

A46 Coventry Junctions (Walsgrave) Scheme number: TR010066

7.5 Outline Traffic Management Plan

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OUTLINE TRAFFIC MANAGEMENT PLAN

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1. Introduction

1.1. Purposes and objectives

- 1.1.1. This Outline Traffic Management Plan (this “Outline TMP”) relates to an application made by National Highways (the “Applicant”) to the Secretary of State for Transport via the Planning Inspectorate (the “Inspectorate”) under the Planning Act 2008 (the “2008 Act”) for a Development Consent Order (DCO). If made, the DCO would grant consent for the A46 Coventry Junctions (Walsgrave) (the “Scheme”). A detailed description of the Scheme can be found in Chapter 2, of the Environmental Statement (ES) (**TR010066/APP/6.1**)
- 1.1.2. This Outline TMP sets out the proposals for the temporary traffic management measures required during construction of the Scheme. It will be developed into the Traffic Management Plan for implementation during construction.
- 1.1.3. The purpose of the Outline TMP is to describe the traffic management (TM) processes that would be followed to ensure the construction phases of the Scheme are completed safely and efficiently, while minimising the impact on road users and stakeholders. It is of the utmost importance that no one should be harmed when travelling or working on the strategic road network (SRN) or the local road network (LRN).
- 1.1.4. This Outline TMP has been prepared in compliance with Regulation 5(2)(q) of the Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009. It seeks to address and mitigate the transport challenges associated with the movement of the construction traffic to service the Scheme, including site access, routing, signage, heavy goods vehicles (HGVs) and abnormal indivisible loads (AILs).
- 1.1.5. The development of the Outline TMP will continue to evolve post submission of the DCO application through discussions with relevant local authorities and other key stakeholders. The development of the Outline TMP into a Traffic Management Plan (TMP) is secured by Requirement 11 of the draft DCO (**TR010066/APP/3.1**). The Traffic Management Plan must be substantially in accordance with the Outline TMP and reflect the relevant mitigation measures set out in the Register of Environmental Actions and Commitments (REAC), which forms Appendix A of the First Iteration Environmental Management Plan (EMP) (**TR010066/APP/6.5**).
- 1.1.6. The main traffic management objectives during the construction period are as follows:

- To provide adequate protection, for the workforce, against the risks to health and safety associated with working on or adjacent to live carriageways
- To ensure the safety of road users (including non-motorised users) as they approach and travel through the Walsgrave Junction area of the A46 and other routes affected by the associated roadworks
- To minimise the health and safety risks to the local community resulting from construction operations, including the impact of (intended and unintended) traffic diversion onto the adjacent side road network
- Minimise disruption to road users, local businesses and communities
- Creation of a communications plan
- Engagement with key stakeholders including highway authorities, emergency services, local businesses and local groups
- To ensure the Traffic Management Plan recognizes the 20 Customer Principles in *Roadworks: A Customer View*

1.2. The Scheme

- 1.2.1. The Scheme comprises of an upgrade to the junction of the A46 Coventry Eastern bypass and the B4082, east of Walsgrave. The A46 Walsgrave Junction connects the A46 to the B4082 at Walsgrave and this junction is currently a 3-arm priority roundabout.
- 1.2.2. The location, extents and scope of the Scheme are described in detail in ES Chapter 2 (The Scheme) (**TR010066/APP/6.1**).
- 1.2.3. The section of the A46 on which the Walsgrave Junction is located is part of the high-speed primary route connecting the M6 Junction 2 to the north with M40 Junction 15 to the south, as well as linking Coventry and Warwickshire to the motorway system and providing connections to the Strategic Road Network (SRN) and rest of the country, as shown in Plate 1.

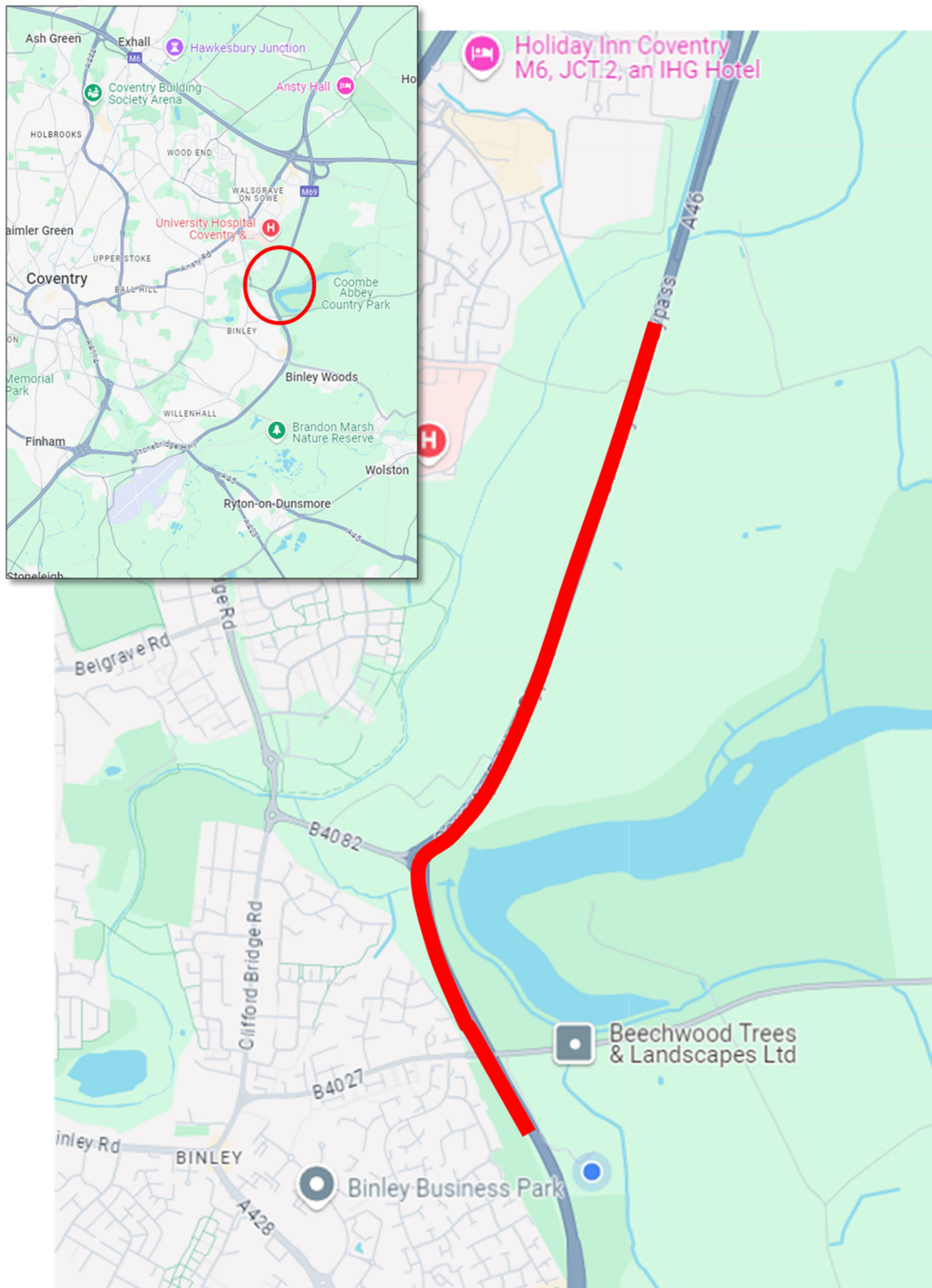


Plate 1 - Location of A46 Coventry Junctions (Walsgrave) Scheme

- 1.2.4. The A46 corridor experiences congestion problems and suffers from low peak hour speeds, high vehicle delay and poor journey time reliability. It also carries a significant volume of freight traffic and has a number of collision clusters.

-
- 1.2.5. The works to Walsgrave Junction form part of a wider scheme of improvements to the A46, including works to Binley Junction, located approximately 1.7 kilometres (km) to the south of Walsgrave Junction which achieved Open for Traffic on 29 November 2022.
- 1.2.6. All of the junctions along the route are now grade separated with the exception of the Walsgrave Junction which forms an effective pinch point and a barrier to economic growth.
- 1.2.7. The Scheme Objectives are:
- A SRN that supports and facilitates economic growth, supporting employment and residential development opportunities
 - A SRN that is maintained to safe and serviceable condition
 - Improve the operation and efficiency of the existing transport network, delivering capacity enhancements to the SRN
 - A SRN that minimises its negative impacts on users, local communities and the environment
 - A SRN that balances the need of individuals and businesses that use and rely upon it
 - Reducing/minimising the impact on the wider environment, whilst seeking to bring enhancement
 - Operational maintenance to be considered holistically
- 1.2.8. The key construction elements of the Scheme include:
- Realignment of the existing A46 dual carriageway through the existing at grade roundabout (which will be removed), for approximately 880m to improve the road geometry and allow for a 50mph speed limit.
 - Earthworks on the eastern side of the A46 mainline to facilitate the realignment through the existing at grade roundabout.
 - A new grade separated junction over the A46 mainline, approximately 800m north of the existing Walsgrave Junction to connect the B4082 with the A46.
 - A new overbridge structure across the existing A46, between the dumbbell roundabouts forming the grade separated junction.
 - New merge and diverge slip roads at the grade separated junction for both northbound and southbound movements.
 - Realignment of the B4082 to form a single carriageway link road, for approximately 900m, to connect the local road network to the new A46 grade separated junction with a proposed 40mph speed limit.
 - Road assets and street furniture such as traffic signs and lines, variable message sign (VMS), street lighting columns, vehicle restraint systems (VRS), fences, retaining walls and kerbs.

- Drainage systems including a dry detention basin and two ponds that will be designed to be permanently wet.
- Proposed new maintenance accesses to the drainage features and VMS.
- Retention of the Hungerley Hall Farm accommodation bridge (the existing bridge that provides farm vehicle access over the A46 mainline).
- Farm access track to the north of Hungerley Hall Farm to provide gated access to the B4082 link road.
- Improvements to facilities for walkers, cyclists and horse-riders (WCH) through provision of a signalised pedestrian crossing on the B4082; and providing enabling works, including the retention of Hungerley Hall Farm accommodation overbridge, for a potential future WCH route to be provided by others.
- Replacement and installation of new highway boundary fencing.
- Replacement vegetation planting to compensate for the vegetation that needs to be removed to facilitate the Scheme.

1.3. Traffic management considerations

- 1.3.1. Whilst the Scheme is relatively short in length, the complexity means that there will be multiple construction locations, some which will overlap and run in conjunction. It is for this reason the Scheme will need to split the construction zones into phases.
- 1.3.2. The main challenges to the successful delivery of the Scheme and for traffic management planning within the Scheme include:
- Providing sufficient access to allow temporary widening to the east of the existing roundabout.
 - The construction of the new A46 carriageway over the alignment of the existing carriageway.
 - Tie in of the new slip roads to the existing A46 mainline carriageway (northbound and southbound).
 - Tie in of the new B4082 carriageway with the existing B4082 carriageway.
 - Earthworks associated with the new junction in close proximity to the existing A46 Mainline Carriageway.
 - Maintaining access over the Hungerley Hall Farm bridge throughout construction.
- 1.3.3. In order to facilitate construction of new structures and tie-ins, narrow lane phases of Traffic Management will be required.

- 1.3.4. Working within the project team from an early stage allows the TM designer to influence critical areas of design, construction planning and operational activities. The TM Early Contractor Involvement (ECI) Manager and Principal Contractor Project Manager (PM) will integrate within the Regional Delivery community, attending workshops and advising on programme and works including roadspace allocation, stakeholders, risk, opportunity and buildability. A 90% accuracy over a seven-day period in regard to roadspace booking and allocation will be targeted.

1.4. Outline Traffic Management Plan review plans and management

- 1.4.1. The TMP will be subject to no less than one review every six months and will be updated as appropriate throughout the construction phase.
- 1.4.2. Gathering traffic data will be an important part of designing and implementing the traffic management. The data will be used to understand and monitor how the traffic management is impacting on the road performance and the performance of key road user groups help to identify opportunities to mitigate any issues.
- 1.4.3. Updates to the traffic management plans and provision will provide detail on the measures that will be put in place for reactively and proactively managing the traffic management throughout construction of the Scheme, including:
- Who will be responsible for managing the TMP onsite.
 - What data will be collected as part of the traffic management activities.
 - The criteria for updating the TMP (e.g. in relation to traffic accident rates).

2. Traffic management overview

2.1. Introduction

2.1.1. The “online works” comprise all works taking place within the existing highway boundary and will include the following main activities:

- Construction of the new A46 carriageway over the alignment of the existing carriageway
- Removal of the existing Walsgrave roundabout
- Tie in of the new slip roads to the existing A46 mainline carriageway (northbound and southbound).
- Tie in of the new B4082 carriageway with the existing B4082 carriageway.
- Construction of temporary running lanes to facilitate traffic management phases

2.1.2. Construction works must be carried out safely and efficiently whilst minimising the impact on the customers. The Scheme will consider workspace requirements, different shift patterns and different work phasing arrangements. Recommendations include:

- Temporary safety barriers to be installed to protect both road users and workforce. Where there is insufficient room to undertake a planned activity behind the temporary safety barrier, further lane closures or carriageway closures must be considered for delivery.
- Where an activity presents a real risk to the customer and/or workforce it shall be assessed and conducted under an appropriate traffic management strategy (e.g., road closures, night working etc.) so that no one is ever placed in harm's way.
- Some construction activities which require large vehicle movements (e.g., abnormal loads such as delivery of bridge beams) on the live carriageway may be scheduled to take place during off peak periods, at night or over weekend blockades to reduce the impact of these works on traffic flows. During such closures, consideration will be given to completing other works, such as surfacing, cross carriageway drainage, to maximise the use of the road occupancy and reduce further impact on customers.

2.1.3. The above measures are required to minimise the impact of activities on all parties during construction works.

2.1.4. High risk construction activities such as bridge beam lifting, parapet installation, will need special consideration to ensure that construction activities taking place are not a distraction to the road user and create secondary safety risks.

2.2. Traffic management phases

- 2.2.1. The proposed construction sequence for the Scheme has been split into seven traffic management phases. These are subject to change following the detailed design phase of the Scheme.
- 2.2.2. Simplified sketches for the seven phases are shown in Plates 2 to 8.
- 2.2.3. Two construction compounds will be required to construct the Scheme. The location of these site compounds is shown in Plate 9.
- 2.2.4. The proposed main site compound (Brinklow Road compound) is located on land to the south of the Brinklow Road and the east of the A46. The site currently contains site offices, welfare and storage facilities for plant and materials and was used as the main site compound for the Binley Junction scheme. It will provide the same function for this Scheme with a separate satellite compound as discussed below.
- 2.2.5. A satellite compound will be located to the west of the A46 accessed off the A46 northbound carriageway via the existing layby. It would be in use throughout the construction phase.

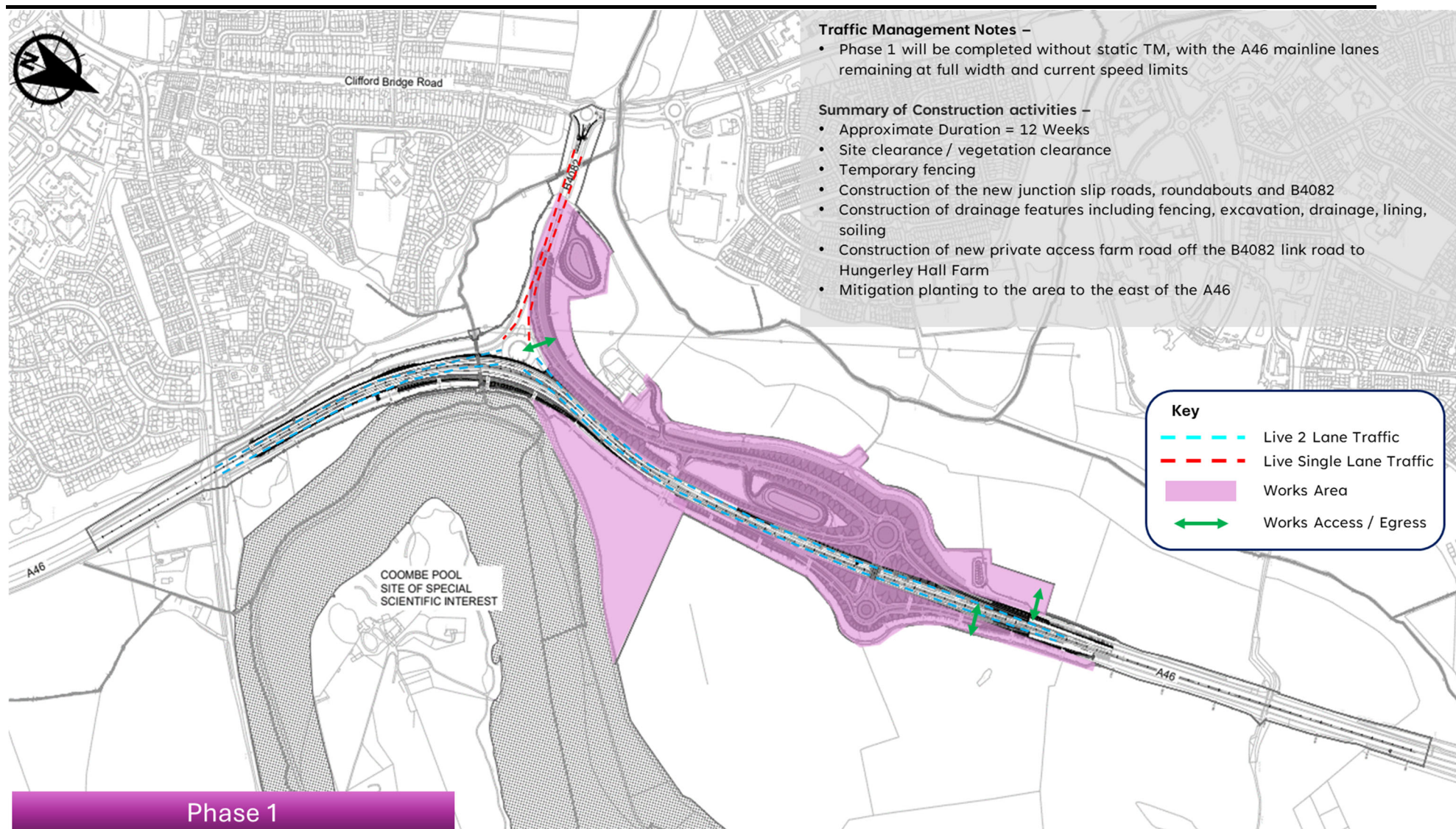


Plate 2 - Phase 1 of proposed Traffic Management

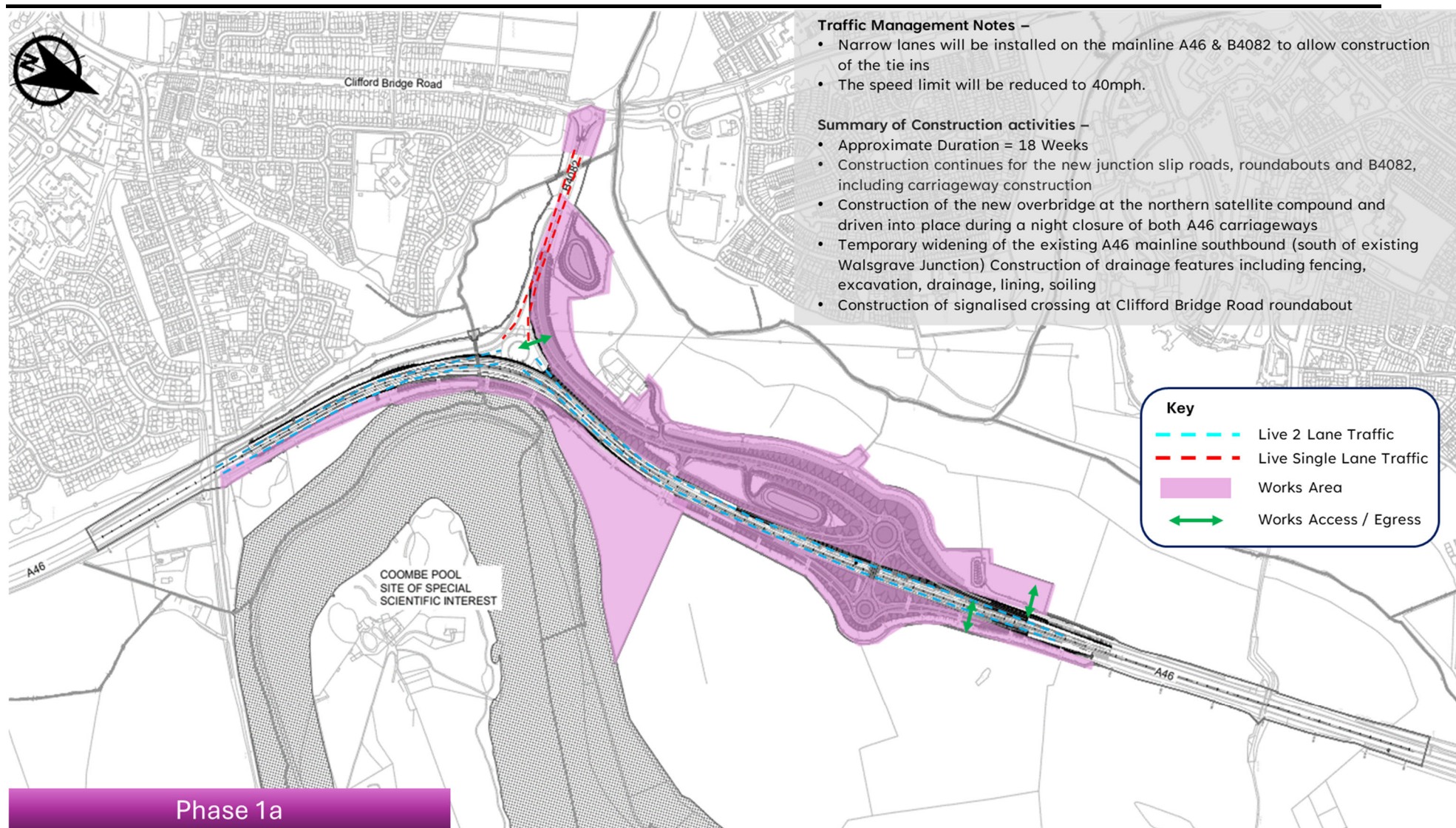


Plate 3 - Phase 1a of Proposed Traffic Management

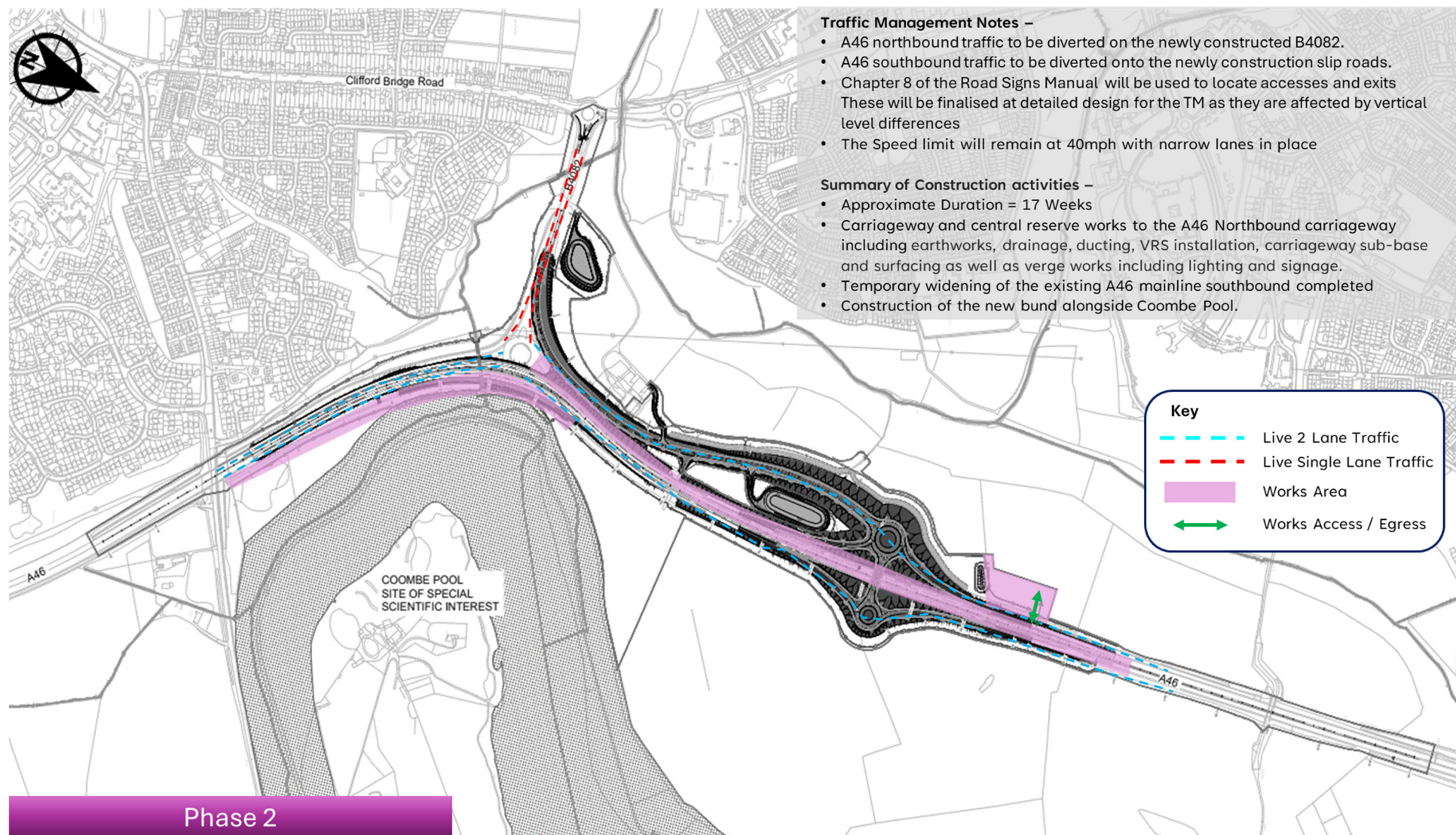


Plate 4 - Phase 2 of proposed Traffic Management

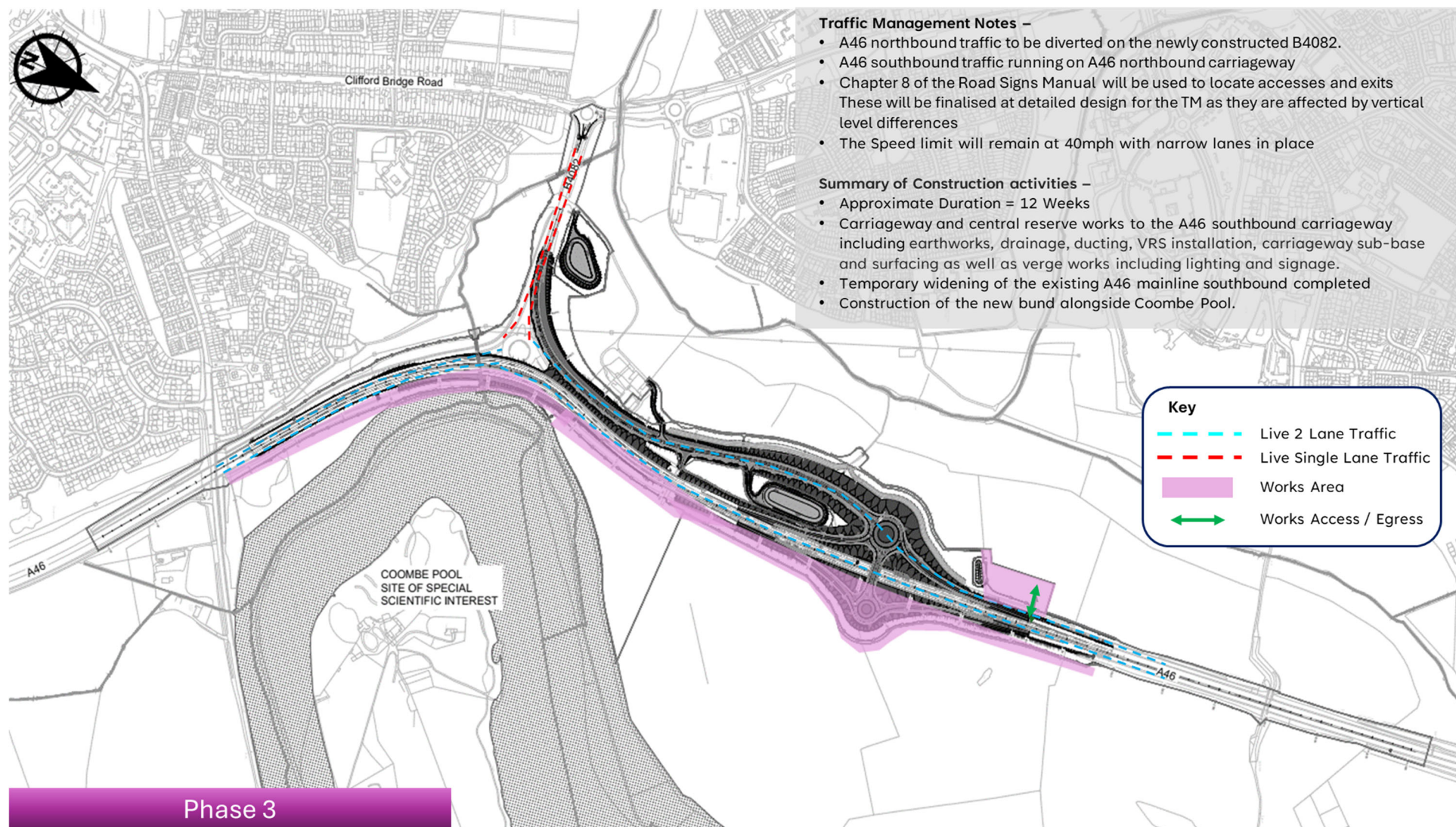


Plate 5 - Phase 3 of Proposed Traffic Management

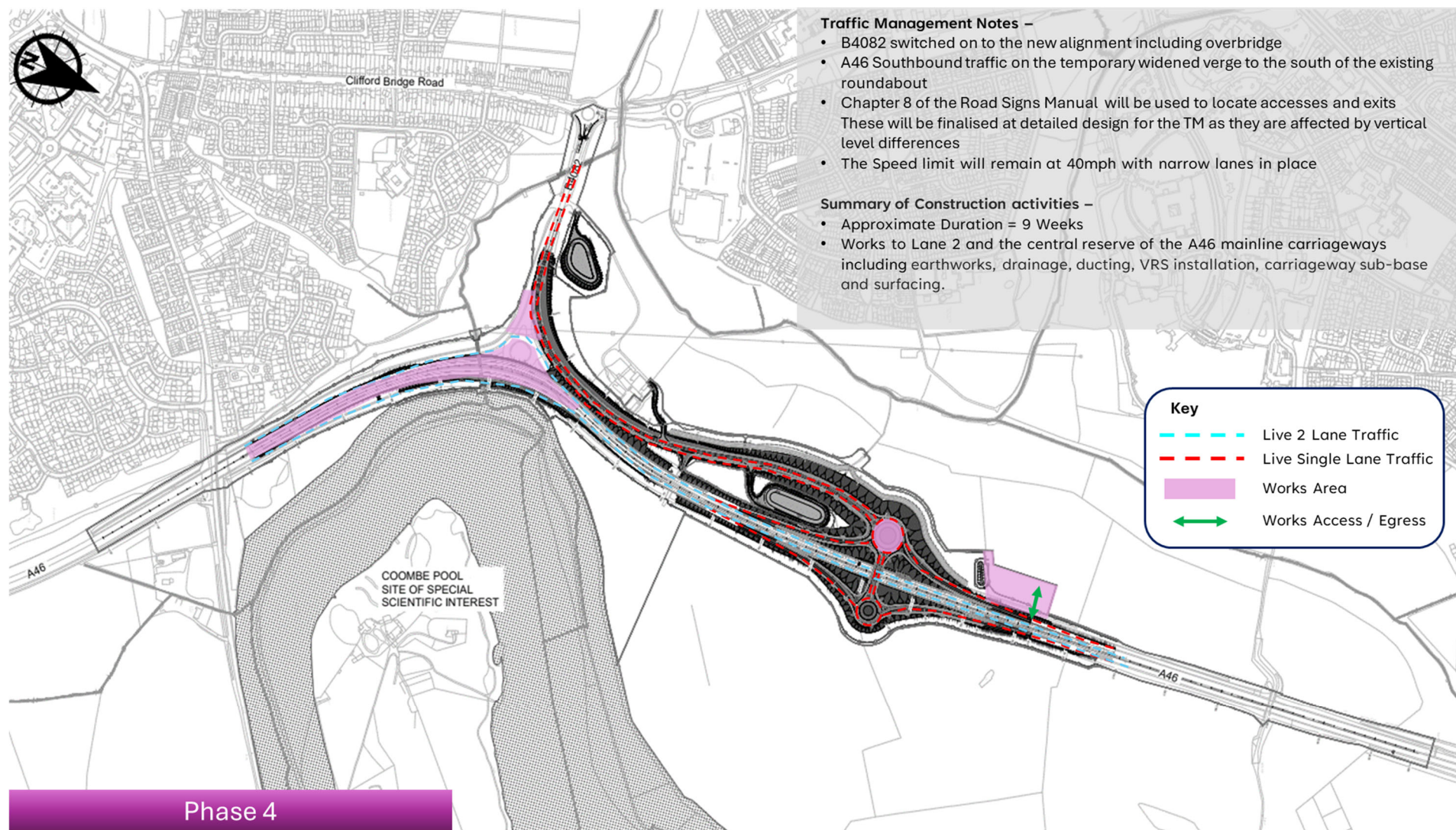


Plate 6 - Phase 4 of proposed traffic management

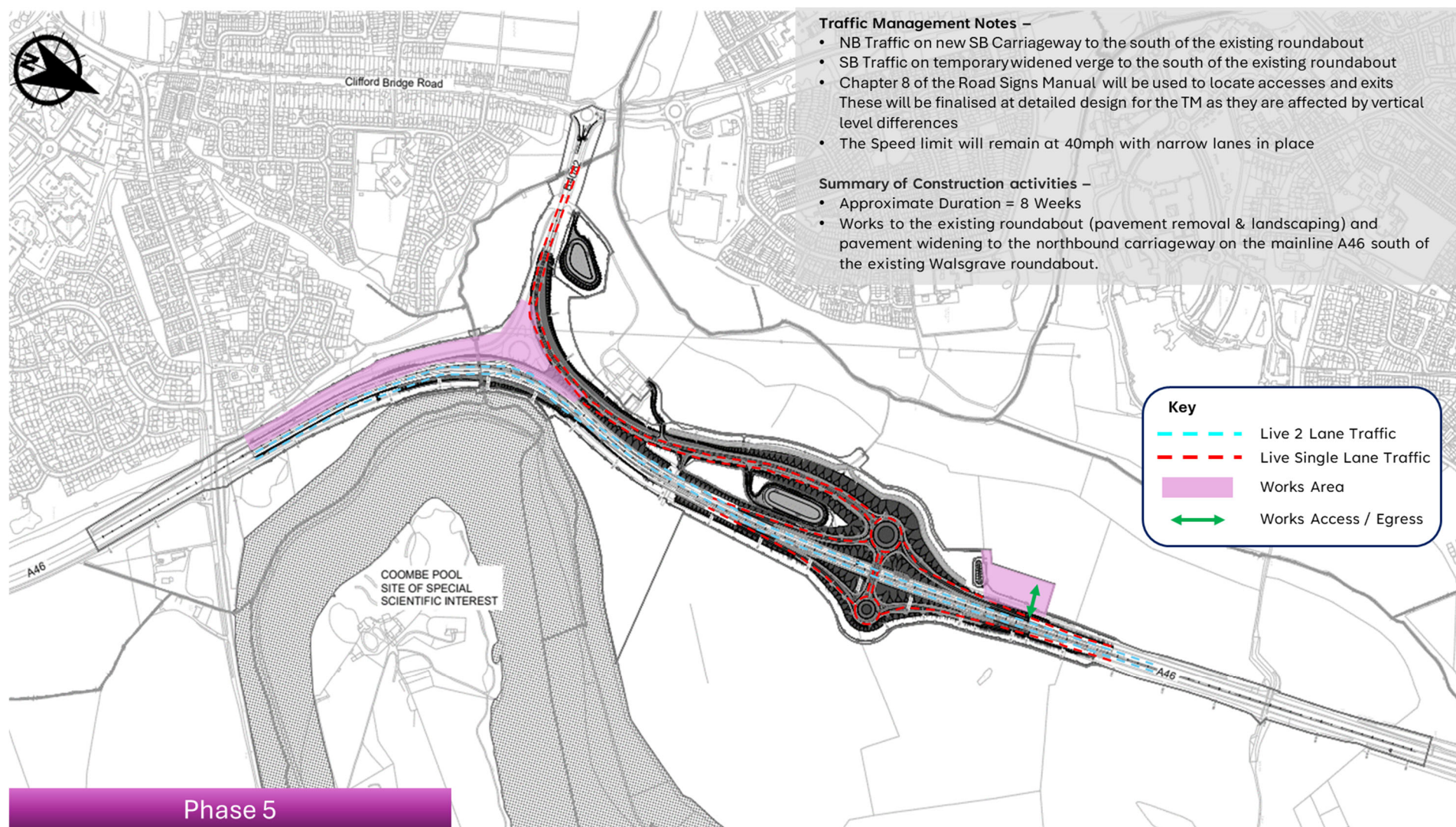


Plate 7 - Phase 5 of proposed Traffic Management

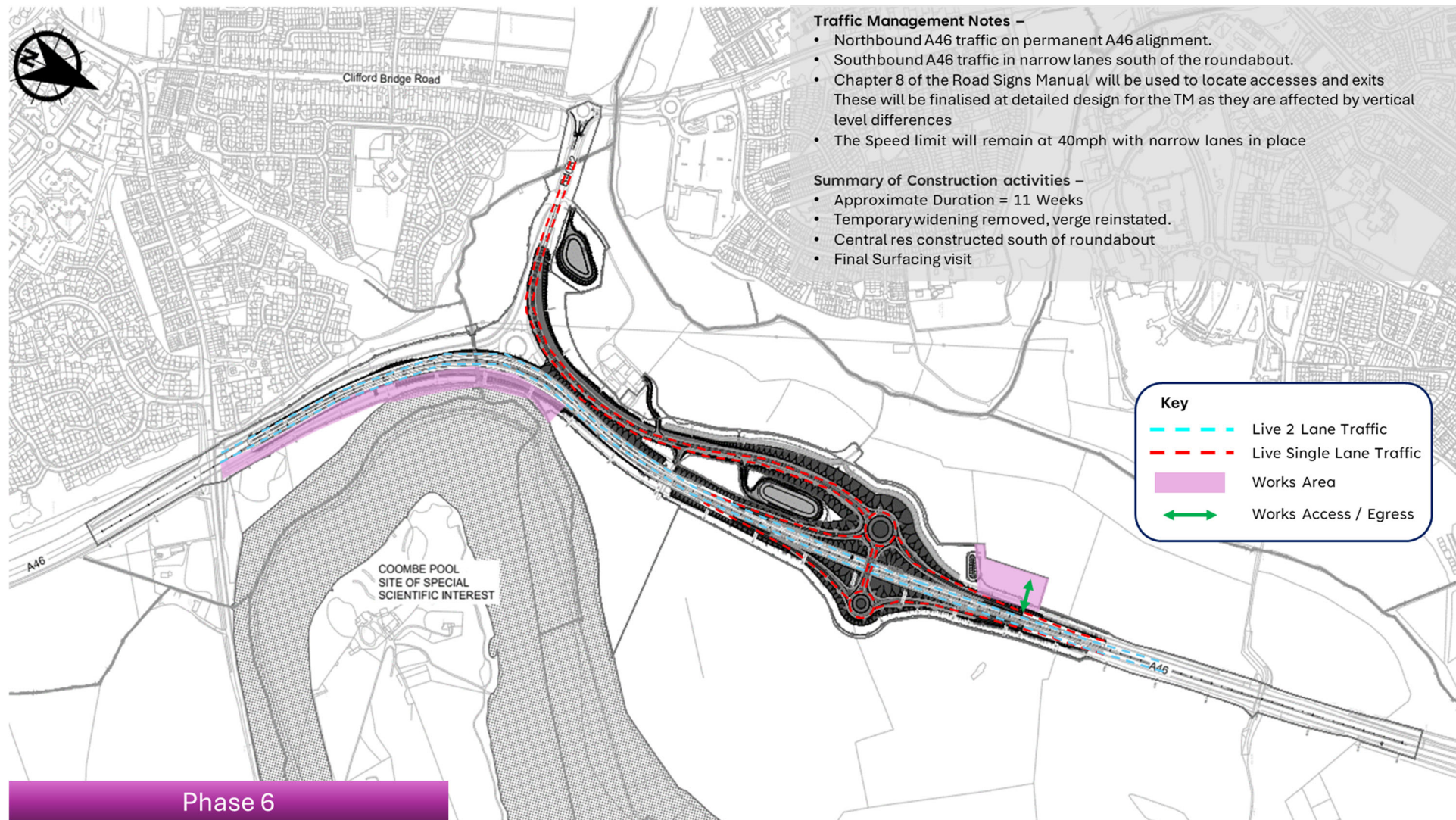


Plate 8 - Phase 6 of proposed Traffic Management

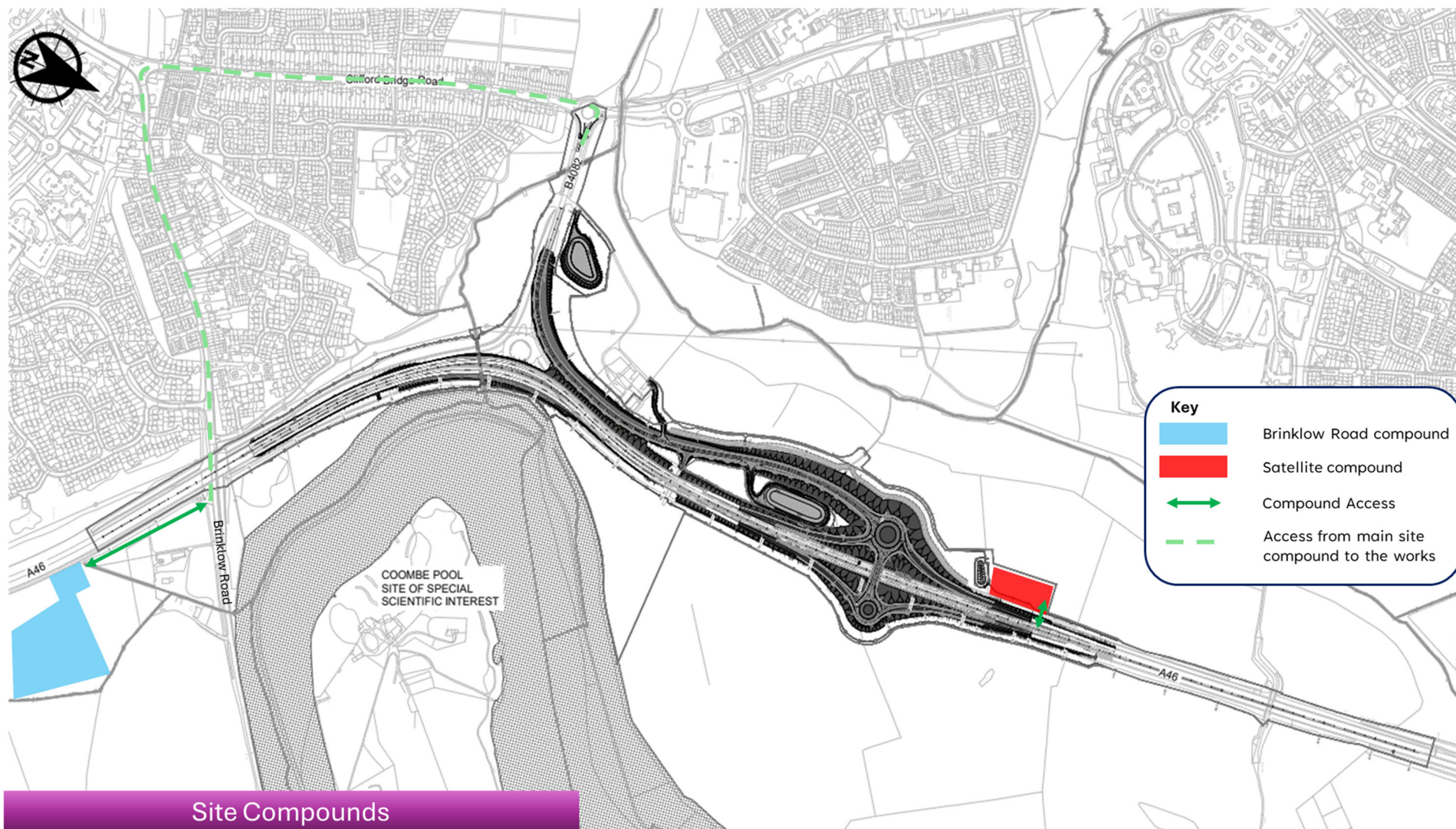


Plate 9 – Location of site compounds

- 2.2.6. Some works cannot be completed within the daytime traffic management phasing. These works will need to be undertaken under night-time or weekend closures. These activities include:
- Traffic management installation and phase changes
 - Construction of temporary carriageway widening
 - New carriageway tie ins on the A46 and B4082
 - Resurfacing works
 - Road marking installation
 - Signage installation
 - Central reserve construction
 - Installation of signalised pedestrian crossing on the B4082
 - Installation of the new overbridge deck
 - Installation of cross carriageway ducting and drainage
- 2.2.7. Night-time or weekend closures will include combinations of lane closures, full carriageway closures and slip/link road closures.
- 2.2.8. Some construction activities (e.g. overbridge deck installation, cross-carriageway drainage, ducting) may require full weekend possession closures for specific areas of the Scheme. This will be arranged with the relevant local highway authorities.
- 2.2.9. The programme of works will be co-ordinated by the Applicant in a fashion that allows optimum use of full closures in order to minimise the number required and promote operational efficiency. Full closures will be co-ordinated with local highways authorities (such as Warwickshire County Council, Coventry City Council and Rugby Borough Council), and discussed via stakeholder engagement.

2.3. Network capacity

- 2.3.1. The TMP will be developed to maintain the network capacity during peak hours if possible.
- 2.3.2. This will include the following existing network capacity:
- Two lanes of traffic in each direction on the A46 mainline
 - Single lane running on the B4082
 - Access from to and from both carriageways of the A46 from the B4082

3. Communication and engagement

3.1. Advanced notifications

- 3.1.1. The Scheme will appoint a dedicated TM Manager and Stakeholder and Communications Lead. Early collaboration between these persons will ensure the establishment of procedures to deliver relevant, accurate and timely information about diversions and closures to stakeholders, residents, businesses, and all road users.
- 3.1.2. Relevant customer and stakeholder groups have been identified by the Scheme during ongoing engagement to date. These stakeholder groups will continue to be consulted in by the appointed Walsgrave Junction Stakeholder and Communications Lead alongside wider National Highways Communications.
- 3.1.3. Communications will involve use of a wide range of channels to reach as many affected parties as possible including:
- Roadside signage to provide advance notice of intended roadworks operations.
 - Roadside signage during planned roadworks.
 - Newsletters to, and meetings with, the local community and businesses.
 - National Highways Scheme specific website and social media channels.
 - Use of existing National Highways / local authority variable message signs.
 - Use of strategically placed portable variable message signs if required.
- 3.1.4. A traffic management forum will be established with regular meetings to discuss all elements of the traffic management including the provision of full road closures and diversion routes. [Section 3.3 of this document](#) contains further information.
- 3.1.5. Monthly meetings are to be held which include the responsible parties for network maintenance. The Scheme incident management plan will be issued in advance of works, this will detail the procedures and communication channels that will be in place to ensure efficient and accurate communication between the West Midlands Regional Operating Centre and on-site A46 Walsgrave 24 hour Traffic Safety Control Officer (TSCO) / Traffic Safety Supervisor (TSS).
- 3.1.6. All major TM 'events' such as closures and diversion routes will be notified to National Highways Customer Contact Centre (CCC) via the National Highways Road space team, in order that they will be able to answer any queries that are directed though the CCC contact routes, however more specific enquiries will need to be directed to the National Highways Major Projects Liaison Officer.

Events will also be notified to the equivalent local authority departments in order that they also have the most up to date information.

- 3.1.7. The CCC team will provide weekly updates to the traffic management schedule. The CCC team will be provided with details of diversion routes and signing strategy.
- 3.1.8. The Scheme website will be updated with details of upcoming closures. Details of the diversion routes will be incorporated into the Scheme website updates.
- 3.1.9. Communication streams will be established with other schemes under construction on the network at the same time and continual communication between schemes to provide clear and consistent messages to customers of upcoming road closures and journey times.
- 3.1.10. There will also be regular communication with freight groups to ensure closures and diversions are communicated to drivers and operators well in advance.
- 3.1.11. There will be regular liaison with the public transport operators, emergency services and local hospitals.

3.2. Customer requirements

- 3.2.1. The safety needs and expectations of all customers are to be considered and managed at all stages of the TMP. The key principles of National Highway's *Roadworks: A Customer View* (RACV) document are understood and will be adopted when designing, installing, and maintaining the traffic management.
- 3.2.2. A schedule of the 20 key principles of RACV and the steps the Scheme is taking in relation to each one (or why any of the principles are not taken forward) are included within Appendix A of this document.
- 3.2.3. Appendix B summarises how customer requirements have been considered in developing this Outline TMP to date and looking ahead to detailed design and construction planning.

3.3. Traffic management forums

- 3.3.1. The TM Manager for the Scheme will set up monthly traffic management forums during the construction phase. The purpose of these forums will be to provide relevant information with regards to traffic management to affected stakeholders, to seek input into the proposals as they are developed and feedback on the implementation of proposals. Where appropriate, feedback will be incorporated into proposals going forward in the Scheme.

-
- 3.3.2. The traffic management forums will form a key part of the strategy for advance notification of restrictions and closures.
- 3.3.3. Traffic management forums will be used to provide key stakeholders with as much advanced warning as possible for all planned traffic management, including closures, related to the construction of the Scheme.
- 3.3.4. Traffic management forums will consist of in-person and / or video conference meetings.
- 3.3.5. Key stakeholders will be invited to attend regular traffic management forums. These include:
- Local authorities – Warwickshire County Council, Coventry City Council and Rugby Borough Council
 - National Highways
 - Emergency Services (police, fire, and ambulance).
 - Royal Mail
 - Other national and local businesses as requested.
 - University Hospitals Coventry and Warwickshire

3.4. Adjacent roadworks and other traffic management

- 3.4.1. The Principal Contractor (PC) will have possession of the Scheme works area and PC will work with the network occupancy requirements set by National Highways, who will retain responsibility for network occupancy management.
- 3.4.2. Discussions will be held with National Highways and relevant local highway authorities (such as – Warwickshire County Council, Coventry City Council and Rugby Borough Council) to understand their obligations and the processes to be followed.
- 3.4.3. Road space bookings for activities which require the control or temporary restriction of traffic will be coordinated by the Scheme's TM manager.
- 3.4.4. The National Highways Network Occupancy Management System (NOMS) will be used to ensure accurate updating of road space requirements.
- 3.4.5. The Scheme's TM manager will be present at weekly site progress meetings during the construction phase. During these meetings, a review of the previous weeks' work will be undertaken as well as agreeing the traffic management requirements for the next two weeks in advance.
- 3.4.6. The Scheme's TM manager's attendance at the weekly site meetings will reduce the need to cancel traffic management measures outside the 7-day period as

required by the key performance indicator for traffic management cancellations. If there is a need to cancel works, this will only be after alternative works are explored to utilise the closure and maintain the customer message.

- 3.4.7. Any road space bookings on the LRN will be submitted to the relevant local authority street works team.
- 3.4.8. The Scheme will continue to engage National Highways teams and those at relevant local highway authorities to determine which other local major schemes will be under construction at the same time and therefore require collaborative working relationships.

4. Traffic restrictions and diversion routes

4.1. Restrictions

- 4.1.1. To safely construct the Scheme various restrictions on the traffic flow through the proposed site will be required. This section details the current proposed traffic restrictions which are subject to alteration during detailed design.
- 4.1.2. Full carriageway closures of the A46 mainline carriageways and the B4082 are anticipated during the Scheme works. The Applicant will however seek to limit the number of full carriageway closures to minimise impact and disruption to road users.
- 4.1.3. Closures of both the A46 and B4082 will require use of diversion routes affecting the SRN and LRN. Existing diversion routes currently used by National Highways will be utilised for the Scheme. Details of the diversion routes will be agreed with the relevant local highway authorities where the LRN is to be used.
- 4.1.4. Where possible, lane closures will be utilised rather than full carriageway closures to remove the need for diversion of traffic and the associated disruption.
- 4.1.5. As identified in National Highways' Dynamic Road Works Vision, the Scheme will aim to minimise full closures whilst assessing the appropriateness of diversion routes considered when full closures are unavoidable.
- 4.1.6. Table 1 details the traffic restrictions expected to be installed as part of the Walsgrave Junction Upgrade. These are subject to alteration as the detailed design process progresses.

Table 1 : Type of Restriction, location, time and details

Type of Restriction	Days	Time of Day	Location (Marker Posts)
Full carriageway closure of A46 Southbound carriageway between M69 /M6 Junction and A46/A428 Binley roundabout	Mon-Sun	20.00 – 06.00	98/5 – 95/5
Lane closure A46 Southbound carriageway between M69 /M6 Junction and A46/A428 Binley roundabout	Mon-Sun	20.00 – 06.00	98/5 – 95/5
Full carriageway closure A46 northbound carriageway between A46/A428 Binley roundabout and M69 /M6 Junction	Mon-Sun	20.00 – 06.00	93/8 – 98/5
Lane closure A46 Northbound carriageway between A46/A428 Binley roundabout and M69 / M6 Junction	Mon-Sun	20.00 – 06.00	95/5 – 97/0

Full carriageway closure of A46 Southbound carriageway between M69 /M6 Junction and A46/A428 Binley roundabout	Friday to Monday	Full weekend Closure	98/5 – 95/5
Full carriageway closure A46 northbound carriageway between A46/A428 Binley roundabout and M69 /M6 Junction	Friday to Monday	Full weekend Closure	93/8 – 98/5
A46 Carriageway Width Restriction (narrow lanes) both carriageways	Mon-Sun	24 hours (static)	96/3 – 98/5
A46 Carriageway Speed Restriction (narrow lanes) both carriageways	Mon-Sun	24 hours (static)	96/3 – 98/5
B4082 Eastbound and Westbound Closure	Mon-Sun	20.00 – 06.00	N/A
B4082 Eastbound and Westbound Traffic Signals	Mon-Sun	24 hours (static)	N/A

4.2. Road planning considerations

- 4.2.1. The Scheme will engage with National Highways Network Occupancy team to confirm future predicted embargo dates and complete Table 2 below as necessary.

Table 2 : SRN Traffic Management Embargos

Event	Dates	Traffic Management removed by	Traffic Management Embargo to
Easter	Good Friday Easter Monday	06:00 Thursday before Good Friday	00:01 Tuesday after Easter Monday
Early May Bank Holiday	Monday	Low key – no specific request for TM to be removed	
Spring Bank Holiday	Monday	06:00 Friday	00:01 Tuesday
Summer Bank Holiday	Monday	06:00 Friday	00:01 Tuesday
Black Friday & Cyber Monday Weekend	Friday after the fourth Thursday in November to the following Friday	TBC	
Christmas / New Year	25 th December 26 th December 1 st January	06:00 24th December	00:01 2nd January

- 4.2.2. Other major public events where customers will require use of the SRN or affected LRN will also be considered when planning works. This would also apply to the strategic diversion route. To minimise any disruption caused by the traffic management, the Scheme would engage with affected stakeholders through traffic management working groups. Examples of stakeholders the Scheme will engage with are, but are not limited to:

- Warwickshire County Council
- Coventry City Council
- Rugby Borough Council
- National Highways
- Emergency Services
- Royal Mail
- University Hospitals Coventry and Warwickshire
- Local residents

4.2.3. The TMP is a live document which will be kept updated throughout the Scheme's lifetime. Future updates of the TMP will ensure that relevant requirements of the Scheme's Construction Communication Strategy (e.g. as associated with the construction phase works and traffic management) are incorporated.

4.3. Diversion routes

- 4.3.1. During the regular traffic management forums detailed in section 3.3 of this document, proposed diversion routes will be coordinated with relevant stakeholders.
- 4.3.2. All diversion routes will be agreed with the Applicant's Regional Operations Centre (ROC) and with relevant local authorities before commencement of the relevant scheme works.
- 4.3.3. Where full carriageway closures are required, the Applicant will need to use the LRN for diversion route options.
- 4.3.4. Diversion routes will be included within National Highways' internal road-space booking system, the Network Occupancy Management System, via network occupancy forms.
- 4.3.5. Diversion routes will be supplied to all key stakeholders to avoid confusion and disruption on the LRN. Diversion routes will be checked against other closures on the LRN and the SRN to ensure that there are no clashes wherever possible.
- 4.3.6. Diversion routes will be signed using scheme specific signing, this will include plotting the routes on satellite navigation platforms. This will ensure that when road users are using the diversions their satellite navigation is also recognising the approved route.
- 4.3.7. All routes will be surveyed by the TM team i.e. Traffic Safety and Control Officer (TSCO) and TM designer to ensure suitability to users when in use.

- 4.3.8. The TM team will monitor the routes when in use to ensure incident management/response mitigates congestion and delays to road users.
- 4.3.9. Table 3 details the diversion route options for the Scheme. The length of each diversion route has been noted in the table. The exact diversion routes that will be utilised will be confirmed at later stages.

Table 3 : Diversion Route Options

Description and location of diversion routes	Length Of Diversion
Diversion route for closure of the A46 southbound between the M6 / M69 Junction and the A46 Binley Junction. Proposed diversion route is: 1. M6 / M69 Junction 2. Hinckley Road 3. Clifford Bridge Road 4. A428 Brandon Road 5. A46 Binley Junction	7.2 km
Diversion route for closure of the A46 northbound between the A46 Binley Junction and the M6 / M69 Junction. Proposed diversion route is: 1. A46 Binley Junction 2. A428 Brandon Road 3. Clifford Bridge Road 4. Hinckley Road 5. M6 / M69 Junction	7.2 km
Diversion route for closure of the B4082 between Clifford Bridge Road and the A46 Walsgrave Junction. Proposed diversion route is: 1. Clifford Bridge Road 2. Hinckley Road 3. M6 / M69 Junction	6.4 km

5. Construction and traffic management considerations

5.1. Introduction

- 5.1.1. The highway improvements and scope of works have been assessed and the most effective temporary traffic management plans will be implemented to mitigate the impacts on the SRN and the LRN, and to provide alternative diversions and access for local traffic where required.

5.2. Safety

- 5.2.1. As one of National Highways' Key Imperatives, safety is extremely important. Accurate Traffic Management (TM) design processing allows assessment of risk and opportunity throughout the design period. During TM design, the assessment of the following factors will be carried out:

- Safe taper locations
- Road marking condition
- Existing and proposed carriageway alignments
- Stopping sight distances
- Road user fatigue
- Customer experience (Roadworks: A customer point of view)
- Clear and concise signage
- Clear and safe access and egress detail and locations
- Assessment of existing flows and impact of works on said flows.
- Minimal maintenance and risk mitigation of operational procedures
- Assessment of speed (85th percentile speed recognition)
- Assessment of highest safe speed possible; utilising the National Highways 'highest safe speed toolkit' and providing GG104 framework guided safety risk assessments for detailed TM design phasing.

5.3. Deliveries and driver training

- 5.3.1. All regular delivery drivers to the Scheme will receive a driver's induction when engaged on the Scheme and prior to entering any works area, to ensure that they are aware of all key information and can undertake their role safely. They will be supplied with and briefed on the list of permitted, permitted with restrictions, and excluded traffic routes.
- 5.3.2. Irregular or one-off delivery drivers will be directed to either the Brinklow Road compound or the satellite compound. Locations of these compounds is shown in

Plate 9. Generally, vehicles would be off-loaded, and the load transported to its point of use using site transport. Where this is not the case, drivers will be briefed and where appropriate escorted by the site team to the required location.

- 5.3.3. All drivers entering traffic management on high-speed roads will be required to be trained in safe entry, travelling through, and exiting traffic management.
- 5.3.4. HGVs will have the correct level of certification for the Fleet Operator Recognition Scheme (FORS) and/or The Construction and Logistics Cyclist Safety Scheme (CLOCS); this will be defined in the TMP prior to commencement of the Scheme construction phase.
- 5.3.5. All vehicles entering traffic management on high-speed roads will be compliant to Chapter 8 of *Traffic Signs Manual* (2009) for livery and beacons.

5.4. Road cleanliness

- 5.4.1. Where construction traffic joins the SRN or LRN, the PC will ensure that the road surface has regular cleaning maintenance. Procedures will be developed to ensure that roads are inspected and that measures are in place to allow a rapid response to any reported mud/debris on the carriageway. Measures may include the following:
 - Wheel washes at key egress points.
 - High pressure sweepers.
 - Jet washers at appropriate egress points.
 - Surfacing of approaches to egress points/plant crossings to allow vehicles to shed mud ahead of the public highway and to enable sweepers to keep the approach clean.

5.5. Access to residential properties and business premises

- 5.5.1. The only private access from the A46 or the B4082 to residential and/or business premises within the Scheme Order Limits are:
 - Access from B4082 to Hungerley Hall Farm
 - Access from B4082 into the field to the south of the B4082.
- 5.5.2. The Scheme will try to ensure that all construction works are phased to ensure these private accesses are always maintained.
- 5.5.3. Similarly, the Scheme will try wherever practical to maintain access for emergency services and others, such as Royal Mail, delivery businesses, refuse collections and carers, to properties who need access.

- 5.5.4. If this is not possible, the Scheme will engage with the affected stakeholder and ensure suitable arrangements are agreed and put in place.

5.6. Public transport – bus services

- 5.6.1. Bus services managed by various stakeholders are operated on the LRN and the SRN. Bus service providers will be kept informed of works associated with the Scheme so that they are aware of any effects this would have on their bus routes and/or bus stops. Bus service providers would be invited to a relevant traffic management forum, which will be developed as the Scheme progresses into the construction phase.
- 5.6.2. The Applicant recognises the need for bus services to continue to connect communities. Appropriate notice of any planned effects to their services will therefore be given to bus service providers by the Scheme.

5.7. Construction compounds

- 5.7.1. Two construction compounds, the Brinklow Road compound and the satellite compound, will be required to construct the Scheme. The location of these site compounds is shown in Plate 9.
- 5.7.2. The Brinklow Road compound is located on land to the south of the Brinklow Road and the east of the A46. The site currently contains site offices, welfare and storage facilities for plant and materials and was used as the main site compound for the Binley Junction scheme. The Brinklow Road compound is accessed via an existing haul road from Brinklow Road.
- 5.7.3. The satellite compound is required to provide welfare facilities, parking and material storage. The satellite compound will be approximately 110m by 50m in size and accessed off the A46 northbound one carriageway via the existing layby. It will be in use throughout the construction phase.
- 5.7.4. The Scheme would aim for just-in-time deliveries of materials to the point of work where practicable to reduce traffic on the LRN.
- 5.7.5. Construction staff parking will be provided at both the Brinklow Road compound and the satellite compound. It is intended that construction staff will utilise minibuses and vehicle sharing from the Brinklow Road compound to the satellite compound to reduce the volume of construction traffic.

5.8. Signage for construction related traffic

- 5.8.1. Appropriate signage will be in place to guide construction traffic (including construction staff) in and out of the Brinklow Road compound and the satellite compound.

- 5.8.2. The location of signage will be developed in consultation with the relevant local highway authorities and will be in accordance with the *Traffic Signs Manual* (2009): Chapter 8.

5.9. Restrictions – speed limits

- 5.9.1. Reduced speed limits on both the A46 and B4082 will be required to safely construct the Scheme.
- 5.9.2. The speed restrictions during construction of the Scheme will be designed to be no lower than those required to maintain safety for both construction staff and road users.
- 5.9.3. Table 4 below details the proposed speed limits to be utilised for the construction phases of the Scheme. These limits are subject to amendment further to detailed Traffic Management Design and Completion of the Highest Safe Speed (HSS) assessment.

Table 4 : Speed Restrictions

Location	Current Speed Limit	Temporary Speed Limit
A46 Mainline Northbound carriageway – 96/3 to 98/5	National Speed Limit	40mph
A46 Mainline Southbound carriageway – 98/5 to 96/3	National Speed Limit	40mph
B4082 Approach to Walsgrave Junction	National Speed Limit	40mph
B4082 Exit from Walsgrave Junction	National Speed Limit	40mph

- 5.9.4. Speed limit enforcement measures and methods will also be reviewed and considered during TM design process and TTM design risk assessment.

5.10. Restrictions – closures

- 5.10.1. During the construction phase, the PC will apply for Temporary Traffic Regulation Orders (TTRO) to put in place closures on the SRN and the LRN. These typically include reduced speed limits, adoption of traffic light controls, temporary suspension to footpaths, rights of ways and bridleways, and temporary road closures.
- 5.10.2. Overnight lane closures in place will provisionally be from 20:00 to 06:00 (traffic count dependant).
- 5.10.3. Overnight full closures will provisionally be from 20:00 to 06:00 (traffic count dependant).

- 5.10.4. Weekend total closures will generally be targeted at a specific operation that cannot otherwise be achieved during a weekday night closure. TM restrictions would be in place from Friday at 20:00 until 06:00 on Monday (traffic count dependant).
- 5.10.5. The Scheme will retain the existing capacity of the network during peak hours wherever possible.

5.11. Lane widths

- 5.11.1. Due to the limited working space on the SRN within the Scheme Order Limits, lane widths will be reduced to create working room for construction activities under narrow lane running. Traffic may be pushed towards the verge, the central reserve or run on temporary carriageway as indicated on the Plates 2-8 in section 2 of this document.
- 5.11.2. Lane widths are to be suitable for HGVs and in accordance with Chapter 8 of the *Traffic Signs Manual (2009)*.

5.12. Incident management

- 5.12.1. Thorough consideration of incident management will be conducted throughout the detailed design and construction planning stages. This will be done via a safety risk assessment as detailed design progresses.
- 5.12.2. Once the above have been assessed, an incident management plan will be produced and appended to the TMP prior to the construction phase commencing.
- 5.12.3. Live traffic conditions will be monitored by the contractor using either CCTV cameras or Stopped Vehicle Detection technology which will be monitored 24 hours per day during the construction phase.
- 5.12.4. Vehicle recovery within the boundaries of the 'Free Recovery Area' will be provided during the construction period from the commencement of narrow lane restrictions and this will be maintained until these restrictions are removed. The recovery will be managed by a reputable vehicle recovery business with relevant previous experience.
- 5.12.5. In accordance with Chapter 8 of the *Traffic Signs Manual (2009)* and Series 100 of the *Manual of Contract Documents for Highway Works*, a "drop off" point for the free recovery will be provided. This will need to be away from criminal threat or activity or errant vehicles. Within this area the affected motorists should have access to:

- Phone service

- Toilet facilities
- Drinking water
- Tea & coffee
- Shelter with light and heat
- Baby changing facilities
- TV
- WiFi
- Children's games

5.12.6. On identifying an incident, the National Highways Regional Operations Centre and, where appropriate, the emergency services will be contacted and notified of the circumstances to enable them to initiate an appropriate response. The vehicle recovery agent will also be notified and will activate recovery services and Impact Protection Vehicle if required.

5.13. Incursion management

- 5.13.1. Incursion risk management will commence from the very first stages of design. The TM will be designed in accordance with the relevant legislation. This includes the *Traffic Signs Manual* (TSM) (Department for Transport, 2018) and the *Construction Design and Management Regulations 2015* (CDM) and will also consider driver behaviour, fatigue, carriageway alignment, and works access and egress locations.
- 5.13.2. Incursions within the traffic management will be captured and monitored throughout the works and data will be analysed to identify key trends.
- 5.13.3. Clear signage providing information for traffic management will be displayed to members of the public to mitigate the risk of an incursion.
- 5.13.4. The Scheme will have a proactive approach to incursion management where incursions are discussed in the Traffic Management Forum.
- 5.13.5. It is important that driver fatigue and behaviour is both analysed and monitored to prevent incursion through user error.
- 5.13.6. Where full closures are used, it is important that a safe system of work is adopted to ensure workforce safety and preventing errant vehicles from entering the works. This is achieved at gatepoints via an airlock system. Airlock systems are installed in accordance with NH best practice document *Raising the Bar 27*.
- 5.13.7. Table 5 provides an overview of the foreseeable incursion risks and proposed control / mitigation measures.

Table 5 : Incursion Risk Management

Incursion Risk	Proposed Control / Mitigation Measures
Driver following works vehicles into works access	Close access immediately after works vehicles have entered site.
Driver entering works access of own accord	Ensure works access location is in suitable place i.e. consider alignment of both existing carriageway and traffic management.
Breakdown – Driver entering closure due to vehicle breaking down and becoming stationary	Close monitoring of site surveillance. Regular maintenance checks / TSCO checks
Driver coming into contact with gate point	Full gate point Safe System of Work (SSOW)
Driver coming into contact with static taper	Installation of safety zone in accordance with TSM Chapter 8. Taper to be installed in accordance with TSM chapter 8. Taper locations to be assessed during traffic management design and assessment process.
Driver entering works at night due to confusion/sign blindness	Ensure TM design caters for associated human factors and site is easily navigable

5.14. Significant events

- 5.14.1. At present, the Applicant is not aware of any significant unique events planned in the surrounding area during the Scheme construction period. However, this will be monitored as the Scheme gets closer to the construction phase.
- 5.14.2. The Applicant is aware of regular major events and seasonal traffic likely to take place during the construction period of the Scheme. Table 6 outlines the major known events. This list will be developed through the construction planning stage.

Table 6: Significant events and seasonal traffic

Event	Implications with TM	Proposed Mitigation Measures
Coventry Building Society Arena	Dependent on the nature of the event, these will be reviewed on an event-by-event basis	Mitigation measures to be arranged in consultation with stakeholder and Local Authority
Coventry Stadium	Dependent on the nature of the event, these will be reviewed on an event-by-event basis	Mitigation measures to be arranged in consultation with stakeholder and Local Authority
Major Retail Outlet(s) (e.g. Tesco Superstore on Clifford Bridge Road, Warwickshire Shopping Park)	During Christmas and other key retail periods particular focus will be placed on the impact of TM on major retail outlets and be reviewed as necessary	Mitigation measures to be arranged in consultation with stakeholder and Local Authority
Major Industrial Areas (e.g. Prologis Park, Binley Industrial Estate)	During Christmas and other key retail periods particular focus will be placed on the impact of TM on major retail outlets and be reviewed as necessary	Mitigation measures to be arranged in consultation with stakeholder and Local Authority

Coventry Half Marathon	Held 28 April 24 – Anticipate event traffic generated around the same date 2027/2028	Mitigation measures to be arranged in consultation with stakeholder and Local Authority
Coventry Godiva Festival	Held 5-7 July 24 – Anticipate event traffic generated around the same date 2027/2028	Mitigation measures to be arranged in consultation with stakeholder and Local Authority
Coventry MotoFest	Held 1-2 June 24 - Anticipate event traffic generated around the same date 2027/2028	Mitigation measures to be arranged in consultation with stakeholder and Local Authority
Coventry Pride	Held 3 Aug 24 – Anticipate event traffic generated around roughly the same date 2027/2028	Mitigation measures to be arranged in consultation with stakeholder and Local Authority
Caribbean Reggae Fever	Recently awarded funding. Likely dates to be confirmed	Mitigation measures to be arranged in consultation with stakeholder and Local Authority
Coventry Rocks - Christmas Lights Switch On (Broadgate)	Due to be held mid Nov 24 – Anticipate event traffic generated around roughly the same date 2027/2028	Mitigation measures to be arranged in consultation with stakeholder and Local Authority

- 5.14.3. Through stakeholder engagement, a schedule of known events will be prepared. This schedule will be included in the construction programme for reference when planning specific TM measures that may cause disruption. This will ensure we can plan such TM measures to avoid unwarranted disruption on the network.

5.15. Driver compliance

- 5.15.1. Operationally, the project team will mitigate the risk of increased traffic on approach by maintaining carriageway capacity whilst allowing works to take place safely and efficiently. This will include continuously reviewing the success of road works through traffic modelling and data analysis to account for specific issues, for example, retail trends.

5.16. Human factors

- 5.16.1. A customer is defined as anyone we interact with throughout the life cycle of the Scheme and is any person or organisation that uses or is affected by the SRN. According to The Applicant's Customer Group Definitions, this could include (but is not limited to) the following customer groups:

- Road users including non-motorised users
- Communities and community groups
- Network reliant businesses
- Emergency services
- Communities and pressure groups
- Tenants and persons and organisations that lease from the Applicant

- 5.16.2. In the preparation of the TMP, prior to implementation, a Human Centred Design approach will be used to review proposals to ensure that the needs of all customer groups are identified and addressed in the TMP where practicable. This behavioural-led approach is also aligned to Health & Safety Executive (HSE) best practice guidance (<http://www.hse.gov.uk/humanfactors/>) and therefore also considers the needs of the workforce in terms of safety and wellbeing from a human factors perspective.
- 5.16.3. By understanding the behavioural drivers for customer satisfaction and aligning TM proposals to the 20 principles of *Roadworks: A Customer View*, the Human Centred Design approach includes the following aspects:
- Comprehensive identification of customer and stakeholder groups and their respective needs, as well as the safety and wellbeing of the workforce
 - Analysis to understand external influences such as political, social and economic factors, on travel demand, road user and stakeholder behaviour
 - Review and audit of TMP to ensure adequate consideration of Customer needs
 - Review and input to communication interventions planning to support TM using behavioural change techniques – e.g. emotive rather than directive messaging to positively impact driver behaviour

5.17. Abnormal indivisible loads

- 5.17.1. It is anticipated that AILs will access the Scheme via the SRN.
- 5.17.2. The requirements outlined below will be the responsibility of the haulage companies during the delivery of AIL components:
- Abnormal load drivers, and their convoy, would avoid residential areas where practical.
 - Abnormal load deliveries would only take place during the hours agreed with both the police, National Highways Abnormal Loads Team and local highway authorities.
 - To ensure the safe and effective coordination of the work, written notification of the commencement of the delivery periods would be given to the police and local highway authority within an agreed timescale to be agreed with the respective parties.
 - Additional temporary warning signs may be provided on the delivery route in accordance with the requirements of the local authorities.
- 5.17.3. Any modifications, temporary or permanent, to the SRN or the LRN will be agreed with the local highway authority and National Highways Abnormal Loads

Team prior to the delivery of AILs and regular updates would be provided as the delivery timetable is finalised with the supplier.

- 5.17.4. At the time of writing, the size and number of AILs for the Scheme is not known. Further assessment will need to be undertaken, to determine any temporary mitigations required, in addition to the agreement of traffic management and coordination of deliveries with National Highways Abnormal Loads Team and local highway authorities.
- 5.17.5. Deliveries of AILs will be scheduled to take place during off peak periods, at night or over weekend blockades where possible to reduce the impact of these works on traffic flows.

6. Construction programme and work hours

6.1. Construction programme

- 6.1.1. To achieve the planned programme, construction works will be undertaken concurrently in several work locations across the Scheme from the start-on-site date. Work locations are detailed for each phase in section 2 of this document.
- 6.1.2. The programme of works will be coordinated to allow optimum use of full road closures where required to minimise the overall number of full closures and help maintain operational efficiency on the road network. Full closures will be coordinated with local highway authorities and emergency services, and then communicated via stakeholder and community engagement methods. Due to the nature of construction, full closures will be required to facilitate certain activities.

6.2. Construction working hours

- 6.2.1. Standard working hours are considered to be between 07:00 and 19:00 between Monday and Friday, and between 07:00 and 14:00 on Saturday.
- 6.2.2. Any night working would be between 19:00 and 07:00.
- 6.2.3. The working hours include a period of up to one hour before and up to one hour after normal working hours for start-up and close-down of activities.
- 6.2.4. Work undertaken outside standard working hours, as well as on bank holidays, is considered off-peak working.
- 6.2.5. Certain works will be required to be undertaken outside of the standard working hours as well as on bank holidays. Off-peak working hours are currently expected to be required for the following activities:
- Installation, relocation and removal of traffic management
 - Removal of the existing MS3 gantry on the A46 northbound carriageway
 - Installation of the proposed MS3 gantry on the A46 northbound carriageway
 - Tie-in works between the existing A46 and the proposed slip roads
 - Tie-in works between the existing and re-aligned B4082
 - Drainage carriageway crossings
 - Installation of the overbridge deck
 - Construction of some sections of the proposed central reserve
 - Final surfacing and road marking visit

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- 6.2.6. The Brinklow Road compound and the satellite compound will be in 24/7 operation at certain stages of the construction programme to facilitate off-peak working.

6.3. Peak and off-peak traffic hours

- 6.3.1. Peak traffic hours will be between the hours of 06:00–21:00. Off-peak traffic hours are between the hours of 21:00–06:00. It is noted that installing temporary traffic management such as lane closures and full carriageway closures on the SRN during off-peak hours and weekends, will only be undertaken once traffic numbers deem it safe to do so.
- 6.3.2. The Applicant will try to maintain the network capacity during peak hours. Full carriageway closures will only be undertaken on the SRN during weekday peak hours in an emergency.

7. Public rights of way, footways and cycleways

- 7.1.1. No existing public rights of way, footways or cycleways will be severed in the temporary case.
- 7.1.2. Whilst the proposed signalised crossing on the B4082 eastern arm of the Clifford Bridge Road is constructed a minor diversion of the existing uncontrolled pedestrian crossing facility will be required.

Glossary of terms

Term	Acronym	Meaning
The 2008 Act		The Planning Act 2008.
The Applicant		National Highways.
At-grade		On the same level. For example, when a road is on the current ground level.
Closed-circuit Television	CCTV	A type of video surveillance.
Congestion		A situation where the volume of traffic is too great for the road, causing vehicles to slow down or stop, often caused by bottlenecks, traffic incidents and junction design.
Department for Transport	DfT	The national Government body responsible for transport in Britain, and therefore in overall control of the road network. It is responsible for policy decisions, and its responsibilities are carried out by a range of agencies and local authorities.
Development Consent Order	DCO	The consent for a Nationally Significant Infrastructure Project required under the Planning Act 2008.
Design Manual for Roads and Bridges	DMRB	The Design Manual for Roads and Bridges contains information about current standards relating to the design, assessment and operation of motorway and all-purpose trunk roads in England.
Dust		All airborne particulate matter.
Earthworks		The removal or placement of soils and rocks such as in cuttings, embankments and environmental mitigation, including the in-situ improvement of soils/rocks to achieve the desired properties.
Environmental Statement	ES	A statutory document which reports the EIA process, produced in accordance with the EIA Directive as transposed into UK law by the EIA Regulations.
Grade separated		A type of junction where the major route (or routes) through the junction do not stop and do not cross any other road on the level. Movements to other roads are made using slip roads and bridges.
Junction		A place where two roads meet, regardless of design or layout.
Journey Time Reliability	JTR	Journey Time Reliability refers to the consistency and predictability of travel times on a given route. It measures how much travel times vary from day to day or at different times of the day. High journey time reliability means that travel times are consistent and predictable, while low reliability indicates frequent and significant variations in travel times.
Kilometres	KM	A metric unit length equal to 1,000 metres.
Key Performance Indicator	KPI	Critical quantifiable indicators of progress towards a result.
Marker Post		Distance marker posts are located on the verges of the trunk road network to provide location reference points.
Metres	m	A metre is the base unit of length in the International System of Units (SI). First introduced as a unit of length in the metric system (equivalent to approximately 39.37 inches).
Miles per hour	Mph	Imperial system unit of speed expressive the number of miles travelled in one hour.
Mitigation		Measures intended to avoid, reduce and, where possible, remedy significant adverse environmental effects as the result of the Scheme.
Monitoring		An assessment of the performance of the Scheme, including mitigation measures. This determines if effects occur as predicted or

		if operations remain within acceptable limits, and if mitigation measures are as effective as predicted.
Motorway		A special type of road reserved for motorised traffic only, the numbers of which are prefixed with the letter 'M'.
Noise		Unwanted sound.
Operational		The functioning of the Scheme on completion of construction.
Order Limits		The extent of the area within which the Scheme may be carried out.
Personal Injury Collision	PIC	A Personal Injury Collision refers to a road traffic accident that results in physical harm or injury to one or more individuals involved.
Post Meridiem	PM	After midday.
Preferred Route Announcement	PRA	An announcement made by National Highways following the selection of a preferred option or solution for a road scheme.
Principal Contractor		A person or organisation responsible for the overall management of a construction project, particularly when there is more than one contractor involved in a project.
Public right of way	PRoW	A highway where the public has the right to pass. It can be a footpath (used for walking), a bridleway (used for walking, riding a horse and cycling), or a byway that is open to all traffic (including motor vehicles).
Road Investment Strategy	RIS	A document which sets a long-term strategic vision for the network. With that vision in mind, it then: specifies the performance standards Highways England must meet; lists planned enhancement schemes we expect to be built; and states the funding that we will make available during the first Road Period (RP), covering the financial years 2015/16 to 2019/20.
Roundabout		A circular, one-way junction at which other roads meet and terminate.
The Scheme		The A46 Coventry Junctions (Walsgrave) Scheme for which development consent is being sought.
Stakeholder		An organisation or individual with a particular interest in the Scheme.
Strategic Road Network	SRN	The network of motorways and trunk roads in England.
Traffic Management Plan	TMP	A document that sets out how construction traffic including site personnel movements will be controlled to ensure the safe and efficient delivery of the Scheme.
Variable Message Sign	VMS	An electronic traffic sign often used on roadways to give travelers information about special event.
Variable Restraint System	VRS	A Variable Restraint System (VRS), often referred to as a Vehicle Restraint System, is designed to enhance road safety by controlling and mitigating the impact of vehicles that leave the roadway.
Walkers, cyclists and horse-riders	WCH	A collective term used to describe pedestrians, cyclists and equestrians.

Acronyms

Abbreviation	Term
AIL	Abnormal Indivisible Loads
CCC	Customer Contact Centre
CCTV	Closed-circuit Television
CDM	Construction Design and Management Regulations
DCO	Development Consent Order
DMRB	Design Manual for Roads and Bridges
ECI	Early Contractor Involvement
ES	Environmental Statement
HGV	Heavy Goods Vehicle
HSE	Health & Safety Executive
HSS	Highest Safe Speed
IPV	Impact Protection Vehicle
LRN	Local Road Network
MP	Major Projects
NB	Northbound
NOMS	Network Occupancy Management System
NTOC	National Traffic Operational Centre
PC	Principal Contractor
PM	Project Manager
PRoW	Public Right of Way
PVMS	Portable Variable Message Signs
RACV	Roadworks a Customer View
ROC	Regional Operating Centre
SB	Southbound
SRN	Strategic Road Network
SSOW	Safe System of Work
TM	Traffic Management
TMP	Traffic Management Plan

TSCO	Traffic Safety Control Officer
TSM	Traffic Signs Manual
TSS	Traffic Safety Supervisor
TTRO	Temporary Traffic Regulation Orders
TTVMS	Travel Time Variable Message Signs
VMS	Variable Message Signs
WCH	Walking, Cycling and Horse-riding

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8. Appendix A – Roadworks Principles – Roadworks: A Customer View

		Key Principles	Approach
Planning and Design p Traffic Management	1	Other roadworks and improvements	• TM planned in co-ordination with other projects and areas across the region (National Highways and non- National Highways). There are multiple projects in planning stages across the Midlands. The project team will communicate with project sponsor, local highway authorities, adjacent projects and the local National Highways teams to ensure efficient co-ordination and also collaboration where possible • Consideration of diversion routes in co-ordination with other projects and areas across the region (National Highways and non-National Highways). There are multiple projects in planning stages across the Midlands. The project team will communicate with project sponsor, local highway authorities, adjoining projects and the local National Highways teams to ensure efficient co-ordination and also collaboration where possible • Identify local regular forums prepared to review plans for TM • Liaison with NOMS representative for works within the area to avoid clashes in roadspace but also potential sharing of closures where possible • Co-ordination of diversion routes at key decision points and publication once approved • Identify and mitigate the impact of major events by engaging with Local Highway Authorities, Local Stakeholders and NOMS representative
	2	Speed of delivery	• Value Engineering and construction phasing/method opportunities to be developed during detailed design/ construction preparation stage • Undertake 4-d Planning process for all permanent and temporary works to virtually construction the works ahead of starting works on site. This will be used for TM clash detection • Increasing workforce/shift patterns/productivity to maximise utilisation of the restricted road space • Optimise programme for overbridge construction maximising offline working
	3	Length of roadworks	• Phasing of road works delivery • Length of road works in accordance with TSM, Chapter 8, Part 3 • Each traffic management phase has been designed to minimise delays and would be optimised further during detailed design, with layouts being amended, where possible. • Suitable traffic modelling of the TM proposals to understand the impact on the customer • TM proposals to incorporate and be influenced by current traffic data and also traffic modelling
	4	Lane width	• To be reviewed in detailed traffic management design regarding minimum road widths and available working space for the appropriate temporary speed restriction • Consider alternative layout options, including widening non-standard/temporary 'narrow' lanes within roadworks, in design and communication of reasoning to customers • Consider contraflow • Alternate widths to facilitate traffic flows • Smooth road surfaces and clear demarcation during works and after TM has been removed, and ensure sufficient budget is available to maintain this
	5	Speed Limit	• Suitable traffic modelling of the TM proposals to understand the impact on the customer • TM phases will be designed to the highest achievable safe design speed in accordance with TSM Ch8 Pt3 A1.8 and DMRB GD_904
	6	Line demarcation	• Type and specification of lane demarcation will be finalised in detailed design, but specification will at least meet the recommended requirements of TSM CH8 Pt3 Appendix A1.6 • All markings required to be removed to facilitate the works will be removed in such a way to minimise damage caused to the road surface and ensure "ghosting" is not left on the carriageway • Regular checking of marking condition will be carried out and recorded by the site Traffic Safet Control Officer (TSCO) and missing or deteriorating markings will be rectified during planned carriageway closures
	7	Visibility of temporary barrier	• TVRS proposals to be in accordance with DMRB with safety risk assessment of TM design to be carried out • Maintenance and cleaning of barrier reflectors will be undertaken as part of the maintenance shift during planned lane or carriageway closures • Visibility of safety barriers will be included in the scope of the Road Safety Audit (RSA) and further recommendations from this will be considered
	8	Night time visibility	• This lighting will be maintained where possible and where this cannot be achieved a risk assessment will be conducted to identify if temporary lighting is required • Increased specification of Lane markings and VRS visibility will be assessed during design and checked via the RSA

Information provision	9	Advance notice of works	- Roadside signage to provide advance notice of intended roadworks operations - Roadside signage during planned roadworks - Newsletters to, and meetings with, the local community and businesses - National Highways Scheme specific website and social media channels - Use of existing National Highways / local authority variable message signs - Use of strategically placed portable variable message signs if required
	10	Scheme information at the roadside	- Regional approach to Variable Message Sign and message content - Direct impactful messages to assist customers understanding of why the works are there explaining when works are in progress to inform what and when works take place, for instance, new road layout & carriageway widening works, new bridge construction, testing and commissioning technology equipment etc.
	11	Electronic signage	- VMS signs at strategic locations if required - To be updated during detailed design
	12	Travel Time VMS (TTVMS)	- VMS signs at strategic locations if required - To be updated during detailed design
	13	Visible progress	Provide website updates detailing next milestone event on the scheme and countdown to completion
Engaging and communicating with customers	14	Local communications and outreach	Include within the scheme communication plan
	15	Use multiple media channels, regularly	- Scheme website - Social media updates
	16	Impactful messages	- Include milestone achievements on the Scheme website including details/records of the works undertaken during closures - Direct impactful messages to assist customers understanding of why the works are there explaining when works are in progress to inform what and when works take place, for instance carriageway widening works, new bridge construction etc
	17	Explain no activity	Detail specific activities when this may take place for instance, final surfacing works being completed at night for safety
	18	Seek customer feedback on new Traffic Management	- Invite stakeholders such as police and Traffic Officers to undertake drive through and request feedback - Undertake recorded drive through after opening following TM changes and review with TSCO, TM Manager, and TM supervisor to identify any possible safety issues or defects and have them rectified as soon as safe to do so - National Highways customer audit scores will be reviewed, and any areas of improvement will be identified and acted upon
	19	Understand customer experience	- Provide a hotline number to public relations officer who will record communication on a designated system - National Highways customer audit scores will be reviewed and any areas of improvement will be identified and acted upon - Invite stakeholders to undertake drive through and request feedback
	20	Complete the feedback loop	Monthly customer audits of the roadworks

9. Appendix B - Customer Requirements Log

Customer Requirements Log			
Customer Group	Who is affected by the Scheme?	What are the requirements and how are they impacted?	Has the TMP taken the proposed requirements below into account and proposed mitigations using the customer principles?
Customer	General road user including holiday traffic	• Advance warning of closures and/or diversions • Journey time reliability • The widest lanes possible • Minimal length of roadworks for minimal period • Speed limits appropriate to the conditions (how congested, how much work is taking place) speed enforcement will be installed • To see visible progress • Appropriate diversion routes • To understand the reasons and timescales of the works • Clear lane demarcation (blacked out white lines are an issue, as well as visibility of the temporary barrier)	• The Applicant will publish notification of closures on the Scheme website. Closure schedule to detail planned closures for the scheme duration. The closure programme to be updated weekly • Publicity and media communications will include information of the purpose and timescales of the Scheme and Closures in place • The proposed traffic management phasing and layouts allows the maximum available lane widths whilst providing safe working area for construction of the scheme • On the A46 main carriageway lane widths should not be reduced below the desirable minimum as stated in Traffic Signs Manual: Chapter 8. However, using lane widths set to the absolute minimum (in accordance with Traffic Signs Manual: Chapter 8) may be necessary for worker safety reasons where conditions such as traffic flows, lower approach speeds and signed speed limits allow • Minimal travel time through works and along the diversion route • Use of Scheme length message sign • Coordination with other schemes under construction on the network at the same time and continual communication between schemes to provide clear and consistent messages to customers of upcoming road closures and journey times • Provision of roadside portable variable message signs (PVMS) to display informative messages where required

Customer Requirements Log			
Customer Group	Who is affected by the Scheme?	What are the requirements and how are they impacted?	Has the TMP taken the proposed requirements below into account and proposed mitigations using the customer principles?
			- Where TM is in place and there is no clear evidence of work ongoing, signage stating the reason for the TM should be clearly displayed for the road user to understand - Selected use of strategic variable messages signs (VMS) through National Traffic Operational Centre (NTOC) detailing forthcoming closures and those closures when in place - Diversion route signs and information to meet driver requirements and optimise usability to minimise delay - Details of diversion routes to be incorporated on the Scheme website - Minimise opportunities for driver error and therefore avoid unnecessary congestion - Road markings to be blanked out with textured black paint where glare is an issue or removed with abrasive methods such as Hydro blasting
	HGV / abnormal load driver	- Journey time reliability - Advance warning of closures and/or diversions for all customer groups - Appropriate diversion routes for all customer groups - Maximised lane widths where possible - Method of recovery that is suitable for their vehicles - Carriageway levels and gradients such that low slung and or multi axle trailers do not ground on temporary surfaces.	- The Applicant will publish notification of closures on the Scheme website. Closure schedule to detail planned closures for the scheme duration. The closure programme to be updated weekly - Closures published with the maximum possible notice. A minimum of 3 weeks' notice will be given for planned closures (not including emergency works) - Closure clashes – ensuring the Scheme planned closures do not clash with other closures in the area - Diversion routes avoid narrow roads and low bridges - Diversions with no (or adequate) weight limits

Customer Requirements Log			
Customer Group	Who is affected by the Scheme?	What are the requirements and how are they impacted?	Has the TMP taken the proposed requirements below into account and proposed mitigations using the customer principles?
			- Temporary horizontal and vertical alignments are in accordance with the Design manual for road and bridges (DMRB) - Use of HGV recovery vehicle - Advance communication with National Highways Abnormal Loads team to keep updated with planned works - All temporary carriageways will be subject to Temporary works design procedure to ensure that the required alignment standards are met
	Disabled car driver	As general road user plus: - Method of recovery that is suitable for people with reduced mobility and their vehicles - Suitable roadside facilities for disabled users (toileting and medication stops)	- Recovery vehicles are wheelchair accessible - Recovery area welfare points with disabled access
	Public Transport Bus/Coach Driver	As general road user	As per general road user plus: - Consultation with public transport operators on traffic management arrangements - Regular liaison throughout construction
	Walkers, cyclists and horse-riders (WCH)	A short term minor diversion of the existing uncontrolled pedestrian crossing facility on the B4082 eastern arm of the Clifford Bridge Road will be required whilst the proposed signalised crossing is constructed	- Duration that this diversion is in place to be minimised. - Length of diversion will be short - Diversion to be signed and maintained
Stakeholder	National Highways Customer Contact Centre	- Ensure safety during works - Minimise road closures	- Ensure safety standards are met throughout - Develop an efficient programme of works to minimise disruptive traffic management

Customer Requirements Log			
Customer Group	Who is affected by the Scheme?	What are the requirements and how are they impacted?	Has the TMP taken the proposed requirements below into account and proposed mitigations using the customer principles?
		- Minimise narrow lane traffic management and arrangement - Minimise road damage - Minimise delays. - Minimise works that could affect National Highways KPI's targets - Early engagement to discuss maintenance requirements of network and temporary access and egress throughout the construction period	- Propose in situ road assessment (which would be carried out by the principal contractor) to determine road condition and a plan of action during the works - PC to collaborate with National Highways to optimise use of traffic management - Information about planned closures, diversion routes should be given to CCC to enable accurate information to be supplied to customers. Monthly TM overview newsletter to keep stakeholders updated with progress and future TM requirements - Delivery Partner should set an objective to meet or better National Highway's KPI targets - Co-ordination of lane / full closures that may affect routine and winter maintenance treatments and emergency repairs
	Various Farms including those directly adjacent to the B4082/A46	Access to their properties	- Maintain access to properties - Letter drops to advise on proposed roadworks and ongoing activities that may affect access to properties for short durations - Ongoing engagement through Stakeholder manager
	Bus and coach operators servicing	Access to bus stops along local network approach to A46	- Provide alternative bus stops if there is the requirement to stop up the existing stops - Provide regular communications of Scheme updates as described in the project communication plan
	Other local Businesses / farms	Access	- Access will be maintained during opening times - Continuous liaison during the construction works - Provide detailed traffic management layout

Customer Requirements Log			
Customer Group	Who is affected by the Scheme?	What are the requirements and how are they impacted?	Has the TMP taken the proposed requirements below into account and proposed mitigations using the customer principles?
			- Monthly TTM overview newsletter to keep local business updated with progress and future TTM requirements - Forthcoming closure dates advertised at airport and in media communications - Publicity and media communications will include information of the purpose and timescales of the scheme - Diversion route signs and information to meet driver requirements and optimise usability to minimise delay
	University Hospitals Coventry and Warwickshire	- Advance warning of closures / diversions that may impact on journey time reliability to and from the hospital. - Prior engagement on traffic management plans and programme of works	- Consultation on traffic management arrangements / embargos - Regular liaison - Forthcoming closure dates advertised at roadside and in media communications. - Publicity and media communications will include information of the purpose and timescales of the scheme - Diversion route signs and information to meet driver requirements and optimise usability to minimise delay
	Utility companies	Access	- Access will be maintained - Continuous liaison during the construction works - Provide detailed traffic management layout
Partners	West Midlands ROC	- Notified of works and diversion routes - Receive regular updates on Scheme progress	- Provided with weekly updates of the traffic management schedule - Provide monthly project updates detailing Scheme progress - Invitation to local TM meetings - Early inclusion in the drafting up of the Incident Management Plan

Customer Requirements Log			
Customer Group	Who is affected by the Scheme?	What are the requirements and how are they impacted?	Has the TMP taken the proposed requirements below into account and proposed mitigations using the customer principles?
	Emergency services	- Access through works / haul road during emergencies - Suitable diversion routes - Advance warning of closures and / or diversions	- Sufficient notification of closures - Advance planning with emergency services of Traffic management proposals - Regular liaison - Monthly TM forum meeting to keep emergency services updated with progress and future TM requirements
	Aggregate and material suppliers	- Clear route for ease of delivery - Journey time reliability to site - Suitable access and egress	- Manage haul roads to facilitate site deliveries - Access and egress points clearly marked and close to delivery site - Where suitable mapped locations sent to suppliers
	Other Schemes in Proximity	- Early engagement and coordination to establish the frequency and level of liaison - Early engagement and coordination to establish closures and diversion routes - Need to manage potential clashes of road space and regional impact of concurrent works and particularly closures	- Integrated traffic management meetings to optimise TM on the strategic network and local diversion routes - Regular liaison
	Operations Directorate (Midlands region)	- Early engagement to establish the frequency and level of liaison. Identify points of contact in the organisation and agree format of information provided for presentation to customers - Early notification of closures / diversion routes	- Integrated traffic management meetings to optimise TM on the strategic network and local diversion routes - Regular liaison - representative from Operations Directorate to join traffic management meetings 24/7 contract number for the Brinklow Road compound to be included in the emergency plan - Co-ordination of lane / full closures that may affect routine and winter maintenance treatments and emergency repairs

Customer Requirements Log			
Customer Group	Who is affected by the Scheme?	What are the requirements and how are they impacted?	Has the TMP taken the proposed requirements below into account and proposed mitigations using the customer principles?
	Local Authorities – Coventry City Council/Warwickshire County Council/Rugby Borough Council	• Early notification of closures / diversions that may impact on the highway maintenance activities such as winter maintenance • Clash management of closures and diversion routes • Early engagement to establish the frequency and level of liaison. Identify points of contact in the organisation and agree format of information provided for presentation to customers	• Regular liaison – LHA representative to join traffic management meetings to share upcoming closure details • Advance notification of closures/diversions • Emergency Plan to include call in process between the contractor's TSCO/TSS and the maintenance duty manager • 24/7 contact number for the Brinklow Road compound to be included in the emergency plan • Monthly TM forum to keep local authorities up to date with progress and future TM requirements
Community	Local residents to the project	• Advance warning of closures and / or diversions • Sensitivity to local requirements e.g. market days • Minimal disruption due to works, including environmental factors (e.g. noise, dust, lighting) and diversion routes	• Notification and liaison with individuals and / or local group representatives/Letter drops • Activity curfews where possible to minimise disruption • Diversion route signs and information to meet driver requirements and optimise usability to reduce opportunities for error and therefore reduce congestion
	One-off events	• Sensitivity to local requirements • Minimal disruption due to works, including environmental factors (e.g., noise, dust, lighting) and diversion routes	• Diversion route signs and information to meet customer service standard for diversion routes for planned works and activities • Optimise usability to reduce opportunities for error and therefore reduce congestion