed). This minimum width shall be increased to 6.0 metres for lengths with occasional use by buses or heavy goods vehicles and 6.8 metres for roads where buses or heavy goods vehicles are likely to pass each other on a regular basis."

It is the view of the County Council that the flows described in the Environmental Statement for the period that Yarnfield Lane is in use as a construction route does mean that heavy goods vehicles are likely to pass each other on a regular basis. I am aware that HS2 Ltd. may consider installing passing places, however, this would not comply with their own technical standards for realigned or diverted roads and any such proposals may well not be acceptable to the authority.

Yours sincerely

Philip

Philip Atkins, OBE
Leader of the Council

the knot unites

Multiple Aspects
with Lord Berkeley

The Railway Magazine – July 2018

Head in sand over escalating HS2 costs

THE long saga of HS2's costs and programme continues to make waves; where will it end?

New Civil Engineer reports design elements for one of the main design and construct contracts let for the civil works were coming in at 18% over the target price, up from £6.6billion to £7.8bn.

The reports states: "While one source said that the collective price was coming in at 18% over budget, another said that some bids were 'as much as 30% to 40% higher' than their individual target price'.

"As a result, the plan to proceed has been pushed back from November until February 2019."

I hear other comments from contractors the project is probably running three to four years late, even before any serious work on the ground has started. Other estimates from along the route indicate the project is held up because the purchases of the necessary land and additional areas needed for accommodation works are late. This sometimes prevents contractors having access for site investigations and, consequently, the design of foundations to structures and therefore the costs and programme.

Has HS2 allowed for the cost of diverting a 12in-diameter fuel pipe a dozen times along the route? Have they applied to the National Grid for the necessary power supply for the trains and for the required capital cost contribution to build the necessary power station capacity? Have they allowed for the cost of driving piles to support 20km of double slab track in the mushy ground of the Trent Valley? Readers may recall Michael Byng and I gave evidence to the Lords Select Committee on HS2 Phase 1 stating there was a better and cheaper solution to the Euston station issue, and presented costs for both that solution and the HS2 one.

HS2 has never challenged the methodology or the figures which, if extended to cover the whole of Phase 1, produce an out-turn cost of £51.23bn.

I have asked many questions in the Lords since that time and have always been told the funding envelope of £23.73bn at 2015 prices is still valid.

Given what we are now discovering about the scope and costs of accommodation works, and the information coming from contractors above, there seems to be every reason to suppose the out-turn cost of Phase 1 will be a lot closer to £50bn than the DfT's £25bn. More importantly, surely it is reasonable to expect ministers to keep the taxpayer up to date with estimates when so much taxpayers' money is at stake?

Surely it is time to reflect on why ministers continue to allow HS2 to have a blank cheque to spend what they like – a figure likely to reach more than £100bn if Phases 2A and 2B are included – while at the same time starving Network Rail of any investment for vital upgrades to capacity or capability.

It is *all* investment in the railway and there are many who believe £100bn could make a massive difference to improving the present network in a greater number of beneficial ways.

HS2 Ltd meeting with
Stone Town Council and Chebsey Parish Council

- *to discuss Additional Provision petition issues prior to Select Committee appearance on 16 July, 2018*

Stone Town Council Offices
Station Road, Stone, ST15 8JP
Tuesday, 10 July, 2018
6.30-8pm

ATTENDEES	
Cllr Mrs Hood	Stone Town Council
Cllr Mrs Hickman	Chebsey Parish Council
Trevor Parkin	Stone Railhead Crisis Group
Gordon Wilkinson	Stone Railhead Crisis Group
Trevor Gould	Stone Railhead Crisis Group
John Fraser	Stone Railhead Crisis Group
Deepika Swamy	Environmental Advisor, HS2 Ltd
Tim Taylor	Construction Engineer, HS2 Ltd
Jason Small	Water Resources and Flood Risk Manager, HS2 Ltd
Joe Wilson	Community Engagement Manager, HS2 Ltd
Jeremy Croxall	Petition Advisor, HS2 Ltd

AGENDA

1. Introduction
2. Replacement of Filly Brook viaduct and Filly Brook West underbridge
3. Raising of the Yarnfield North and Yarnfield South embankments
4. HGV movements
5. Transport logistics profile for the Stone Railhead/IMB-R

High Speed Rail (West Midlands to Crewe): Written Statement

1. Introduction

1.1.1 This written statement has been prepared by Stone Town and Chebsey Parish Councils to rebut the evidence that was given by Mr Tim Smart, on behalf of HS2 Ltd, at the Select Committee hearing on Wednesday 25 April 2018.

1.1.2 This written statement will also address the comments contained in HS2 Ltd's *'R56 Summary of Promoter's response to Stone Town Council and Chebsey Parish Council'*, which was published on Friday 27th April. It is also noted that HS2 Ltd has included new points that were not put to the Parish Councils' other witnesses (Mr Wilkinson or Mr Parkin) during the Select Committee proceedings.

1.1.3 We had understood that the promoter's QC (Mr Mould) had committed to providing a further explanation of its cost breakdown (P41/17), but we were not expecting to receive this response document, which mostly seems to simply repeat points that were already given in evidence by Mr Smart, or as part of its cross-examination of Mr Gould. However, since it has been produced, the Parish Councils feel that they have no alternative but to respond to the numerous misleading and unsubstantiated claims contained within the document, which are not supported by relevant evidence.

1.1.4 For ease of reference, we have structured this statement under the headings of the subject matter of Mr Smart's evidence, with reference to the paragraphs used in the Hansard transcripts of proceedings. We will therefore deal with the claimed advantages of the Stone Railhead in Section 2, the critcisms of Aldersey's Rough in Section 3 and HS2 Ltd's confusion over maintenance supply trains in Section 4. In Section 5 we will deal with the considerable internal haulage and external road transportation problems that construction of the Stone Railhead/IMB-R would need to face and in Section 6, we will set the record straight about the extensive traffic and transportation concerns that have been raised by the Highways Authority.

2. Key advantages of Stone Railhead - P41 (4)

2.1 Network connectivity and operation of Stone Railhead

2.1.1 With reference to the contents of paragraph 662, and the Norton Bridge to Stone railway, it is important to note that it currently serves three passenger trains in each direction, i.e. six trains, together with trains that may need to be rerouted from the Stone to Colwich or WCML lines.

2.1.2 In paragraph 666, Mr Smart confirmed that there would be a maximum of seven supply trains to the Stone Railhead to provide the materials for the railway installation works of the HS2 mainline. With respect to Phase 2a, these works would take place over 18 months from January 2025 to June 2026, once the Stone Railhead had been constructed.

2.1.3 Mr Smart continued *"If we do have more – if we have a slab on Phase 2A, but for Phase 2B, there's a possibility of ballast for a certain section. And that's where we would derive the seven per day from. It's unlikely we would need that number. It's the worst case, but you don't need that every day because you've only got so much capacity in the railhead."* It is therefore apparent from Mr Smart's evidence that the need for a maximum of seven supply trains per day only relates to the need to supply Phase 2b, although when the representatives of the Parish Councils had suggested during their meetings with HS2 Ltd personnel in 2017 that the

Aldersey's Rough Railhead/IMB-R could be used to install the rail systems, or even construct the Phase 2b railway, rather than just maintain it, this idea was rejected by HS2 Ltd.

2.1.4 HS2 Ltd should make it clear whether it intends to just maintain Phase 2b from its Stone IMB-R, or continue to use it as a Railhead for the construction of the Phase 2b railway between 2027 and 2033, which is when ballast trains would be required. Mr Smart seems unable to provide such clarification, and instead has confused the matter more with his comments in paragraph 677, where he again mistakenly refers to *"seven trains per day coming in with ballast or whatever it is…"*

2.1.5 In paragraph 667 Mr Martin asked Mr Smart *"what you're saying is that you're having seven trains a day using a line which is not currently used for passengers anyway in order to access the site?"* In response (paragraph 668) Mr Smart replied *"When it is used as the railhead for construction, sir, yes."* However, this is not correct, because the Norton Bridge to Stone railway is currently used by three passenger trains per hour in each direction and this will be the status quo during the four-year long construction of the Stone Railhead between January 2021 and December 2024.

2.2 Reduced programme risk

2.2.1 In paragraph 679, Mr Smart suggests that the Whitmore Heath tunnel (located just south of Aldersey's Rough represents a programme risk because *"you've got some hard spots along the route where construction could take longer and therefore the ability to travel up and down the route to fit out the railway could be impeded by significant civil engineering works."*

2.2.2 There are several reasons why this statement is misleading, which was addressed in paragraphs 2.4.31 to 2.4.34 of Mr Parkin's evidence. It is unclear why this construction project represents a greater construction risk than any of the other major structures that HS2 Ltd needs to build along Phase 2a to cross major and minor roads, including the M6 motorway; major railways (the West Coast Mainline and the Norton Bridge to Stone railway (twice); or the multitude of watercourses, some of which immediately border (or lie within) the footprint of the Stone Railhead/IMB-R. If the construction of any of these structures, the completion of several of which are interdependent at Stone, was delayed, then this would have an adverse effect on both the completion of the Stone Railhead and thereafter the railway installations and commissioning programme.

2.2.3 In addition, it is of note that HS2 Ltd has allowed two years at the end of its construction programme (2023 to 2024) to construct the two twin bore tunnels (690m long each) of the Whitmore Heath tunnel, and 15 months beforehand for the construction of the 240m long cut and cover section. This should be plenty of time to construct such a short tunnel, especially since it considers in its Sift analysis for the alternative longer deeper (or single) tunnel that it can construct two 6.4km twin bore tunnels in broadly the same timescale.

2.3 R56 Summary – Paragraph 2

2.3.1 In paragraph 2 bullet (a) it is not correct to claim that Stone has direct connection to the existing Norton Bridge to Stone railway, as it requires a convoluted headshunt arrangement, involving multiple shunting manoeuvres to gain access. It is also not correct to state the Stone would have direct access to the northbound M6 carriageway, since HS2 Ltd would need to use up to 900m of either the existing, or realigned, Yarnfield Lane, to access/egress its new northbound slips, which will take 15 months to construct and will not be completed until March 2022.

2.3.2 With regard to bullet (c), Mr Parkin gave evidence (paragraphs 395 to 428) that categorically proved that an IMB-R at Aldersey's Rough would be more centrally, and therefore better, located than the Stone IMB-R to maintain the HS2 Phase 2a and Phase 2b railways. This was not challenged by HS2 Ltd during the Select Committee proceedings.

3. Aldersey's Rough (P43-8 and P45-1)

3.1 Supply trains to the Aldersey's Rough

3.1.1 In paragraph 688, Mr Mould puts it to his witness that *"During the construction phase, if we work on the basis that the number of trains that would need to get in and out of the railhead during construction was comparable you gave for Stone – that is to say seven a day?".* In response Mr Smart says *"Yes".* As established above (paragraphs 2.1.3 to 2.1.5), Mr Smart had stated that a maximum seven supply trains was required because of the need for ballast trains. However, during the operation of the Aldersey's Rough Railhead (January 2025 to June 2026) for railway installations, there would be no need for ballast trains to enter the facility during this period.

3.2 Access to Aldersey's Rough via a northern chord

3.2.1 In paragraph 697, Mr Smart says *"Network Rail wouldn't allow us to operate on their fast lines which would mean we would have to do a ladder – more work – to then cross from where we could get on to the fast lines on to the slow lines, which is even more cost, more possessions. And I would doubt Network Rail would let us connect in their fast lines, even if we were going to get across on to the slow lines."*

3.2.2 With respect to the first point, Mr Smart's comments regarding the use of a 'ladder' connection in order to access Aldersey's Rough are incorrect. Such ladder connections are standard industry practice when crossing more than one track. This arrangement is also exactly the same as HS2 Ltd's own proposal for accessing the Railhead/IMB-R sidings at Stone from the Norton Bridge to Stone railway.

3.2.3 Mr Smart is also wrong to suggest that Network Rail would not allow the use of its fast lines for the purpose of connecting to Aldersey's Rough, even if the slow lines were used in order to approach that point. The Hybrid Bill is very specific in this respect, in that it establishes the principle that any necessary changes to the conventional rail network must be allowed by Network Rail, whilst not disallowing the standard industry change procedure known as network change, under the Network Code. This procedure allows all stakeholders, such as freight customers or Train Operating Companies etc., to have their interests considered before any network changes are made. Furthermore, the Bill makes it clear that the Network Code cannot be used as a means to block any necessary works to construct HS2 and that the Office of Road and Rail (ORR) shall treat the *"objective of facilitating the construction of Phase 2a of High Speed 2"* as an objective of the ORR. (Doc. Ref: *High Speed Two Phase 2a Information Paper F6: Rail Freight Operations*).

3.2.4 The Parish Councils' proposal for a northern chord between the WCML and the reopened Newcastle to Market Drayton line has two purposes. Firstly it would enable straightforward and quick access from Network Rail metals from the north into the Railhead/IMB-R using the existing slow lines, which would then crossover the fast lines near to the junction. This manoeuvre would take place during the night-time window when express trains on the WCML are not running, during the operation of the Railhead 18 months from January 2025. Secondly, it would future proof the Aldersey's Rough facility when it becomes an IMB-R once HS2 is operating (from October 2027) and the existing express services have been withdrawn from the WCML. Furthermore, given Mr Smart's evidence that he envisages Phase 2b being supplied with ballast even during its construction, which would take place after Phase 2a opens, the absence of express trains on the existing fast lines of the WCML would not be a problem.

3.2.5 In paragraph 699, Mr Smart stated *"It's not a realistic possibility because the chord would have to be longer because the turnouts – the points if you will, Chairman, have to be located*

on a certain gradient, a very low gradient, and the speed. So, that chord would have to be a lot longer than shown by the petitioners."

3.2.6 It is noted the Mr Smart is actually only saying that this chord would need to be longer than is currently shown on P43(8), which is not intended to be a design drawing, but a conceptual illustration of design ideas. This is acknowledged by the Parish Councils, who gave evidence that they had been refused the detailed design drawings and sections, with topographic and engineering elevations, of HS2 Ltd's sub-optimal Option 9.5 design, which would be needed to enable the Parish Councils to better illustrate their proposals. A lengthening of this chord would also be able to address the issue of the gradient differential with the Newcastle to Market Drayton railway.

3.3 Access to Aldersey's Rough via a southern chord

3.3.1 Mr Mould's question to Mr Smart (paragraph 698) attempts to portray the seven maintenance trains as all arriving on the fast line approach from the north. This is completely untrue. Furthermore, it is noted that Mr Smart made no mention of the Parish Councils' proposals for the southern chord from the WCML slow lines with reference to P43(8). However, this chord would provide quick and straightforward access to supply trains to the Aldersey's Rough Railhead during the railway installations period of Phase 2a 24 hours/day 7 days/week with no impact on the WCML fast lines.

3.3.2 It is therefore the Parish Councils' proposition that the Aldersey's Rough Railhead would have the ability to receive as many supply trains that HS2 Ltd would require from the south at any time of day, and any additional trains that it might need from the north during the night, without any need for a headshunt on the stub line to the west of the junction and the extra operational time and cost required from using such a headshunt arrangement.

3.3.3 In response to Mr Martin's question in paragraph 727 regarding the 270 degree turnout proposed by the Parish Councils' from the southern chord, and whether the bridge over the WCML needs to be replaced, Mr Smart replies (paragraph 278) that *"We'd have to rebuild that bridge and two-track it, and that is if you look at our costs, we've included the possession cost in our costs for doing that."* Without the headshunt the line over the bridge will remain as single track and would not need to be double tracked to serve Aldersey's Rough. This bridge was last used in 1998 to carry heavy coal trains from Silverdale Colliery, and is maintained by Network Rail as a current structure on the WCML. It is also likely that, subject to a structural report, it will need no more than remedial work and the relaying of the track over it to modern standards in order to bring it back into service. Mr Smart also admits that the cost of replacing the bridge, including the possession cost of closing the WCML whilst that work is undertaken, is included in HS2 Ltd's costs in the Sift analysis. Therefore the Parish Councils' proposal will provide a further significant cost saving due to the bridge not needing replacing.

3.3.4 Mr Smart refers (paragraph 728) to the possessions that would be needed on the WCML if the Parish Councils' scheme were to be adopted. Without the need to replace the bridge, all of those possessions can be undertaken overnight, when traffic is at its lowest and possession costs are considerably reduced. For almost all of the work to be completed it will not be necessary to take full possession of the WCML, due to it having four tracks. Work on either the fast or slow lines will be undertaken separately, so that the other two lines remain open. Those two lines give ample capacity to handle the overnight rail traffic, which would be signalled past the area of the possession under a TSR (Temporary Speed Restriction), which is standard industry practice.

3.3.5 Mr Smart also says (paragraph 728) that the Parish Councils' proposed southern chord would interfere with signal masts and gantries on the WCML. Any capital cost associated with rectifying that situation in the construction period will be more than offset by the savings made in not having to excavate the headshunt on the stub of the Newcastle to Market Drayton line, nor demolish and replace Manor Road bridge on the stub of that line. This southern chord

option proposed by the Parish Councils' also lifts the line out of the flood plain of the River Lea, thereby removing the necessity for extensive earthworks and culverting, and avoiding affecting the marsh grassland through which HS2 Ltd's proposed chord would have passed

3.4 Aldersey's Rough: Site layout (P45-1)

3.4.1 Mr Mould asks Mr Smart in paragraph 718 *"are you able to say whether you think there is any realistic improvement that is likely to come forward over what we see on this screen in front of us?"* Mr Smart replied (paragraph 719) *"No. This would be the scheme that we would have to implement."* For HS2 Ltd's Chief Engineer to make such a statement is astonishing given all that is clearly wrong with Option 9.5. One possible explanation for this is the fact that Mr Smart is not credited as being a reviewer of any part of HS2 Ltd's Sift analysis, and nor did he attend the panel review (Ref Appendix B of the Sift analysis) in October 2017, although 23 colleagues were present to sign off this report.

3.4.2 In paragraphs 720 and 721 access from the Aldersey's Rough Railhead/IMB-R to the HS2 mainline is discussed, specifically in respect of the encroachment into Whitmore Wood to construct the headshunt that would be required to access the northern length of the HS2 Ltd mainline. However, this does not represent a detailed response to the points made by Mr Parkin in his evidence that this headshunt is unnecessarily long to the detriment of Whitmore Wood. Instead, Mr Smart simply states *"the falls across this whole section of where we'll be accessing the depot and coming out are about 17 metres.*" This is precisely one of the points made by Mr Parkin in his evidence, when he described both the layout and elevation of both the main railhead depot and the interconnecting line to the HS2 mainline as being sub-optimal. Reducing these levels by 2-3 metres would significantly improve the design and avoid the need for many of the elements, including the apparent 132kv line diversion to be avoided with the consequential simplification of the engineering and associated reduction in costs

3.5 R56 Summary – Paragraphs 16 to 22

3.5.1 Under the heading of *'Third False Assumption – Alderseys Rough not optimised'* in paragraphs 16-20, HS2 Ltd alleges that the Parish Councils have adopted a false assumption with respect to whether its Option 9.5 represents an optimum design. With reference to each of the points made by HS2 Ltd, we will again comprehensively demonstrate that Option 9.5 is a very long way from being an optimised design solution.

Paragraph 17

3.5.2 The points raised in paragraph 17 are mostly a simple reinstatement of the points raised in Mr Smart's evidence in Section 2.2 above. Furthermore, HS2 Ltd offers no new evidence to support its assertions (in paragraph 17(2) that the idea of connecting to the WCML would be unacceptable to Network Rail, and has disappointingly resorted to making disparaging remarks about the Parish Councils' witnesses.

3.5.3 In the second sentence of 17(2) it is noted that HS2 Ltd is now saying that it requires to access the Aldersey's Rough Railhead with eight supply trains/day using the proposed northern chord from the WCML fast lines. Although we have addressed and disproved these points in the commentary above, it is noted how this false claim has been exaggerated since the Select Committee proceedings on 25 April 2018.

3.5.4 With respect to paragraph 17(3), HS2 Ltd seems to have forgotten that it is its proposal to place the southern chord in the River Lea floodplain, which the Parish Councils' consider is sub-optimal. It has also omitted to mention that its proposals for connection sidings to the Norton Bridge to Stone Railway, together with the initial length of reception tracks to connect to its headshunt, are located in the floodplain of the Filly Brook.

3.5.5 In paragraph 17(4), HS2 Ltd refers to A43(6), which was the Stone Railhead Crisis Group's initial outline design for Aldersey's Rough which has been superseded and was only included in Mr Parkin's evidence for historical context. Notwithstanding this, despite acknowledging that this is a schematic drawing, HS2 Ltd then make a point about the northern connection to the HS2 mainline being a derailment risk, even though it is clearly not part of the Parish Councils' current proposals.

Paragraph 18

3.5.6 It is then suggested in paragraph 18 that *"It follows that, contrary to Mr Parkin's contentions, the comparative analysis in HS2's Sift Report of the proposed construction railhead and maintenance base at Stone with the posited alternative facility at Aldersey's Rough is soundly based."* Nothing could be further from the reality of the situation. Not only are the points raised in paragraph 17 factually incorrect and exaggerated in a number of respects, but HS2 Ltd has offered nothing to counter the comprehensive evidence given by Mr Parkin in respect of his review of HS2 Ltd's *'Engineering Option Comparison Matrix'*, the details of which are set out in paragraphs 469 to 622 of the Hansard transcript.

Paragraph 19

3.5.7 The points raised by HS2 Ltd in paragraph 19 in respect of environmental issues, with reference to P41(16), are not supported by substantive evidence. Although there was insufficient time during the Select Committee proceedings for Mr Parkin to deal with these matters in detail, he has covered this extensively in Section 3.2 of his Sift Review with reference to Table 3.2 (Ref A42(29-31) and cited the example of *'Community Integrity'* as an example of HS2 Ltd's inappropriate assessment rating in paragraph 632 of the Hansard transcript. Furthermore, the argument that HS2 Ltd has spoiled the landscape at Stone already, so spoiling it further does not matter, is not a strong one.

3.5.8 The flood risk issue was also comprehensively dealt with by Mr Parkin in paragraphs 455 to 467 and 504 to 520 of the Hansard transcript, with reference to P44(1) and P42(4). Comparing these two drawings, which show the impacts on the Filly Brook and floodplain both with (and without) the Stone Railhead/IMB-R clearly show the very detrimental effects that will happen to this watercourse in terms of its geomorphology, together with the floodplain within which it flows, and therefore the statements made by HS2 Ltd in paragraph 19 are not credible.

Paragraph 20

3.5.9 In paragraph 20, HS2 Ltd's statement cannot be support with evidence because it has refused to provide a detailed breakdown of comparative costs for scrutiny, a situation that has not been resolved by its R58 submission on 30 April 2018. Mr Parkin outlined the very many structures that HS2 Ltd requires at Stone to construct the Railhead/IMB-R there, and why the relocation of the facility would remove the need and cost of these. He then explained, in paragraph 606 to 622, the multiple inconsistencies contained in the basic costs schedule produced by HS2 as P41(17), and why its contents could not only not be relied upon, but why he would expect Aldersey's Rough to be the cheaper option if it was based on a value engineered optimum design, rather than HS2 Ltd's sub-optimal Option 9.5 arrangement.

3.5.10 It is therefore concluded by the Parish Councils that, if HS2 Ltd had a strong evidential case to support its claims that Option 9.5 is the best design that can be achieved, it would have no reason not to have provided its detailed design drawings, together with cost breakdown, for scrutiny. The fact that it has (to date) refused to do so should be seen as highly questionable.

Paragraph 21

3.5.11 Whilst it is true that there are no *plans* to re-connect Newcastle to the rail network, there have been at least three *proposals* over the past few years to reopen the route. The adoption of Aldersey's Rough as the Railhead/IMB-R is almost certain to generate a new proposal, which could lead to substantial economic growth opportunities in the Borough of Newcastle-under-Lyme.

Paragraph 22

3.5.12 The Parish Council's have comprehensively demonstrated via the provision of evidence, rather than simple statements, that Aldersey's Rough reduces the huge challenge facing HS2 Ltd with the construction of the Stone Railhead/IMB-R. By not accepting this evidence, HS2 Ltd risks endangering its construction programme and wasting millions of pounds of tax payer's money, whilst at the same time exposing a significant proportion of the population of North Staffordshire to severe adverse road traffic effects, economic turmoil and undermine future economic prosperity and rail connectivity.

4. Maintenance supply trains to Stone IMB-R

4.1.1 This section deals with points made in respect of A35(7) - Mr Gould's evidence, and under the heading of *'First False Assumption – Impact of Stone Maintenance Base on passenger train services in Staffordshire'*, in which HS2 Ltd restates the points that it put to Mr Gould in its cross-examination and which Mr Smart largely repeated in his evidence.

4.1.2 In paragraph 730 of the transcript, Mr Mould refers to the evidence of Mr Gould (paragraph 4.4.7 of A35(7) in the context *"that the operation of a maintenance base at Stone would create undesirable disruption of passenger services including the hourly HS2 service to Stoke and Macclesfield that is planned to run from 2027."* Mr Mould then incorrectly suggests in paragraph 732 that Mr Gould has indicated *"that the operational – the maintenance base from 2027 onwards, forever more, would require at least three trains per night to supply HS2's maintenance needs."* However, what Mr Gould has actually indicated in his evidence is that the Stone IMB-R is not capable of receiving more than 3 trains/night, and that this represents a constraint to its future use should the maintenance requirement of the Phase 2a and Phase 2b railways need more supply trains than this.

4.1.3 It is also of note that Mr Smart does not say that Mr Gould's calculations are incorrect, or that more than 3 trains can access the Stone IMB-R during the nightly maintenance period. His only assertion is that more than 3 trains would not be required (paragraphs 732-735). Furthermore, Mr Smart is never asked by Mr Mould about the question of supply train capacity at Stone, despite it being the obvious question and the one that would either rebut or confirm Mr Gould's evidence. This issue of capacity at Stone has been put to HS2 Ltd several times during our meetings with HS2 Ltd, and has never been denied. The only reasonable conclusion to be drawn from that, and from Mr Smart's lack of a rebuttal of this crucial point, is that Mr Gould is indeed correct and the Stone IMB-R will have a very low finite capacity of a maximum of 3 trains per night.

4.1.4 In paragraph 737 Mr Smart cites HS1 as an example of the likely equivalent number of ballast trains needed on HS2. This fails to address Mr Gould's point that HS1 has less than one quarter of the stress loading projected for HS2, and therefore to quote the maintenance regime on HS1 as a comparator to HS2 is invalid. The point of Mr Gould's evidence is that no-one knows how many ballast or other maintenance trains would be needed, because no one has ever built a line that will take the amount of strain that HS2 is calculated to take. Moreover, the railway industry is well aware of that and understands that the margin for error on such calculations is huge.

4.1.5 Mrs Murray queried Mr Smart's use of HS1 as an example (paragraphs 739 and 741), and Mr Smart admitted that HS1 was only between 11 and 15 years old (paragraphs 740 and 742). HS1 therefore has no relevance to the Parish Councils' argument that more maintenance will be needed when HS2 gets older and deteriorates, and Mr Smart is therefore again wrong in using HS1 as an example. The IMB-R must be built with sufficient capacity to maintain HS2 for the lifetime of the line. In terms of the life of a railway, at 15 years old HS1 is regarded as new railway. In this respect, to build an IMB-R at Stone, with a very low finite capacity, is a high risk strategy, whereas the site at Aldersey's Rough has a capacity several times greater and it future-proofs the maintenance of HS2 for as long as is needed.

4.1.6 Mr Wiggin asks a question (paragraph 750) about the High Output Ballast Train (HOBT) needing to be split in order to arrive at the Stone IMB-R. Mr Smart's answers (paragraphs 751 to 759) do not answer the question. However, Mr Gould's evidence (paragraph 136 of the morning session) makes it quite clear that the issue with the 800m long HOBT is what happens when ballast is being delivered to the IMB-R, and not what might happen once the HOBT is already in the IMB-R. This is an important distinction because every time the HOBT accesses the IMB-R from Network Rail tracks it will take up two of the calculated maximum three supply train paths available. Mr Gould also refers to the HS2 Ltd Sift analysis, which confirms that the sidings at Aldersey's Rough are capable of handling the HOBT, but that those at Stone are not.

4.1.7 Paragraph 7 of the R56 document then seeks to discredit the Parish Councils' proposition that that seven passenger trains per hour (in each direction) will be using the Norton Bridge to Stone line once capacity is released following the opening of HS2. HS2 Ltd's dismissal of this point is made without the provision of any evidence. However, what is more important, and therefore most damaging to HS2 Ltd's case, is the result of its dismissal of this point, because it implies that the Norton Bridge to Stone line would be used to supply the Stone IMB R during the day, which in turn represents clear evidence that there is an expectation that the maximum capacity of three trains in the night time period will potentially be exceeded.

4.1.8 The Parish Councils maintain that seven passenger trains post HS2 opening is likely and that, given the aspirations of the local authorities, relevant Train Operating Companies, business leaders and other interested parties, this is likely to be borne out. As a consequence, a slow-moving freight train, which needs to cross the path of trains heading in the opposite direction in order to enter the access sidings at Stone, would not have sufficient pathing capacity to be able to run during the day, because that train will need at least two paths in each direction to coincide with each. With seven trains per hour in each direction, i.e. approximately one train every 4.5 minutes, that manoeuvre is simply not possible.

4.1.9 The most likely consequence of this will be exactly what Mr Gould says in his evidence (paragraph 175), which is that one or more of the passenger services will have to be withdrawn in order to create a path for the IMB-R supply trains. The most likely candidate for withdrawal is the HS2 service to Stafford, which can easily be diverted via Colwich, with the resultant serious economic consequences for the County town, and Staffordshire as a whole.

4.1.10 In paragraph 8 of the R56 document, HS2 Ltd once again demonstrates its total confusion about the capacity points raised by Mr Gould once HS2 is operation, by referring to the capacity situation between 2021 and 2026, i.e. before the Stone IMB-R is operational, which Mr Gould is not contesting.

4.1.11 With reference to paragraph 9 of the R56 document, HS2 Ltd has not addressed the point regarding stress loading on the track. This paragraph refers to loading as in terms of the volume of ballast needing to be loaded at Stone IMB-R. However, Mr Gould's evidence in paragraph 138 (of the morning session) could not be clearer, because he referring to the amount of stress that is put on the track, and he quotes figures provided by Mr Niall Fagan, HS2 Ltd's own Head of Track Engineering, that show that the Promoter cannot possibly know how many trains will be needed on a daily basis to supply the IMB-R.

4.1.12 In paragraph 10 of the R56 summary it is claimed by HS2 Ltd that the Parish Councils' principal objection to Stone as a location for the maintenance base is misconceived. This is completely untrue, as has been demonstrated by the comprehensive evidence that has been given by the Parish Councils.

5. Stone Railhead Construction: Internal site transport and external HGV traffic

5.1 Select committee evidence

5.1.1 It is clear from the transcript (paragraphs 786 to 789) that neither Mr Mould nor Mr Smart are able to distinguish between internal truck movements of earthworks materials on internal roads (i.e. north to south and vice versa) and the number of HGVs that need to access/egress the site from east to west and vice-versa using Yarnfield Lane to connect with the M6 motorway. Mr Parkin gave evidence in this respect, including with reference to A43(1) and A43(2), that illustrated the difference and how the Norton Bridge to Stone Railway (in particular) represented a major barrier to internal transportation between the southern part of the site (where major railway cuttings are located), and the northern part of the site, where HS2 Ltd's motorway connections are located.

5.1.2 HS2 Ltd's lack of understanding of the differences between internal and external transportation is further apparent in the exchanges between Mr Mould and his witness in paragraphs 790 to 795. It also seems clear that they are unable to distinguish between the number of HGVs that are required to build the Railhead/IMB-R, and the additional infrastructure that its construction will require, together with what would be required to just build the mainline railway, in the absence of the Railhead/IMB-R.

5.1.3 With respect to the latter scenario, it is clear from P42(4) that. without the Railhead/IMB-R, HS2 Ltd would only need to use the compounds located on Yarnfield Lane to manage the earthworks relating to the Yarnfield North Embankment and the adjacent Meaford Cutting, as well as the civil engineering relating to the M6 Meaford Viaduct, the Yarnfield Lane underbridge (for the HS2 mainline) and the reduced length Filly Brook Viaduct. This is much less than would be the case with the Railhead/IMB-R and would be similar to the kind of operations carried out by other construction compounds along the length of the Phase 2a railway, none of which are being provided with new motorway interchanges. Notwithstanding this point, Mr Wilkinson has given evidence as to how the upgraded slip roads, being provided as part of the ongoing Smart motorway works, could be used to access the Yarnfield Lane construction compounds in the *'without'* Railhead/IMB-R scenario, because the numbers of HGVs required in these circumstances would be far fewer. Furthermore, since these junctions would be available from the start of construction operations (January 2021), there would be a much reduced (if any) need to use the eastern section of Yarnfield Lane and its junction with the A34.

5.2 R56 Summary – Paragraphs 11 to 15

5.2.1 HS2 Ltd's confusion over this matter is compounded by what it sets out in its R56 document under the heading *'Second False Assumption – Impact of Construction Traffic'* in paragraphs 11-15. This is discussed with reference to the relevant paragraphs of that note.

Paragraph 12

5.2.2 HS2 Ltd asserts in paragraph 12 that *"Construction of the railhead at Aldersey's Rough would not remove, or materially reduce, the need to run the main volume of HS2 construction traffic down Yarnfield Lane or on the A34."* However, whilst it is noted that this statement carefully only refers to the HS2 construction traffic using the section of Yarnfield Lane between the compounds and the A34 (a distance of approximately 1.2km) as HS2 Ltd has confirmed, via the use of its histogram (P41(10), this only represents a small proportion of the traffic that the construction of the Stone Railhead/IMB-R would generate. The majority of HGVs that its construction proposals from the Stone Railhead/IMB-R would generate would travel via its new M6 connections after the first 15 months. However, 50% of this HGV traffic would need to share the 900m long western section of Yarnfield Lane with the public. This point was

addressed by Mr Parkin in his reply to Mr Martin (see paragraphs 552 to 573 of the Hansard transcript).

5.2.3 To illustrate just how misleading the Yarnfield Lane traffic histogram is, consideration needs to be given to the amount of HGVs HS2 Ltd is predicting will need to access the Stone Railhead construction site once its new motorway slips are available. The detail is contained in Table 276 of *'Volume 5: Technical appendices -Traffic and transport: Transport Assessment (TR-001-000) Part 2'* that accompanied the Environmental Statement in July 2017. Table 276 (see Appendix A) confirms the average and peak numbers of HGVs that would be serving the main construction facilities located on Yarnfield Lane and the key details are summarised in Table 1 below.

Table 1 Summary of HS2 HGV numbers using Yarnfield Lane from March 2022 to access/egress the northbound carriageway of the M6 Motorway

HS2 Construction Facility	Estimated period of use*	Busy period	**No of HGVs (Table 276)**	
	Date	Months	Average	Peak
Yarnfield North Embankment Transfer Node	Jan 21 to Mar 25	12	935	1185
Yarnfield North Embankment Satellite Compound	Jan 21 to Mar 25	19	129	189
M6 Meaford Viaduct Satellite Compound	Jan 21 to Mar 25	4	74	95
Sub Total			**1138**	**1469**
50% of all HGV traffic, i.e. using western section of Yarnfield Lane to connect to M6 northbound.			569	735
HGV frequency (10 hour working day)			63 seconds	49 seconds
50% of Transfer Node HGVs			468	593
HGV frequency (over 10 hour working day)			76 seconds	61 seconds

* Note, Table 276 suggest that HGVs would be travelling to its new M6 sliproads from October 2021, which HS2 Ltd has now revised to March 2022, i.e. was 9 months to construct from January 2021, but now is stating as 15 months.

5.2.4 Table 1 shows that the Yarnfield Lane Transfer Node alone would generate an average of 935 HGVs/day over the stated busy period of 12 months. At this rate, this is the equivalent of one HGV every 76 seconds sharing a 900m long section of Yarnfield Lane with local traffic over the working day (08:00 to 18:00). If these HGVs coincide with the 19 month busiest period for the adjacent Yarnfield North Embankment Satellite Compound, and possibly the 4-month busy period for the M6 Meaford Satellite Compounds, the situation would worsen.

5.2.5 These numbers dwarf those that are shown on HS2 Ltd's histogram P41(10), which shows the number of HGVs using the 1.2km long eastern section of Yarnfield only, and not the 900m long western section. This explains why the Parish Councils' believe that the histogram illustrates a completely false picture and is therefore misleading.

5.2.6 It should also be noted that from March 2022 to September 2023 local traffic would need to share Yarnfield Lane with the combined western section (average 468 HGVs/day) and eastern section (average 100+ HGVs/day - see P41(10)), HS2 HGV construction traffic over a total distance of 2.1km.

5.2.7 It is therefore the Parish Councils' contention, that such levels of HGV traffic are totally incompatible with the use of Yarnfield Lane by local traffic on safety grounds, and that the lane would effectively become a no-go zone for local road users.

Paragraph 13

5.2.8 In paragraph 13(1), again with reference to the histogram P41(10), HS2 Ltd asserts in the first sentence that *"The highest volumes of HS2 lorries on Yarnfield Lane are those required during the early period of construction to serve the creation of the dedicated M6 slip roads at Stone."* However, as we have just demonstrated, this assertion is wrong, and that the highest numbers of HGVs required by HS2 Ltd are those required to build the Stone Railhead/IMB-R.

5.2.9 In the remainder of paragraph 13(1) it is claimed that *"Those dedicated slip roads are needed, whether the railhead is constructed at Stone or at Aldersey's Rough. They are needed in order to move very large volumes of excavated materials from HS2 construction haul roads along the trace directly onto the motorway throughout the construction programme. Without them, greater volumes of traffic and for longer durations would occur on the local roads in this area, including Yarnfield Lane and the A34."* However, this statement is also wrong in a number of respects, as Mr Parkin explained in his evidence. It also demonstrates just why HS2 Ltd should have produced a Transport Logistics Profile for the construction of the Stone Railhead/IMB-R from the outset, and underpin the assumptions on which its Environmental Statement (CA3 Community Area report – July 2017) should be based.

5.2.10 To explain this further, via the various meetings that were held with HS2 Ltd's engineers in 2017, Mr Parkin had sought clarity with regard to the amount of earthworks materials excavated from within the footprint of the Stone site that were predicted to be unsuitable, and therefore required off-site disposal. This culminated in an exchange of emails between the technical team of the Stone Railhead Crisis Group and HS2 Ltd, which started on 29 August 2017, i.e. in advance of the third meeting between the parties on 20 September 2017, and ended on 21 December 2017 (see Appendix B). The email thread included HS2 Ltd's response to 13 questions posed by Mr Parkin in an email dated 6 September 2017; the written response to which was given on 21 September 2017 (see Appendices C1/C2).

5.2.11 This exchange of correspondence illustrates HS2 Ltd's confused position regarding earthworks quantities; the quantities of bulk materials requiring export, and the method of construction of the Stone IMB-R. Notwithstanding this, after initially appearing to indicate that 450,000m^3 of the total site excavation quantities of 1.6 million m^3 would require off-site disposal during the 4-year construction period, with a further 150,000m^3 to be dispatched later; possibly by rail, HS2 Ltd ultimately revised the quantities downwards and categorically confirmed that just 150,000m^3 would require off-site disposal. This figure is consistent with is nationwide assumption that less than 10% of excavated materials would require removal as waste.

5.2.12 The excavation of materials within the Stone Railhead construction site, and the difficulty of transporting these materials through the site was covered in Mr Parkin's evidence in paragraphs 545, 547 and 575. Furthermore, the long list of structures that would not be required at Stone was covered in the intervening paragraphs of the Hansard transcript. Not needing to build these should result in a substantial reduction in the number of HGV movements, which would be required to deliver the associated construction materials.

5.2.13 Turning to the export of waste soil from the site, given it is HS2 Ltd's categorical position that only 150,000 m^3 of such material needs to be removed from site, this equates to approximately 15,000 loads or 30,000 HGV movements or trips to account for returning empty lorries. However, based on the details summarised in Table 1 above, where the Transfer Node will generate an average of 935 HGV movements/day over 12 months, which equates to move the 250,000 HGV movements per year, the waste exports only account for 12% of total HGVs movements to the Transfer Node, and presumably none of the HGV movements to the two adjacent satellite compounds. Furthermore, even if the quantity of waste soil to be removed is actually the 450,000m^3 initially indicated by HS2 Ltd in September 2017, this is still barely more than one-third of the total number of HGVs required. The remainder must therefore be related to the construction of both HS2 mainline and Stone Railhead/IMB-R structures, and with the latter requiring many more structures and occupying a substantially larger geographical footprint, as can be seen when P44(1) is compared to P42(4), it cannot

reasonably be concluded that removing the Stone Railhead/IMB-R would have little impact on the amount of construction HGVs required.

5.2.14 Indeed to emphasise this point further, Mr Parkin covered the complexity of construction in his evidence (paragraphs 601 to 605), with reference to slide A43(2). This drawing shows where the cut and fill areas are located and just how much the Stone Railhead/IMB-R marshalling yards platform dominates the cut and fill exercise. Although there was insufficient time to cover this point during the Select Committee proceedings, Mr Parkin estimates that the raised Railhead platform area in the Filly Brook floodplain would need approximately 900,000m^3 of fill, with the majority of this needing to be obtained from the cut area to the north of Yarnfield Lane. It therefore follows that, if the Stone Railhead/IMB-R is not constructed, then none of this cut and fill operation would be required. This in turn would dramatically reduce the risk of encountering soils that are unsuitable for use as fill and, as a consequence the quantities of waste soils needing to be removed from the site for disposal.

5.2.15 Turning to paragraph 13(2) of HS2 Ltd's R56 submission, it is stated that *"The Petitioners assert HS2 could simply use the 'emergency' slip roads following completion of the SMART motorway upgrade. Had that been a realistic solution, HS2 would have adopted it and avoided the need to go to the considerable expense and effort of constructing the new, dedicated slip roads for which the Bill provides."* This point reinforces the evidence that was given by Mr Smart in paragraph 799 of his evidence, where he states that *"Well, our understanding is that the Highways Agency will not let us use those."* Following a further exchange with Mr Mould, Mr Smart finally adds (in paragraph 803) that *"…we would not need to build our M6 slips that's shown on the previous slide."*

5.2.16 At this point it is important to note that the Parish Councils are only advocating this solution in the absence of the Stone Railhead/IMB-R, and not for its construction. As we have clearly demonstrated in our evidence, together with the details provided above, the amount of HGV traffic required to build just the HS2 mainline, without the Railhead/IMB-R, would be much less than with it. This would be clearly evident if HS2 Ltd had produced a Transport Logistics Profile for the Stone area, especially if it had assessed this location in the two scenarios, i.e. 'with' and 'without' the Railhead/IMB-R. This is what the Parish Councils believe should have been done, and is normal practice when carrying out an Environmental Impact Assessment for a major development. With regard to the *'without Railhead/IMB-R scenario'*, following further discussions with Mr Wilkinson, Highways England is receptive, subject to further detailed discussions, to the proposal of access/egress to Yarnfield Lane, utilising these new slip roads (see P40(18), to construct and supply the HS2 compounds and transfer node, which would generate far less HGV traffic than the *'with Railhead/IMB-R scenario'.*

5.2.17 Highways England has also confirmed that the upgraded slip roads have been designed to cater for an emergency fire appliance up to 4m in height and 2.55m minimum width (plus wing mirrors). As demonstrated in Mr Wilkinson's evidence, with reference to P40(10), this is more than sufficient to accommodate use by HGVs that might be required to access/egress the HS2 construction sites located off Yarnfield Lane. These slip roads will be immediately available at the start the contract period and, therefore, not require access to Yarnfield Lane from the A34, for the first15 months, as would be the case with the Railhead / IMB-R at Stone and would avoid unnecessary delays on the M6 motorway..

5.2.18 In another development, the Parish Councils have received a copy of a letter between Jack Brereton MP (Stoke South) and Jesse Norman MP, Parliamentary Under Secretary of State at the Department for Transport (see Appendix D). This letter is self-explanatory and shows the depth of his concerns about the impact of HS2 construction traffic on Junction 15 of the M6, together with the connecting local road network and the Smart motorway proposals between Junction 13 and 15.

Paragraph 14

5.2.19 The first sentence of paragraph 14 then states *"Therefore, relocation of the railhead to Aldersey's Rough will not result in the removal of the vast majority of HS2 construction lorries*

from Yarnfield Lane, which is the principal basis for the Petitioners' objection on traffic impacts." This statement is wrong and has been proven to be so by the evidence presented during the Select Committee proceedings and in the paragraphs above. This would also have been evident if HS2 Ltd had published the *'with'* and *'without'* Railhead/IMB-R Transport Logistics Profiles that have been requested by the Parish Councils.

5.2.20 The second sentence of paragraph 14 then states that *"Once the dedicated slip roads begin to come into operation, construction traffic on Yarnfield Lane starts to reduce in numbers and falls to a residual level once the Stone railhead itself comes into use in 2023."* However, as covered in detail in the proceeding paragraphs, this is a misleading claim because it is only referring to the construction traffic using the eastern section of Yarnfield Lane to access the A34. However, as Table 1 above shows, this construction traffic is dwarfed by the numbers of HGVs that HS2 Ltd needs to access/egress the northbound M6 via Yarnfield Lane from March 2022, the details of which are missing from HS2 Ltd's histogram - P41(10).

Paragraph 15

5.2.21 In summary, the statement in paragraph 15 that *"Mr Wilkinson's more detailed concerns are therefore not relevant to the Councils' case"* is entirely incorrect. Indeed it is clear that despite finally admitting to Swynnerton Parish Council, in paragraph 3 on page 9 of its Promoter's Response Document (Ref: HS2-P2A- 000086), that it would need to use Yarnfield Lane to access the northbound M6, and not challenging this point during the Select Committee proceedings, HS2 Ltd appears to still be in denial about the consequences for Yarnfield Lane and the local people who would need to share it with HGV construction traffic.

5.2.22 Furthermore, the idea that the criticisms made by Mr Wilkinson are not well-founded is also wrong. Indeed it is noted that HS2 Ltd did not choose to cross-examine Mr Wilkinson during the Select Committee proceedings on the points that it has now made in paragraph 15, bullet points (a) to (e). However, since it has now chosen to do so, the Parish Councils' respond to these points as follows:

- With respect to bullet (a), whilst HS2 Ltd has used some traffic counts from 2015, 2016 and 2017, these showed less traffic at the Walton island than the turning count surveys undertaken in 2010, shown in A40(6) of Mr Wilkinson's evidence. Furthermore, the sub-optimal nature of HS2 Ltd's traffic counts on the A34, and specifically in relation to the A34/Yarnfield Lane junction, was raised in Stafford County Council's consultation response of 30 September 2017 on page 120 under the heading *'Issues at other junctions'*. SCC states, *"In addition, SCC are also concerned that HS2 Ltd's junction count was undertaken while the new A34/Meaford Road roundabout was under construction and this could have affected traffic volumes. SCC has therefore undertaken a new traffic count at this location and would like HS2 Ltd to use these data to produce a new assessment of the junction."* Since HS2 Ltd has not undertaken a further assessments of the junction on the A34 that will be used by its traffic, it therefore follows that it is incorrect for HS2 Ltd to claim, as it does in the last sentence of bullet (a), that SCC is content with the situation, simply because it did not petition specifically on this issue.
- It is also incorrectly claimed by HS2 Ltd in bullet (b), that the committed development at Walton Hill, which involves the construction of up to 500 properties (started early 2018), has been included in its junction assessment at the A34 Walton island. The exclusion of this committed development is confirmed in paragraph 9.2.4 of HS2 Ltd's *'ES Volume 5 Technical appendices Traffic and Transport; Transport assessment (TR-001-000) Part 2.'*
- With reference to bullet (c), as has been noted in paragraph 55 of the afternoon session in the Hansard transcript of Mr Wilkinson's evidence, it has been established that the Walton Island is at capacity, and that this is also SCC's confirmed position on the subject. Therefore, HS2 Ltd offering to discuss improvements will have no bearing on the problems that this junction faces.

- It is noted in bullet (d), that HS2 Ltd is prepared to install traffic lights at the Yarnfield Lane junction with the A34. This solution could offer safe turning for HGVs exiting Yarnfield Lane to join the A34 southbound, but it will have adverse consequences for traffic flows on the main A34 trunk road, and is a sub-optimal solution, compared to avoiding the need for such traffic to use this junction in the first place.
- HS2 Ltd is now offering to use the existing section of Yarnfield Lane (and presumably the existing M6 overbridge) to access the northbound carriageway of the M6 once the new overbridge has been completed in June 2023. There are several points to make here regarding the unworkability of such a proposition. Firstly, there would be a period of 15 months (March 2022 to June 2023) where this idea could not be implemented. Secondly, once the new overbridge is available, the existing length of Yarnfield Lane would have been buried under metres of fill and would have no connection to the new M6 slips on the western side of the M6 because of the new embankment that has been formed to create the realigned Yarnfiled Lane in this location. This problem is clearly shown on A43(1) and has also been recognised by SCC in the penultimate bullet point on page 122 of its consultation response dated September 2017.

6. Staffordshire County Council – Highways Authority

6.1.1 In paragraph 827 Mr Mould raises the position of Staffordshire County Council as Highways Authority and there then follows an exchange with Mr Smart that implies that the Authority has raised no objections to the proposals to construct the Railhead. However, this is incorrect.

6.1.2 In its joint consultation response with other local authorities, from September 2017, Staffordshire County Council has raised multiple concerns about the quality of the HS2 Ltd assessment, some of which have already been raised in Section 2.5 above. Although the structure of this document makes it difficult to easily reference, the Select Committee' attention is drawn to the following points:

6.1.3 In respect of the box in the table entitled Stone, starting on page 113/141, the Highways Authority refers to its concerns regarding:

- *"A34 Walton roundabout: capacity is limited at peak hours. Very limited scope for improvement due to existing constraints.*
- *A34/A51 roundabout, there are possible congestion issues here. HS2 Ltd will need to review capacity and liaise with occupants of the business park.*
- *Use of Pirehill Lane route through residential estate at Walton is not acceptable. The latter is narrow with very limited passing places and requires re-surfacing.*
- *Eccleshall Road: this route is undesirable, as it runs through a residential area and local centre.*
- *Yarnfield Lane: this route is narrow and has a poor alignment. The junction with the A34 is difficult to safely move across, and would need upgrading in order to be suitable."*

6.1.4 Staffordshire County Council also raised further concerns on page 119 and 120 of its consultation response with reference to Tables 281, 282, 290 and 291 of HS2 Ltd's Transport Assessment. With respect to Table 290 and the A34/Yarnfield Lane Junction, the Highways Authority states *"HS2 junction assessments show that the junction will stay within capacity with the addition of HS2 traffic. SCC considers this is to be very unlikely and has obtained HS2's junction models, which demonstrate the junction geometry measurements are generous. In addition to capacity issues, there are big concerns about the safety of vehicles entering and existing Yarnfield Lane, particularly HGV movements turning right out of Yarnfield Lane (see later comments on accidents.)"* SCC then raises further concerns about HS2 Ltd's junction models and traffic counts in the bullet points that follow.

6.1.5 Under the heading of Yarnfield Lane/Railhead starting on page 121 and continuing to page 123 of its consultation response, SCC raise multiple concerns about the use of Yarnfield Lane to access the railhead.

6.1.6 In paragraph 828 Mr Smart states that *"…we are looking to do widening of that Yarnfield Lane down to access our site. We are looking to widen it to six metres, and also include passing bays."* It is clear from this evidence that, despite Mr Wilkinson stating in his evidence (paragraphs 292-300 of the morning session transcript from Hansard) that a widening of Yarnfield Lane to six metres was insufficient to enable the road to be safely used by HGVs passing in each direction, HS2 Ltd appears to remain unconcerned about this matter and the safety implications for road users.

6.1.7 Mr Smart then added in paragraph 828 that *"I understand Mr Wilkinson's raised some concerns, but anything we do on the highways has to be with the approval of the Highways Authority and that includes road safety audits, so we can't do anything that would be considered unsafe by the Highways Authority or indeed would not pass to acceptable level, any road safety order."* Despite such an assurance, HS2 Ltd is currently proposing to expose the public to considerable safety risks, and only seems willing to consider altering its proposals once the Hybrid Bill has received Royal assent. This position is unacceptable to the residents of Staffordshire and demonstrates why the proposals to build a Railhead/IMB-R at Stone are untenable.

6.1.8 In summary it is plainly wrong to state that, as Highways Authority, Staffordshire County Council has not raised serious concerns about HS2 Ltd's road traffic proposals and assessments, together with the data that has informed them. Furthermore, the fact that SCC has not undertaken the depth of analysis that has been carried out by Mr Wilkinson, should in no way be considered to exonerate HS2 Ltd's flawed approach to all matters relating to road transportation, especially since it has been unable to provide substantive evidence that contradicts any part of Mr Wilkinson's case.

Stone Town Council and Chebsey Parish Council
30 April 2018

Appendix A

Table 276: Typical vehicle trip generation for construction sites in the Stone and Swynnerton area

Compound type	Location	Access to / from compound to main road network	Indicative start/set up date	Estimated duration of use (years)	Estimated duration with busy vehicle movements (months)	Average daily combined two-way vehicle trips during busy period and within peak month of activity	
						Cars/LGV	HGV
Satellite	Yarlet Embankment satellite compound	Stone Rural Bridleway 0.1135 for site setup followed by haul road thereafter to the A34 Stone Road	January 2021	Civil engineering - 4 years	3	56-77	82-98
			January 2025	Rail systems - 1 year and 6 months	3	18-30	up to 10
Satellite	Yarlet North Cutting satellite compound	B5026 Eccleshall Road for site set-up and servicing and followed by haul road to Stone railhead thereafter to the M6	January 2021	4 years 3 months	1	152-209	171-171
Satellite	Stone Connection satellite compound	via Stone railhead main compound	October 2021	6 months	3	94-222	up to 10
Main	Stone railhead main compound	M6 and Yarnfield Lane and on to the A34 The Fillybrooks	July 2024	3 years and 3 months	5	258-840	39-135
Transfer node	Transfer node associated with Yarnfield North Embankment satellite compound	Yarnfield Lane for site setup and servicing and followed by haul road to Stone railhead thereafter to the M6	January 2021	4 years 3 months	12	N/A	935-1185
Satellite	Yarnfield North Embankment satellite compound	Yarnfield Lane for site setup and servicing and followed by haul road to Stone railhead thereafter to the M6	January 2021	4 years 3 months for civils but compound remains further 1 year and 9 months due to worker accommodation	19	264-363	129-189
Satellite	M6 Meaford Viaduct satellite compound	Yarnfield Lane for site setup and servicing and followed by haul road to Stone railhead thereafter to the M6	January 2021	4 years 3 months	4	24-33	74-95

Appendix B. Email thread - Excavated Quantities

From: Joe Wilson
Sent: 21 December 2017 11:16
To: info@stonerailhead.org
Cc: Terry Stafford; Laura Wise; Simon Knight
Subject: RE: Aldersey's Rough proposal

Morning Chris

Please see our reply to each of your points below.

Regards

Joe

Joe Wilson | Stakeholder Adviser – West Midlands to Crewe | HS2 Ltd.
Tel: 0207 944 6043 Mobile: 0746 8707809 | joe.wilson@hs2.org.uk | Facebook | Twitter | LinkedIn
High Speed Two (HS2) Limited, Two Snowhill, Birmingham, B4 6GA | www.hs2.org.uk

From: info@stonerailhead.org [mailto:info@stonerailhead.org]
Sent: 19 December 2017 16:55
To: Joe Wilson <Joe.Wilson@hs2.org.uk>
Cc: Terry Stafford <terry.stafford@hs2.org.uk>; Laura Wise <laura.wise@hs2.org.uk>; Simon Knight <Simon.Knight@hs2.org.uk>
Subject: RE: Aldersey's Rough proposal

HI Joe, thanks for responding. However, we still seem to disagree on the resolution of some of the points. Please see our updates on blue.

Regards,

Chris

Sent from Mail for Windows 10

From: Joe Wilson
Sent: 19 December 2017 10:17
To: info@stonerailhead.org
Cc: Terry Stafford; Laura Wise; Simon Knight
Subject: RE: Aldersey's Rough proposal

Dear Chris

In response to your follow up email regarding the mass haul on 8th December, please see your comments and our response.

a) we remain concerned about the conflicting statements being made by HS2 and the absence of transparency over how the Stone Railhead will be constructed.

To be clear, there are no conflicting statements, the response of the 04/12/17 reflects that of the 21/09/17, we believe the questions asked were answered. We are a little disappointed with your reference to 'absence of transparency' as we have afforded SRCG a considerable amount of time, effort & provided information openly to date.

We appreciate the time that has been afforded to the SRCG so far, but we remain concerned that HS2 Ltd is not answering the questions fully, as has again been demonstrated by your response today. We therefore request again that further details are provided to the outstanding points outlined below:

While there is no question to answer, we would like to reiterate that there are no conflicting statements, the response of the 04/12/17 reflects that of the 21/09/17.

b) Furthermore, we cannot accept the details of your answers, given that it clearly contradicts what Harry Rolfe put in writing with reference to the use of the Transfer Node and the M6 in his previous email, without being provided with a detailed explanation of the use of the Transfer node for all internal haul and external HGV use.

Once again, there are no conflicting statements, this is answered under 'Internal Site Movements' of 21/09/17. You will recall at the meeting of 21.09.17 using your laser pointer, we indicated typical haul road routes on the plan displayed on screen connecting the Transfer node with the haul road via the temporary roundabout. We also pointed out that the haul roads were not indicated on the CT-05 plans.

No we don't recall this and therefore we once again request that your ideas for internal haul roads are overlaid on the CT-05 plans. Such details should also include how HS2 Ltd intends to connect to the northbound motorway slips roads on the western side of the M6 without using Yarnfield Lane.

It is unfortunate that you cannot recall this as we answered your query at the time. We are unable to overlay the haul roads on the CT05 plans as these are specifically produced to define the CCB (consolidated construction boundary) as part of the ES.

c) Such an explanation should give clear details of why internal haul of spoil would utilise the transfer node if the material was not going off site via the M6, especially when Harry has also already told us that 1.6 million m3 represents the total excavation volume within the site.

The use of the 1.6m3 is covered in 'Materials Quantities' a) - d) in our responses of 21/09/17, please refer to these responses with reference to transfer node, haul road & M6.

HS2 Ltd have not answered this question and we again request a fuller explanation.

There is no more to add, the use of the 1.6m3 is covered in 'Materials Quantities' a) - d) in our previous responses, please refer to these responses with reference to transfer node, haul road & M6.

d) It would also be useful to know what the imported quantities of quarried materials will be to the site

There is approximately 100,000m3 of sub ballast and sub-grade imported to Stone rather than won from other parts of the route.

Thank you for this estimate of quarried imports, but can you clarify the quantity of sub-ballast and sub-grade you expect to win from within the footprint of the Stone Railhead and transported via internal haul roads, together with how much will be imported by road from other parts of the Phase 2a route.

There is no sub ballast/ subgrade won from site as stated in our answer above, thus it is 'imported'.

e) together with the number of HGV movements expected for all other construction materials to be delivered to the site.

Please refer to section under 'vehicle movements' in our response of 21.09.17

This was our Q8, which was not answered in your vehicle movements section of the Harry Rolfe response dated 21/9, where we requested a estimate of other HGV deliveries by type (i.e. plant, machinery, fuel, steelwork, other construction materials), which would normally form part of a logistics profile that would be appended to an ES. Please can you now provide this information?

We must refer you once again to the section under 'vehicle movements' in our response of 21.09.17 in particular ;

'Key points with this group of questions relate to Start & Finish dates/ peak numbers of HGV (including deliveries, plant, machinery, fuel, steelworks)/ LGV & Car related movements & respective totals of the same.'

The associated table is also included in our original response and is an extract from the very comprehensive ES.

I hope our further clarifications to your queries are now satisfied.

Regards

Joe

Joe Wilson | Stakeholder Adviser – West Midlands to Crewe | HS2 Ltd.
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High Speed Two (HS2) Limited, Two Snowhill, Birmingham, B4 6GA | www.hs2.org.uk

From: info@stonerailhead.org [mailto:info@stonerailhead.org]
Sent: 08 December 2017 13:17
To: Joe Wilson <Joe.Wilson@hs2.org.uk>
Subject: RE: Aldersey's Rough proposal

Dear Joe

I have discussed your response with the SRCG Engineering Team, but we remain concerned about the conflicting statements being made by HS2 and the absence of transparency over how the Stone Railhead will be constructed. Furthermore, we cannot accept the details of your answers, given that it clearly contradicts what Harry Rolfe put in writing with reference to the use of the Transfer Node and the M6 in his previous email, without being provided with a detailed explanation of the use of the Transfer node for all internal haul and external HGV use. Such an explanation should give clear details of why internal haul of spoil would utilise the transfer node if the material was not going off site via the M6, especially when Harry has also already told us that 1.6 million m3 represents the total excavation volume within the site. It would also be useful to know what the imported quantities of quarried materials will be to the site, together with the number of HGV movements expected for all other construction materials to be delivered to the site.

We look forward to your response.

Regards,

Chris

Sent from Mail for Windows 10

From: Joe Wilson
Sent: 08 December 2017 09:29
To: info@stonerailhead.org
Subject: RE: Aldersey's Rough proposal

Good Morning Chris

Please see responses below to your queries on the mass haul.

A hard copy of the Sift report was sent to your address, hopefully this reached you.

Regards

Joe

Joe Wilson | Stakeholder Adviser – West Midlands to Crewe | HS2 Ltd.
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From: info@stonerailhead.org [mailto:info@stonerailhead.org]
Sent: 04 December 2017 14:26
To: Joe Wilson <Joe.Wilson@hs2.org.uk>
Subject: RE: Aldersey's Rough proposal

Hello Joe.

Can I ask you (HS2 Ltd.) to clarify a point raised during our last meeting?

During the meeting between the SRCG and HS2 Ltd on 20/09/2017, the numbers of spoil were discussed, and your letter dated 21/09/2017 confirmed that the material requiring removal from the Yarnfield site was 600,000 m3. 450,000m3 would be removed via M6 slips and 150,000m3 via road (M6 slips?), or potentially via rail.

This description above falls slightly short of the description in HS2 response which is below, significant issue being the reference to 'forms part of the mass haul for the route'.

c) Approximately 450,000m3 forms part of the mass haul for the route via the Transfer Node & M6.

d) 150,000m3 is exported as excess also via the transfer node & M6

Utilisation of Rail will be further developed, worse case shown.

However, during our last meeting on 08/11/2017, Harry Rolf had reversed the numbers. He said that 450,000m3 would be via road (M6 Slips or rail) and 150,000m3 via M6 slips. I have checked both Trevor Parkin and my notes, and they both accurately record what Harry stated. However, as documented by HS2 Ltd in the letter dated 21/09/2017, these are incorrect.

Trevor mentioned 600,000m3 was going offsite not 150,000m3. HR simply reiterated c) & d) above i.e. Approximately 450,000m3 forms part of the mass haul for the route (re-used along the route) via the Transfer Node (haul road) & M6 & 150,000m3 is exported entirely offsite as excess also via the transfer node & M6 We were also promoting more material offsite by Rail that would eat in to the 150,000m3 that is excess.

So no 'reversal', no mistake, it was a repeat of what had already been quoted.

We would like to give HS2 Ltd the opportunity to clarify this mistake, in particular, the exact numbers of movements/quantities and via which egress method?

Regards,

Chris

Sent from Mail for Windows 10

From: Joe Wilson
Sent: 21 September 2017 16:56
To: info@stonerailhead.org
Cc: Terry Stafford
Subject: RE: Aldersey's Rough proposal

Hi Chris

As agreed at yesterday's meeting please see our responses to questions and references to information contained in the Bill.

Sure we will speak again soon.

Regards

Joe

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From: info@stonerailhead.org [mailto:info@stonerailhead.org]
Sent: 06 September 2017 12:21
To: Joe Wilson <Joe.Wilson@hs2.org.uk>; Richard Johnston <Richard.Johnston@hs2.org.uk>
Subject: RE: Aldersey's Rough proposal

Thanks Joe for the confirmation, and the SRCG would like to accept that date. Would 5pm and the same venue be ok?

Based on the presentation yesterday evening, the SRCG would like answers to the following questions either before (preferable), or at the very least, prepared for our meeting on the 20th. If you could pass these on to the relevant parties, that would be great.

1. Estimated quantities (m3) of total excavations within the Stone Railhead construction site and how much of this is considered to be of unsuitable quality to enable re-use as fill with the site.
2. Total number of HGV loads required to dispose of the unsuitable materials off-site
3. Estimate start and finish date of off-site earthworks disposals from the transfer node, including predicted peak daily numbers of HGV loads (one way) or movements (two way).
4. Proposals for internal earthworks transportation, i.e. via dump truck between excavation face and transfer node and how.where the existing/proposed diversion of Yarnfield Lane will be crossed
5. Estimated quantities (m3) and tonnage of geotechnically competent engineering fill, together with predicted start/end date of HGV movements and how/where this material will be stockpiled
6. Details of transfer node layout including the system for internal HGV and dump truck segregation and materials stockpiling, together with proposals for lorry sheeting and wheel washing
7. Estimate of other HGV deliveries, plant, machinery, fuel, steelworks and other railhead construction materials in HGV loads/movements

8. Estimate of development LGV and car related traffic movements by development phase and that all will make access via existing Yarnfield Lane from A34
9. Summarise the above in a spreadsheet based logistics profile for each month throughout the construction and operational period of the railhead and subsequent IMB-R and use the worst case in each of the 5 railhead construction and 3 operational phases as the basis of the transport assessment on the key raods and junctions located in the vicinity of the Stone railhead, i.e. Yarnfield Lane, its junction with the A34, Eccleshall road, Pirehill Lane and Walton roundabout.
10. Confirm the timing for the proposed completion of the Yarnfield Lane transfer node roundabout, underbridges (railhead and HS2 main line), southbound access slips with connection to Yarnfield Lane, M6 overbridge, northbound access slips and connection to Yarnfield Lane and opening of Yarnfield Lane diversion
11. Confirm when existing Yarnfield Lane will be closed and the existing M6 overbridge demolished.
12. Confirm when Yarnfield Lane widening near Stone Golf club will be undertaken and confirm the duration of temporary road closures in that area.
13. From the above determine the total number and peak levels of HGV/LGV/car using Yarnfield Lane between railhead and A34 in each year/or phase (8) of the railhead development, i.e. 2021 to 2017) and then 2018 for opened IMB-R

PS, can you give me the names of the other two HS2 Ltd attendees from yesterday evening, I didn't catch their names when Richard introduced your team.

Regards,

Chris

Sent from Mail for Windows 10

From: Joe Wilson
Sent: 06 September 2017 11:39
To: info@stonerailhead.org
Subject: RE: Aldersey's Rough proposal

Hi Chris

The evening of the 20th is good for us. If you could confirm the time please and assume the same venue.

Thanks

Joe

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High Speed Two (HS2) Limited, Two Snowhill, Birmingham, B4 6GA | www.hs2.org.uk

A332 (23)

From: info@stonerailhead.org [mailto:info@stonerailhead.org]
Sent: 05 September 2017 09:27
To: Joe Wilson <Joe.Wilson@hs2.org.uk>
Subject: RE: Aldersey's Rough proposal

Hi Joe. I spoke to the Engineering team yesterday evening, and the 19th is not doable. Too many of the team are not available. We do have the 18th (any time), and 20th (morning, or afternoon). We could, at a push, do the 20th evening, but one of our team will not be available for that.

We would like to get the meeting in the early part of that week, so can you come back to me with the 18th or 20th suggestions.

Regards,

Chris

On 2017-09-04 15:37, Joe Wilson wrote:

The 6th and 15th I don't have the availability. From 19th onwards there is more flexibility.

Joe

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High Speed Two (HS2) Limited, Two Snowhill, Birmingham, B4 6GA | www.hs2.org.uk

From: info@stonerailhead.org [mailto:info@stonerailhead.org]
Sent: 04 September 2017 14:56
To: Joe Wilson <Joe.Wilson@hs2.org.uk>
Subject: RE: Aldersey's Rough proposal

Hi Joe. I assume that the 6th is too-short a notice, but is the 15th not doable? If not, then let me check with the team for the 19th evening and get back to you.

Regards,

Chris

Sent from Mail for Windows 10

From: Joe Wilson
Sent: 04 September 2017 14:52
To: info@stonerailhead.org
Subject: RE: Aldersey's Rough proposal

Hi Chris

You've suggested a meeting between 18-22 Sept. What is your time preference here? I'm thinking of holding the 19th Sept for 11am.

All our meetings have been in the evening at the Yarnfield conference centre so just want to see what suits you on 19th.

Thanks

Joe

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From: info@stonerailhead.org [mailto:info@stonerailhead.org]
Sent: 29 August 2017 14:46
To: Terry Stafford <terry.stafford@hs2.org.uk>
Cc: Richard Johnston <Richard.Johnston@hs2.org.uk>; Joe Wilson <Joe.Wilson@hs2.org.uk>
Subject: Re: Aldersey's Rough proposal

Good afternoon Terry.

Our apologies for not getting back to you sooner. As you are aware, the summer is here, and we have had members on holiday. However, we have now correlated our availability dates. Would HS2 Ltd be available for a meeting on the 6th (any time) or the 15th (morning or afternoon), or the following week (18th- 22nd). We understand the short notice, but the 6th would be preferable to the SRCG.

Regards, Chris Hammond

On 2017-08-11 14:37, Terry Stafford wrote:

Dear SRCG

The attached is a work in progress looking at the option at Aldersey's Rough. It does not include all of the civils design that is currently being progressed. This design is the 5th revision of a layout in this area, and we believe it shows the layout that, on balance of operation, environmental impact, constructability, cost etc. would be best. Previous revisions that had a better operational layout (fewer shunting moves), required significant earthworks to achieve, and we do not believe these would be reasonable alternatives. However, if you have any recommendations, questions or concerns relating to this layout, please do let us know.

I understand from conversations at Yarnfield on Monday that the group is keen to meet with us in late August/early September. In this case, if you could please suggest a few dates around that time, we can try to get something in people's diaries? I'll assume the same time and venue as previous meetings, but please say if not.

Regards,

Terry Stafford

Terry Stafford | Community and Stakeholder Manager – Phase 2a | HS2 Ltd

T: 020 7944 0660 | M: 07920 450332 | E: terry.stafford@hs2.org.uk | Facebook | Twitter | LinkedIn

Appendix C1. Email - SRCG Questions arranged - Responses 21.09.17

Message SRCG Questions arranged - Responses 21.09.17.docx (225 KB)

From: Joe Wilson
Sent: 21 September 2017 16:56
To: info@stonerailhead.org
Cc: Terry Stafford
Subject: RE: Aldersey's Rough proposal

Hi Chris

As agreed at yesterday's meeting please see our responses to questions and references to information contained in the Bill.

Sure we will speak again soon.

Regards

Joe

Joe Wilson | Stakeholder Adviser – West Midlands to Crewe | HS2 Ltd.
Tel: 0207 944 6043 Mobile: 0746 8707809 | joe.wilson@hs2.org.uk | Facebook | Twitter | LinkedIn
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hs2 engine for growth

Appendix C2. SRCG Questions arranged - Responses 21.09.17.docx

Based on the presentation yesterday evening, the SRCG would like answers to the following questions either before (preferable), or at the very least, prepared for our meeting on the 20th. If you could pass these on to the relevant parties, that would be great.

14. Estimated quantities (m3) of total excavations within the Stone Railhead construction site and how much of this is considered to be of unsuitable quality to enable re-use as fill with the site.
15. Total number of HGV loads required to dispose of the unsuitable materials off-site
16. Estimate start and finish date of off-site earthworks disposals from the transfer node, including predicted peak daily numbers of HGV loads (one way) or movements (two way).
17. Proposals for internal earthworks transportation, i.e. via dump truck between excavation face and transfer node and how.where the existing/proposed diversion of Yarnfield Lane will be crossed
18. Estimated quantities (m3) and tonnage of geotechnically competent engineering fill, together with predicted start/end date of HGV movements and how/where this material will be stockpiled
19. Details of transfer node layout including the system for internal HGV and dump truck segregation and materials stockpiling, together with proposals for lorry sheeting and wheel washing
20. Estimate of other HGV deliveries, plant, machinery, fuel, steelworks and other railhead construction materials in HGV loads/movements
21. Estimate of development LGV and car related traffic movements by development phase and that all will make access via existing Yarnfield Lane from A34 -

22. Summarise the above in a spreadsheet based logistics profile for each month throughout the construction and operational period of the railhead and subsequent IMB-R and use the worst case in each of the 5 railhead construction and 3 operational phases as the basis of the transport assessment on the key roads and junctions located in the vicinity of the Stone railhead, i.e. Yarnfield Lane, its junction with the A34, Eccleshall road, Pirehill Lane and Walton roundabout.
23. Confirm the timing for the proposed completion of the Yarnfield Lane transfer node roundabout, underbridges (railhead and HS2 main line), southbound access slips with connection to Yarnfield Lane, M6 overbridge, northbound access slips and connection to Yarnfield Lane and opening of Yarnfield Lane diversion
24. Confirm when existing Yarnfield Lane will be closed and the existing M6 overbridge demolished.
25. Confirm when Yarnfield Lane widening near Stone Golf club will be undertaken and confirm the duration of temporary road closures in that area
26. From the above determine the total number and peak levels of HGV/LGV/car using Yarnfield Lane between railhead and A34 in each year/or phase (8) of the railhead development, i.e. 2021 to 2017) and then 2018 for opened IMB-R

CATEGORIES ;

As some of the questions cover the same topic, we have categorised them under common headings.

MATERIAL QUANTITIES

1. Estimated quantities (m3) of total excavations within the Stone Railhead construction site and how much of this is considered to be of unsuitable quality to enable re-use as fill with the site.

2. Total number of HGV loads required to dispose of the unsuitable materials off-site – as stated previously, as above as specific to unsuitable material.

5. Estimated quantities (m3) and tonnage of geotechnically competent engineering fill, together with predicted start/end date of HGV movements and how/where this material will be stockpiled - competent engineering fill along the Haul Road.

a) Associated with the Railhead (IMBR and Headshunt) there is approximately 1.6 million m3 of earth moved.

b) Approximately 1.0m m3 of this is used within the same area as cut/fill for the Railhead/ IMBR platform.

c) Approximately 450,000m3 forms part of the mass haul for the route via the Transfer Node & M6.

d) 150,000m3 is exported as excess also via the transfer node & M6

Utilisation of Rail will be further developed, worse case shown.

VEHICLE MOVEMENTS

3. Estimate start and finish date of off-site earthworks disposals from the transfer node, including predicted peak daily numbers of HGV loads (one way) or movements (two way).

7. Estimate of other HGV deliveries, plant, machinery, fuel, steelworks and other railhead construction materials in HGV loads/movements

8. Estimate of development LGV and car related traffic movements by development phase and that all will make access via existing Yarnfield Lane from A34

9. Summarise the above in a spreadsheet based logistics profile for each month throughout the construction and operational period of the railhead and subsequent IMB-R and use the worst case in each of the 5 railhead construction and 3 operational phases as the basis of the transport assessment on the key roads and junctions located in the vicinity of the Stone railhead, i.e. Yarnfield Lane, its junction with the A34, Eccleshall road, Pirehill Lane and Walton roundabout.

13. From the above determine the total number and peak levels of HGV/LGV/car using Yarnfield Lane between railhead and A34 in each year/or phase (8) of the railhead development, i.e. 2021 to 2017) and then 2018 for opened IMB-R

Key points with this group of questions relate to Start & Finish dates/ peak numbers of HGV (including deliveries, plant, machinery, fuel, and steelworks)/ LGV & Car related movements & respective totals of the same.

Staging can be found in the following (eluded to in Q.9);

Volume 2: Community Area report CA3: Stone and Swynnerton

2.3.60: The works within the Stone railhead/IMB-R will be carried out in stages as shown in Figure 7.

Relative Start & Finish dates can be found in Volume 2: Community Area report CA3: Stone and Swynnerton

2.3.141 Figure 8. construction programme illustrating indicative periods for each of the core construction activities.

Vehicle trip generation for construction sites in the Stone and Swynnerton area can be found in Volume 2: Community Area report CA3: Stone and Swynnerton

Table 28: extract below shows Cars/ LGV & HGV.

Compound type	Location	Access to / from compound to main road network	Indicative start/set up date	Estimated duration of use (years)	Estimated duration of busy period (months)	Average daily combined two-way vehicle trips during busy period and within peak month of activity	
						Cars/LGV	HGV
		followed by site haul route to Stone railhead thereafter to the M6					
Satellite	Stone connection satellite compound	Via Stone railhead main compound	October 2021	6 months	3	94-222	up to 10
Main	Stone railhead main compound	M6 and Yarnfield Lane and on to the A34 The Fillybrooks	July 2024	3 years and 3 months	5	258-840	39-135
Satellite	Yarnfield North embankment satellite compound	Yarnfield Lane for site setup and servicing, followed by site haul route to Stone railhead thereafter to the M6	January 2021	4 years 3 months for civils but compound remains further 1 year and 9 months due to worker accommodation	19	264-363	129-189
Transfer node	Transfer node associated with Yarnfield North embankment satellite compound	Yarnfield Lane for site setup and servicing, followed by site haul route to Stone railhead thereafter to the M6	January 2021	4 years 3 months	12	N/A	935-1185
Satellite	M6 Meaford viaduct satellite compound	Yarnfield Lane for site setup and servicing, followed by site haul route to Stone	January 2021	4 years 3 months	4	24-33	74-95

For clarity - Peak month for Yarnfield Transfer Node is 1185 HGV, via M6, we would expect the peak to be around Spring 2022-Spring 2024 which ties in with Stage 4, note the busy period is 12 months for the range 935-1185, however it is not a consecutive 12 months, it effectively spans a 2 year period as typically the traffic volumes tail off during the winter period.

For the Site Setup & enabling works, HGV will be used, this is described in;

Volume 5: Technical appendices - Traffic and transport - Transport Assessment (TR-001-000) Part 2

Construction HGV routes.

9.3.8 Construction vehicle movements required to construct the Proposed Scheme will include the delivery of plant and materials, movement of excavated materials and site worker trips. Works will include utilities diversions, earthworks, underpass, viaduct, Stone railhead, bridge and highway construction.

9.3.11: Table 277 summarises the peak daily construction traffic flow, both in HGVs and total vehicles on each link within CA3 that is on a construction route. i.e. 218 HGV max. EW along Yarnfield Lane between the scheme & A34. For clarity, it is not 1185 as suggested by SRCG.

	SB	45	459
Yarnfield Lane (between The Fillybrooks and the Proposed Scheme)	WB	218	566
	EB	218	566
Yarnfield Lane (between the Proposed Scheme and Yarnfield Lane/north-bound)	WB	218	566
	EB	218	566
Bent Lane (between The Rowe and the Proposed Scheme)	NB	65	565
	SB	65	565
Bent Lane (South of the Proposed Scheme)	NB	65	565
	SB	65	565

Appendix TR-001-000

Location	Direction	Peak HGV	Peak all vehicles
Dog Lane (between The Rowe and the Proposed Scheme)	EB	39	104
	WB	39	104
Pirehill Lane (between Coombe Park Road and HS2 Railway)	SB	30	205
	NB	30	205
Pirehill Lane (between Eccleshall Road and Coombe Park Road)	SB	30	141
	NB	30	141
Pirehill Lane (between the Proposed Scheme and Green Lane)	SB	30	205
	NB	30	205

The detail currently not progressed at this stage of project development & therefore not available is SRCG request for logistics profile for each month throughout the construction and operational period.

INTERNAL SITE MOVEMENTS

4. Proposals for internal earthworks transportation, i.e. via dump truck between excavation face and transfer node and how/where the existing/proposed diversion of Yarnfield Lane will be crossed.

Internal earthworks will be via the transfer node, M6 & haul route along the scheme. On completion of the diverted Yarnfield Lane, the redundant part of Yarnfield Lane will be used to best advantage, it is envisaged that a 'Plant' crossing will be utilised at the Yarnfield end tie-in within the CCB, standard practice.

PROGRAMME

10. Confirm the timing for the proposed completion of the Yarnfield Lane transfer node roundabout, underbridges (railhead and HS2 main line), southbound access slips with connection to Yarnfield

Lane, M6 overbridge, northbound access slips and connection to Yarnfield Lane and opening of Yarnfield Lane diversion.

11. Confirm when existing Yarnfield Lane will be closed and the existing M6 overbridge demolished.

12. Confirm when Yarnfield Lane widening near Stone Golf club will be undertaken and confirm the duration of temporary road closures in that area.

Environmental Statement Vol.2 : Community Area 3 (2.3.67) covers the works to be managed from the compound describing Yarnfield Lane permanent realignment, lane restrictions, temporary construction access roundabout, tie-ins, temporary works to Yarnfield Lane near Stone Golf Club (1st quarter 2021, stated in vol.4), permanent southbound access off the M6 & a temporary northbound access off the M6 along with durations.

Demolitions generally shown as complete by 2023

Duration of temporary road closures will be determined with LA/ HE as appropriate.

Other programme items referred;

underbridges (railhead and HS2 main line) shown as Q3.2021 for 18 months.

Southbound access slips with connection to Yarnfield Lane - This will be part of site prep & set up Q1. 2021 covering 9 months

M6 overbridge - Q3. 2021 for 2 years including Road realignment to bring into use.

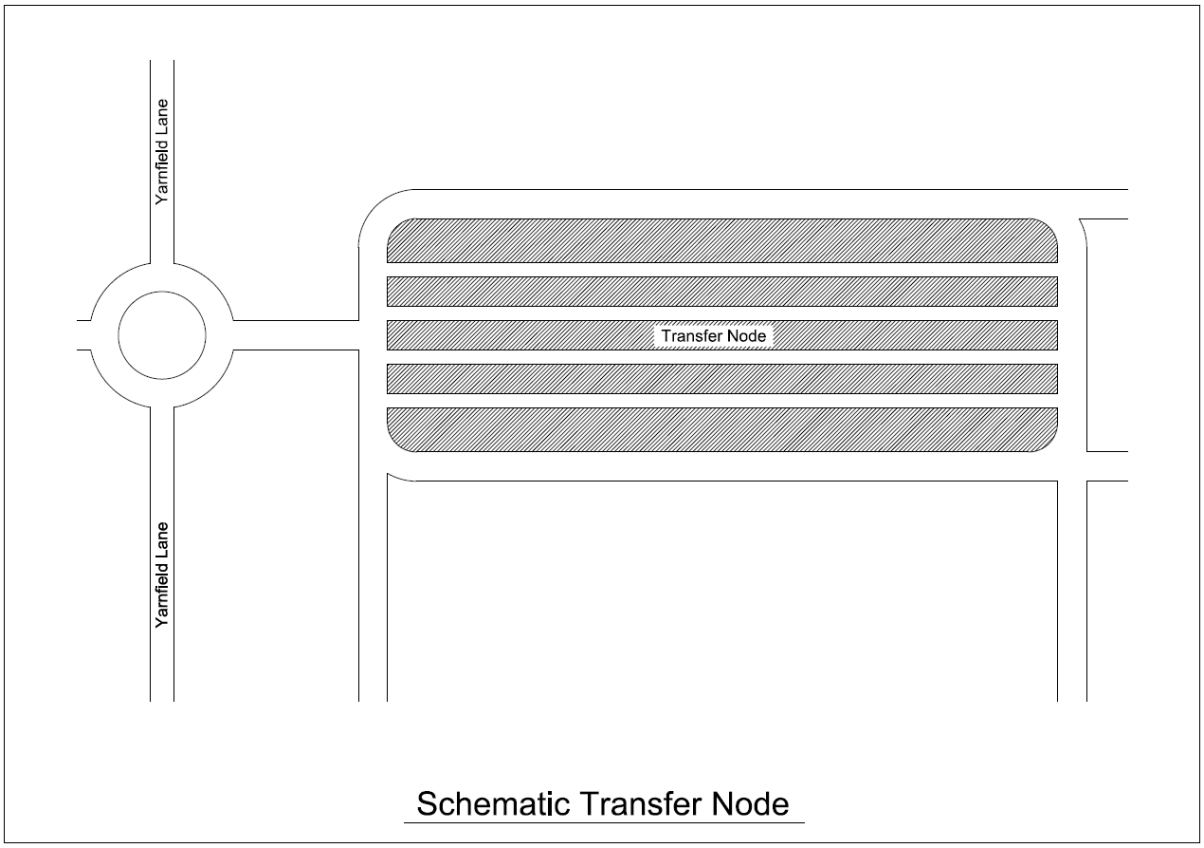
Northbound access slips and connection to Yarnfield Lane – part of the Meaford North Embankment Satellite compound site prep & set up Q1 for 9 months including northbound access slips.

Opening of Yarnfield Lane diversion – Q2. 2023.

Note: ongoing discussions with HE regarding opportunity for the potential use of their existing emergency access slips.

TRANSFER NODE LAYOUT

6. Details of transfer node layout including the system for internal HGV and dump truck segregation and materials stockpiling, together with proposals for lorry sheeting and wheel washing – again described in the Bill, standard practice.



Schematic Transfer Node

Appendix D. Jack Brereton letter to DfT

COPY

Jack Brereton MP
Stoke-on-Trent South

Jesse Norman MP
Parliamentary Under Secretary of State
Department for Transport
Great Minster House
33 Horseferry Road
London
SW1P 4DR

13th April 2018

Dear Jesse,

Traffic Impacts HS2

When we met recently I discussed some significant concerns I have raised regarding the impacts on the highways network in the Stoke-on-Trent area during the construction of HS2. Thank you for the opportunity to make you aware of these concerns and I hope the below is useful in providing further detail. I have attached the extract on traffic that I have submitted to the HS2 Phase 2A Bill Committee, this goes through each concern in detail. Throughout I make reference to the HS2 traffic and transport assessment, available here: www.gov.uk/government/publications/hs2-phase-2a-environmental-statement-volume-5-traffic-and-transport

To add to the points attached on the smart motorway upgrade works that have now started on the M6 junctions 13-15, I met recently with the project manager for this work from Highways England. During this meeting we discussed at some length the impact of HS2 on the programmed Highways England works and what had been done to ensure effective cooperation between Highways England and HS2. I remain concerned that there is not currently effective partnership and coordination between these organisations.

An example of this is the fact that Highways England have large amount of data on the functioning of the M6 in this location and junction 15, due to the smart motorway upgrade works. Yet this does not appear to have been shared between the organisations to fully understand the implications of HS2 construction traffic. As suggested in the attached submission, the data used in the traffic assessment is far from adequate and does not robustly reflect current conditions or likely impacts from construction.

Further concerns must be raised about the proposed Meaford viaduct, Highways England are strongly advocating this should be a single span structure, HS2 currently propose a double span with a column located in the central reservation. A single span structure is likely to cause much less disruption and will mean the carriageway not having to be reconstructed to create space for a column, just after smart motorway works have concluded. A significant waste of public money. It would have been preferred for these works to be coordinated to prevent such abortive works, however, Highways England inform me it would be virtually impossible to now amend their plans at such a late stage with initial works already commenced. The only

To sign up for my e-newsletter, visit: www.jackbrereton.co.uk/e-newsletter

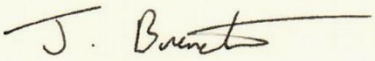
HOUSE OF COMMONS
LONDON
SW1A 0AA

Tel: 020 7219 4460
Email: jack.brereton.mp@parliament.uk

solution that will keep disruption to a minimum and not impact on smart motorway works is for a single span structure.

I would be grateful if you could consider the points I have raised above and attached further to ensure that appropriate mitigation is put in place to minimise the likely severe impacts on traffic from HS2 construction. It is extremely important that HS2 takes significant steps to work closely with Highways England, as well as both local highway authorities Stoke-on-Trent City Council and Staffordshire County Council to ensure all necessary actions are taken. As you can imagine I am extremely concerned that this is going to have a hugely detrimental impact on our local economy if the measures put in place are not appropriate.

Yours,



Jack Brereton MP
Member of Parliament for Stoke-on-Trent South

Throughout the construction period a significant proportion of the associated vehicles will be utilising the road network that serves Stoke-on-Trent and the surrounding area. Particularly this will be concentrated on key arterial routes serving the area; including the M6, A500 and A34. HS2 states: "In CA3 the SRN and primary construction traffic routes are as follows: the M6, the A51 Stone Road, the A34 Stafford Road, the A519 Newcastle Road, the A5182 Trentham Road and the A500 Queensway". (pa. 9.3.9 pg.431)

Junction 15 of the M6 and the associated junctions with the A500 and A519 will be particularly impacted by construction traffic. This is a junction that Highways England have recognised is not up to an acceptable standard, with significant issues of congestion and safety. Yet HS2 currently suggest in reference to junction 15: "The model results show that the junction operates within capacity during the 2012 baseline." (pa. 5.5.61 pg. 142). I believe this assessment and the figures used to be totally inaccurate. The data used would lead anyone taking this at face value to believe there are no issues at junction 15. This is far from the truth; congestion is experienced on a daily basis and there have been numerous accidents many involving HGVs associated with the dangerous geometry of the junction.

I do not believe sufficient traffic assessments have been undertaken to establish the baseline position for junction 15. I am extremely surprised that data has been used from 2012 for junction 15 when for other junctions featured in the study, use more up to date data from 2016. As example of the inaccuracies baseline data identifies an AADT figure for all vehicles of 23,236 Westbound and 8,975 Eastbound on the A500 between Newcastle Road (Hanchurch interchange) and M6 (junction 15), a total AADT of 32,211 (Table 55 pg. 120-3). Yet when we look to comparable traffic count data available on DfT website for the same location (count point id 18327) this gives a figure for all vehicles of 45,543 (citation). Similar discrepancies between HS2 data and DfT data appear also to be reflected in a number of other locations on the network. These inaccuracies in identifying the baseline mean that the current traffic flows are underestimated and the predicted implications for congestion could be much worse.

In addition, the approach taken which considers each of the three junctions that make up junction 15 separately is unacceptable. M6 junction 15, A500 Queensway/A519 Newcastle Road/Clayton Road (Hanchurch Interchange), and A51 Stone Road/A519 Newcastle Road; must be considered together (Tables 62&63 pg. 130-1 & Table 75 pg. 141-2). The proximity of these junctions to one another means that each can have knock on impacts and this is not reflected accurately in the current report. The Hanchurch interchange is identified as operating "over its capacity" (pa. 5.5.36 pg. 131). Whilst HS2 suggests there are no issues at junction 15 and the A51/A519 junction, a point I dispute, what it clearly does not reflect is the capacity constraints of the Hanchurch interchange backup impacting on these two junctions. The Hanchurch interchange contributes to a significant proportion of the congestion problems in this location and this cannot be merely isolated from the relationship this junction has with those adjacent. As I have referenced above regarding Junction 15, there are matters that I do not believe have been accounted for sufficiently on each of these junctions in establishing the baseline performance, but of primary concern is that these junctions have not been considered together.

The A34 Stone Road/A500 Queensway junction (Table 74 pg. 140-1) is also of concern. The analysis identifies that this junction is operating "approaching its capacity". There are clearly issues in terms of capacity at this junction. I would particularly raise concern however, that the analysis does not consider the associated signalised junction of the A34 with Mayne Street and how this relates to the functionality of the network in this location.

Moving on to the peak daily construction flows, it is quite clear from the data that junction 15 and its associated junctions will take the brunt of traffic in this section of the route. This data identifies that on the A500 (Queensway) between the A34 junction and Hanchurch Interchange on the approach to Junction 15 there will be around a 50% increase in the number of HGVs in both directions during the a.m. peak and incredibly during the PM peak nearly 100% in the Westbound and 80% Eastbound. On the A519 approaching the A500 this would be an increase of HGVs well over 260% in both directions during the a.m. peak and 325% Southbound during the p.m. peak. (Table 279/280 pg.438-45).

During construction, the huge pressure put on junction 15 and the Hanchurch Interchange will result in severe congestion on this critical part of the strategic network. The data here is very clear: "all arms of this junction are approaching or exceed capacity" during the peaks – i.e. the Hanchurch Interchange will be gridlocked at peak times during construction. Most significantly, in the a.m. peak the data demonstrates that there will be queue lengths of 209 cars approaching the Interchange from junction 15 during the a.m. peak. The length of road between the signals at junction 15 and the Hanchurch Interchange is only just over 100 metres. It would be impossible to accommodate 209 cars in this location- in reality this section of road is unlikely to be able to accommodate even a quarter of this number of vehicles. Ultimately this means queues backing up through the junction and onto the M6 during the a.m. peak. During the p.m. peak, the most significant impact at the Hanchurch Interchange is on the A500 approaching the junction towards junction 15. The data suggests that it is likely there will be a 337-car tailback in this location. (Table 287 pg. 451) (please note the table incorrectly references junction 16 as opposed to junction 15).

However, when we look to junction 15 and the A51/A519 junction, the data suggests there will be very minimal queuing, if any, during construction at the peaks. (Table 286 pg. 450-1 & Table 300 pg. 461-2). Considering the above likely tailbacks that will be reflected in both locations due to the severe problems at the Hanchurch Interchange, this data is misleading and does not portray an accurate picture of the functionality of the network in this location. At peak times in all three locations there is likely to be significant congestion which will have major consequences for safety and the economy. This is not merely a matter that will have dire consequences locally, the impacts on these strategically important routes particularly the M6 and A500, will be of national significance.

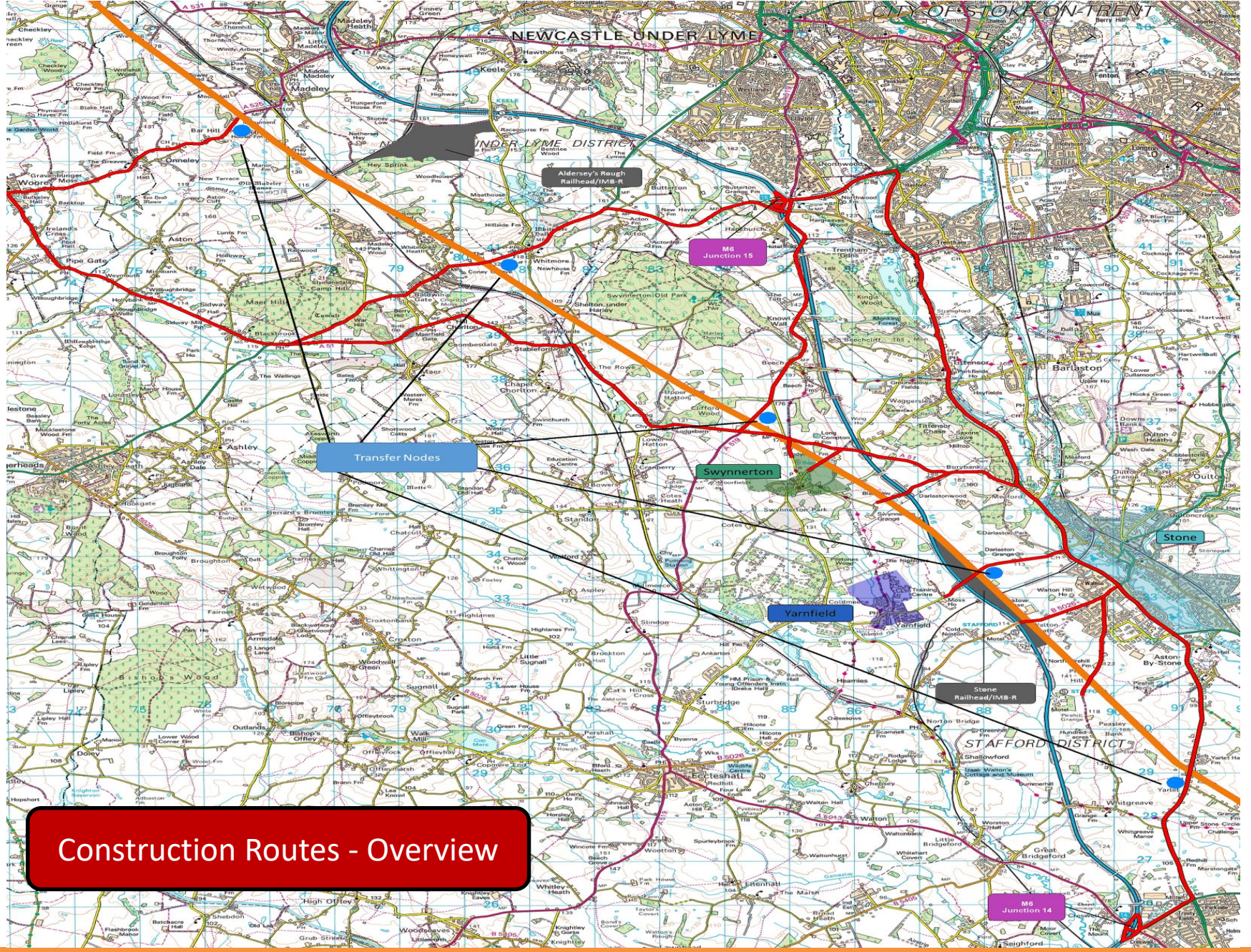
On the A34/A500 junction during construction this would result in a 391 car length queue in the AM peak approaching the junction. This is totally unacceptable, yet the only solution offered by HS2 is to "refine signal timings", this is despite HS2 admitting the "junction is shown to operate close to capacity". Clearly tweaking signal timings on the junction is not going to

create the additional capacity needed to cope with this additional demands when the entire junction is nearing capacity. Due to the limitations of the data and the point already raised around the lack of consideration to the impact of the associated A34/Mayne Street junction; it is likely this impact will be far worse than is suggested. (Table 298 pg. 459-61).

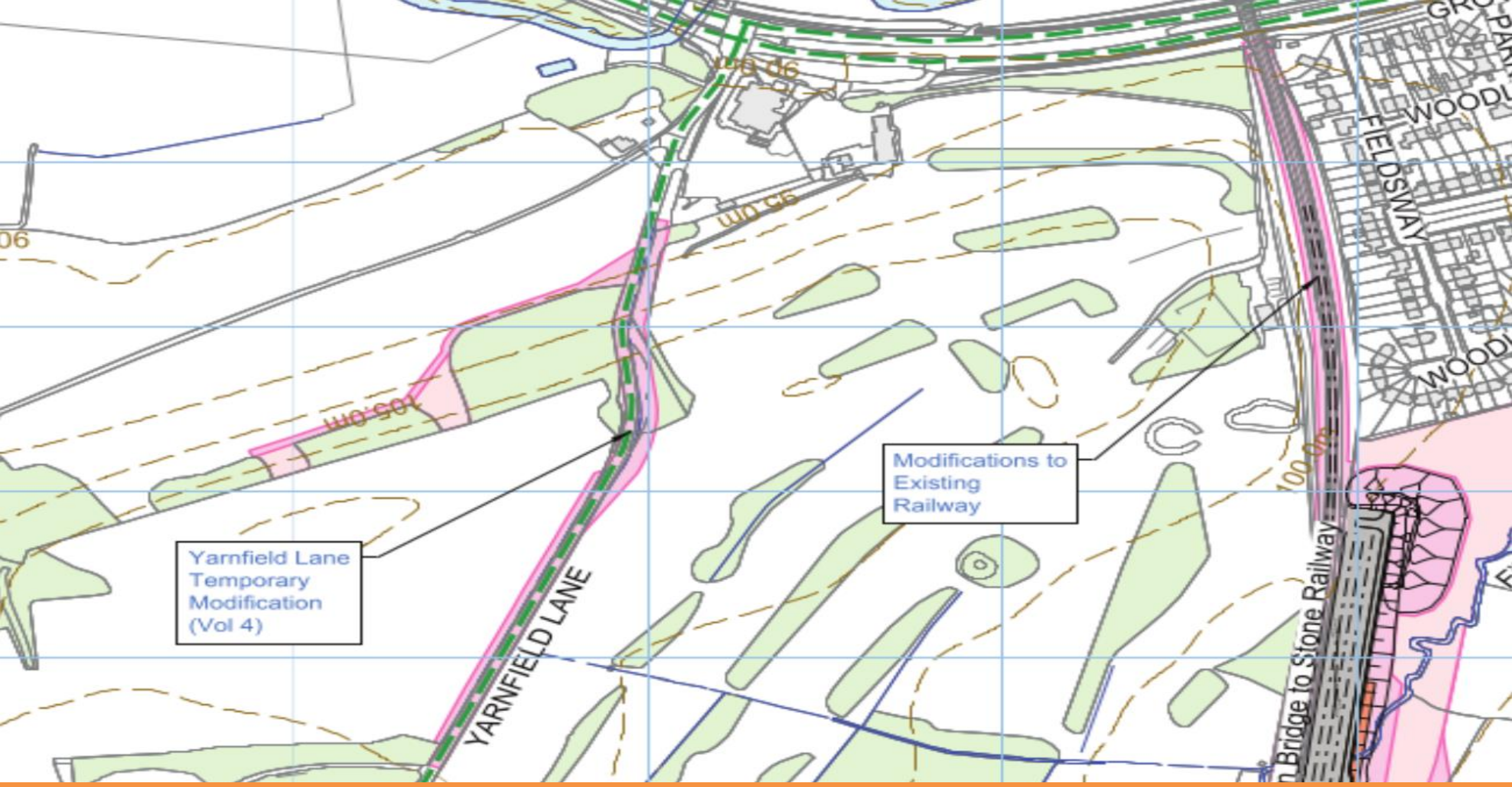
The disruption to the M6 at junction 15 is already detailed above, but alongside this there is likely to be additional disruption both prior to and during construction of HS2. Plans are currently in place for the upgrading of the M6 13-15 to smart motorway, starting in March 2018 to March 2022. With construction on phase 2a scheduled to start in 2022 there will undoubtedly be some overlap in construction, yet very little appears to have been done to coordinate efforts between HS2 Ltd and Highways England to minimise disruption.

During construction of 2a the disruption on the M6 is set to continue due to the need to realign a section of the southbound carriageway. It is suggested that these works will last one year and six months and will: "include temporary speed restrictions for safety, temporary use of the hard shoulder, and reduced lane widths." (pa. 9.4.6 pg. 435). However, considering all lane running is proposed to be in place throughout this section following the smart motorway upgrades, it will be impossible to use the hard shoulder, by this point it is likely the hard shoulder will be operating as a live lane. HS2 suggest there will be only: "10 overnight/weekend lane closures and four weekend carriageway closures over a two and a half year period." (pa. 9.4.7 pg.436).

It is unclear how traffic management will operate on the M6 without the hard shoulder and the suggestion of only extremely limited lane and carriageway closures. Very little consideration appears to be given to the implications of changed operating arrangements of the M6 following smart motorway and how HS2 works can be facilitated. This is despite the methodology acknowledging the implications of these upgrade works need to be accounted for (pg. 322-3). The planned HS2 works on the M6 will extend the disruption already experienced during the smart motorway upgrade, meaning six years of disruption in total. This is exacerbated by the lack of coordination between HS2 and Highways England to look at ways that would limit duplicated, unnecessary or abortive works.



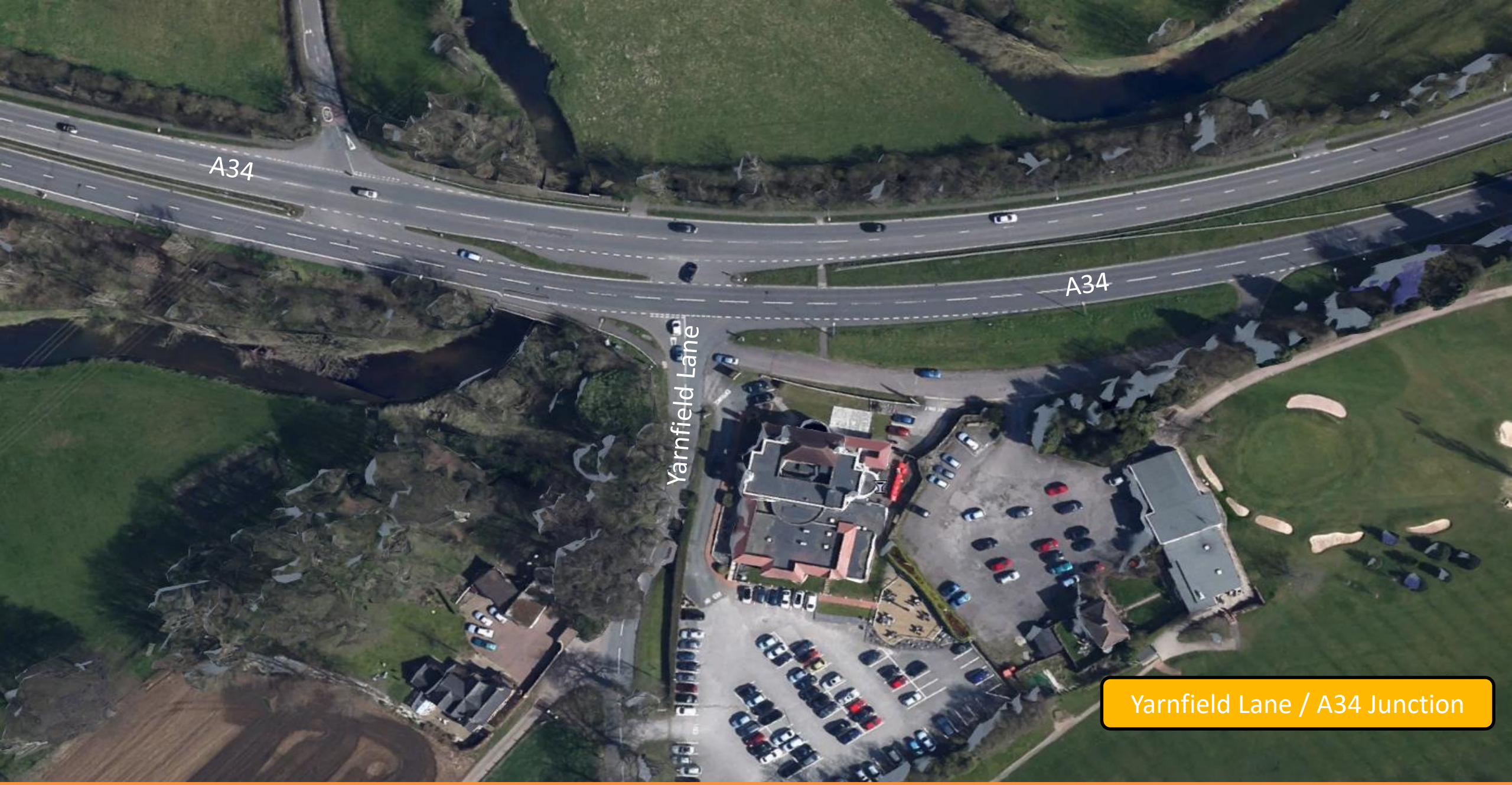
Construction Routes - Overview


Yarnfield Lane Temporary Modification (Vol 4)
Modifications to Existing Railway
YARNFIELD LANE
FIELDSWAY
WOOD
WOOD
Bridge to Stone Railway

A40 (3)

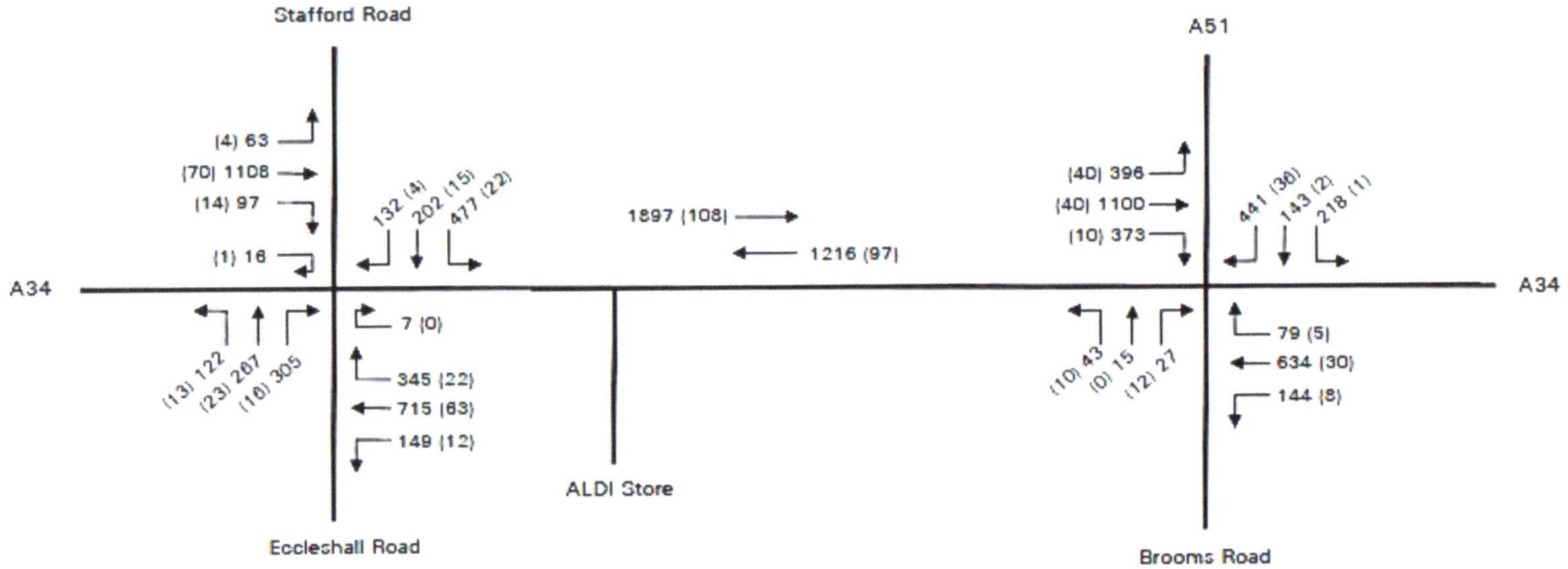
Revision 1.0

HOC/00128/0061


A34
A34
Yarnfield Lane
Yarnfield Lane / A34 Junction

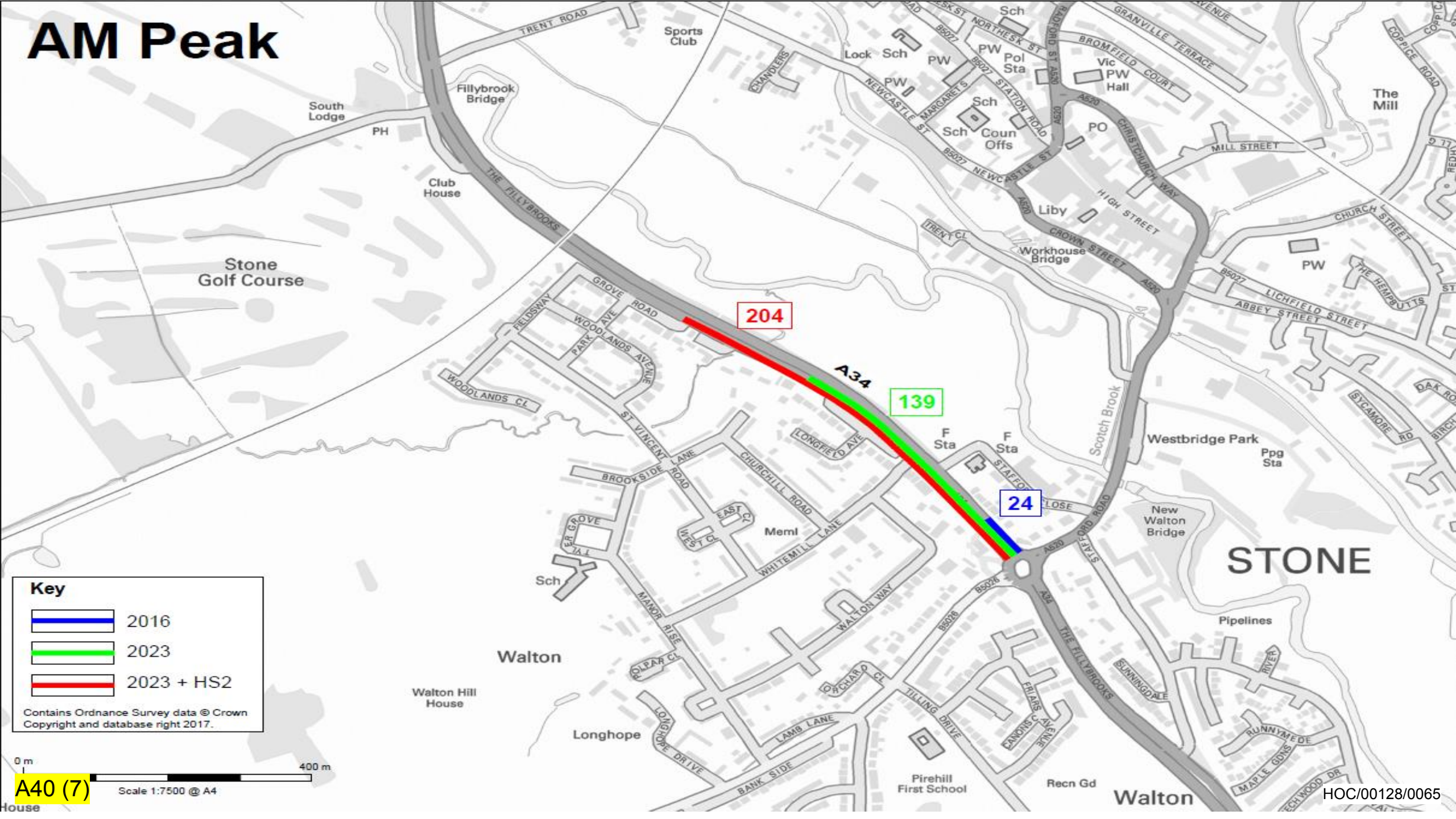
LAND AT STONE, STAFFORDSHIRE

Surveyed traffic flows – morning peak hour 01.06.2010



KEY	
457	Total
(18)	HGVs

AM Peak



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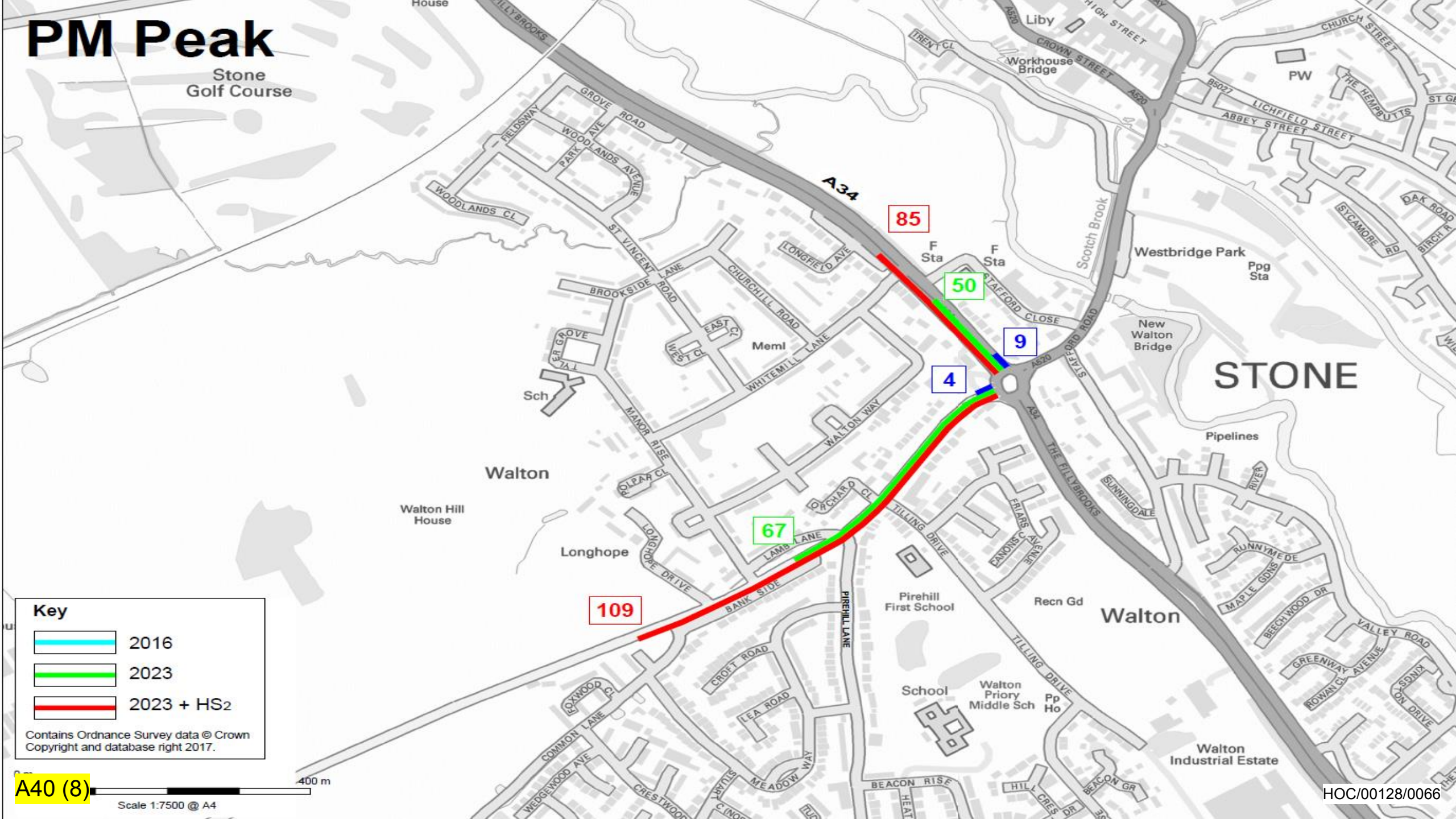

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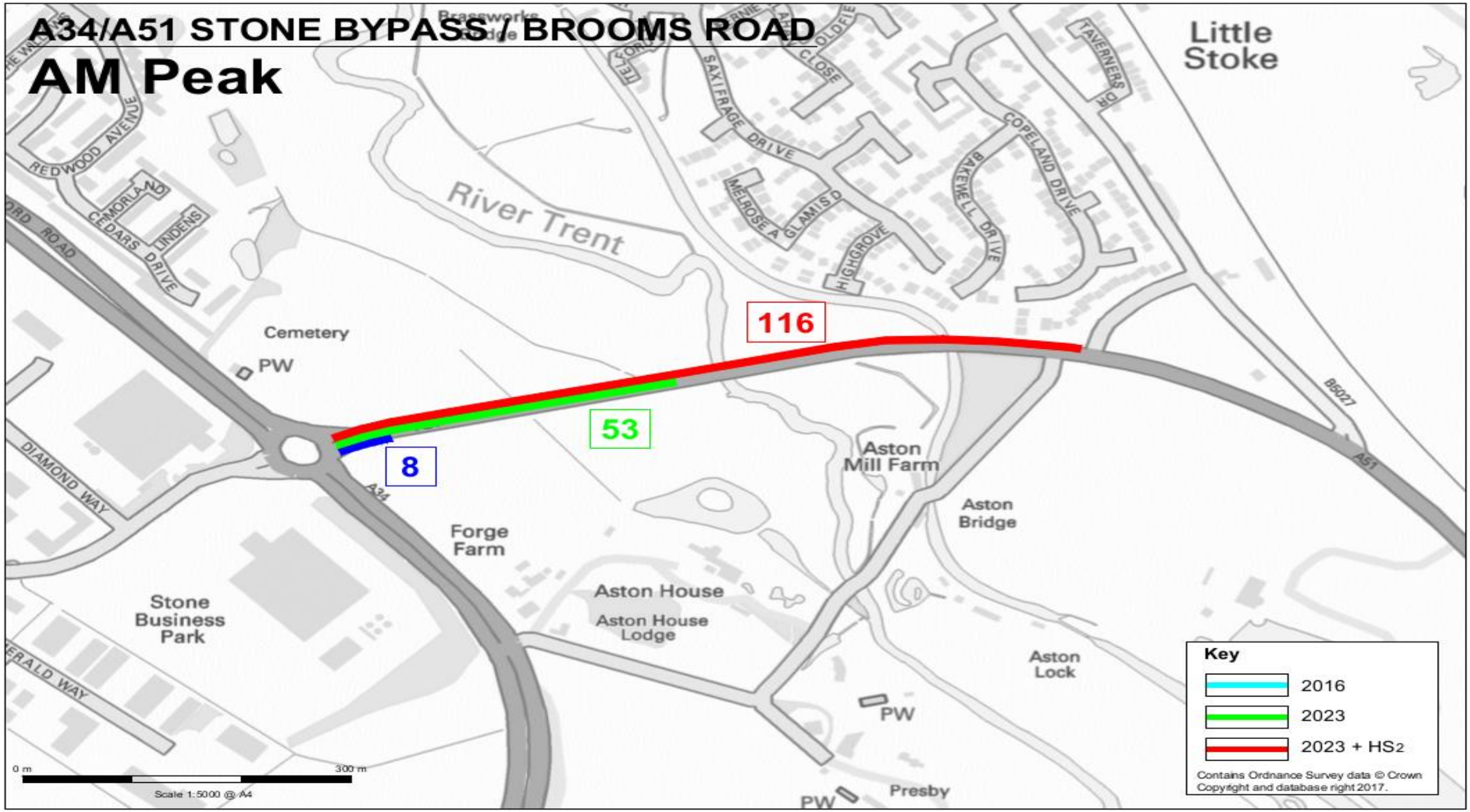
HOC/00128/0066


A34/A51 STONE BYPASS / BROOMS ROAD
AM Peak
Little Stoke
River Trent
116
53
8
Cemetery
PW
Aston Mill Farm
Aston Bridge
Forge Farm
Aston House
Aston House Lodge
Stone Business Park
Aston Lock
Presby
PW
PW
A34
A51
B5027
REDWOOD AVENUE
CEDARS DRIVE
LINDENS
SAXIFRAGE DRIVE
MELROSE
GLAMIS
HIGHGROVE
BAKEWELL DRIVE
COPELAND DRIVE
TAVERNERS
DIAMOND WAY
0 m
300 m
Scale 1:5000 @ A4
Key
2016
2023
2023 + HS2
Contains Ordnance Survey data © Crown Copyright and database right 2017.

A40 (9)

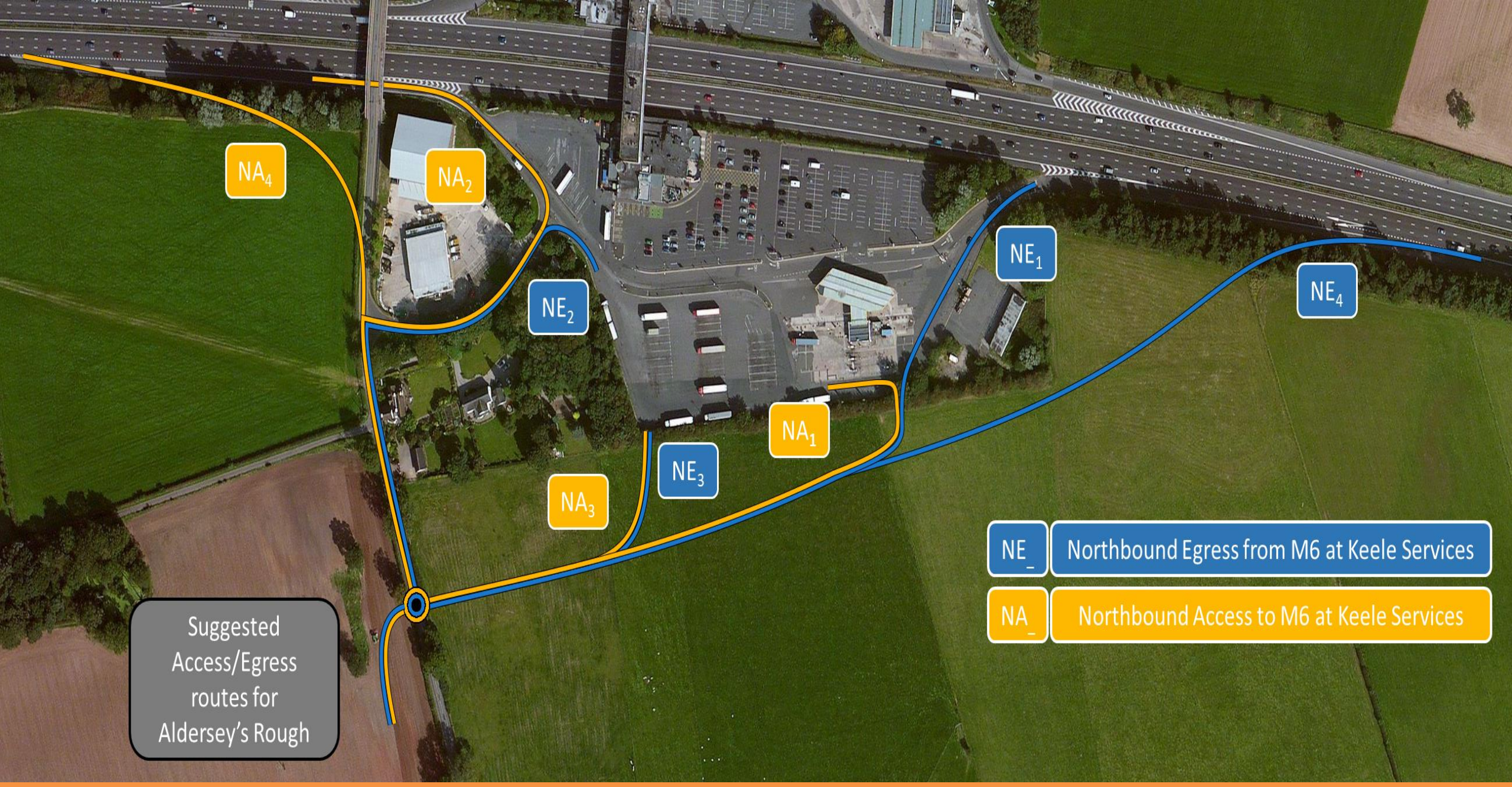
Vehicle Dimensions - 6 Wheeler

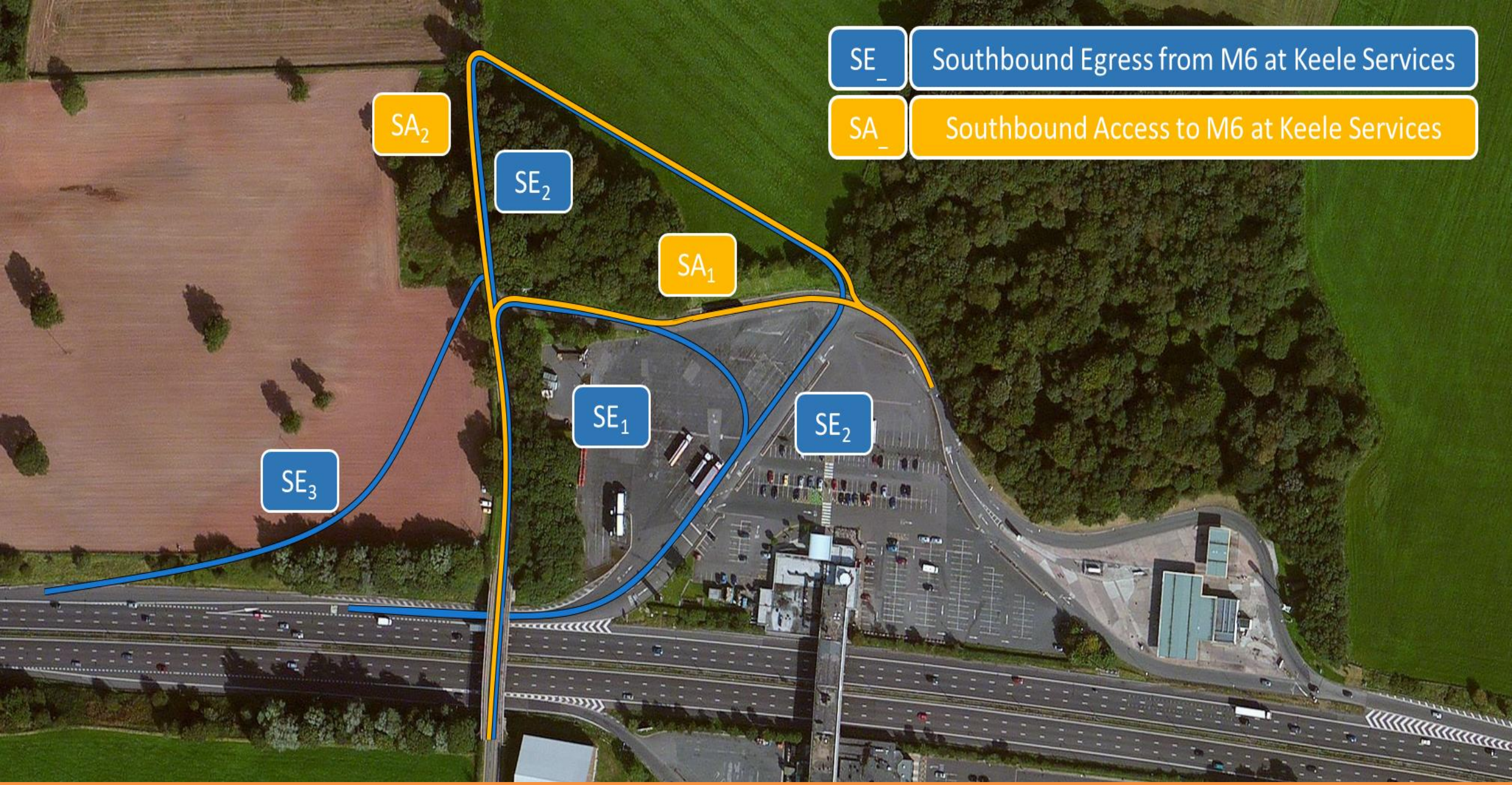
Chassis	Vehicle Size T	Width inc. mirrors m	Chassis length inc body overhang m	Chassis and trailer height lowered* m
Scania	26	3.37	8.03	3.08
DAF	26	2.65	7.9	3.78
Mercedes	26	3.51	8	3.23
Renault	26	3.15	7.7	3.53
Foden	26	3.07	8.19	4.19
MAN	26	2.53	8.1	2.89
Volvo	26	3.18	7.99	4.06
Average		3.07	7.99	3.54

* unladen height and includes exhaust outlet and beacon. **As a rough guide the maximum tip height is 7m**


BENNETTS
A10 BNT

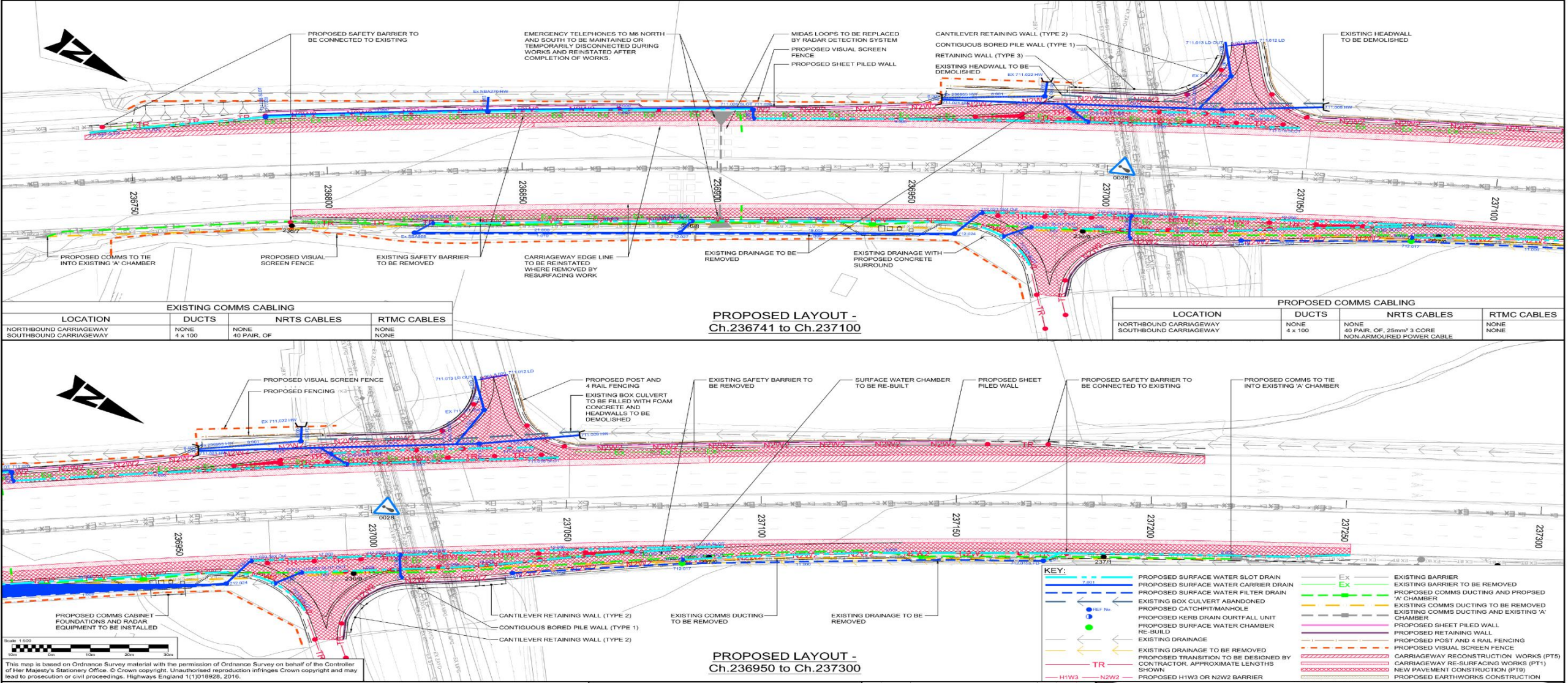

Yarnfield Lane M6
Overbridge
Replacement
Yarnfield Lane
IMB-R
Underbridge
3


NA4
NA2
NE2
NE1
NE4
NA1
NE3
NA3
Suggested Access/Egress routes for Aldersey's Rough
NE_ Northbound Egress from M6 at Keele Services
NA_ Northbound Access to M6 at Keele Services


SE_ Southbound Egress from M6 at Keele Services
SA_ Southbound Access to M6 at Keele Services
SA2
SE2
SA1
SE1
SE2
SE3


Three Mile Lane /
Keele Services Access

Example: New M6 Southbound / Yarnfield Lane Exit Slide Road



EXISTING COMMS CABLING			
LOCATION	DUCTS	NRTS CABLES	RTMC CABLES
NORTHBOUND CARRIAGEWAY SOUTHBOUND CARRIAGEWAY	NONE 4 x 100	NONE 40 PAIR, OF	NONE NONE

PROPOSED LAYOUT - Ch.236741 to Ch.237100

PROPOSED COMMS CABLING			
LOCATION	DUCTS	NRTS CABLES	RTMC CABLES
NORTHBOUND CARRIAGEWAY SOUTHBOUND CARRIAGEWAY	NONE 4 x 100	NONE 40 PAIR, OF, 25mm² 3 CORE NON-ARMOURED POWER CABLE	NONE NONE

PROPOSED LAYOUT - Ch.236950 to Ch.237300

KEY:

- PROPOSED SURFACE WATER SLOT DRAIN
- PROPOSED SURFACE WATER CARRIER DRAIN
- PROPOSED SURFACE WATER FILTER DRAIN
- EXISTING BOX CULVERT ABANDONED
- PROPOSED CATCHPIT/MANHOLE
- PROPOSED KERB DRAIN OURTFALL UNIT
- PROPOSED SURFACE WATER CHAMBER RE-BUILD
- EXISTING DRAINAGE
- EXISTING DRAINAGE TO BE REMOVED
- PROPOSED TRANSITION TO BE DESIGNED BY CONTRACTOR. APPROXIMATE LENGTHS SHOWN
- PROPOSED H1W3 OR N2W2 BARRIER
- EXISTING BARRIER
- EXISTING BARRIER TO BE REMOVED
- PROPOSED COMMS DUCTING AND PROPSED 'A' CHAMBER
- EXISTING COMMS DUCTING TO BE REMOVED
- EXISTING COMMS DUCTING AND EXISTING 'A' CHAMBER
- PROPOSED SHEET PILED WALL
- PROPOSED RETAINING WALL
- PROPOSED POST AND 4 RAIL FENCING
- PROPOSED VISUAL SCREEN FENCE
- CARRIAGEWAY RECONSTRUCTION WORKS (PT5)
- CARRIAGEWAY RE-SURFACING WORKS (PT1)
- NEW PAVEMENT CONSTRUCTION (PT9)
- PROPOSED EARTHWORKS CONSTRUCTION

NOTES:

1. WHERE PROPOSED COMMUNICATION CHAMBERS ARE POSITIONED ADJACENT TO THE POSITIVE DRAINAGE SYSTEM, THE CONTRACTOR SHALL PROVIDE A CONNECTION FROM THE CHAMBER WHERE PRACTICABLE. WHERE THE POSITIVE DRAINAGE SYSTEM IS NOT PRESENT THE CONTRACTOR SHALL INCLUDE A SUMP SOAKAWAY DETAIL IN ACCORDANCE WITH MCX 0815. WHERE A CONNECTION TO THE HIGHWAY DRAINAGE NETWORK OR DRAINAGE TO A DITCH IS PRACTICABLE THE CONTRACTOR SHALL PROVIDE POSITIVE DRAINAGE IN ACCORDANCE WITH DRAWING No. HA549346-JAJV-TGN-SG-MULTI-DR-TE-1001.
2. BEFORE COMMENCEMENT OF WORKS THE CONTRACTOR SHALL VERIFY THE ROUTE OF ALL MOTORWAY COMMUNICATIONS (POWER AND COMMUNICATIONS, LOCAL AND LONGITUDINAL) AND THE LOCATION OF ALL MOTORWAY COMMUNICATIONS EQUIPMENT. THE CONTRACTOR SHALL NOTIFY THE DESIGNER OF ANY DISCREPANCIES TO DETAILS SHOWN ON THE ADVANCE WORKS DRAWINGS OR SITE INFORMATION PROVIDED. THIS SHOULD BE BY THE PROVISION OF COPIES OF PHOTOGRAPHS AND RED LINED, DIMENSIONED 'AS-BUILT' OR 'RECORD DRAWINGS', HIGHLIGHTING ANY IDENTIFIED DISCREPANCIES'.
3. REFER TO STRUCTURAL DRAWING NoS. HA549346-JAJV-SRW-S9-ES2423-DR-S-0003 AND HA549346-JAJV-SRW-S9-ES2423-DR-S-0004 FOR RETAINING WALL CONSTRUCTION AND GENERAL ARRANGEMENT.
4. FOR DRAINAGE STANDARD DETAILS REFER TO DRAWING NoS. HA549346-JAJV-HDG-SG-DE-DR-D-0001 TO 0010.
5. CONTRACTOR TO ARRANGE TEMPORARY DIVERSION AND FINAL RE-INSTATEMENT OF CABLES, IN AGREEMENT WITH NRTS AND RTMC, WHERE REQUIRED TO SUIT METHOD OF WORKING FOR ADVANCE WORKS.
6. ALL PERMANENT FENCING AND ENVIRONMENTAL BARRIERS SHALL COMPLY WITH CLAUSE 306 OF THE SPECIFICATION FOR HIGHWAY WORKS UNLESS STATED OTHERWISE IN THE 300 SERIES APPENDICES FOR FENCING AND 2500 SERIES APPENDICES FOR SPECIAL STRUCTURES.
7. REFER TO PIPE SCHEDULES HA549346-JAJV-HDG-S9 NWK711P-SH-D-0002, HA549346-JAJV-HDG-S9 NWK712M-SH-D-0002, HA549346-JAJV-HDG-S9 NWK712P-SH-D-0002 AND HA549346-JAJV-HDG-S9 NWK711M-SH-D-0002 FOR DRAINAGE REQUIREMENTS.
8. FOR PAVEMENT TYPES REFER TO PAVEMENT DRAWING No. HA549346-JAJV-HPV-SG-MULTI-DR-C-1000 AND 700 SERIES APPENDICES OF THE SPECIFICATION FOR HIGHWAY WORKS.

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION

The significant residual risks detailed on this drawing are linked to the referencing system within the Design Hazard Log (HA549346-JAJV-GEN-SG_PROJGOV-HS-C-0001). Each risk is given a unique number followed by a letter that corresponds to one of the six stages affected.

S - Survey
C - Construction
M - Maintenance
O - Operation
U - Road User
D - Demolition

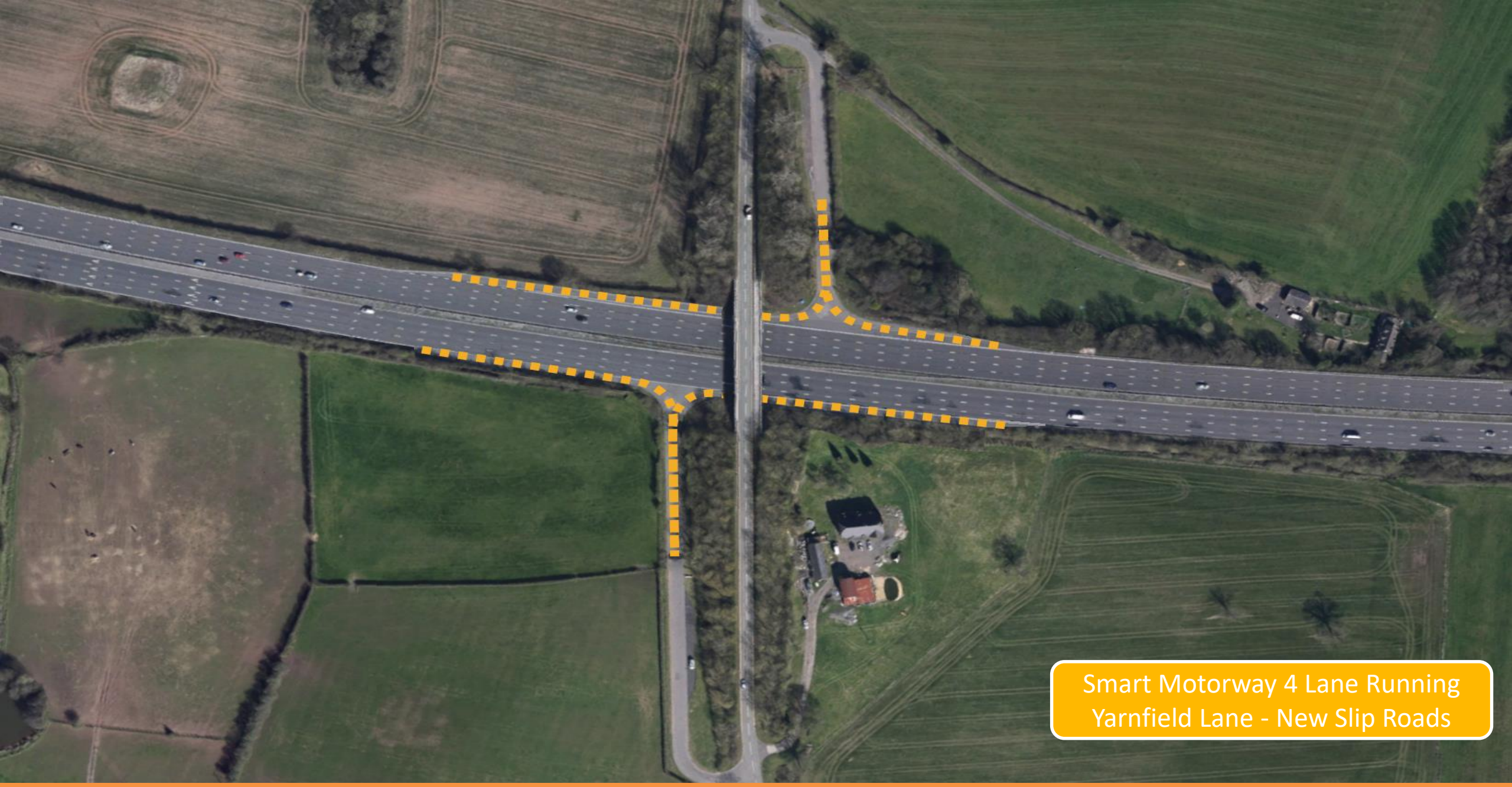
Significant Residual Risks

0028 ACCESS TO YARNFIELD TURNAROUND - EXISTING TIGHT RADII AT MERGE AND DIVERGES MAY CAUSE VEHICLES ENTERING/EXITING THE DEPOT TO MISJUDGE THE ROAD LAYOUT AND COLLIDE WITH ADJACENT HAZARDS OR OTHER VEHICLES.

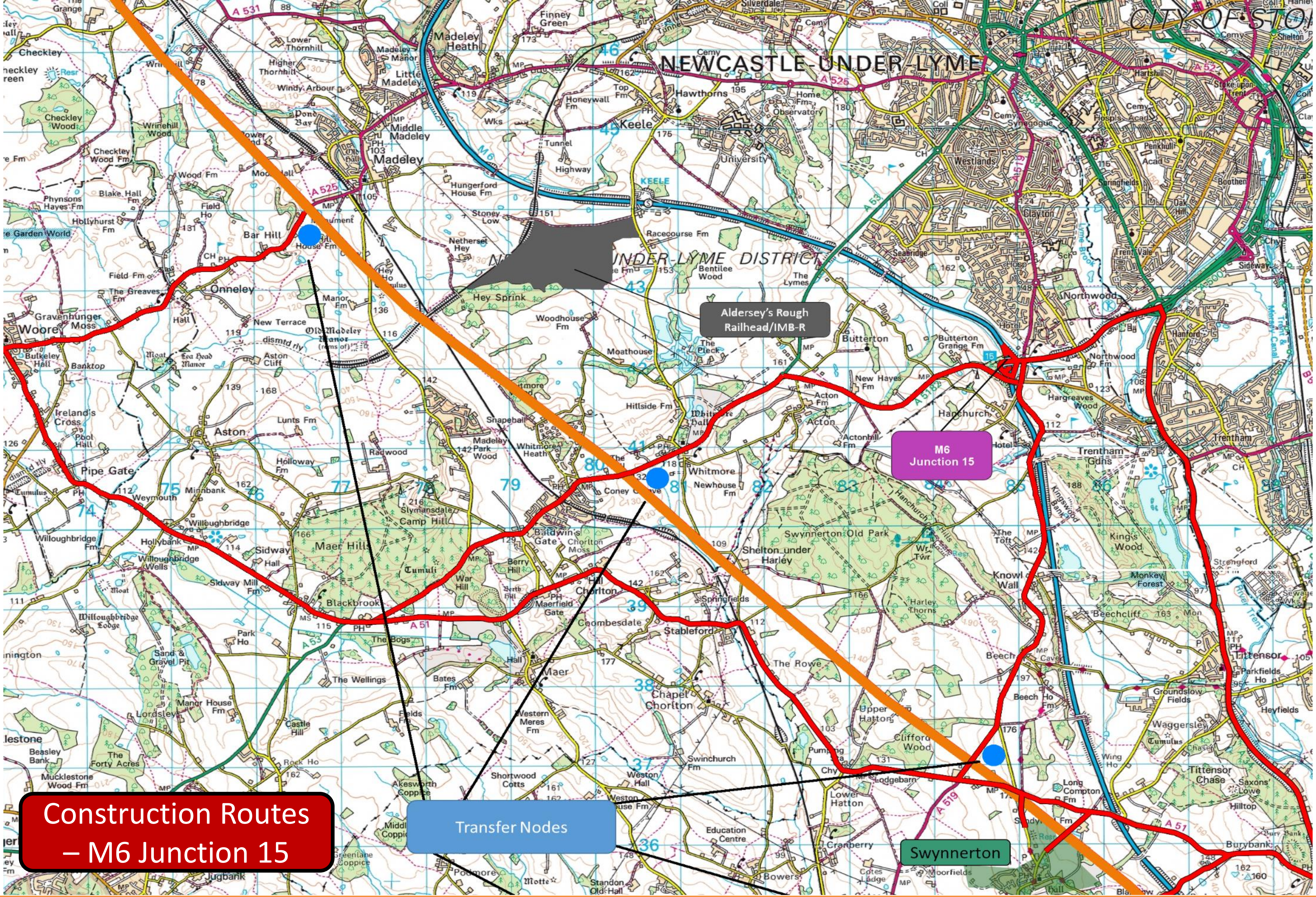
- REFER TO ENVIRONMENTAL CONSTRAINTS PLAN SHEETS 17 AND 18 FOR ENVIRONMENTAL IMPACT MITIGATION REQUIREMENTS. REMOVAL OF EXISTING VEGETATION ONLY IN AREAS OF NEW CONSTRUCTION.

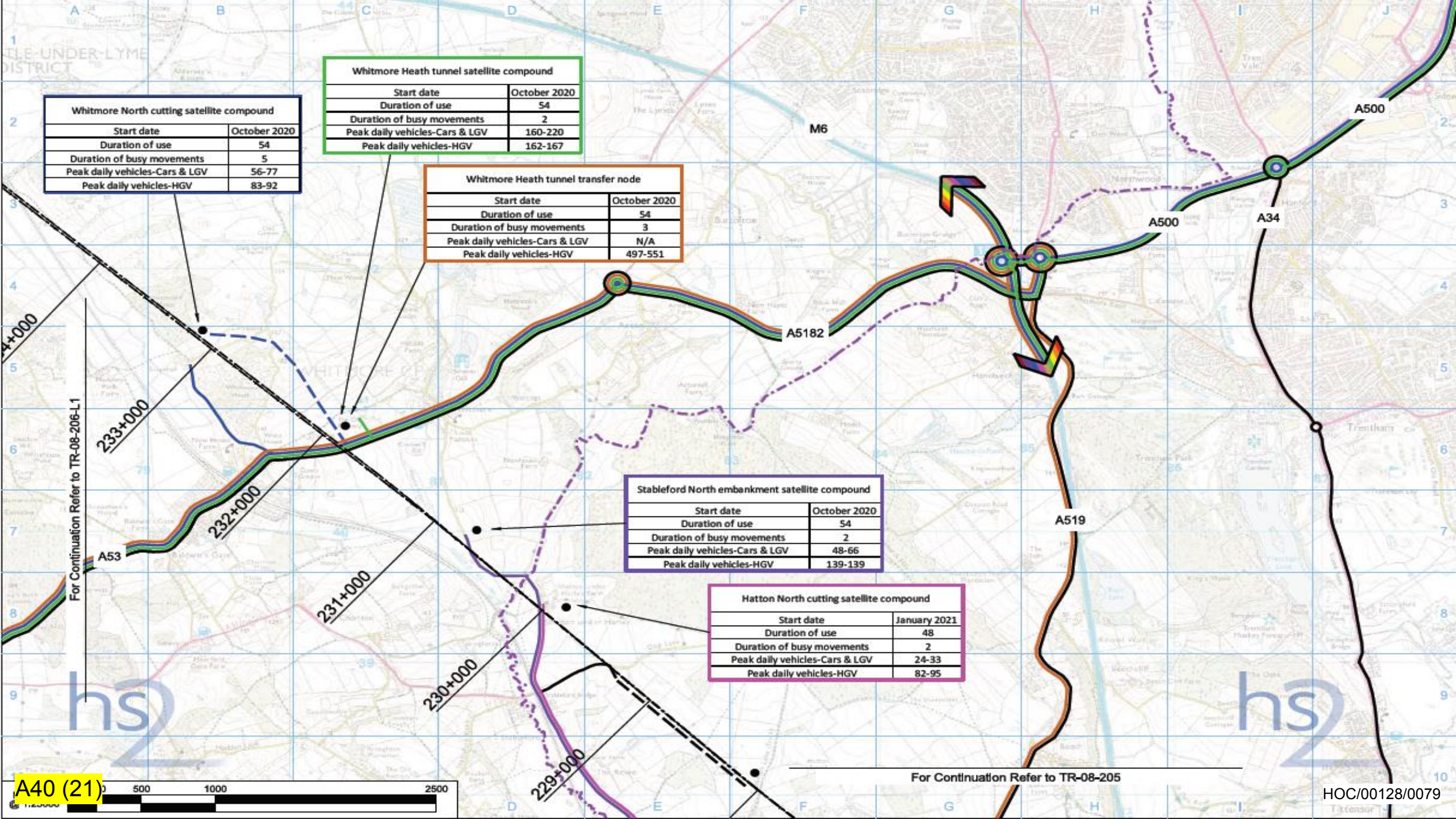
Rev.	Date	Description	By	Chk'd	App'd
P01	10/10/16	FIRST ISSUE	SH	JAG	MSR

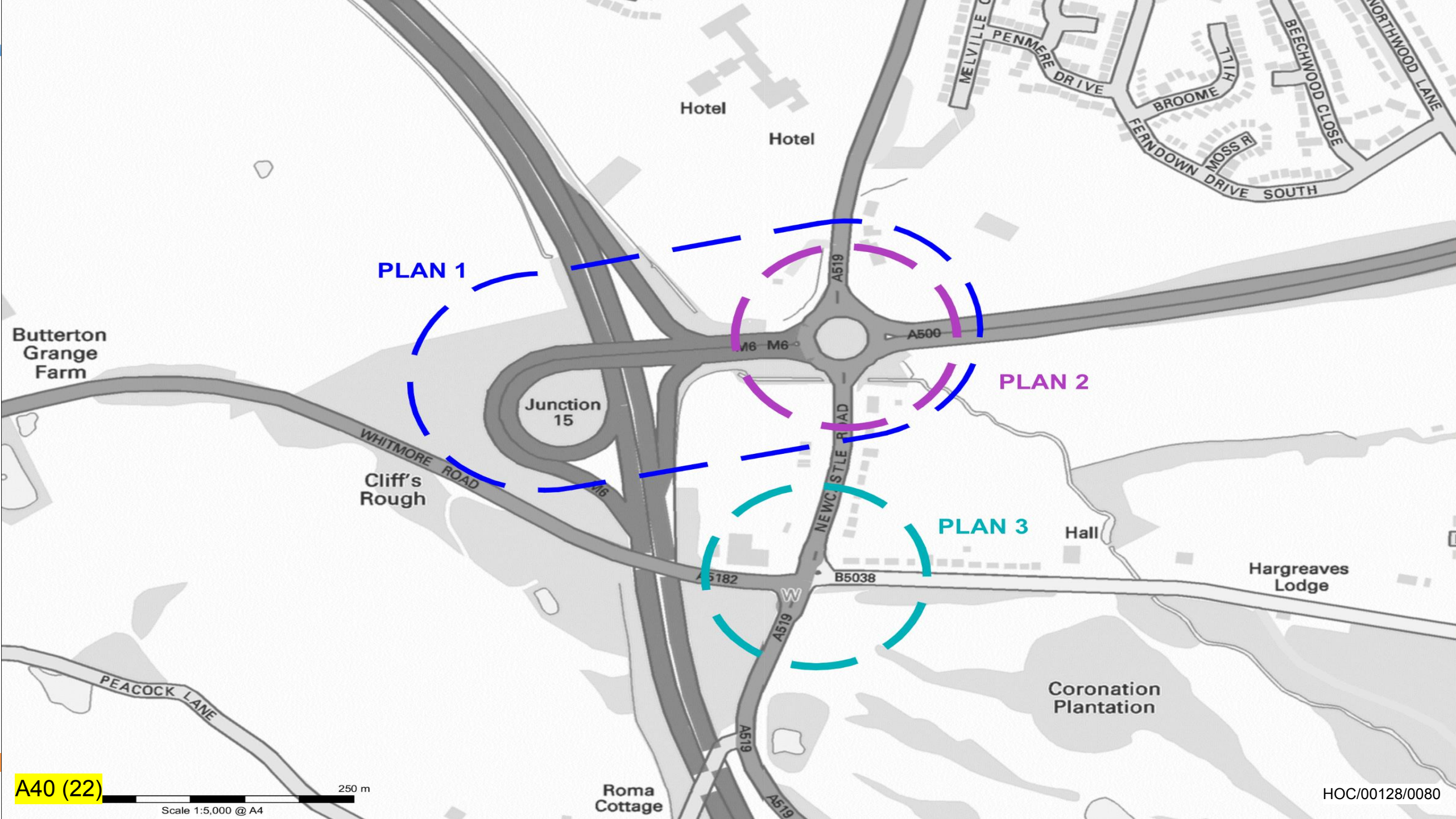
Smart Motorway 4 Lane Running Yarnfield Lane - Schematic


Smart Motorway 4 Lane Running
Yarnfield Lane - New Slip Roads

Construction Routes – M6 Junction 15




Whitmore North cutting satellite compound
Start date | October 2020
Duration of use | 54
Duration of busy movements | 5
Peak daily vehicles-Cars & LGV | 56-77
Peak daily vehicles-HGV | 83-92
Whitmore Heath tunnel satellite compound
Start date | October 2020
Duration of use | 54
Duration of busy movements | 2
Peak daily vehicles-Cars & LGV | 160-220
Peak daily vehicles-HGV | 162-167
Whitmore Heath tunnel transfer node
Start date | October 2020
Duration of use | 54
Duration of busy movements | 3
Peak daily vehicles-Cars & LGV | N/A
Peak daily vehicles-HGV | 497-551
Stableford North embankment satellite compound
Start date | October 2020
Duration of use | 54
Duration of busy movements | 2
Peak daily vehicles-Cars & LGV | 48-66
Peak daily vehicles-HGV | 139-139
Hatton North cutting satellite compound
Start date | January 2021
Duration of use | 48
Duration of busy movements | 2
Peak daily vehicles-Cars & LGV | 24-33
Peak daily vehicles-HGV | 82-95
M6
A500
A34
A5182
A519
A53
233+000
232+000
231+000
230+000
229+000
For Continuation Refer to TR-08-206-L1
For Continuation Refer to TR-08-205
A40 (21)
500
1000
2500
HOC/00128/0079

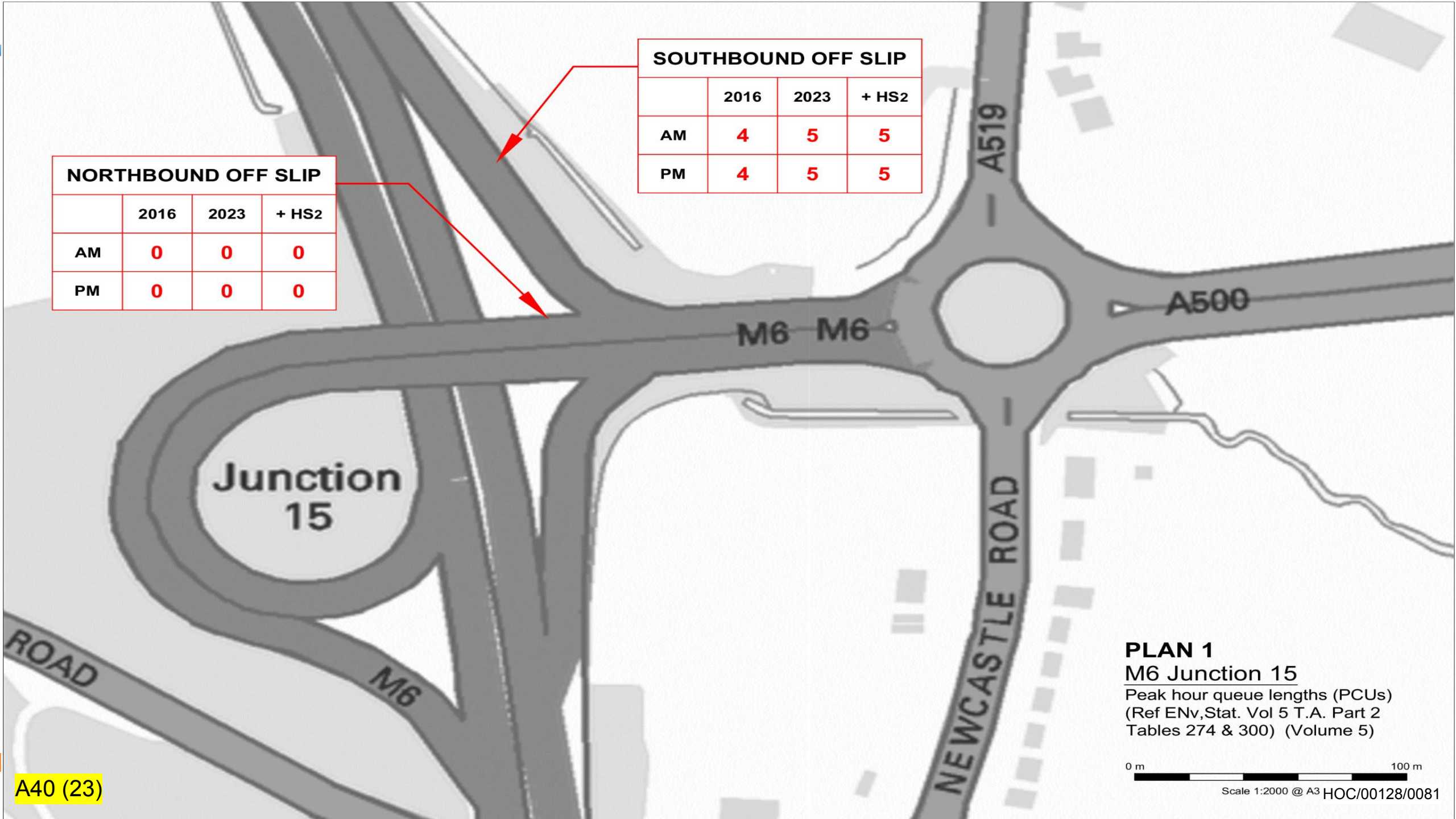


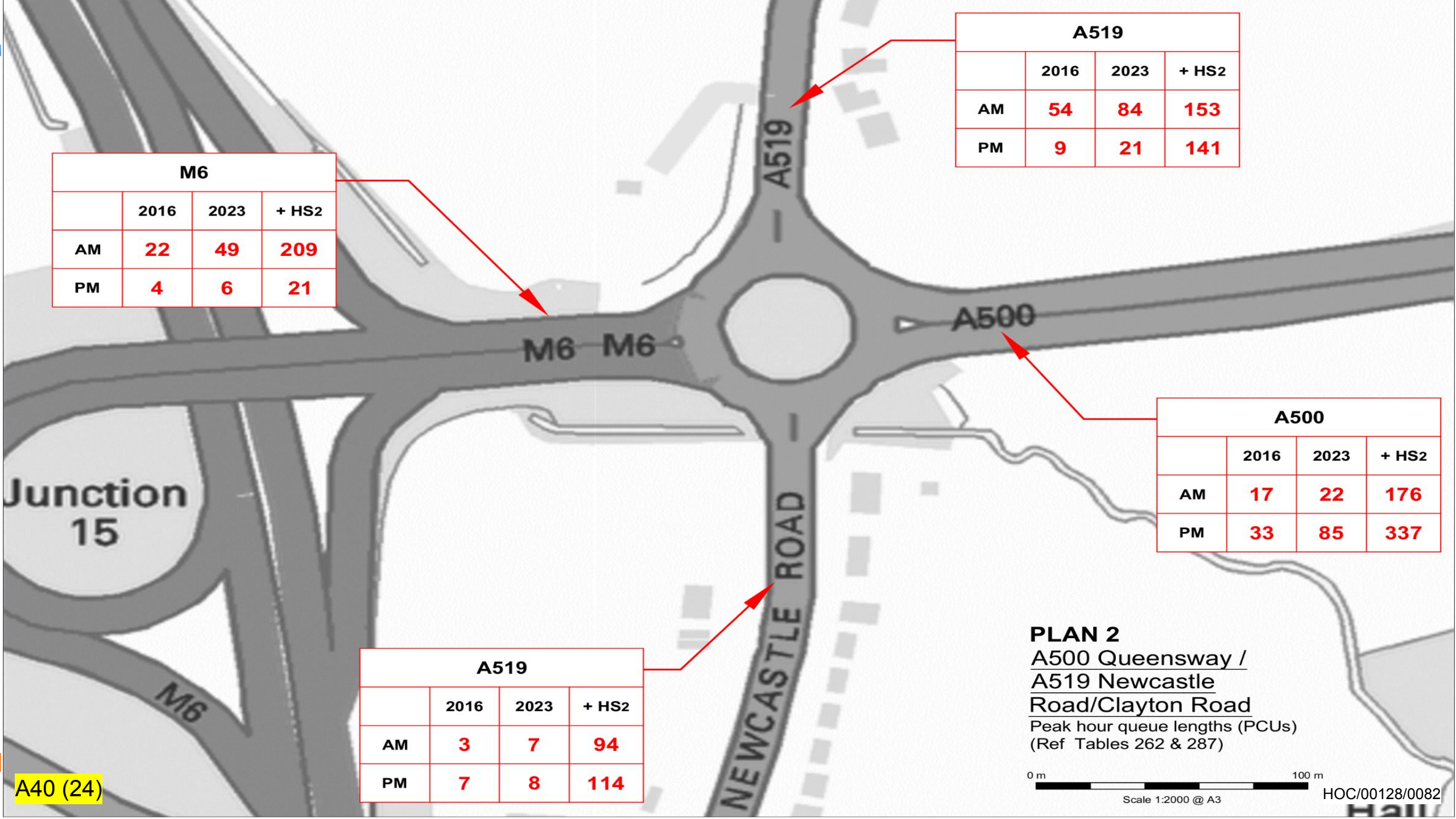
A40 (22)

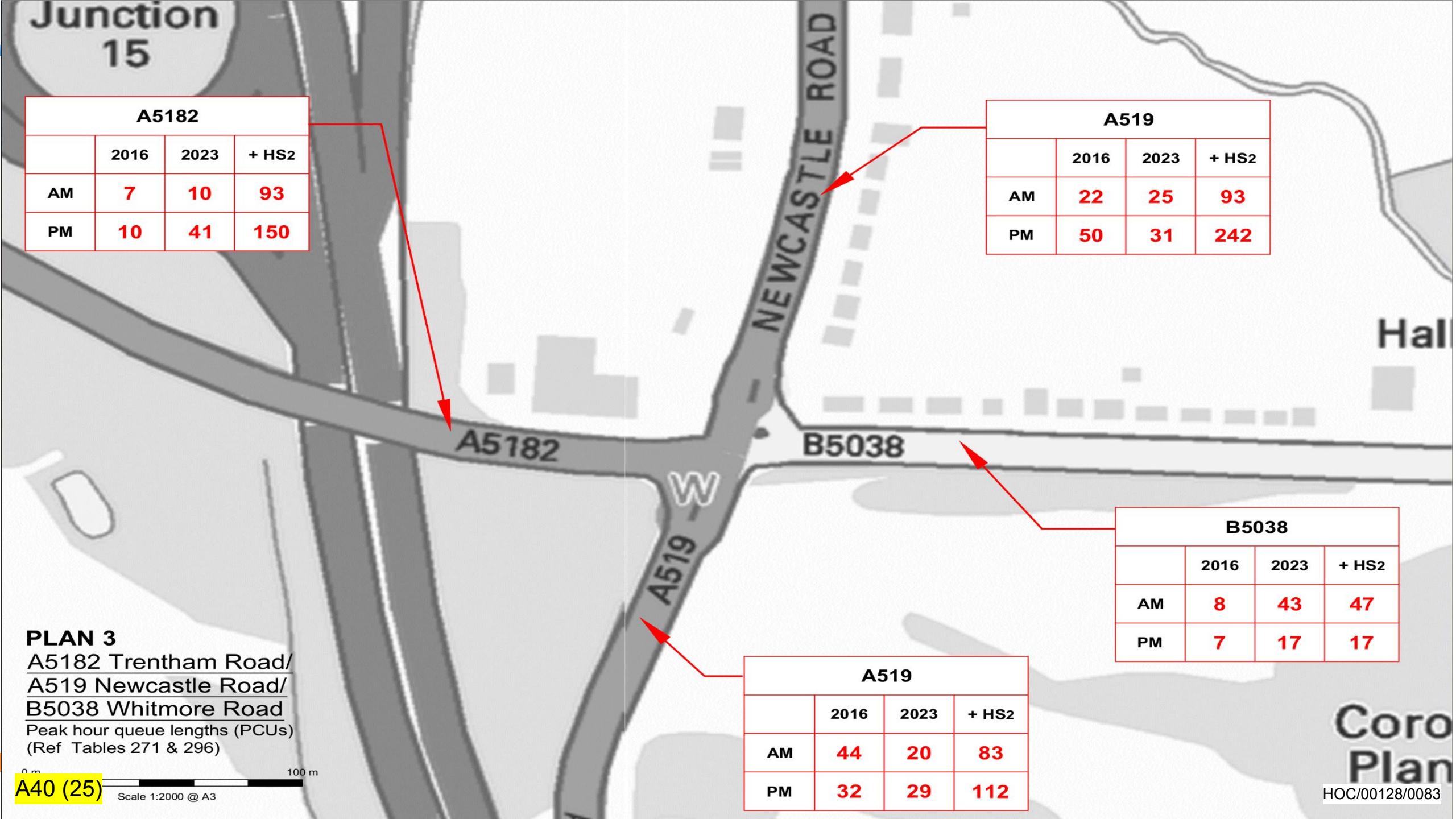
250 m

Scale 1:5,000 @ A4

HOC/00128/0080


SOUTHBOUND OFF SLIP
2016 2023 + HS2
AM 4 5 5
PM 4 5 5
NORTHBOUND OFF SLIP
2016 2023 + HS2
AM 0 0 0
PM 0 0 0
A519
A500
M6 M6
Junction 15
ROAD
M6
NEWCASTLE ROAD
PLAN 1
M6 Junction 15
Peak hour queue lengths (PCUs)
(Ref ENv,Stat. Vol 5 T.A. Part 2
Tables 274 & 300) (Volume 5)
0 m
100 m
Scale 1:2000 @ A3
HOC/00128/0081
A40 (23)


A519
2016 2023 + HS2
AM 54 84 153
PM 9 21 141
M6
2016 2023 + HS2
AM 22 49 209
PM 4 6 21
A519
M6 M6
A500
A500
2016 2023 + HS2
AM 17 22 176
PM 33 85 337
Junction 15
NEWCASTLE ROAD
M6
A519
2016 2023 + HS2
AM 3 7 94
PM 7 8 114
PLAN 2
A500 Queensway / A519 Newcastle Road/Clayton Road
Peak hour queue lengths (PCUs)
(Ref Tables 262 & 287)
0 m
100 m
Scale 1:2000 @ A3
HOC/00128/0082
A40 (24)



A5182			
	2016	2023	+ HS2
AM	7	10	93
PM	10	41	150

A519			
	2016	2023	+ HS2
AM	22	25	93
PM	50	31	242

B5038			
	2016	2023	+ HS2
AM	8	43	47
PM	7	17	17

A519			
	2016	2023	+ HS2
AM	44	20	83
PM	32	29	112

PLAN 3

A5182 Trentham Road/
A519 Newcastle Road/
B5038 Whitmore Road

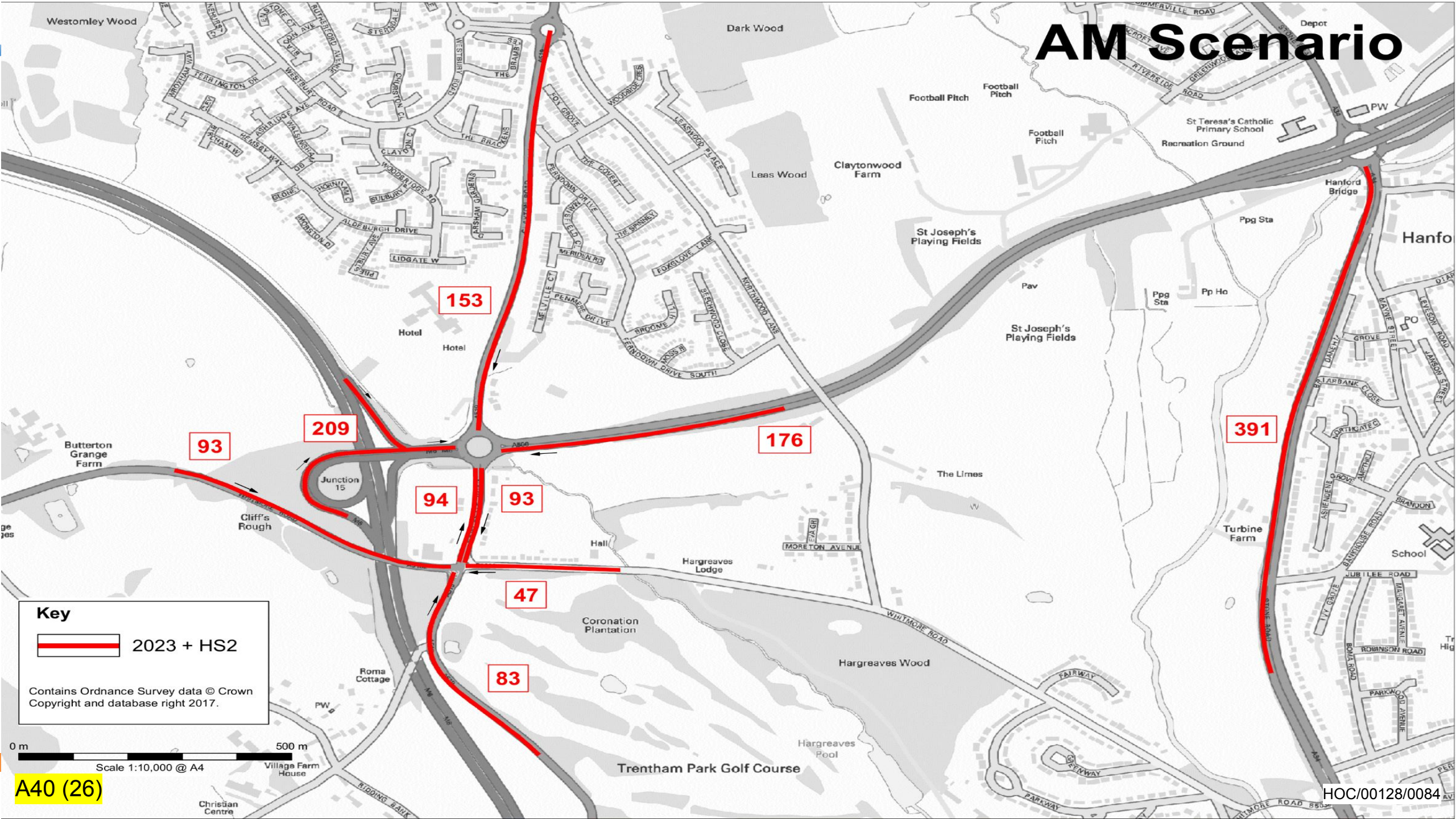
Peak hour queue lengths (PCUs)
(Ref Tables 271 & 296)

0 m 100 m

Scale 1:2000 @ A3

A40 (25)

HOC/00128/0083


AM Scenario
153
209
93
94
93
176
391
47
83
Key
2023 + HS2
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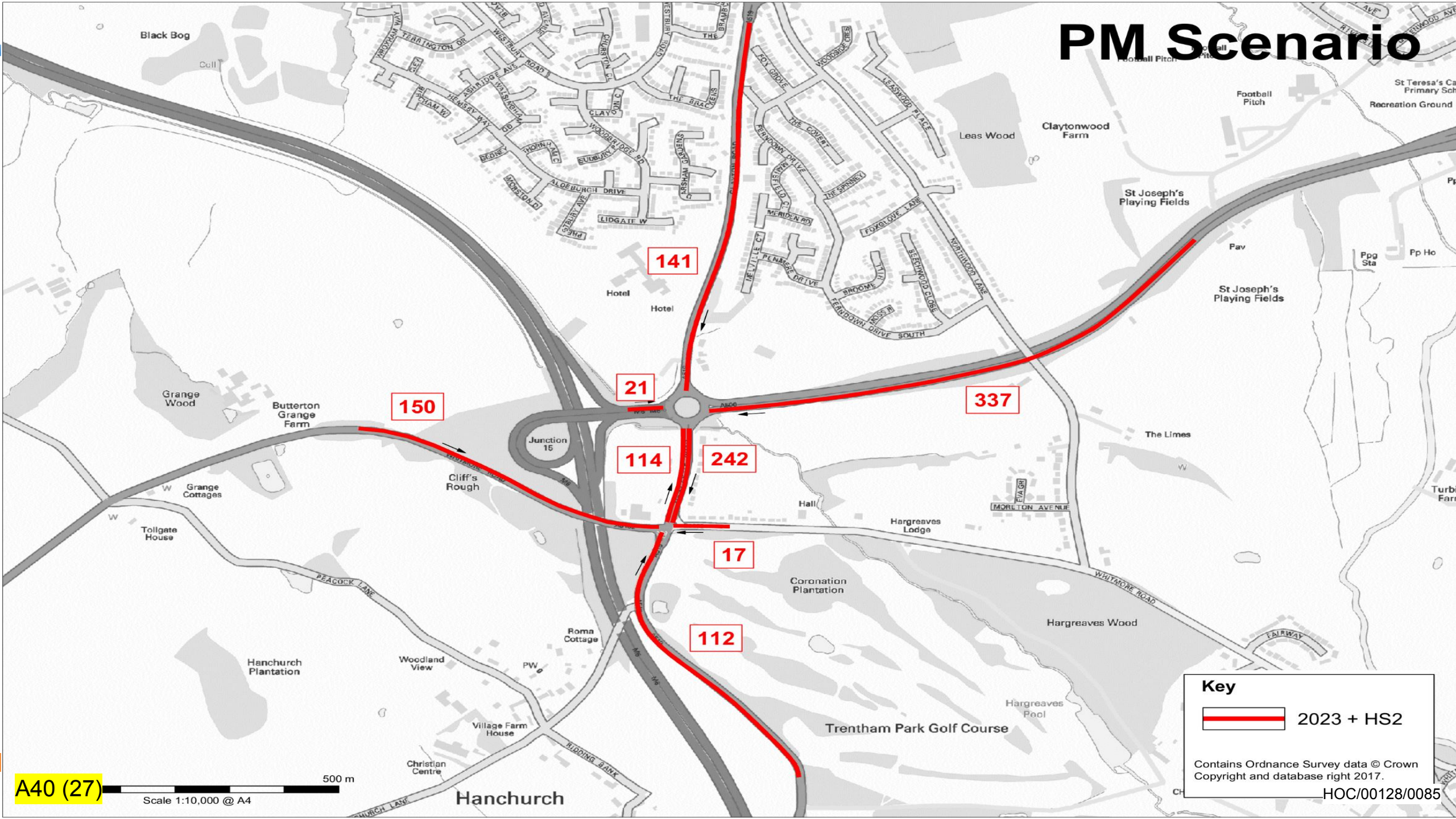
0 m
500 m
Scale 1:10,000 @ A4
A40 (26)
HOC/00128/0084


PM Scenario
141
21
150
337
114
242
17
112
Junction 15
Hotel
Hotel
Grange Wood
Butterton Grange Farm
Grange Cottages
Tollgate House
Cliff's Rough
Hall
Hargreaves Lodge
Coronation Plantation
Hargreaves Wood
Roma Cottage
Hanchurch Plantation
Woodland View
Village Farm House
Christian Centre
Hanchurch
Trentham Park Golf Course
Hargreaves Pool
Leas Wood
Claytonwood Farm
St Joseph's Playing Fields
The Limes
Football Pitch
Recreation Ground
Black Bog
PEACOCK LANE
RIDDING BANK
WHITMORE ROAD
MORETON AVENUE
FAIRWAY
A500
M6
Key
2023 + HS2
Contains Ordnance Survey data © Crown Copyright and database right 2017.
A40 (27)
500 m
Scale 1:10,000 @ A4
HOC/00128/0085