

# A1 in Northumberland: Morpeth to Ellingham

## Scheme Number: TR010041

7.4 Construction Traffic Management Plan (clean)

APFP Regulation 5(2)(q)

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Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009

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## Infrastructure Planning

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## MANAGEMENT PLAN

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## 1 INTRODUCTION

#### **1.1 Purpose of this Document**

- 1.1.1 This Construction Traffic Management Plan (this "Plan") relates to an application made by Highways England (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 A1 in Northumberland: Morpeth to Ellingham (the "Scheme").
- 1.1.2 The Scheme comprises two sections known as Part A: Morpeth to Felton (Part A) and Part B: Alnwick to Ellingham (Part B). A detailed description of the Scheme can be found in **Chapter 2: The Scheme, Volume 1** of the Environmental Statement (ES) (**Application Document Reference: TR010041/APP/6.1**)
- 1.1.3 This Plan has been prepared in compliance with Regulation 5(2)(q) of the Infrastructure Planning (Prescribed Forms and Procedure) Regulations 2009 (the "2009 Regulations") which states:

'(q) any other documents considered necessary to support the application'.

- 1.1.4 The purpose of this Plan is to outline measures to manage the effects of construction traffic upon local areas resulting from construction of the Scheme.
- 1.1.5 This Plan will be developed by the main contractor and will be regularly updated throughout construction.
- 1.1.6 The Plan identifies traffic routes for light site traffic (light vans and 4x4 pick up vehicles), heavy goods vehicles (HGVs), abnormal loads and general traffic. Carriageway restrictions such as bridges and services are also identified, along with areas of greater risk associated with the increase in traffic flows during construction. Traffic control measures to alleviate construction traffic impacts such as surfacing improvements, carriageway widening, the construction of passing places, construction traffic speed restrictions and the requirement for traffic marshals are also detailed within this Plan.
- 1.1.7 Estimates of the types and volume of construction vehicles are presented within this Plan. These were used to estimate the volume of construction traffic and select the preferred route that would cause the least disruption.
- 1.1.8 The responsibilities of the main contractor include the design approval, implementation and management of traffic management measures on the Scheme. These responsibilities will be updated when this Plan is developed further by the main contractor, prior to construction commencing. The further developed Construction Traffic Management Plan will form part of the Construction Environmental Management Plan (CEMP) and will be subject to consultation with the local planning authority and approval by the Secretary of State as set out at Requirement 4, Schedule 2 of the draft DCO (Application Document **Reference:** TR010041/APP/3.1)
- 1.1.9 This Plan should be read alongside the other application documents, in particular the ES, (see Volume 2 (Application Document Reference: TR010041/APP/6.2) for Part A and Volume 3 (Application Document Reference: TR010041/APP/6.3) for Part B)), and the Outline CEMP (Application Document Reference: TR010041/APP/7.3).



## 2 HIGHWAY IMPROVEMENTS AND TRAFFIC MANAGEMENT MEASURES

#### 2.1 Scope of the Works

- 2.1.1 Carriageways with live traffic running on them are dangerous places in which to work and will require some form of temporary traffic management to control and divert traffic around a work area. To construct the works safely the main contractor will provide temporary traffic management throughout the duration of the works. The temporary traffic management is used primarily to provide safe working areas and is moved and amended as each phase of the works is completed. The traffic management consists of traffic cones, temporary barriers or fencing and traffic signage at or in advance of any works location.
- 2.1.2 All temporary traffic management must be designed and erected in accordance with highways legislation including the New Roads and Street Works Act 1991 and the Traffic Signs Regulations and General Directions 2016 (TSRGD).
- 2.1.3 The following section describes the temporary traffic management proposals for Part A and Part B.

#### Part A

2.1.4 The proposed Temporary Traffic Management for Part A is likely to consist of the following, with the construction works carried out in six phases:

#### Phase 1 (3 months)

- Northbound narrow lanes from Warreners House to Priest's Bridge for online widening
- Southbound narrow lanes from Burgham Park Road to River Coquet Bridge for online widening

#### Phase 2 (8 months)

- Northbound narrow lanes from Warreners House to Priest's Bridge for online widening
- Southbound narrow lanes from Burgham Park Road to River Coquet Bridge for online widening
- Offline works from Priest's Bridge to Causey Park Road

#### Phase 3 (6 months)

- Southbound narrow lanes from Warreners House to Priest's Bridge for online widening
- Southbound narrow lanes from Burgham Park Road to River Coquet Bridge for online widening.
- Offline works from Priest's Bridge to Burgham Park Road



#### Phase 4 (6 months)

- Southbound narrow lanes from Warreners House to Priest's Bridge for online widening
- Southbound narrow lanes from Burgham Park Road to River Coquet Bridge for online widening

#### Phase 5 (4 months)

- Southbound narrow lanes from Warreners House to Priest's Bridge for online widening
- Northbound narrow lanes from Burgham Park Road to River Coquet Bridge for online widening
- Closure of de-trunked section for upgrading

#### Phase 6 (8 months)

- Completion of West Moor Junction and tie-ins
- 2.1.5 Further details on the Temporary Traffic Management for the Part A can be found on the Traffic Management Phasing Plans at **Appendix A** of this Plan.

#### Part B

2.1.6 The proposed temporary traffic management for Part B is likely to consist of the following, with the construction works carried out in six phases:

#### Phase 1 (5 months)

- Northbound narrow lanes from Denwick to North Charlton for southbound online widening.
- Northbound narrow lanes for northbound widening at Charlton Mires junction
- Offline works at Charlton Mires junction to the west for side roads.
- Offline works for Rock South Farm access road
- Demolition of Charlton Mires Farm and East Cottage residential properties.
- Heckley Fence Accommodation Overbridge construction would begin.

#### Phase 2 (12 months)

- Northbound narrow lanes from Denwick to North Charlton for southbound online widening
- Switch traffic to new northbound carriageway at Charlton Mires
- Offline works at Charlton Mires junction to the west for side roads
- Offline works for Rock South Farm access road.

#### Phase 3 (4 months)

- Traffic switched to new southbound carriageway for northbound works. This
  includes improvement works to the existing northbound carriageway to formally
  convert it from two-way (existing A1 layout) to one-way operation. It would also
  include drainage improvement works, resurfacing, road marking changes and
  completion of works in the central reserve.
- The new west side of Charlton Mires junction would be open to traffic with B6347
- Offline works at Charlton Mires junction to the east for side roads.
- Offline works for Rock South Farm access road.



#### Phase 4 (2 months)

- Northbound traffic would be switched to new refurbished northbound carriageway so A1 fully operational as dual carriageway from Denwick to North Charlton
- All side roads and accommodation roads opened to traffic

#### Phase 5 (2 months)

- Heckley Fence Accommodation Overbridge construction would be completed.
- Charlton Mires junction would be completed

#### Phase 6 (3 months)

- Works would comprise completion of landscaping works only. This would require temporary lane closures for safety reasons. However, to minimise the need to close lanes once the road is open to traffic, there is an expectation that mitigation planting would be completed ahead of opening where practicable.
- 2.1.7 Further details on the Temporary Traffic Management for the Part B can be found on the Traffic Management Phasing Plans at **Appendix B** of this Plan.

#### 2.2 General Principles

- 2.2.1 The phasing above means that the online widening for the Scheme would be carried out whilst two-way traffic is maintained on the existing A1, protected by a Temporary Vertical Concrete Barrier (TVCB) or steel barrier system such as Varioguard. The traffic would then be switched onto the newly constructed carriageway allowing refurbishment of the existing carriageway.
- 2.2.2 Standard working hours for the Scheme would be from 7:00am until 7:00pm, Monday to Friday. However, extended hours including night-time, weekend and Bank Holiday working would be required for some construction operations. Closures that require diversion routes along local authority roads would be subject to approval in advance by Northumberland County Council (NCC) as outlined in the **Outline CEMP** (**Application Document Reference: TR010041/APP/7.3**).
- 2.2.3 These operations would include traffic management installation, traffic management switches, temporary earthworks, carriageway resurfacing, statutory diversions, drainage works, and bridge beam installations. Generally, any overnight full closures of the A1 would be carried out between 8:00pm and 6:00am to ensure traffic management and diversion routes signage can be installed and removed without impact to the standard working hours of 7.00am to 7.00pm. There may be some exceptions to the overnight closure hours. Further details can be found at paragraph 2.6.24.
- 2.2.4 Access points in the form of Rendezvous Points (RVP's) will be provided at locations identified on the Traffic Management Phasing Plans (see **Appendix A** for Part A and **Appendix B** for Part B), which will be developed further by the main contractor during the mobilisation period prior to the start of the works on site. RVPs are access points for deliveries of plant and materials from the A1 carriageway directly into the works
- 2.2.5 It is proposed that several construction compounds would be required to facilitate construction of the Scheme. The largest construction compounds are as follows:



#### Main Compound

2.2.6 The Main Compound would be shared by Part A and Part B. It is located within the Order Limits of Part A approximately 1.5km south west of Felton and approximately 16km from the southern extents of Part B occupying an area of approximately 50,000m<sup>2</sup>. Access to and from the Main Compound would be via Felton Road providing easy access to the works and the A1.

#### Lionheart Enterprise Park Compound

- 2.2.7 A further compound would be located to serve Part B at the Lionheart Enterprise Park in Alnwick at the southern end of the Part B, occupying an area of approximately 50,000m<sup>2</sup>, adjacent to the existing Highways England Maintenance depot. The Lionheart Enterprise Park Compound would be used to facilitate construction of Part B only.
- 2.2.8 In addition, two smaller compounds are proposed. The first is at Charlton Mires (within the Order Limits of Part B) to facilitate construction of the new junction with access via the B6347. The second would be adjacent to the junction at Fenrother (within the Order Limits for Part A) with access via Fenrother Lane to facilitate works at the southern end of Part A, including the construction of Highlaws and Fenrother Junctions and surrounding road realignments.

#### 2.3 Route Assessment

2.3.1 There will be a demand for construction vehicles, in particular HGV movements, to deliver the Scheme. The predominant demand will be for the import of concrete, aggregates, asphalt and steel which will be supplied from a variety of sources, and the movement of earthworks materials.

#### Part A

- 2.3.2 The predominant demand will be for the import of concrete, aggregates, asphalt and steel which will be supplied from a variety of sources, and the movement of earthworks materials. High level figures indicate that approximately 240,000t of aggregates and 200,000t of asphalt products will be required.
- 2.3.3 Delivery routes are likely to be via the A1 from the north or south and instructions to drivers/suppliers would be given to avoid the use of roads located within 200m of European sites designated for nature conservation. This includes Special Protection Areas (SPAs), Special Areas of Conservation (SACs) and Ramsar sites, shown on Figure 9.3 Statutory Designated Sites Part A [APP-108] and Figure 9.1: Statutory Designated Sites Part B [APP-153]. The exact source of the materials to deliver Part A will be determined by the main contractor, with a possible source being Howick quarry at Alnwick with a delivery route southbound on the A1 to the site.
- 2.3.4 It is also anticipated that 8000t of concrete will be required with a possible source in Bedlington with a delivery route via the A197 and northbound on the A1 to site. Earthworks HGV movements are likely to generate 200,000t of movements northbound and southbound on the A1 to Part A.



#### Part B

- 2.3.5 Delivery routes are likely to be via the A1 from the north or south and instructions to drivers/suppliers would be given to avoid the use of roads located within 200m of European sites designated for nature conservation. This includes Special Protection Areas (SPAs), Special Areas of Conservation (SACs) and Ramsar sites, shown on Figure 9.3 Statutory Designated Sites Part A [APP-108] and Figure 9.1: Statutory Designated Sites Part B [APP-153]. The exact source of the materials to deliver Part B will be determined by the main contractor, with a possible source for tarmac materials or stone fill being Howick Quarry at Alnwick with a delivery route northbound on the A1 to the site. High level figures indicate that approximately 570t of steel, 180,000t of aggregates and 120,000t of asphalt products will be required.
- 2.3.6 It is also anticipated that 5,000t of concrete will be required with a possible source in Bedlington with a delivery route via the A197 and northbound on the A1 to Part B. Earthworks HGV movements are likely to generate 120,000t of movements northbound and southbound on the A1 to Part B.

#### 2.4 Vehicle Classification

2.4.1 In addition to the HGV movements identified above, there will be Light Goods Vehicle (LGV) and Medium Goods Vehicle (MGV) movements for the purposes of transporting personnel and plant between the construction compounds and the particular parts of Scheme under construction. Further details can be found in **Chapter 2: The Scheme**, **Volume 1** of the ES (**Application Document Reference: TR010041/APP/6.1**).

#### 2.5 Vehicle Movements

- 2.5.1 There will be a requirement for abnormal load movements for the delivery of the steel beams for the construction of the new bridge over the River Coquet and the pre-cast concrete beams for the construction of four new overbridges as part of Part A. These deliveries will be from the south and follow the A1 northbound to the site delivery point. Some localised traffic management may be required to provide the necessary access for delivery to Part A.
- 2.5.2 There will be a requirement for abnormal load movements for the delivery of the precast concrete beams for construction of the two overbridges at Heckley Fence and Charlton Mires and precast units for the proposed culverts on Part B. These deliveries will be from the south and follow the A1 northbound to the site delivery point for storage in a site compound or to the works location for installation. Some localised traffic management may be required to provide the necessary access for delivery to Part B.
- 2.5.3 The number of abnormal load movements to facilitate the works described in paragraph 2.5.1. and 2.5.2 above will be determined prior to construction commencing. This will be reflected in this Plan to be updated by the main contractor.
- 2.5.4 An estimate has been made of the likely disposal method and likely disposal destination for each waste component associated with the Scheme. Further details can be found in **Chapter 2: The Scheme, Volume 1** of the ES (**Application Document Reference: TR010041/APP/6.1**).



#### 2.6 Proposed Traffic Management Measures

2.6.1 This section sets out the traffic management measures which are proposed for the Scheme with specific measures applicable to Part A or Part B set out where required. At the end of this section, **Table 1** provides a summary of proposed traffic management measures for each phase of Part A and **Table 2** provides the same for Part B.

#### Restrictions

- 2.6.2 Single lane traffic in each direction would be maintained for the majority of the construction period, with the exception of carriageway closures for tie-in works and the installation of some traffic management. Each phase will require a number of traffic management set ups and it is envisaged that all traffic management installed on the Scheme will be 'Standard' as defined in clause D1.6.2 of Part 1 of the Traffic Signs Manual<sup>1</sup> Should any departures from the standards set out in the Traffic Signs Manual be required these will be discussed in advance with NCC and Northumbria Police.
- 2.6.3 Details of specific dates for side road closures, A1 carriageway closures and traffic switches are to be developed by the main contractor. The requirement to close side roads and the A1 will also be subject to consultation with NCC and Northumbria Police.
- 2.6.4 Workspace requirements for each phase and associated section of the work will be in accordance with those defined in Part 1 of Chapter 8 of the Traffic Signs Manual, allowing for both working space and longitudinal/ lateral safety zones. The need for temporary vehicle restraint system will be in accordance with current standards (TD 19/06<sup>1</sup>), and this will require consideration of stepped reductions in the speed limit on the approaches to the works, which will be by signage and traffic management.
- 2.6.5 It is recommended that the eastbound and westbound approaches from side roads are reduced to 30mph for a minimum length of 200m prior to the junctions.
- 2.6.6 To accompany the reduced speed limit, it is proposed that a no overtaking restriction would be applied throughout the Scheme during construction.

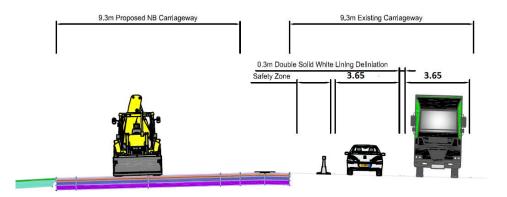
#### **Operating Lanes**

2.6.7 Generally, one lane in each direction will be maintained at all times during construction with lane widths reduced to 3.65m. Further details are provided in **Figure 1** and **Figure 2** below.

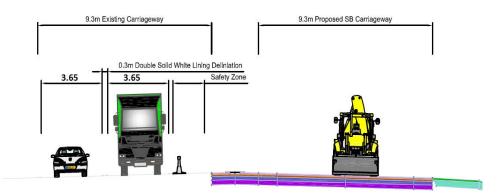
<sup>&</sup>lt;sup>1</sup> Design Manual for Roads and Bridges (DMRB). Volume 2. Section 2. Part 8. TD 19/06 - Requirement for Road Restraint Systems



#### Figure 1: Online widening to the west



#### Figure 2: Online widening to the east



#### **Speed limits**

#### Part A

- 2.6.8 The existing speed limit on the A1 is the national speed limit on the southern and northern approaches to the Part A, as well as through Part A's extents. This consists of the dual carriageway sections (70mph) at the southern tie-in at the A697 overbridge and the northern tie-in at the B6345 and also the single carriageway section (60mph) between these points.
- 2.6.9 The proposed speed limit through the works, taking into account temporary alignments and carriageways, is 40mph due to the right turn ghost islands. This will require consideration of stepped reductions in the speed limit on the approaches to the works, which will be managed by signage and traffic management.
- 2.6.10 The eastbound and westbound approaches from side roads will be reduced to 30mph also for approximately 200m prior to junctions.
- 2.6.11 For the section of existing A1 to be de-trunked, where the proposed A1 is offline, traffic will maintain the national speed limit of 60mph.



2.6.12 Speed limit restrictions to be implemented during construction will be finalised prior to the construction of Part A commencing but the current proposal is to implement a 40mph speed limit through the works on the A1 to maintain traffic flows during construction.

#### Part B

- 2.6.13 The existing speed limit on the A1 is the national speed limit on the southern and northern approaches to the Part B, as well as through Part B's extents. This consists of the dual carriageway sections (70mph) at the southern tie-in and the northern tie-in and also the single carriageway section (60mph) between these points.
- 2.6.14 The proposed speed limit through the works, taking into account temporary alignments and carriageways, is 40mph due to the right turn ghost islands. This will require consideration of stepped reductions in the speed limit on the approaches to the works, which will be managed by signage and traffic management.
- 2.6.15 The eastbound and westbound approaches from side roads will be reduced to 30mph also for approximately 200m prior to junctions.
- 2.6.16 Speed limit restrictions to be implemented during construction will be finalised prior to construction of Part B commencing but the current proposal is to implement a 40mph speed limit through the works on the A1 to maintain traffic flows during construction.

#### **Temporary Traffic Regulation Orders**

- 2.6.17 Temporary Traffic Regulation Orders (TTRO's) are a legal requirement when placing any restrictions upon speed limits or traffic flows on the Strategic Road Network (SRN), such as the A1 or local road network, such as the B6347. These typically include reduced speed limits, adoption of traffic light controls, temporary closures to footpaths, rights of ways and bridleways and temporary road closures. Any temporary restrictions to be implemented during construction will be finalised prior to the construction of each part of the Scheme commencing by the main contractor.
- 2.6.18 TTROs would be required to reduce the speed limit on both the A1 and local road network (managed by NCC) as part of the Scheme. The main contractor will define the extents of the speed restrictions and progress the TTROs with the Applicant and NCC to ensure these are in place prior to any temporary speed restrictions being imposed.
- 2.6.19 It is recommended that average speed cameras are deployed to enforce the speed limits subject to discussions with Northumbria Police and the Regional Enforcement Co-Ordinator (REC) employed by Northumbria Police. The main contractor will liaise with the REC when agreeing proposed enforcement to ensure that the correct liaison with Northumbria Police, is conducted on the production of any appropriate Evidential Trials. Evidential Trials are undertaken to compile the outputs from Average Speed Cameras to enable motorists to be prosecuted for speeding offences.

#### Length of the Traffic Management

2.6.20 As required by the Applicant the overall length of the A1 subject to traffic management at any one time will not exceed 5km. The 5km length will include the approaches and



departures required as part of the traffic management layout. Further information can be found in Chapter 8 of the Traffic Signs Manual.

#### Part A

2.6.21 The overall length of the A1 under Part A subject to traffic management (including the approach and departure lengths) is split by the proposed offline section. For the southern section, this is 4.0km between St. Leonard's Junction (Morpeth Interchange) and the southern extent of the offline section at Priests Bridge. For the northern section, this is 4.0km between the northern extent of the offline section at Eshott Airfield and 500m north of the B6345 overbridge.

#### Part B

2.6.22 The overall length of the A1 under Part B subject to traffic management (including the approach and departure lengths) is 9.0km.

#### Carriageway and Side Road Closures

#### Part A

- 2.6.23 It will be necessary to close the A1 between St. Leonard's Junction (connecting with Morpeth Northern Bypass) and Thunderbourne Interchange (connecting with A1068, south of Alnwick). Closures will be required for various items of permanent and temporary works. These include installation of traffic management e.g. contraflows and temporary road markings, installation and removal of the temporary earthworks, surfacing, bridge beam installations and construction of tie-ins to existing carriageways.
- 2.6.24 The majority of carriageway closures, such as that highlighted at paragraph 2.2.3 will be overnight (typically 2000hrs to 0600hrs). Depending on final design detail for the tie-ins, an extended closure 2000hrs Saturday to 1400hrs Sunday or 2000hrs Friday to 0600hrs Monday may be required, but there would only be the requirement for four extended closures (two northbound and two southbound) for each tie-in to the existing dual carriageway (north and south). All closures requiring diversion shall be scheduled so that they avoid frequent or protracted use of the northbound diversion route, via the A1068 in close proximity to the Northumberland Marine Special Protection Area. The use of the A1068 as a diversion route shall take account of the need to minimise impacts on the relevant SPA. Proposals for diversions using the A1608 shall be developed further in consultation with Natural England to manage the number of days of diversion in any given week/month/season/year.

#### Part B

- 2.6.25 It will be necessary to close the A1 between Brownieside and the B6347 at Charlton Mires on a number of occasions in order to construct the works. Closures will be required for various items of permanent and temporary works. These include installation of traffic management e.g. contraflows and temporary road markings, installation and removal of the temporary earthworks, surfacing, bridge beam installations and construction of tie-ins to existing carriageways.
- 2.6.26 The majority of carriageway closures, such as that highlighted at paragraph 2.2.3 will be overnight (typically 2000hrs to 0600hrs). Depending on detailed design for the tie-



ins an extended closure, 2000hrs Saturday to 1400hrs Sunday or 2200hrs Friday to 0500hrs Monday may be required, but it is anticipated that there would only be the requirement for four extended closures (two northbound and two southbound) for each tie-in to the existing dual carriageway (north and south).

#### **Diversion Routes**

#### Part A

2.6.27 The diversion route for the closure of the A1 between St. Leonard's Junction and Thunderbourne Interchange is split into northbound and southbound diversions. See **Appendix C** of this Plan for the Diversion Routes Plan.

#### Northbound diversion:

- Location of northbound diversion: Via A1 north, Morpeth Bypass, A197, A189, A1068, Alnwick A1 north.
- Purpose of diversion: Construction of northern & southern tie in, bridge beam installation, traffic management installation.
- Length of diversion NB (kilometres and time): 45.4km 48 minutes.

#### Southbound diversion:

- Location of southbound diversion: Via A1 south Alnwick, B6346, B6341, A697 to Morpeth
- Purpose of diversion: Construction of north & southern tie in, bridge beam installation, traffic management installation.
- > Length of diversion SB (kilometres and time): 35.5km 34 minutes.
- 2.6.28 Existing side roads with direct access to the A1 will be permanently realigned to connect to the A1 via new grade separated junctions, with direct accesses being permanently stopped up (for further details on the permanent closures see the Rights (Application of Wavs and Access Plans Document **Reference:** TR010041/APP/2.5)). Temporary side road closures will therefore be required as the works progress and some may be closed for the duration of the works early in the programme. Side roads will be closed in sequence such that access to the adjacent villages and businesses is maintained at all times. The Applicant will not close all of the side roads simultaneously to ensure that some access can be maintained during construction of Part A.

#### Part B

2.6.29 The identified diversion route when the A1 would be temporarily closed between Brownieside and the B6347 at Charlton Mires is split into northbound and southbound diversions. See **Appendix C** of this Plan for the Diversion Routes Plans for further details. The identified diversion routes are already utilised by the Applicant when overnight closures are required for the purpose of carrying out essential maintenance



works. However, the Applicant would seek approval in advance from NCC when diversions are required for Part B as the proposed routes would utilise the local road network.

#### Northbound diversion:

- > Location of diversion: Via A1 north, B1340, A1 at Brownieside
- Purpose of diversion: Closure of the A1 for construction of the overbridges at Heckley Fence and Charlton Mires junction, proposed culvert construction and traffic management installations
- > Length of diversion route (total kilometres and time) 23.7km 26 minutes

#### Southbound diversion:

- > Location of diversion: Via A1 south, B6348, A697 (Wooler), A1 Morpeth
- Purpose of diversion: Closure of the A1 for construction of the overbridges at Heckley Fence and Charlton Mires junction, proposed culvert construction and traffic management installations
- > Length of diversion route (total kilometres and time): 62.3km 53 minutes
- 2.6.30 A number of permanent side road closures will be required as the works progress although some may be closed early in the programme in line with the required traffic management phases (for further details on the permanent closures see the Rights of Ways and Access Plans (Application Document Reference: TR010041/APP/2.5)). The Applicant will not temporarily close, either during the construction of the Scheme or after the Scheme is completed, any side roads to be retained unless a suitable diversion or access route is in place.
- 2.6.31 Further details on the diversion routes proposed for the Scheme can be found in Chapter 2: The Scheme, Volume 1 of the ES (Application Document Reference: TR010041/APP/6.1)

#### Adjacent Road Works and other Traffic Management

2.6.32 Part A and Part B would commence construction at the same time. However, there is approximately 12km between the two sections and therefore it is not likely that roadworks or traffic management would be adjacent during construction of the Scheme. However, monthly traffic co-ordination meetings would be held on site with all relevant stakeholders. The aim of these meetings will be for the main contractor to present upcoming works, and for the relevant parties to identify any potential clashes with road space or planned diversions, discuss any forthcoming events or embargoes, and ensure all the relevant approvals are in place so that any impacts of Part A and Part B being in construction at the same time are mitigated as much as possible.

#### Bank Holidays

2.6.33 Traffic management will remain in place throughout construction of the Scheme and be maintained during bank holidays and identified embargoes at busy times of the



year, such as during school holidays. There are a number of reasons for this as follows:

- Traffic management must remain in place to protect the public from areas of the works which are unfinished and may present a hazard if left unprotected.
- The cost, time and additional risks imposed upon the Traffic Management operatives in removing, and then re-installing the traffic management for a bank holiday weekend will be prohibitive.
- If unprotected works are left, they may sustain damage which may require reworks with an associated additional cost and time for the Scheme.
- 2.6.34 No full closures will take place during bank holidays and during embargo periods. An example of an embargo period would be Christmas where works would be restricted so as to not interfere with traffic movements.

#### Significant Events and Seasonal Traffic

- 2.6.35 The annual Alnwick food festival attracts up to 30,000 visitors and this and other regional events will be taken into account when planning the works. The A1 is a main route to and from the North East and Scotland and carries significant holiday traffic at certain times of the year. Traffic management activities will have to be planned to minimise disruption to holiday traffic.
- 2.6.36 To help prevent potential 'rat running' through adjacent villages, signage will be erected on diversion routes indicating official routes, with the possibility of installing additional signage to deter diversion traffic from passing through sensitive areas.
- 2.6.37 The minimum requirement during the works is that the A1 is to be maintained as a single carriageway to ensure traffic flow in both directions.

#### Incident Management

- 2.6.38 A number of measures would be put in place to assist with incident management of the Scheme. These are as follows:
  - Continuous attendance on site of a Traffic Safety and Control Officer (TSCO), appointed by the main contractor and traffic management maintenance crew who will patrol the works. TSCO duties will be executed by the main contractor.
  - A Closed-Circuit Television (CCTV) system would be installed throughout the Scheme and monitored continuously.
  - A vehicle recovery service would be deployed. This will be in the form of sitebased vehicles operating from either the Main Compound, the Lionheart Enterprise Park Compound or a call out service managed from a remote-control room based at one of the compounds.
  - Consideration will be given by the Applicant, to motorcycle patrols particularly at times of high seasonal traffic, as these will be able to get to incidents faster than a normal vehicle.



• Production of an Incident Management Plan, which will form part of the CEMP, to be developed by the main contractor to include details of how the North East Regional Control Centre will be notified of incidents.

#### Incursion Risk Management

- 2.6.39 Vehicle incursions in to work areas are recognised as one of the highest risks to road workers safety. Up to 250 incursions per month on the SRN are regularly reported to the Applicant. An incursion is defined as *'an intentional or unintentional unauthorised entry into temporary traffic management, by all or part of a vehicle being driven by members of the public or emergency services'.*
- 2.6.40 Current best practice for managing traffic management incursions promoted by the Highway England's Safety Hub (highwayssafteyhub.com) requires all instances of incursion to be reported through the Applicant's 'Accident and Incident Reporting System' (AIRSweb). Details such as time of day, day of week, weather conditions and counter measures used to prevent incursion, should all be recorded. The data collected enables the Applicant to draw up a heat map of areas where vehicle incursions have occurred. This information can then be used to identify areas where incursions are more likely and assists in planning to eliminate these incursions.

#### **Driver Compliance**

- 2.6.41 It is recommended that average speed cameras shall be deployed by the main contractor to enforce temporary speed limits in place on the A1 during construction of the Scheme. Enforcement would be the responsibility of Northumbria Police.
- 2.6.42 Enforcement would be particularly useful on the approaches to the works at the leadin tapers, where compliance with the temporary speed limit will greatly improve the flow of traffic.
- 2.6.43 Journey Time Reliability signing can significantly improve driver compliance as it gives reassurance that delays are not as severe as may be perceived. Mobile Variable Message Signs (VMS) shall be deployed and give actual durations to pass through the road works and times to remote destinations.

#### Table 1: Proposed Traffic Management Measures – Part A

Phase	Section	Figure Reference (see Appendix A)	Work Activity	Traffic Management	Road Closures/Diversion Routes
1	Online Widening Northbound from Warreners House to Priest's Bridge	1001	Earthworks and Roadworks	Narrow lanes and temporary vertical concrete barrier (TVCB)	A1 Closure during Traffic Management (TM) installation
	Online Widening Southbound from Burgham Park Road to River Coquet Bridge	1005	Earthworks and Roadworks	Narrow lanes and TVCB	A1 Closure during TM installation



	Structures and Junctions	1001-1005	Highlaws, Fenrother and West Moor junctions. Causey Park, Burgham Park and River Coquet bridges	Controlled Plant Crossings at side roads	Fenrother Lane and Burgham Park Road restricted access - Local Diversions
2	Online Widening Northbound from Warreners House to Priest's Bridge	2001	Earthworks and Roadworks	Narrow lanes and TVCB	
	Online Widening Southbound from Burgham Park Road to River Coquet Bridge	2005	Earthworks and Roadworks	Narrow lanes and TVCB	
	Offline works from Priest's Bridge to Causey Park Road	2002-2003	Earthworks and Roadworks		
	Structures and Junctions	2001-2005	Highlaws, Fenrother and West Moor junctions. Causey Park, Burgham Park and River Coquet bridges	Controlled Plant Crossings at side roads	A1 Closure during Beam Lifts on Highlaws and West Moor Causey Park Road restricted access - Local diversions
3	Online Widening Southbound from Warreners House to Priest's Bridge	3001	Earthworks and Roadworks	Narrow lanes and TVCB	A1 Closure during TM switch
	Online Widening Southbound from Burgham Park Road to River Coquet Bridge	3005	Earthworks and Roadworks	Narrow lanes and TVCB	
	Offline works from Priest's Bridge to Burgham Park Road	3002-3004	Earthworks and Roadworks		
	Structures and Junctions	3003-3005	Causey Park, Burgham Park and River Coquet bridges	Controlled Plant Crossings at side roads	Local Diversions
4	Online Widening Southbound from Warreners House to Priest's Bridge	4001	Earthworks and Roadworks	Narrow lanes and TVCB	
	Online Widening Southbound from Burgham Park Road to River Coquet Bridge	4005	Earthworks and Roadworks	Narrow lanes and TVCB	
	Structures and Junctions	4005	River Coquet Bridge	Narrow lanes and TVCB	
5	Online Widening Southbound from Warreners House to Priest's Bridge	5001	Earthworks and Roadworks	Narrow lanes and TVCB	
	Online Widening Northbound from Burgham Park Road to River Coquet Bridge	5005	Earthworks and Roadworks	Narrow lanes and TVCB	A1 Closure during TM switch
	Upgrading of Detrunked Section of A1	5002-5004	Roadworks	Road Closed	Access for local traffic only



6	West Moor Junction and Northern Tie ins	6004	Roadworks	A1 Closure during TM switch

#### Table 2: Proposed Traffic Management Measures – Part B

Phase	Section	Figure Reference (see Appendix B)	Work Activity	Traffic Management	Road Closures/Diversion Routes
1	Online Widening Northbound from Denwick to North Charlton	1001	Earthworks and roadworks	Narrow lanes and temporary vertical concrete barrier (TVCB)	A1 closure during traffic management (TM) installation
	Online Widening Southbound from Denwick to North Charlton	1005	Earthworks and roadworks	Narrow lanes and TVCB	A1 closure during TM installation
	Structures and Junctions	1001- 1005	Construction of Charlton Mires junction overbridge and the Heckley Fence overbridge	Controlled plant crossings at side roads	B6347 restricted access, local diversions
2	Online Widening Southbound from Denwick to North Charlton	2001-2005	Earthworks & roadworks	Narrow lanes and TVCB	
	Structures and Junctions	2001-2005	Construction of Charlton Mires junction overbridge and the accommodation overbridge at Heckley Fence	Controlled Plant Crossings at side roads	A1 closure during bridge beam lifts on Charlton Mires junction overbridge and the Heckley Fence accommodation overbridge - B6347 restricted access, local diversions
3	Online Widening Northbound from Denwick to North Charlton	3001-3005	Earthworks and roadworks	Narrow lanes and TVCB	A1 closure during TM switch
	Structures and Junctions	3001-3005	Construction of Charlton Mires junction & overbridge and the Heckley Fence accommodation overbridge	Controlled plant crossings at side roads	A1 closure during bridge beam lifts on Charlton Mires junction overbridge and the Heckley Fence accommodation overbridge - B6347 restricted access, local diversions
4	Finishes Southbound	4001-4005	Earthworks and roadworks	Narrow lanes and TVCB	
	Finishes Northbound	4001-4005	Earthworks and roadworks	Narrow lanes and TVCB	
	Structures and Junctions	4001-4005	Construction of Charlton Mires junction & overbridge and the Heckley		



			Fence accommodation overbridge	
5	Structures and Junctions - Open Bridges to Traffic	5001-5005	Charlton Mires junction & Heckley Fence accommodation overbridge	
6	Landscaping	6001-6005	Roadworks	A1 closure during TM switch

#### 2.7 Implications of Proposed Traffic Management Measures

#### Intelligent Transport Service

#### Part A

2.7.1 Currently there is minimal roadside technology on the A1 between Morpeth and Felton. There are multiple existing traffic counter sites throughout and a single Gatso speed camera located to the south of Low Espley junction on the northbound verge. There are no emergency telephones located within the Order Limits of Part A.

#### Part B

2.7.2 Currently there is minimal roadside technology on the A1 between Alnwick and Ellingham. There are existing traffic counter sites along the route that need to be identified. There are no emergency telephones located within the Order Limits of Part B.

#### Operations

2.7.3 A Detailed Local Operating Agreement (DLOA) will be produced and agreed with all relevant parties, this is likely to include but not be limited to the Applicant, NCC, Morpeth Town Council and Alnwick District Council. The DLOA will define precisely which party is responsible for an activity and for response times. The DLOA will describe how each party co-ordinates their works to ensure there is minimal effect on each other's operations. The Incident Management Plan to be produced as part of the CEMP will be in accordance with the DLOA.

#### **Road Space Bookings**

- 2.7.4 Road space for the Scheme is required to be booked by the Applicant or main contractor on both the A1, and for any affected side roads via NCC.
- 2.7.5 The booking of road space is to prevent clashes of proposed roadworks at the same works locations. It is also aimed at reducing disruption to road users. Proposed works can include maintenance or capital programme works such as this Scheme, other statutory bodies including statutory undertakers or private developers.
- 2.7.6 Road space bookings should be submitted alongside any required TTRO applications



for speed reductions, lay-by closures or other traffic management requirements.

- 2.7.7 All works will be accurately booked through the Applicant's Network Occupancy Management System (NOMS), as per all road space bookings. The purpose of road space bookings is to allow co-ordination with other contractors or maintenance activities along the A1 and to allow the Applicant and others to plan works. Lead in periods are minimum 2 weeks but advisable to book 3 months in advance to secure the road space. For side roads, local authorities have their own road space booking processes, which are subject to similar lead times.
- 2.7.8 The timely calling on and off of traffic management is a requirement in accordance with the Applicant's performance targets. The performance target shall be within 30 minutes of the agreed on off target times.

#### Maintenance Activities

- 2.7.9 The main contractor shall be responsible for routine and winter maintenance as defined by the Applicant, including accidental and willful damage, but excluding salting and snow clearance for all areas of the A1 within the Order Limits of the Scheme.
- 2.7.10 This will also include areas where traffic management equipment is in place only on the approach to and departure from the Scheme, including the adjacent local road network managed by NCC.
- 2.7.11 The main contractor shall undertake extensive condition surveys prior to the main works starting on site including the proposed diversion routes. The purpose of these surveys is to ensure that the proposed routes are suitable and safe to take any increased traffic flows and to identify any improvements required to bring them up to standard. The surveys would be video surveys along the route with defects identified with additional still footage.
- 2.7.12 A maintenance agreement will need to be in place with NCC prior to the start of the construction works for the Scheme in the form of a Memorandum of Understanding (MOU). The agreement will set out maintenance responsibilities on the local road network during construction.



## **3 ACCESS AND ROUTE STRATEGY**

#### 3.1 Levels of Road Classification

3.1.1 There are three levels of road classification as follows:

Level 1: SRN (comprises the motorway and trunk road network), managed by the Applicant, which will provide construction access from a wide catchment to the Primary and Local Road Network (LRN).

Level 2: Primary and Local Road Networks (comprises local roads managed by NCC), which are likely to provide construction access to much of the Scheme.

Level 3: Access Roads (comprises temporary road networks) managed by the Applicant which will link areas of the Scheme to the LRN.

#### 3.2 Access Route and Points

#### Part A

- 3.2.1 All HGV deliveries to Part A will be via the A1 and enter the site at designated RVP points that will be identified on the traffic management layout plans to be developed by the main contractor. Some movements via the A197 and A697 onto the A1 may also be required. A procedure will be put in place to inform all site personnel and delivery partners to avoid the LRN for deliveries and vehicle movements.
- 3.2.2 This procedure will be developed by the main contractor and set out in this Plan. It is likely to include visual signage, notifications to all site personnel, inclusion within all site inductions and notification to all supply chain and deliveries in advance of their works.

#### Part B

- 3.2.3 All HGV deliveries to Part B will be via the A1 and enter the site at designated RVP points that will be identified on the traffic management layout plans, which will be developed and finalised by the main contractor prior to the works starting on site.
- 3.2.4 A procedure will be developed by the main contractor, set out in this Plan and implemented to inform all site personnel and delivery partners to avoid the LRN for deliveries and vehicle movements. The procedure is likely to include visual signage, notifications to all site personnel, inclusion within all site inductions and notification to all supply chain and deliveries in advance of the commencement of construction.

#### 3.3 Access Roads

#### Part A

3.3.1 A temporary haul road, as shown on the Indicative Cross Section drawings in Appendix 2.2: Technical Drawings, Volume 1 of the ES (Application Document Reference: TR010041/APP/6.1) would be constructed to the west of the online widening proposed for the southern online section and to the east for the northern online section of Part A. The haul road will provide direct access to Part A and would reduce traffic movements on the A1.

#### Part B

3.3.2 A temporary haul road, as shown on the Indicative Cross Section drawings in Appendix 2.2: Technical Drawings, Volume 1 of the ES (Application Document



**Reference: TR010041/APP/6.1**) would be constructed to the east of the online widening proposed throughout the length of Part B. This haul road will provide direct access to Part B and would reduce traffic movements on the A1.

#### 3.4 Local Highway Issues and Constraints

3.4.1 Existing highway issues and constraints for the Scheme are detailed below in Table
 3 for Part A and Table 4 for Part B. Site visits have been undertaken along the proposed construction access routes to determine any issues and constraints.

No.	Issue	Constraint	Mitigation during Construction
1	Existing accesses/egresses onto the A1	Several side roads, lay–bys and private accesses onto the A1 create a hazard to traffic	For Part A works, all existing direct accesses onto the A1 are to be stopped up permanently with side roads realigned to connect to the A1 via new grade separated junctions. The accesses will only be stopped up once temporary or permanent access arrangements are in place. Further details can be found on the Rights of Way and Access Plans (Application Document Reference: TR010041/APP/2.5)
2	Ghost islands	Ghost islands exist to facilitate right turns off the A1 creating a hazard to motorists.	Remove ghost islands and ban right turn movements such as at Hebron Rd, High Highlaws Rd, West Moor Rd and Felton Rd.
3	Visibility	Vertical and horizontal alignment along the A1 creates hazard	Proposal to reduce speed limit through roadworks to 40mph to minimise potential for hazards by maintaining traffic flows during construction.
4	Abnormal loads	This section of the A1 is used as a heavy and high loads route to and from England and Scotland.	TSCO escort through works. A process would need to be put in place for advanced notice of this requirement
5	Slow moving vehicles	Significant farming activities prevail in the area and the hazard created by slow moving tractors and combines exists.	Restrictions would be put in place after consultation with stakeholders to prevent slow moving vehicles travelling through TM. This would need to be agreed with all stakeholders and would be implemented by direct contact with those affected and TM signage placed at appropriate locations on the network.
6	HGVs	A large proportion of the traffic on this section of the A1 is HGV traffic & the potential for vehicle cluster exists creating a hazard.	Proposal to implement speed limit through roadworks of 40mph to maintain traffic flows during construction.
7	Congestion	Seasonal traffic along the route is common creating the potential for congestion at these times.	Proposal to implement speed limit through roadworks of 40mph to maintain traffic flows during construction. Roadside signage will be

#### Table 3: Highways Issues and Constraints – Part A



			used to provide advance notice of intended works.
8	Side road condition	Side roads within the Order Limits of Part A have several inherent hazards such as road width, visibility and access restrictions.	To avoid unnecessary use, where possible, of side roads by construction traffic.
9	Walking, Cyclists and Horse riders (WCHs)	WCH crossing the A1 or using side roads / PRoWs.	WCHs would be banned from travelling through TM along the A1. Identified crossing points will be provided to allow WCH's to cross the A1 during the construction. Temporary or permanent diversions to be provided for side roads and PRoWs. Further details can be found on the Rights of Ways and Access Plans ( <b>Application Document</b> <b>Reference: TR010041/APP/2.5</b> )
10	Existing crossing facilities	Several locations along the route have PRoW and bus stop crossing points.	PRoW crossing points will be temporarily or permanently closed during the works. Permanent or temporary diversion routes will be provided. Temporary bus stops will be provided for the duration of the works.
11	Local rural communities	Several communities exist adjacent to and along the alignment of Part A including Low Espley, Hebron, Causey Park and Felton which are sensitive to the impacts of construction traffic.	By communication with workforce and supply chain as well as identified, signed permissible traffic routes. Construction traffic movements should be prevented, where possible, travelling through rural communities. Additionally, traffic management systems and diversion routes will be put in place to maintain access to community facilities, residential properties / communities, businesses/commercial facilities and private land holdings during construction and operation.
12	Local schools	Tritlington C of E Aided First School is sited adjacent to the A1 at the southern extent of Part A	Construction traffic using the local road network should refrain from travelling past the school during daytime hours
13	Traffic speeds	Whilst this section of the A1 is 60mph, average speeds along the section do not reach this figure due to the issues highlighted above due to HGV's, slow moving vehicles, wide loads, side roads and poor visibility.	Proposal to implement speed limit through roadworks of 40mph to maintain traffic flows during construction.



#### Table 4: Highways Issues and Constraints – Part B

No.	Issue	Constraint	Mitigation during Construction
1	Existing accesses/ egresses onto the A1	Several side roads, lay–bys and private accesses onto the A1 create a hazard to traffic particularly for vehicles turning right as shown on the traffic management phasing plans.	As part of Part B all existing direct accesses onto the A1 are to be stopped up permanently. The accesses will only be stopped up once temporary or permanent access arrangements are in place. Further details can be found on the Rights of Way and Access Plans (Application Document Reference: TR010041/APP/2.5)
2	Ghost islands	Ghost islands exist to facilitate right turns off the A1 creating a hazard to motorists.	As part of Part B, the hatched area north of the B6347 and the ghost islands at the B6341 Junction and south of White House Burn would be removed and right turn movements banned.
3	Visibility	Vertical and horizontal alignment along the A1 creates hazard.	Proposal to reduce speed limit through roadworks to 40mph to minimise potential for hazards by maintaining traffic flows during construction.
4	Abnormal loads	This section of the A1 is used as a heavy and high loads route to and from England and Scotland. Potential for abnormal load access requirements to/from Middlemoor Wind Farm during construction.	TSCO escort through works. A process would need to be put in place for advanced notice of this requirement. Main contractor to liaise with Innogy (wind farm operator) in advance of the construction works to understand their requirements and agree notice period for access.
5	Slow moving vehicles	Significant farming activities prevail in the area and the hazard created by slow moving tractors and combine harvesters exists.	Restrictions would be put in place after consultation with stakeholders to prevent slow moving vehicles travelling through TM. This would need to be agreed with all stakeholders and would be implemented by direct contact with those affected and TM signage placed at appropriate locations on the network.
6	HGVs	A large proportion of the traffic on this section of the A1 is HGV traffic and the potential for vehicle cluster exists, creating a hazard.	Proposal to implement speed limit through roadworks of 40mph to maintain traffic flows during construction.
7	Congestion	Seasonal traffic along the A1 is common creating the potential for congestion at these times.	Proposal to implement speed limit through roadworks of 40mph to maintain traffic flows during construction. Roadside signage will be used to provide advance notice of intended works.
8	Side road condition	Side roads within the Order Limits of Part B have several inherent hazards	To avoid unnecessary use, where possible, of side roads by construction



		such as road width, visibility and access restrictions.	traffic.
9	WCHs	WCH crossing the A1 or using side roads / PRoWs.	WCHs would be banned from travelling through TM along the A1. Identified crossing points will be provided to allow WCH's to cross the A1 during the construction. Temporary or permanent diversions to be provided for side roads and PRoWs. Further details can be found on the Rights of Ways and Access Plans (Application Document Reference: TR010041/APP/2.5)
10	Existing crossing facilities	Several locations along the route have PRoW and bus stop crossing points.	PRoW crossing points will be temporarily or permanently closed during the works. Permanent or temporary diversion routes will be provided. Temporary bus stops will be provided for the duration of the works.
11	Local rural communities	Several communities exist adjacent to and along the alignment of the Scheme including Alnwick, Denwick, South Charlton, North Charlton and Rock which are sensitive to the impacts of construction traffic.	By communication with workforce and supply chain as well as identified, signed permissible traffic routes. Construction traffic movements should be prevented, where possible, travelling through rural communities. Additionally, traffic management systems and diversion routes will be put in place to maintain access to community facilities, residential properties / communities, businesses/commercial facilities and private land holdings during construction and operation.
12	Local schools	Ellingham C of E School is sited adjacent to the A1 at the northern extent of Part B.	Construction traffic using the local road network should refrain from travelling past the school during daytime hours
13	Traffic speeds	Whilst this section of the A1 is 60mph, average speeds along the section do not reach this figure due to the issues highlighted above due to, HGV's, slow moving vehicles, wide loads, side roads and poor visibility.	Proposal to implement speed limit through roadworks of 40mph to maintain traffic flows during construction

- 3.4.2 **Table 5** (for Part A) and **Table 6** (for Part B) below sets out the Customer Groups identified, which are likely to be affected by the Scheme and how this Plan would take account of their requirements. The Applicant's Customer Groups are defined as:
  - Customer: An 'umbrella term' for anyone who the Applicant directly provide products and services to.
  - Stakeholder: Anyone affected by or interested in the Applicant's products and services.



- Partner: Organisations with whom the Applicant works with, who have a shared and agreed aim.
- Community: A group of people with potentially diverse characteristics, purpose or business who are linked by social ties and/or share common perspectives, in geographical locations or virtual settings.
- Client: Anyone the Applicant directly provide products and services to, with whom they have an ongoing business relationship.

Customer group	Who is affected by this Scheme?	What are their requirements?	How will this Plan take these requirements into account?
Customer	HGV driver & drivers	Journey time reliability Advance warning of closures and/or diversions Appropriate diversion routes Maximised lane widths where possible	Sufficient notification of any closures Closure clashes – ensuring alternative routes are not subject to any closures Diversion routes to avoid narrow roads and low bridges to accommodate HGVs. Included in Communications Plan to be produced by the main contractor as part of the CEMP (Refer to section 5.13 of this Plan).
	Seasonal holiday traffic	Clear information of delays displayed at remote locations so traffic can decide on alternative route Clear and accurate information on the works	Provision of Journey Time reliability system Included in the Communications Plan to be produced by the main contractor as part of the CEMP (Refer to section 5.13 of this Plan).
Stakeholder	Burgham golf and leisure centre	Closures/diversions that may impact on journey time reliability to and from venue	Advanced warning to the business. Particular sensitivity around peak business hours at certain times of the day and weekends. Included in Communications Plan to be produced by the main contractor as part of the CEMP (Refer to section 5.13 of this Plan).
	Eshott Airfield	Closures/diversions that may impact on journey time reliability to and from venue	Advanced warning to the business. Particular sensitivity around peak business hours at certain times of the day and weekends. Included in Communications Plan to be produced by the main contractor as part of the CEMP (Refer to section 5.13 of this Plan).
	Jackson's Garage	Closures/diversions that may impact on journey time reliability to and from venue	Advanced warning to the business. Particular sensitivity around peak business hours at certain times of the day and weekends. Included

#### Table 5: Customer Groups Identified and Mitigation – Part A



			in Communications Plan to be
			produced by the main contractor as part of the CEMP (Refer to section 5.13 of this Plan).
	Bockenfield Holiday Park	Closures/diversions that may impact on journey time reliability to and from venue	Advanced warning to the business. Particular sensitivity around peak business hours at certain times of the day and weekends. Included in Communications Plan to be produced by the main contractor as part of the CEMP (Refer to section 5.13 of this Plan).
	Northumberland Woodland Burials	Closures/diversions that may impact on journey time reliability to and from venue	Advanced warning to the business. Particular sensitivity around peak business hours at certain times of the day and weekends. Included in Communications Plan to be produced by the main contractor as part of the CEMP (Refer to section 5.13 of this Plan).
	Taylor Wimpey housing development	Closures and congestion during peak trading periods	Sensitivity to trading cycle and appropriate use of diversion and/or closures. Included in the Communications Plan to be produced by the main contractor as part of the CEMP (Refer to section 5.13 of this Plan).
Partner	Aggregate suppliers	Clear route for ease of delivery Journey time reliability to site Suitable access and egress	Manage haul roads to facilitate site deliveries to the Scheme. Access and egress points clearly marked and close to delivery site. Included in Communications Plan to be produced by the main contractor as part of the CEMP (Refer to section 5.13 of this Plan).
	Emergency services	Access through haul road during emergencies Suitable diversion routes Advance warning of closures and/or diversions	Process and procedure for allowing emergency services through the works/ haul road Diversion routes avoid narrow roads and low bridges Sufficient notification of closures. Included in Communications Plan to be produced by the main contractor as part of the CEMP (Refer to section 5.13 of this Plan).
Community	Local farm traffic	Clear route for ease of delivery Ability to cross A1 Suitable access and egress	Manage haul roads to facilitate site deliveries Access and egress points clearly marked and close to delivery site. Included in Communications Plan to be produced by the main contractor as part of the CEMP (Refer to section 5.13 of this Plan).



Local residents to Scheme	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. Further details can be found in Outline CEMP (Application Document Reference: TR010041/APP/7.3)	Notification and liaison with individuals and/or local group representatives Activity curfews e.g. no piling outside of standard working hours. Diversion route signs and information to meet driver requirements and optimise usability to reduce opportunities for error and therefore reduce congestion during construction. Further details can be found in Outline CEMP (Application Document Reference: TR010041APP/7.3)
Bus routes Arriva bus company	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. Further details can be found in the Outline CEMP (Application Document Reference: TR010041/APP/7.3)	Notification and liaison with individuals and/or local group representatives. Diversion route signs and information to meet driver requirements and optimise usability to reduce opportunities for error and therefore reduce congestion. Further details can be found in Outline CEMP (Application Document Reference: TR010041/APP/7.3)
Royal Mail	Advance warning of closures and/or diversions, with particular regard to Royal Mail's distribution facilities near the DCO application boundary. e.g. market days Minimal disruption due to works, including environmental factors (e.g. noise, dust, lighting) and diversion routes. Further details can be found in the Outline CEMP (Application Document Reference: TR010041/APP/7.3)	Notification and liaison with individuals and/or local group representatives, including two weeks' notice ahead of road closures and/or diversions. Diversion route signs and information to meet driver requirements and optimise usability to reduce opportunities for error and therefore reduce congestion during construction. Further details can be found in Outline CEMP (Application Document Reference: TR010041APP/7.3)



#### Table 6: Customer Groups Identified and Mitigation: Part B

Customer group	Who is affected by this Scheme?	What are their requirements?	How has this Plan taken these requirements into
			account?
Customer	HGV drivers and other vehicle drivers	Journey time reliability Advance warning of closures and/or diversions Appropriate diversion routes specifically for HGVs with specific needs. Maximised lane widths where possible	Sufficient notification of any closures Closure clashes – ensuring alternative routes are not subject to any closures Diversion routes to avoid narrow roads and low bridges to accommodate HGVs. Included in Communications Plan to be produced by the main contractor as part of the CEMP (Refer to section 5.13 of this Plan).
	Seasonal holiday traffic	Clear information of delays displayed at remote locations so traffic can decide on alternative route Clear and accurate information on the works	Provision of Journey Time reliability system Included in the Communications Plan to be produced by the main contractor as part of the CEMP (Refer to section 5.13 of this Plan).
	Delivery vehicles to local businesses	Clear information of delays or expected delays so traffic can decide on alternative route Clear and accurate information on the works	Included in Communications Plan to be produced by the main contractor as part of the CEMP (Refer to section 5.13 of this Plan).
Stakeholder	Rocking Horse Café and Gallery	Closures/ diversions that may impact on journey time reliability to and from venue. Vehicular access to be maintained at all times to the business location unless agreed with the business owner.	Advanced warning to the business. Particular sensitivity around peak business hours at certain times of the day and weekends. Included in Communications Plan to be produced by the main contractor as part of the CEMP (Refer to section 5.13 of this Plan).
	Patterson's Boarding Kennels	Closures/ diversions that may impact on journey time reliability to and from venue. Vehicular access to be maintained at all times to the business location unless agreed with the business owner.	Advanced warning to the business. Particular sensitivity around certain times of the day and weekends. Included in Communications Plan to be produced by the main contractor as part of the CEMP (Refer to section 5.13 of this Plan).
	Local farm traffic	Clear route for ease of delivery. Ability to cross A1 Suitable access and egress	Manage haul roads to facilitate site deliveries to the Part B Temporary and permanent diversion routes to be relayed to stakeholders for crossing the A1. Access and egress points clearly marked and close to delivery site. Included in Communications Plan to be produced by the main contractor as part of the CEMP (Refer to section 5.13 of this Plan).



	Rock South Farm Residents	Closures/ diversions that may impact on journey time reliability to and from residences as these residents enjoy direct access to and from the A1. Vehicular access to be maintained at all times to the residents.	Advanced warning to residents to minimise disruption to their daily routine and understand measures needed to mitigate such disruption. Included in Communications Plan to be produced by the main contractor as part of the CEMP (Refer to section 5.13 of this Plan).
	Rock Lodge Residents	Closures/ diversions that may impact on impact on their daily operations and sales. This family are known to sell farm produce at the front of their lodge and also operate a small holiday rental. The need for passing trade and accessibility to holidaymakers is required.	Advanced warning to residents to minimise disruption to their daily routine. Ongoing dialogue regarding their operations and understand measures needed to mitigate such disruption. Included in Communications Plan to be produced by the main contractor as part of the CEMP (Refer to section 5.13 of this Plan).
	West Linkhall Residents – The Gray Family & their tenants	Closures/ diversions that may impact on journey time reliability to and from residences as these residents enjoy direct access to and from the A1. This family have a Farming operation on both sides of the A1 therefore require access to both sides	Advanced warning to residents to minimise disruption to their daily routine. Ongoing dialogue regarding their operations and understand measures needed to mitigate such disruption. Included in Communications Plan to be produced by the main contractor as part of the CEMP (Refer to section 5.13 of this Plan).
	Charlton Hall Wedding Venue	Closures/ diversions that may impact on impact on their daily operations and sales.	Advanced warning to residents to minimise disruption to their daily routine. Ongoing dialogue regarding their operations and understand measures needed to mitigate such disruption. Included in Communications Plan to be produced by the main contractor as part of the CEMP (Refer to section 5.13 of this Plan).
	Middlemoor Wind Farm operator – Innogy	Abnormal load access to and from Middlemoor Wind Farm.	Main contractor to liaise with Innogy in advance of the construction works in order to understand their requirements and agree notice period for access. Included in Communications Plan to be produced by the main contractor as part of the CEMP (Refer to section 5.13 of this Plan).
Partner	Aggregate suppliers	Clear route for ease of delivery Journey time reliability to site Suitable access and egress	Manage haul roads to facilitate site deliveries to the Scheme. Access and egress points clearly marked and close to delivery site. Included in Communications Plan to be produced by the main contractor as part of the CEMP (Refer to section 5.13 of this Plan).
	Emergency services	Access through haul road during emergencies Suitable diversion routes Advance warning of closures and/or diversions	Process and procedure for allowing emergency services through the works/ haul road Diversion routes avoid narrow roads and low bridges



Community	Local residents to Scheme	Advance warning of closures and/or diversions Sensitivity to local requirements e.g. market days Minimal disruption due to works,	Sufficient notification of closures. Included in Communications Plan to be produced by the main contractor as part of the CEMP (Refer to section 5.13 of this Plan). Notification and liaison with individuals and/or local group representatives Activity curfews e.g. no piling outside of standard working hours.
		including environmental factors (e.g. noise, dust, lighting) and diversion routes. Further details can be found in Outline CEMP (Application Document Reference: TR010041/APP/7.3)	Diversion route signs and information to meet driver requirements and optimise usability to reduce opportunities for error and therefore reduce congestion. Further details can be found in Outline CEMP (Application Document Reference: TR010041APP/7.3)
	Bus routes - Arriva bus company	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. Further details can be found in the Outline CEMP (Application Document Reference: TR010041/APP/7.3)	Notification and liaison with individuals and/or local group representatives. Diversion route signs and information to meet driver requirements and optimise usability to reduce opportunities for error and therefore reduce congestion. Further details can be found in Outline CEMP (Application Document Reference: TR010041/APP/7.3)
	Royal Mail	Advance warning of closures and/or diversions, with particular regard to Royal Mail's distribution facilities near the DCO application boundary. Sensitivity to local requirements e.g. market days Minimal disruption due to works, including environmental factors (e.g. noise, dust, lighting) and diversion routes. Further details can be found in the Outline CEMP (Application Document Reference: TR010041/APP/7.3)	Notification and liaison with individuals and/or local group representatives, including two weeks' notice ahead of road closures and/or diversions. Diversion route signs and information to meet driver requirements and optimise usability to reduce opportunities for error and therefore reduce congestion during construction. Further details can be found in Outline CEMP (Application Document Reference: TR010041APP/7.3)



## 4 SIGNING STRATEGY AND CORE WORKING HOURS FOR TRAFFIC MANAGEMENT DURING CONSTRUCTION

#### 4.1 Access Route and Point Signing

4.1.1 Access routes for the Scheme will be identified within this Plan when it is developed by the main contractor. Details of how this is to be communicated to all stakeholders will also be detailed within the Communications Plan to be produced as part of the CEMP.

#### 4.2 Access Road Signing

4.2.1 Access route signing for the Scheme will be in accordance with Traffic Signs Manual Chapter 8 and details are to be included within this Plan when it is developed by the main contractor prior to commencement of construction of the Scheme.

#### 4.3 Temporary Diversion Signing

4.3.1 Diversion route signing for the Scheme will be in accordance with Traffic Signs Manual Chapter 8 and details are to be included within this Plan when it is developed by the main contractor prior to commencement of construction of the Scheme.

#### **Diversion Route Selection**

4.3.2 The proposed diversion routes for the Scheme for the A1 are those shown in **Appendix C** of this Plan and are also those currently used by the Applicant when maintenance and improvement works are undertaken on the SRN. Prior to the use of these routes for the Scheme, a formal Road Safety Audit would be carried out. A number of local diversion routes have been proposed for the side roads joining/leaving the A1 adjacent to the works and these need to be confirmed with NCC in advance of the start of the construction of the Scheme.

#### 4.4 Working Hours

- 4.4.1 Construction works for the Scheme are programmed to be carried out Monday to Friday 7.00am and 7.00pm. Night and weekend works will be required for certain activities such as construction of carriageway crossings and resurfacing works.
- 4.4.2 The majority of overnight closures for works will be between the hours of 8.00pm 6.00am. There will be some exceptions to this and further details are set out at paragraphs 2.6.24 and 2.6.26 of this Plan.



## 5 MITIGATION MEASURES

#### 5.1 Introduction

- 5.1.1 Each mitigation measure relating to construction traffic involved in the construction phase of the Scheme has been detailed in the following paragraphs.
- 5.1.2 These measures are also set out within the ES (see Volume 2 for Part A (Application Document Reference: TR010041/APP/6.2 and Volume 3 for Part B (Application Document Reference: TR010041/APP/6.3)) and the Outline CEMP (Application Document Reference: TR010041/APP/7.3).

#### 5.2 HGV and LGV Construction Vehicle Records

5.2.1 The main contractor will provide details of their procedures within this Plan, prior to the commencement of construction of the Scheme, for recording of vehicle movements.

#### 5.3 Prescribed HGV and LGV Construction Routes

5.3.1 HGV and LGV construction routes shall primarily follow the A1 and avoid use of side roads.

#### 5.4 HGV Traffic Movements and Restrictions

5.4.1 HGV movements associated with the Scheme will where possible will be limited to taking take place during working hours (weekdays 7.00am – 7.00pm).

#### 5.5 HGV Emissions

5.5.1 All vehicles used in the construction of the Scheme will be to Euro Standard V class or better.

#### 5.6 Presence of Qualified Personnel at Access Points

5.6.1 Qualified personnel (banksmen) will be in place at key locations when necessary during the construction of the Scheme. These are likely to be required in place at RVP points for key deliveries or at PRoW and plant crossing points during busy periods. Qualified personnel will be provided at other locations as required.

#### 5.7 Timings of HGV Movements

#### Part A

5.7.1 The main contractor will provide a procedure for phased deliveries in order to avoid congestion of HGV movements particularly at RVP locations and junctions. In addition, a procedure will be put in place around school times at Tritlington C of E Aided First School to avoid any construction traffic impact at this location.

#### Part B

5.7.2 The main contractor will provide a procedure for phased deliveries in order to avoid congestion of HGV movements particularly at RVP locations and junctions. In addition, a procedure will be put in place to prevent HGV movements during daytime hours around Ellingham C of E School.



#### 5.8 **HGV Movements**

5.8.1 The main contractor will control the number of construction vehicle movements for phased deliveries to the Scheme in order to avoid congestion and improve safety for pedestrians in particular. Adherence to these restrictions will be verified through the agreed monitoring process.

#### 5.9 Journey Times

5.9.1 Where closures of the A1 are required for delivery of certain elements of the Scheme, they will be undertaken primarily at night. The diversion of traffic onto the agreed diversion routes may impact on traffic movement journey times at the time of the closures. Such contributing factors to journey time could include traffic management installation, traffic management switches between phases, traffic management removal, bridge beam installations and carriageway tie-ins.

#### 5.10 PRoW Management Plan

5.10.1 The main contractor will develop a PRoW Management Plan. The PRoW Management Plan will highlight where potential PRoW closures and diversions are required, and the extent of any reinstatement works required. Some of the PRoW will be permanently stopped up whilst others are planned to be diverted onto new permanent alignments. It will be necessary to temporarily close some PRoW during construction and these closures will be communicated in an appropriate manner with alternatives identified. Further details can be found in Outline CEMP (Application Document Reference: TR010041/APP/7.3).

Part A

5.10.2 **Table 7** shows a schedule of PRoW affected by Part A and includes summary details of their management during the construction phase. The locations of all PRoWs are identified on the Rights of Way and Access Plans (**Application Document Reference: TR010041/APP/2.5**). Also refer to **Volume 2** of the ES (**Application Document Reference: TR010041/APP/6.2**) for Part A.

Location	Chainage	PRoW Reference	Permanent Solution	Temporary Solution
Warreners House	10800	407/010	Unchanged	Remains in use. May require short duration closure during works
Low Espley	12950	407/018	Diverted onto new alignment	Diverted early in construction phase onto new permanent alignment
Floodgate Wood -A	13300	407/001	Footpath terminated	Footpath terminated at start of works (SoW)
Floodgate Wood -B	13660	407/001	Diverted onto new alignment	Diverted early in construction phase onto new permanent alignment
Floodgate Wood -C	13500	407/002	Diverted onto new alignment	Diverted early in construction phase onto new permanent alignment
Fenrother	14500	423/001	Diverted onto new alignment	Diverted early in construction phase onto new permanent alignment. Will need closure for part of construction phase
Earsdon Moor	15800	423/006	Footpath to be stopped up	Footpath permanently stopped up at SoW
Newhouses Farm	16000	423/007	Footpath to be stopped up	Footpath permanently stopped up at SoW

#### Table 7: PRoW Schedule – Part A



Causey Park	17300	423/013	Diverted onto new alignment	Footpath closed during construction until completion of new bridge
Burgham Park	20400	422/011	Diverted onto new alignment	Diverted early in construction phase onto new permanent alignment
River Coquet South	22480	422/002	Diverted onto new alignment beneath structure	Closed at B6345 at SoW and diverted through Parkwood Subway
River Coquet North	22700	115/009	Diverted onto new alignment beneath structure	Closed at Felton at SoW and diverted through Parkwood Subway
Parkwood Subway	23000	115/016 115/008	Diverted onto new alignment through subway	Diverted at SoW and closed during subway extension works"

## Part B

5.10.3 **Table 8** below shows a schedule of PRoW affected by Part B and includes summary details of their management during the construction phase. The location of all PRoWs affected are shown on the **Rights of Way and Access Plans (Application Document Reference: TR010041/APP/2.5).** Further details can also be found in **Volume 3** of the ES (**Application Document Reference: TR010041/APP/6.3**) for Part B.

Location	Chainage	ProW Reference	Permanent Solution	Temporary Solution
Heckley Cottage 1	54440	110/004	Diverted onto new alignment	Diverted to temporary route at grade to cross the A1 until the permanent crossing construction is complete
Heckley Cottage 2	54440	129/014	Footpath to Be Stopped Up	Footway Permanently Stopped up at SoW
Broxfield 1	54300	110/013	Diverted onto new alignment	Diverted to temporary route at grade to cross the A1 until the permanent crossing construction is complete
Broxfield 2	54300	129/022	Byway to Be Stopped Up	Footway Permanently Stopped up at SoW
Broxfield 3	54500	129/013	Footpath to Be Stopped Up	Footway Permanently Stopped up at SoW
Heckley Fence accommodation overbridge	55300		New byway open to all traffic	Not applicable
Rock South 1	56200	110/019	To connect into diverted footpath	Diverted to temporary route at grade to cross the A1 until the permanent crossing construction is complete
Rock South 2	56200	110/003	Footpath to Be Stopped Up	Footway Permanently Stopped up at SoW
Rock South 3	56500	129/009	Footpath to Be Stopped Up	Footway Permanently Stopped up at SoW
Rock South 4	56500	129/005	No change	Footway to be temporarily diverted during the construction works
Rock South 5	56700	110/010	Existing footpath to be maintained	No change
Rock South 6	56700	129/021	Existing footpath to be maintained	Connects into new footway
Rock Lodge 1	58250	129/024	Footpath to Be Stopped Up	Footway Permanently Stopped up at SoW
Rock Lodge 2	58250	129/004	Diverted onto new alignment	Diverted to temporary route at grade to cross the A1 until the permanent crossing construction is complete
West Linkhall	59600	129/008	No change	No change



#### 5.11 Requirements for Vehicles

- 5.11.1 The main contractor will provide a procedure for checking and cleansing of vehicles which will require the provision of wheel wash facilities at Scheme egresses. This procedure will also identify the regime for provision of road brushes at strategic locations through the Scheme affected by construction activities.
- 5.11.2 Loads entering and leaving site will be sheeted to prevent dust generation.
- 5.11.3 There will be no idling of vehicle engines with the site limits.
- 5.11.4 All vehicles will comply with site speed limits set by the main contractor to help limit dust generation.
- 5.11.5 Hard running surfaces will be installed and maintained on site as soon as practically possible to help with the economic movement of vehicles.
- 5.11.6 The above requirements for vehicles will be secured in the **Outline CEMP** (Application Document Reference TR010041/APP/7.3).

#### 5.12 Highway Condition Surveys

- 5.12.1 Access points to the SRN and LRN by any access road or track used by the Scheme will be inspected. The TSCO employed by the main contractor will carry out inspections over the extents of the traffic management on the network including diversion routes and any issues identified will be rectified.
- 5.12.2 Water assisted sweeping of local roads will be undertaken if material is tracked from the Scheme.

#### 5.13 Communication Plan

- 5.13.1 A Communications Plan will be developed by the main contractor which will describe the process by which information is provided to stakeholders, workforce and interested parties. The document will identify all those who need to be informed about the works and the level of engagement with them. Information about the works may be provided in various ways including the Scheme webpage (with links from other websites e.g. NCC), social media, letter drops and TV/ radio presentations. The requirement for a Communications Plan is set out in the **Outline CEMP** (**Application Document Reference TR010041/APP/7.3**) and would be produced as part of the CEMP.
- 5.13.2 The Communications Plan will detail response times, as defined by Highways England performance targets, for queries from the public. It will also show the process for issuing press statements and publicity around major events (i.e. road closures or significant temporary alignment changes).
- 5.13.3 Roadside signage will be used to provide advance notice of intended works. This may be in the form of static signs or mobile variable message signs (VMS).
- 5.13.4 Engagement with the local and wider community, including businesses, where it is possible to listen to their views/ concerns and formulate solutions on an on-going basis will be an integral part of the Scheme
- 5.13.5 To support the above activities the main contractor will appoint a Public Liaison Officer.



# 5.14 Repositioning of Bus Stops

### Part A

- 5.14.1 Existing bus stops on the single carriageway sections of the A1 that are to be to be dualled are to be removed as part of Part A. However, some provision for bus stops on the de-trunked section will be made.
- 5.14.2 Six bus stops (three in each direction) would be removed from the A1 along the proposed section of online widening between Warreners House and Priest's Bridge, including the existing bus stops on the northbound and southbound carriageways near Warreners House, Strafford House, and Low Espley. On the A697 at Espley, a bus stop on both the northbound and southbound carriageways would be formalised.
- 5.14.3 Along the de-trunked A1, two bus stops (one in each direction) would be relocated at Fenrother Lane and six bus stops would be retained between Earsdon Moor Farm and Burgham Park.
- 5.14.4 Two bus stops would be relocated for the proposed section of online widening between Burgham Park and Parkwood, which are the existing bus stops on each side of Felton Road.
- 5.14.5 Further details on the repositioning of bus stops for the Scheme can be found in Chapter 2: The Scheme, Volume 1 of the ES (Application Document Reference: TR010041/APP/6.1).

#### Part B

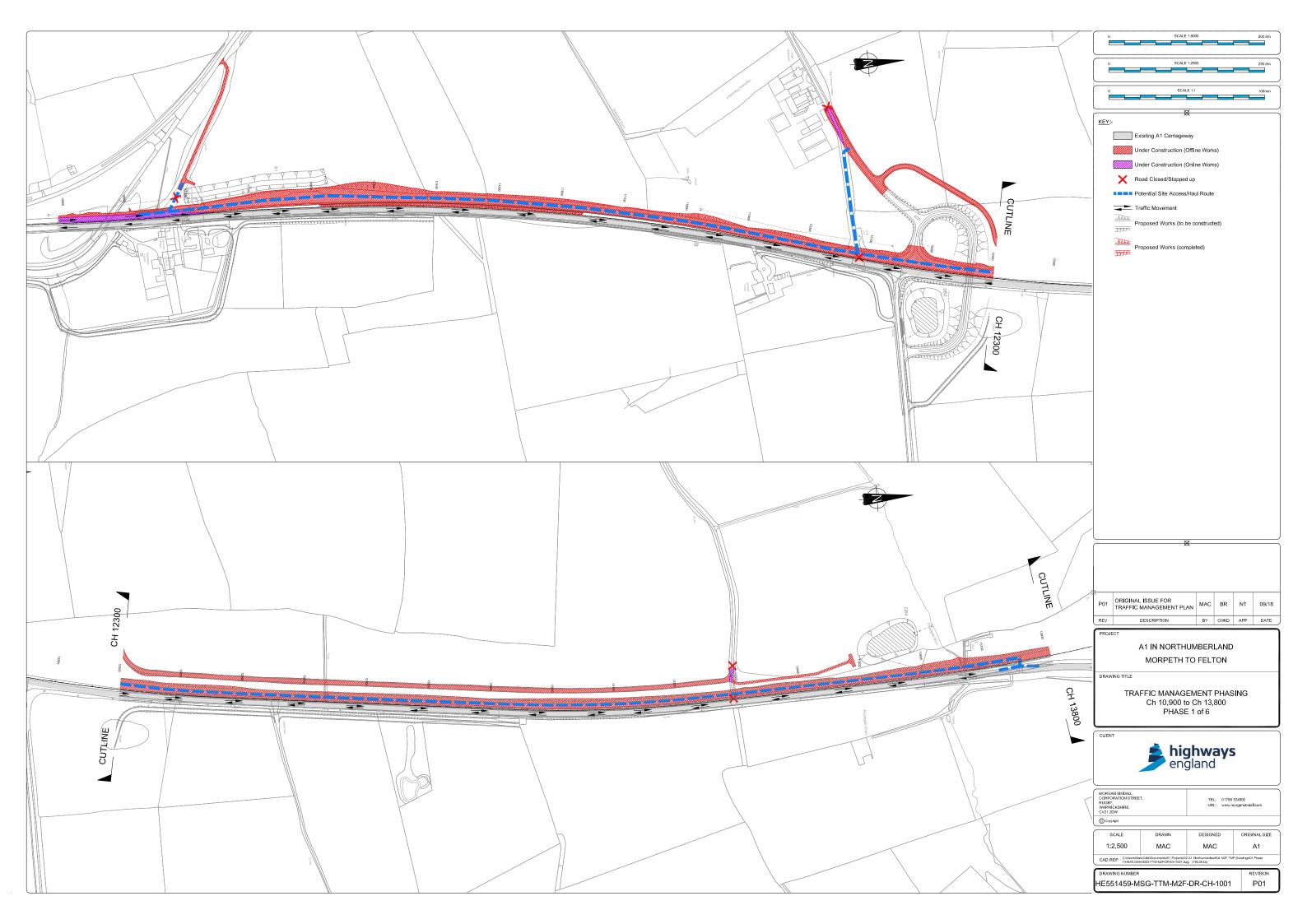
5.14.6 Existing bus stops on the A1 are to be removed as part of Part B. However, bus stops will be relocated to side roads. The three existing bus stops at Charlton Mires and along the B6341 would be removed. Two new bus stops are proposed along the B6341 to the west of the A1. One of these new bus stops would be located alongside the southbound lane and the other alongside the northbound lane. No new bus stops are proposed along the route of the A1. Further details on the repositioning of bus stops for the Scheme can be found in **Chapter 2: The Scheme, Volume 1** of the ES (**Application Document Reference: TR010041/APP/6.1**)

## 5.15 Travel Plan

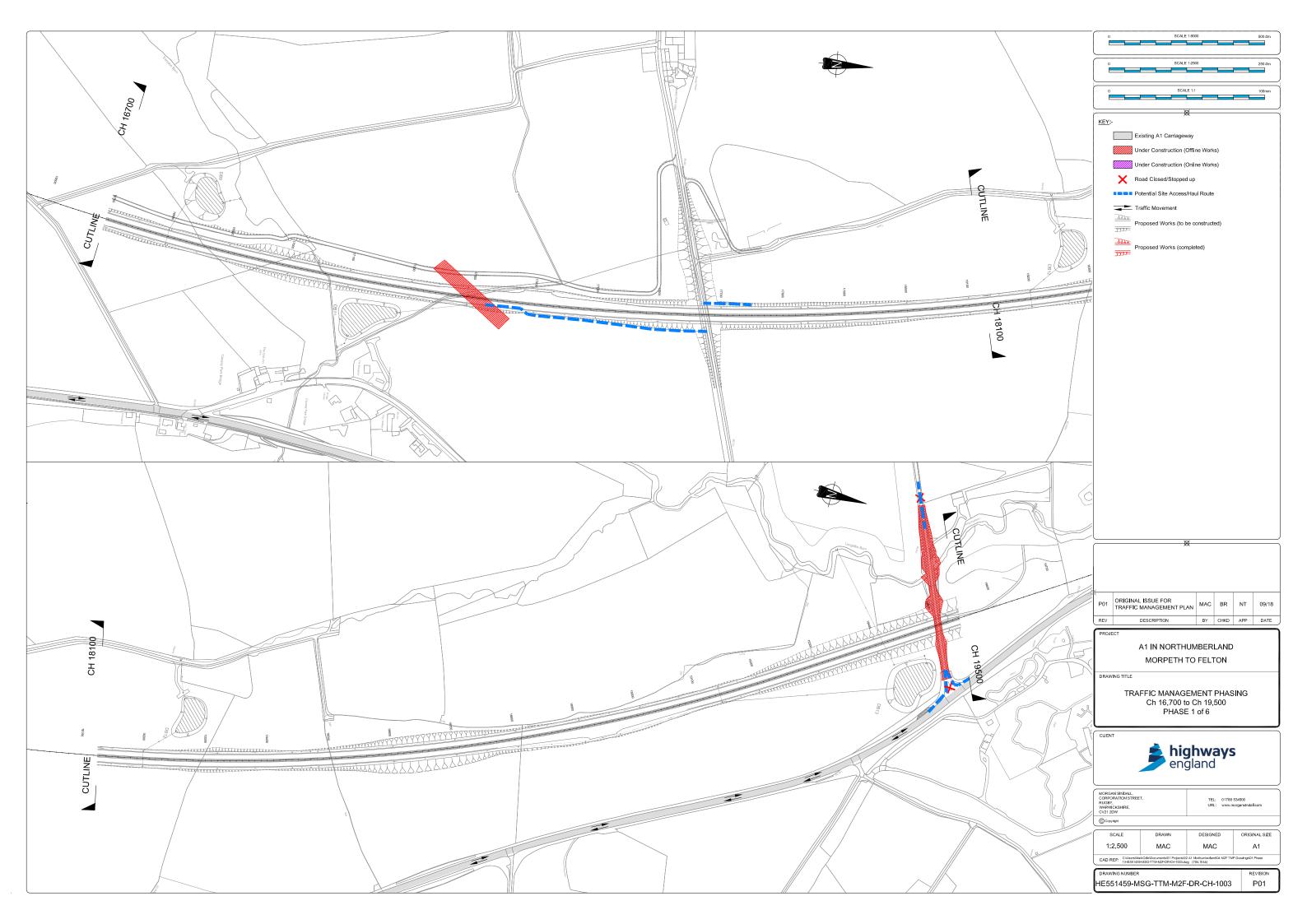
5.15.1 A travel plan has not been prepared to support the application due to the nature of the Scheme not being a generator of additional traffic in itself, but would re-distribute existing and future traffic flows.



# Appendix A: Traffic Management Phasing Plans – Part A

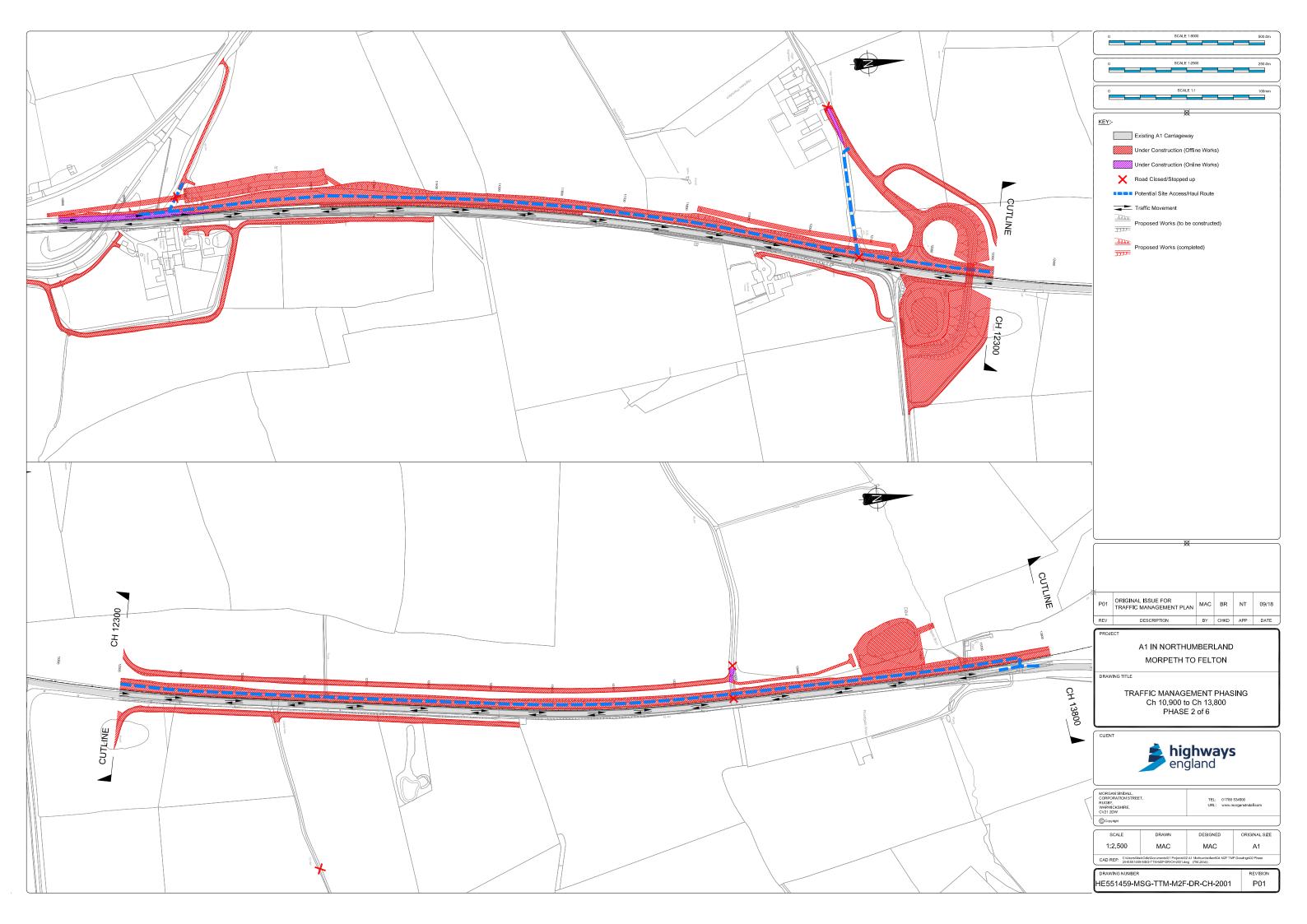








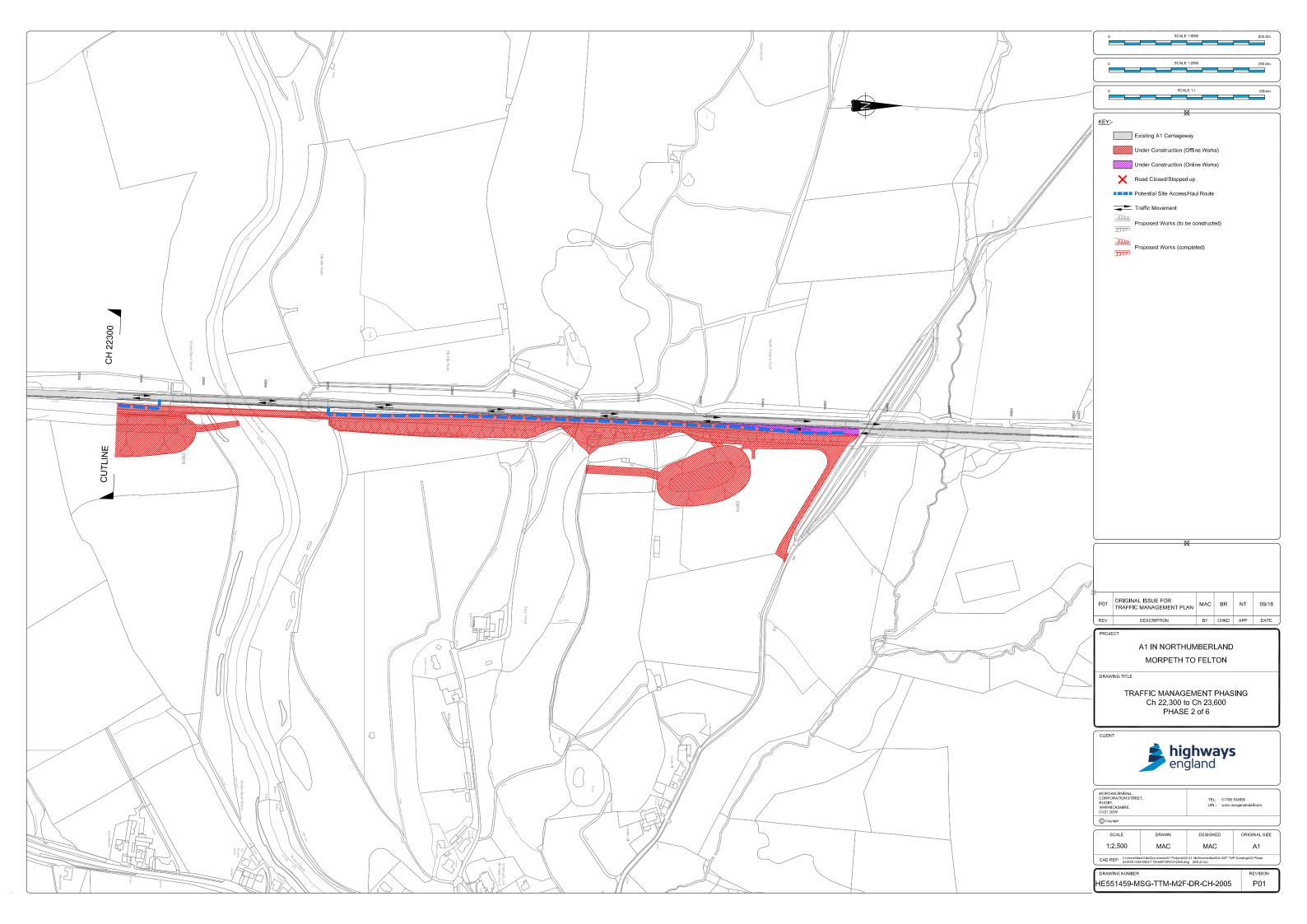










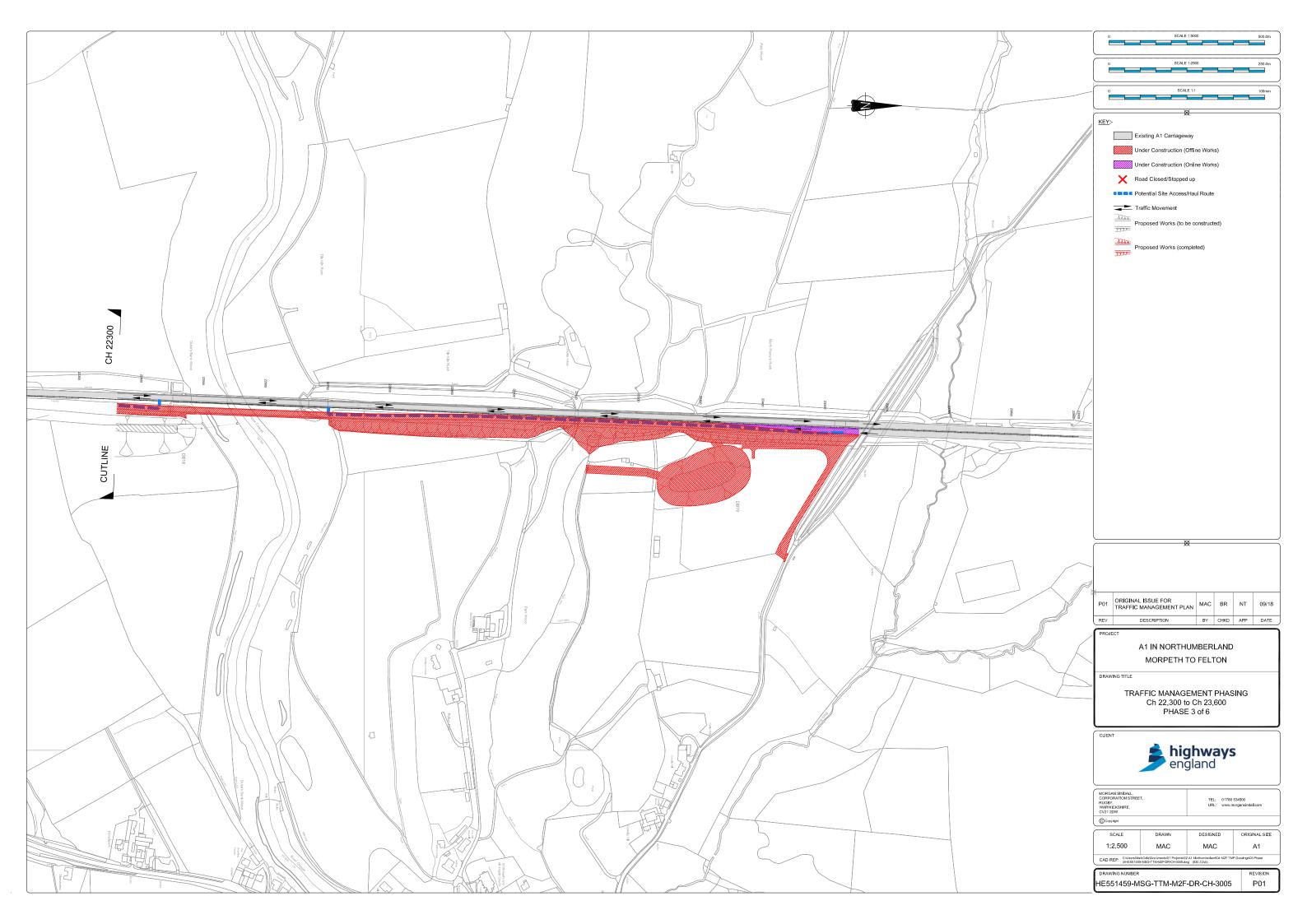


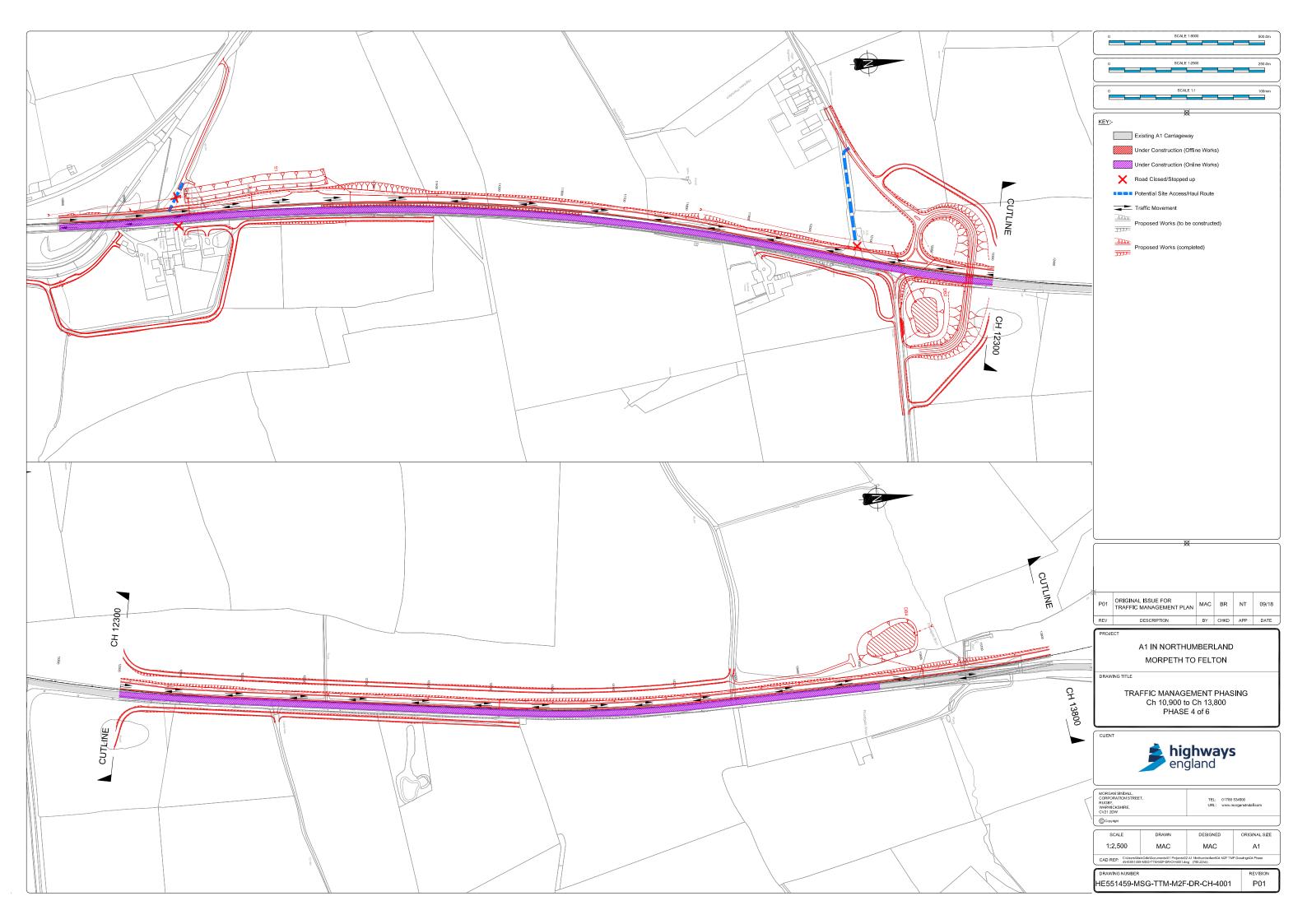








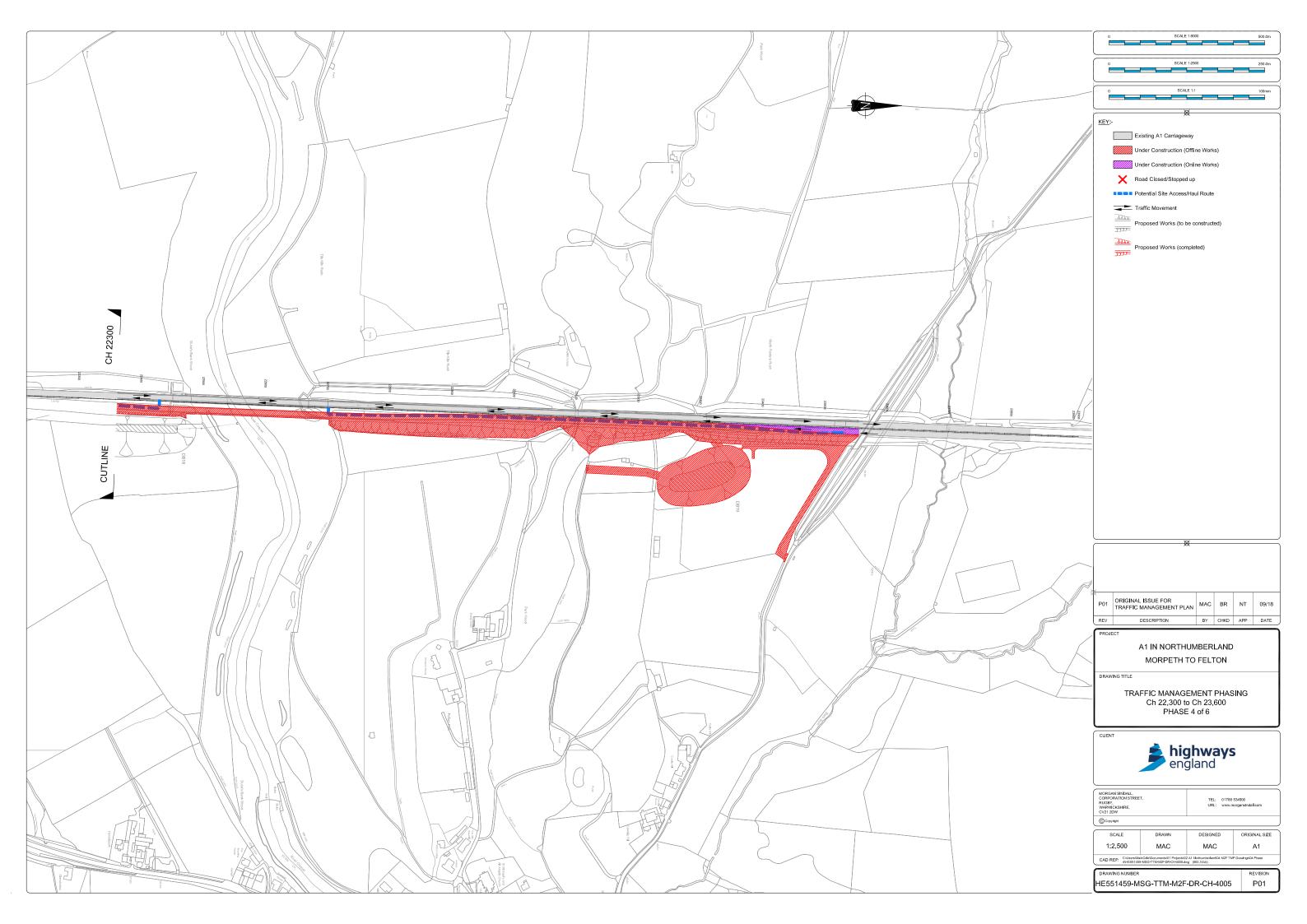


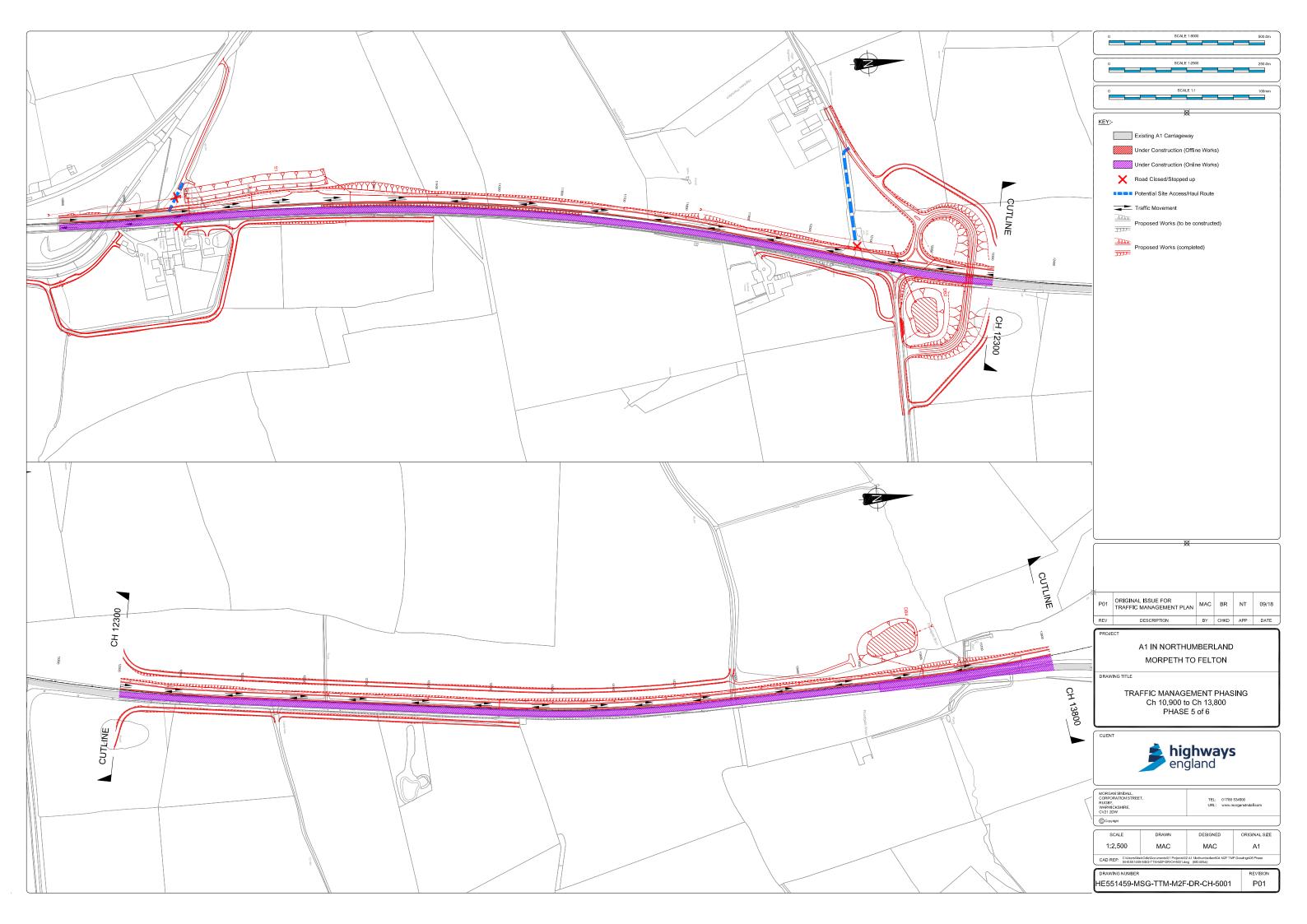










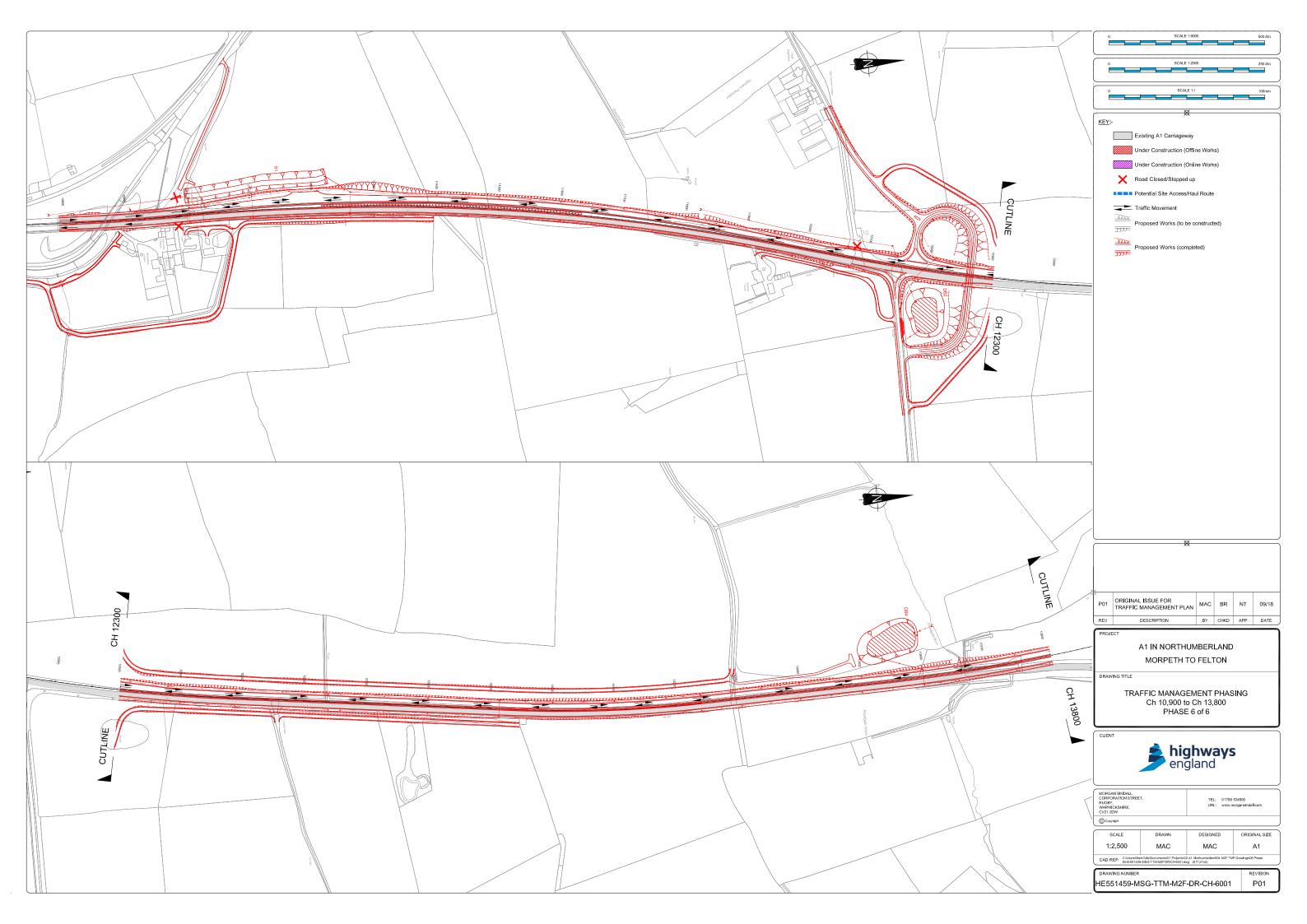














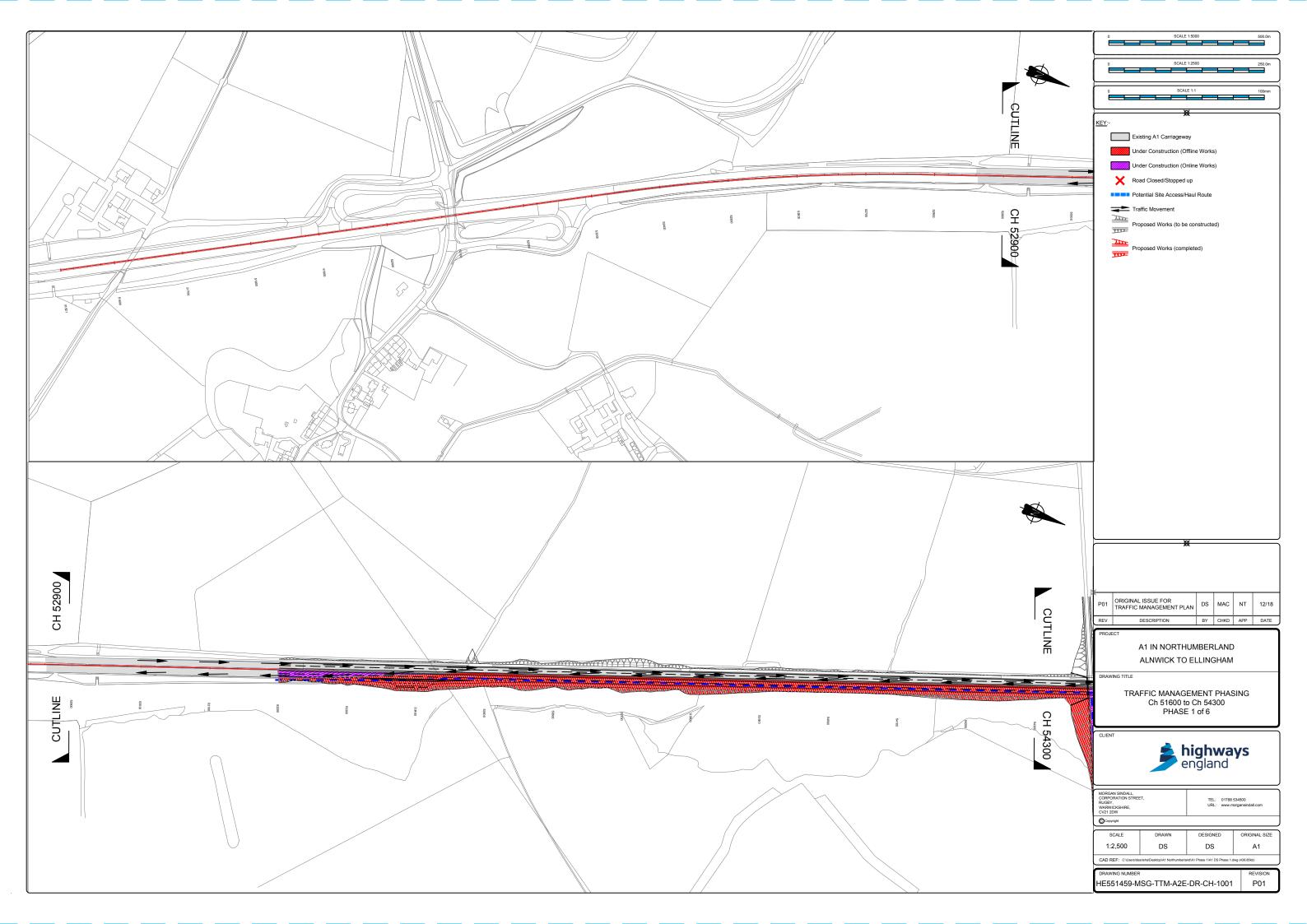




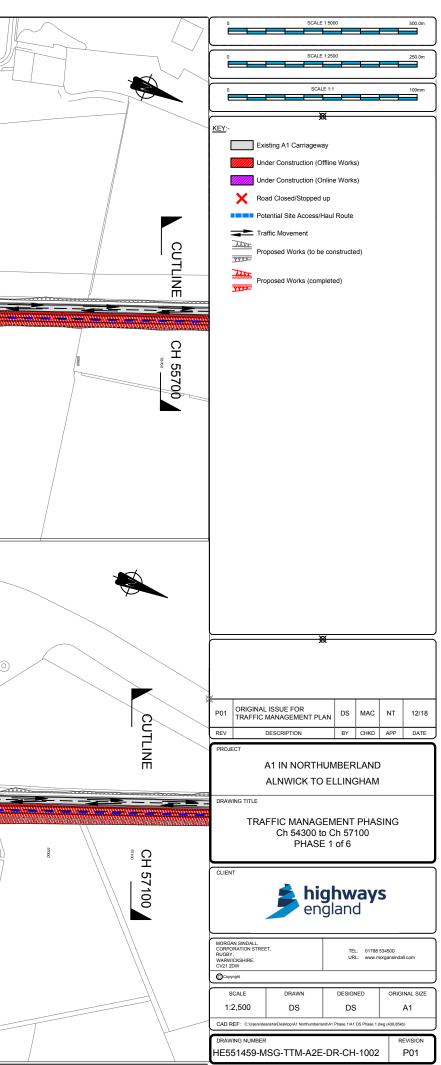


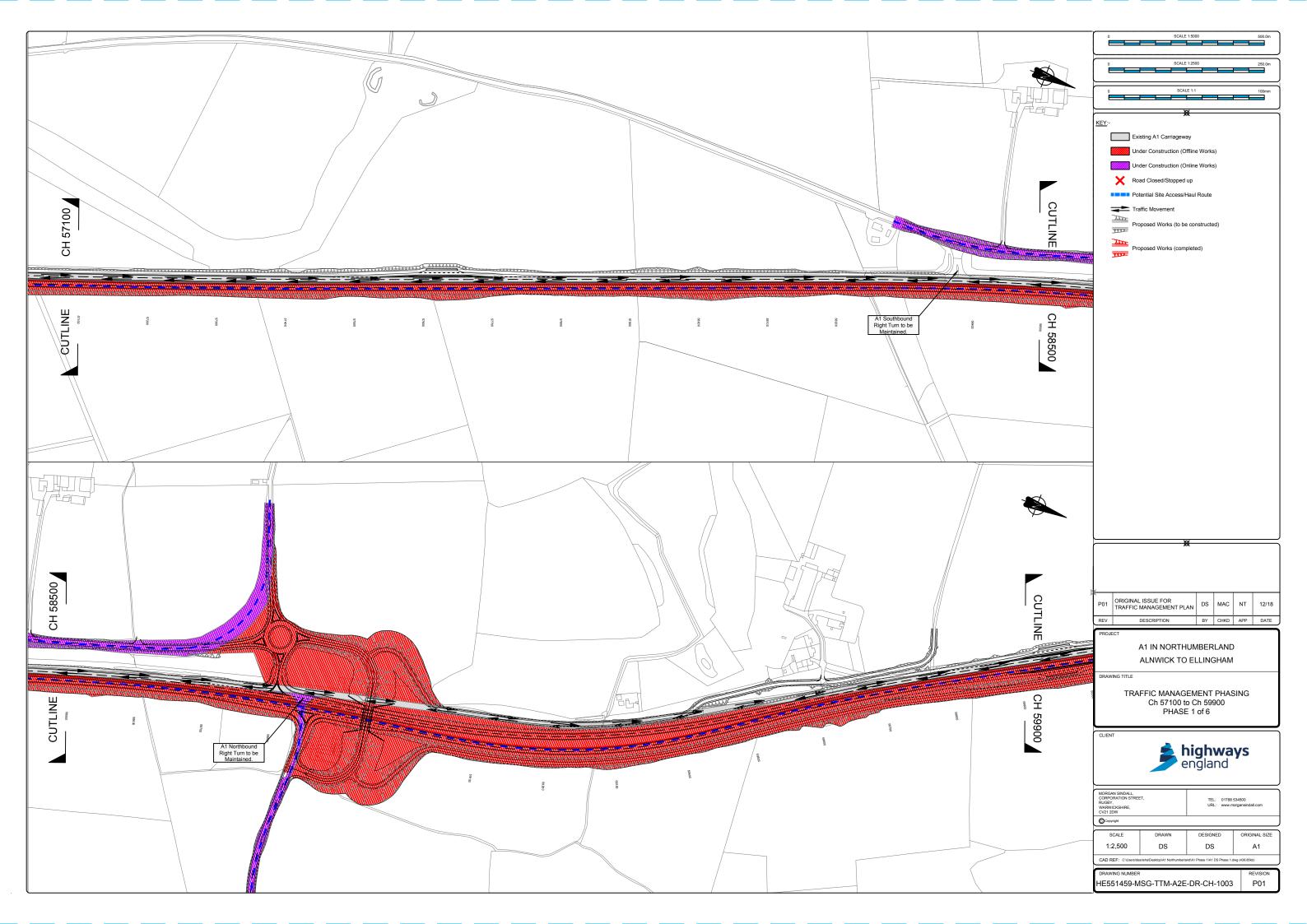


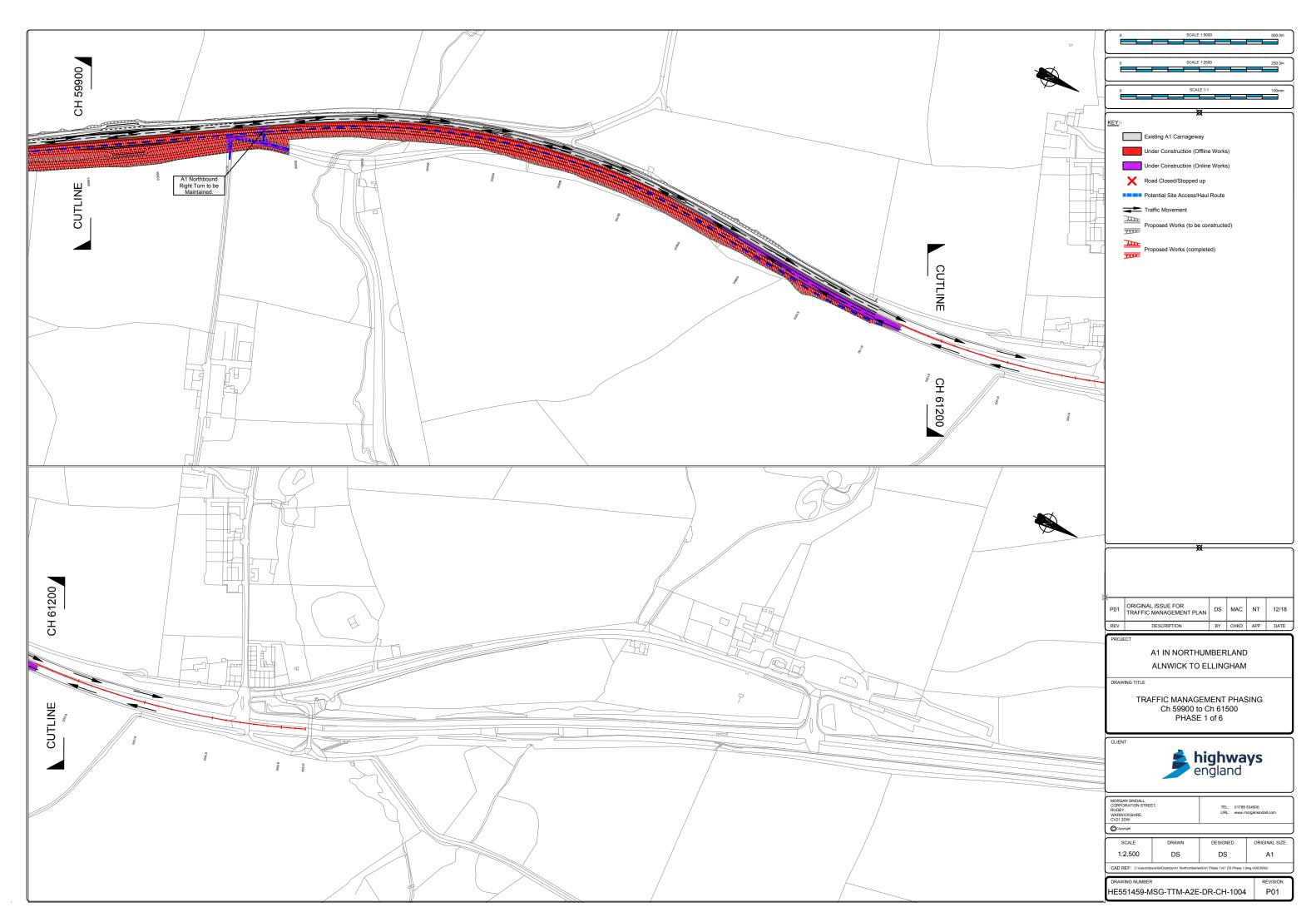
# Appendix B: Traffic Management Phasing Plans – Part B



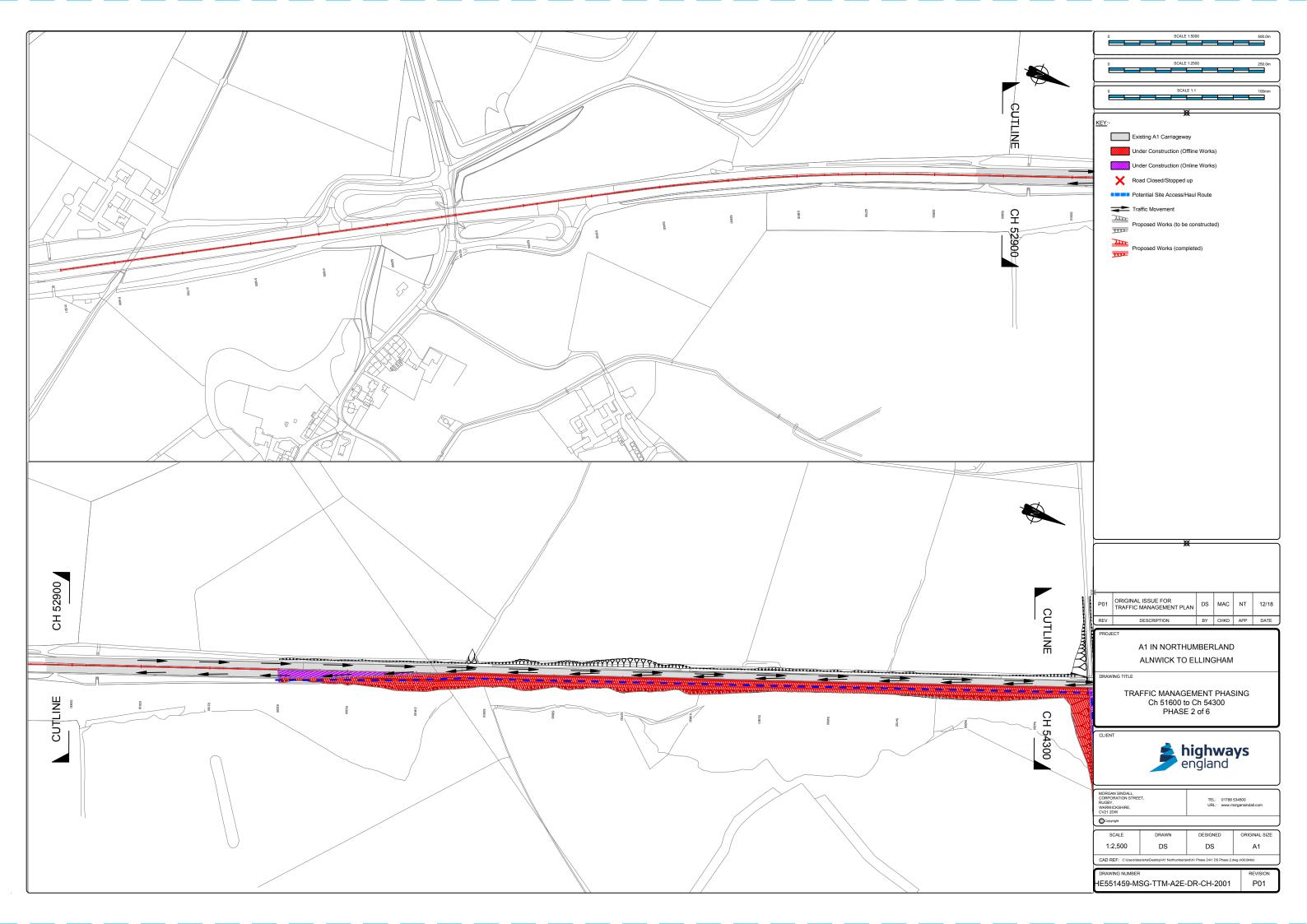
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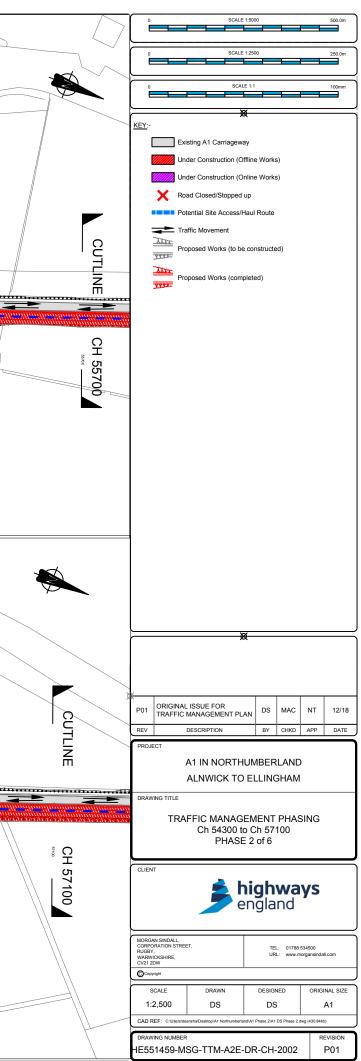




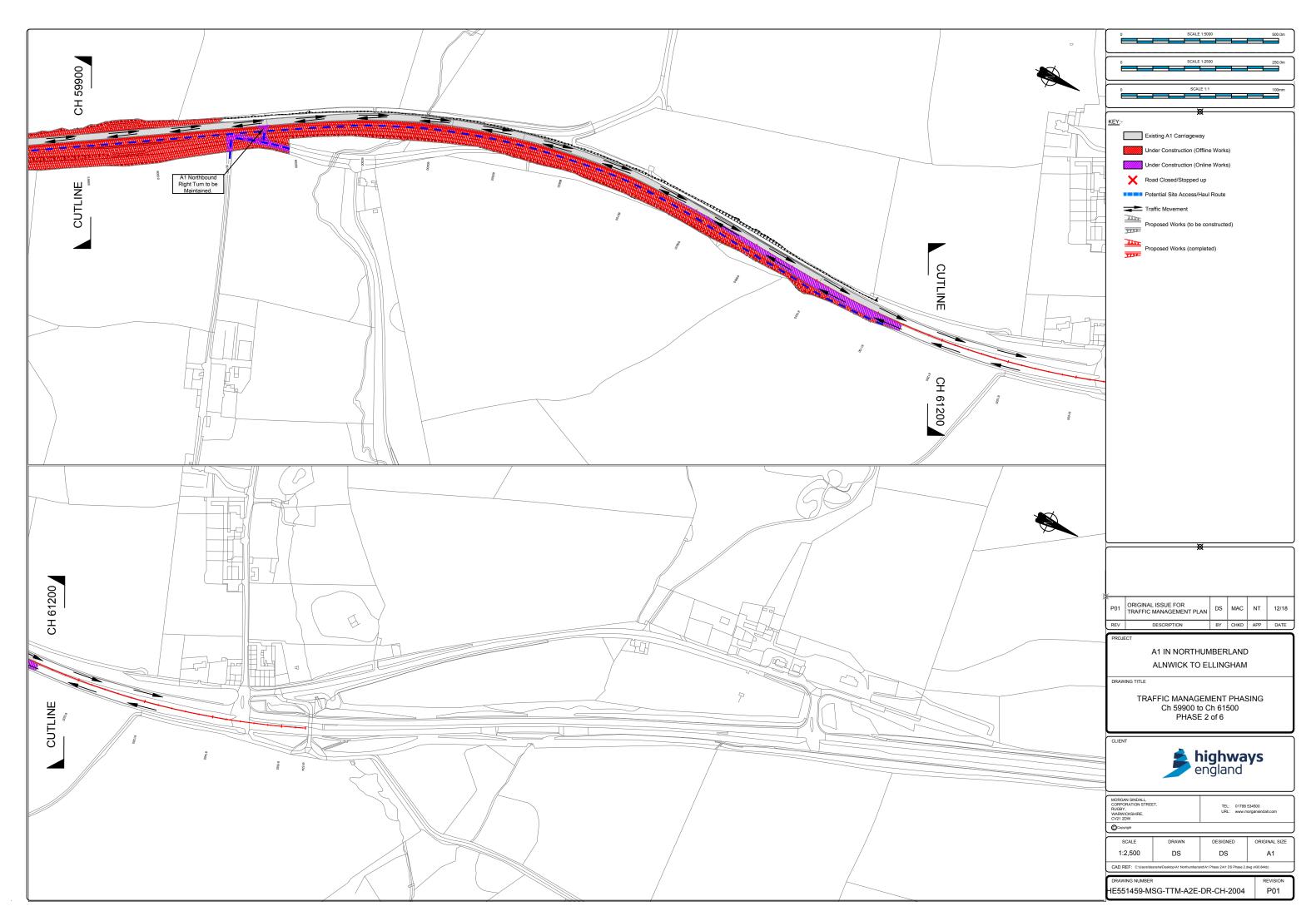




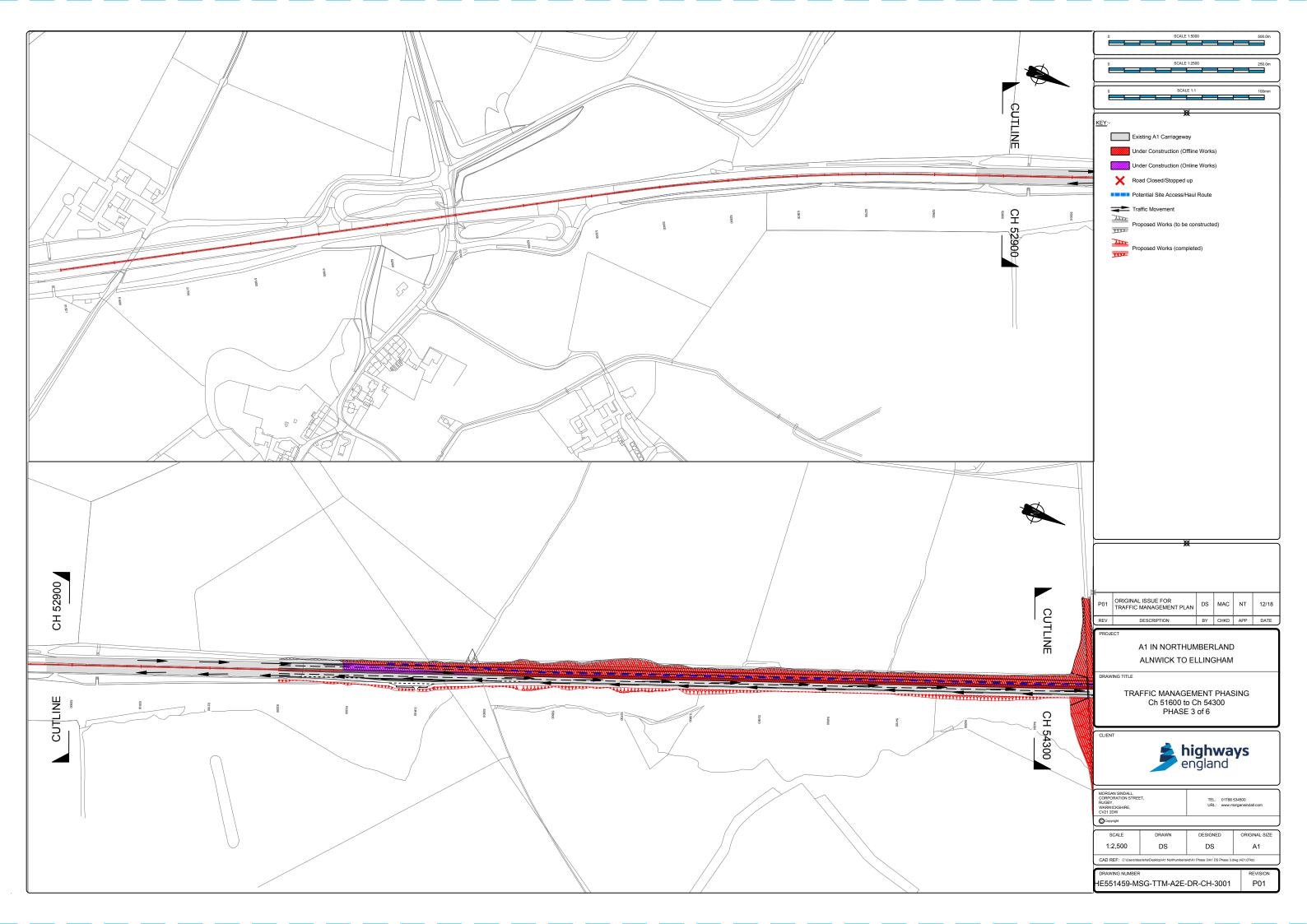
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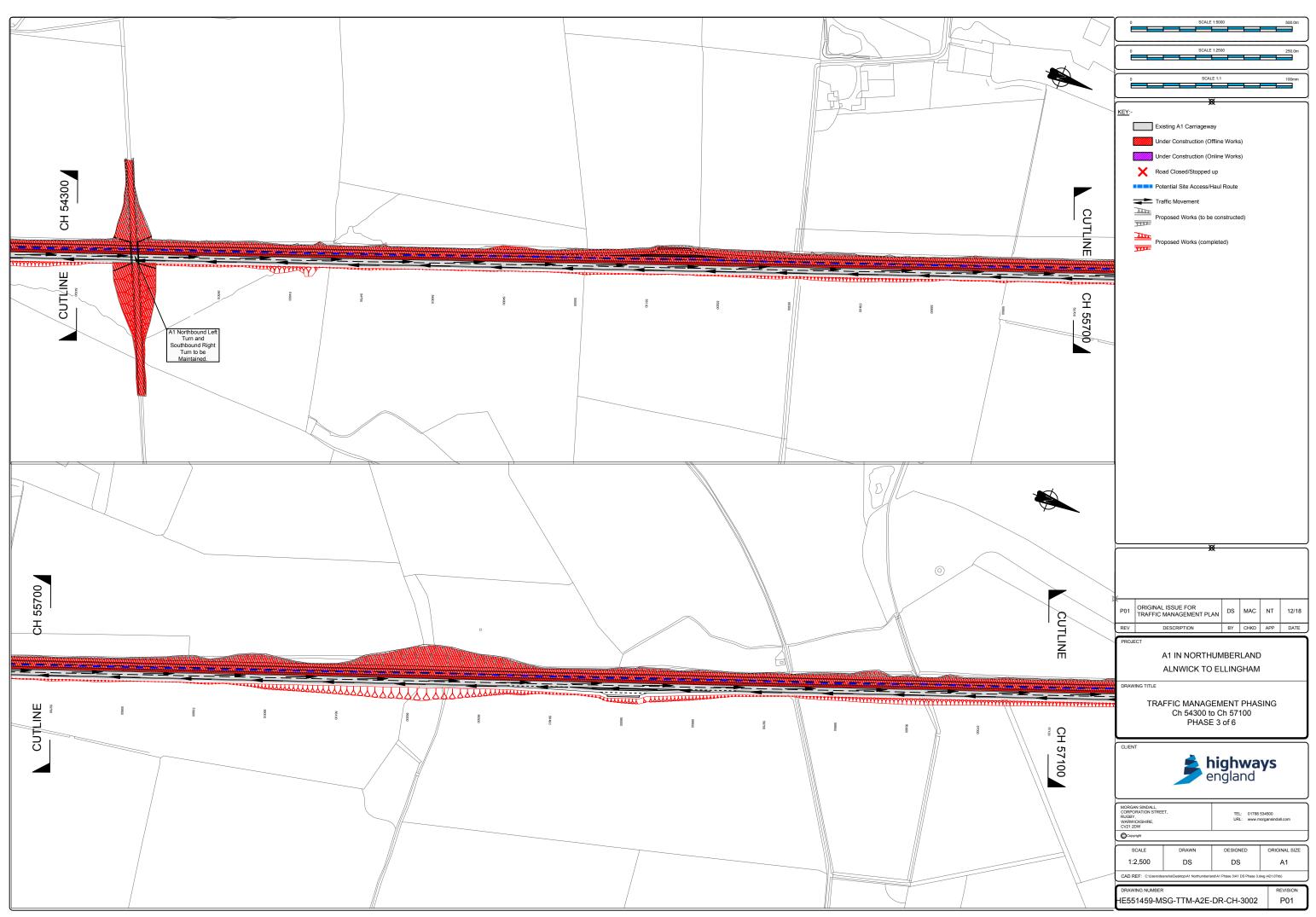


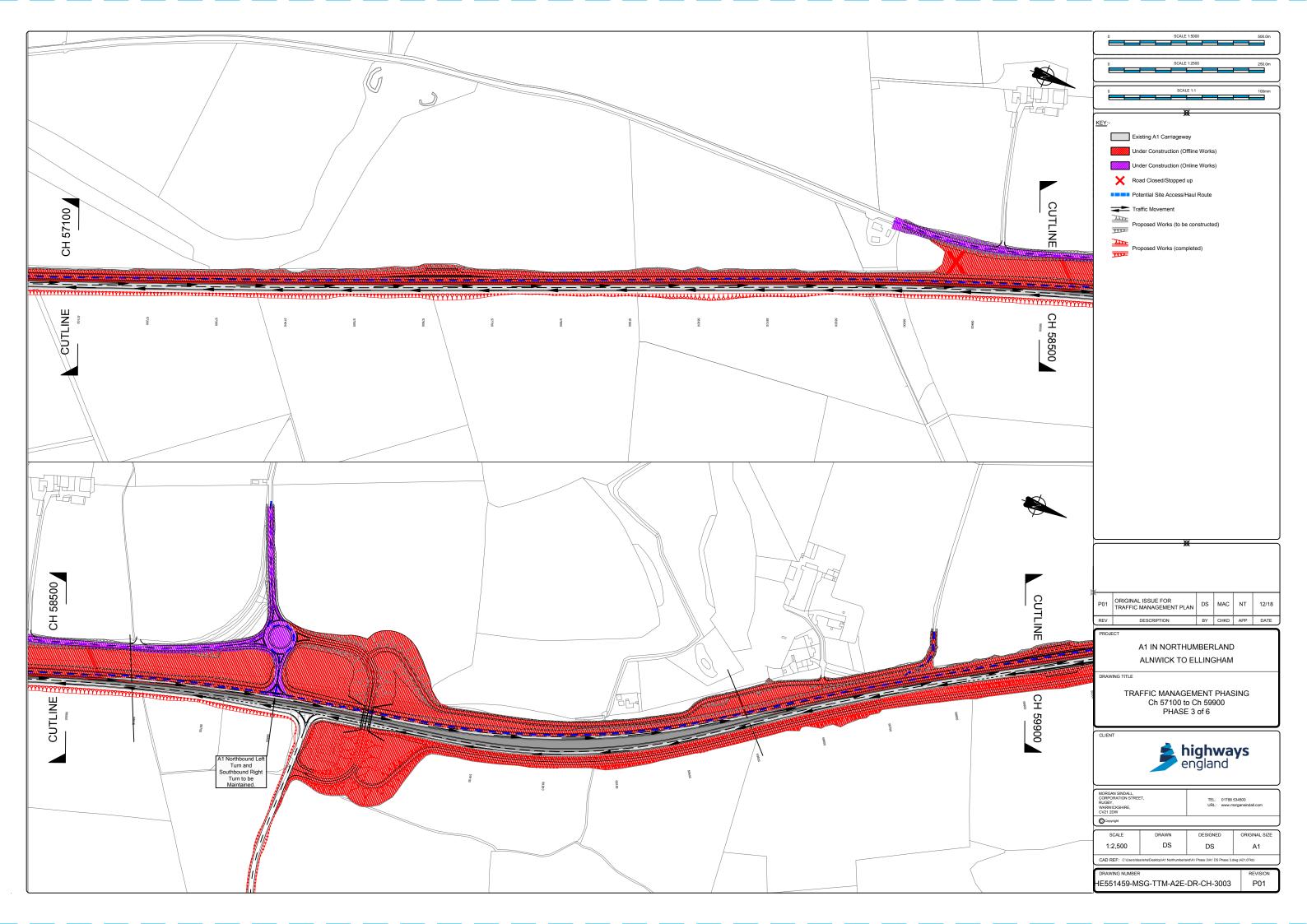


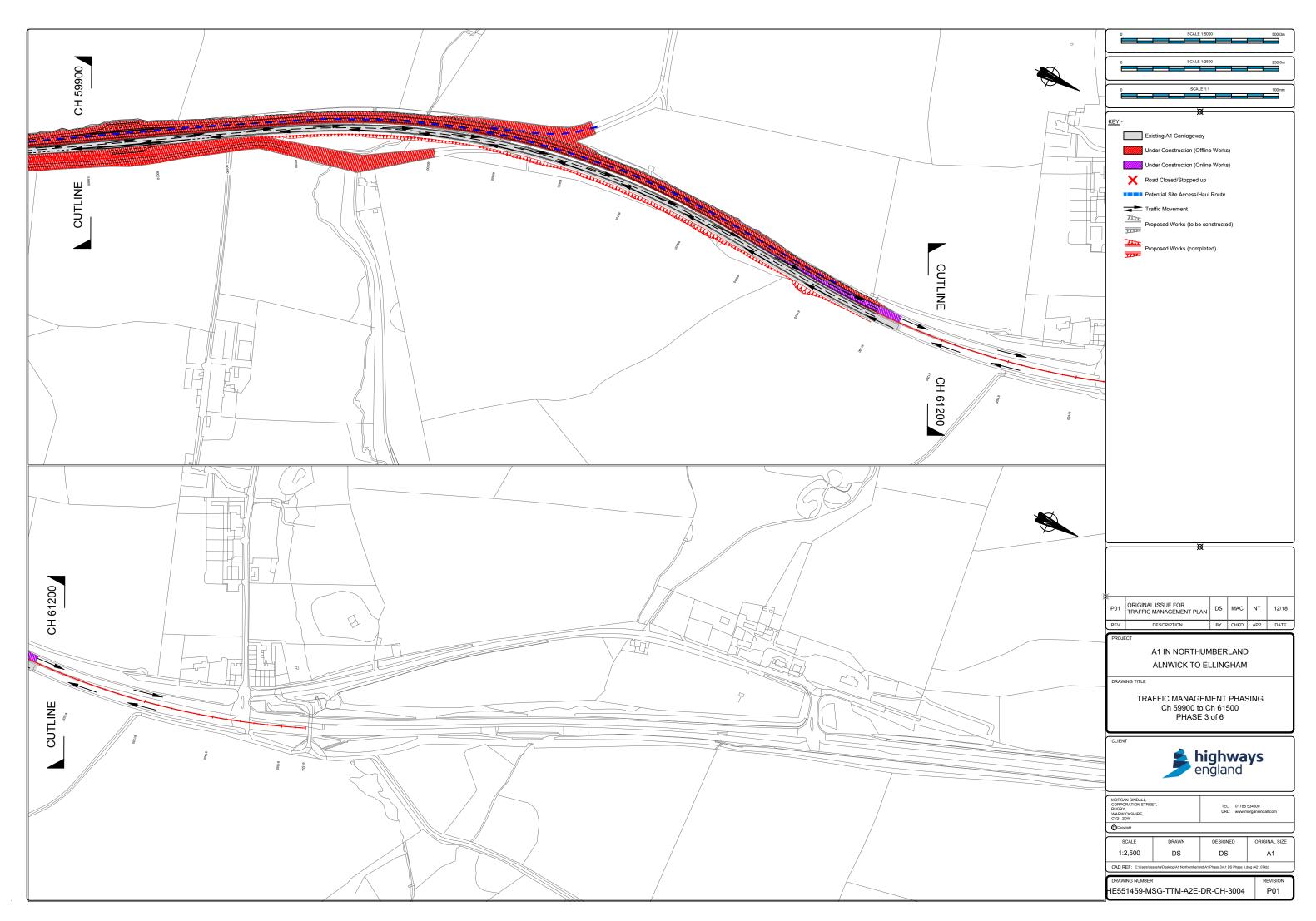




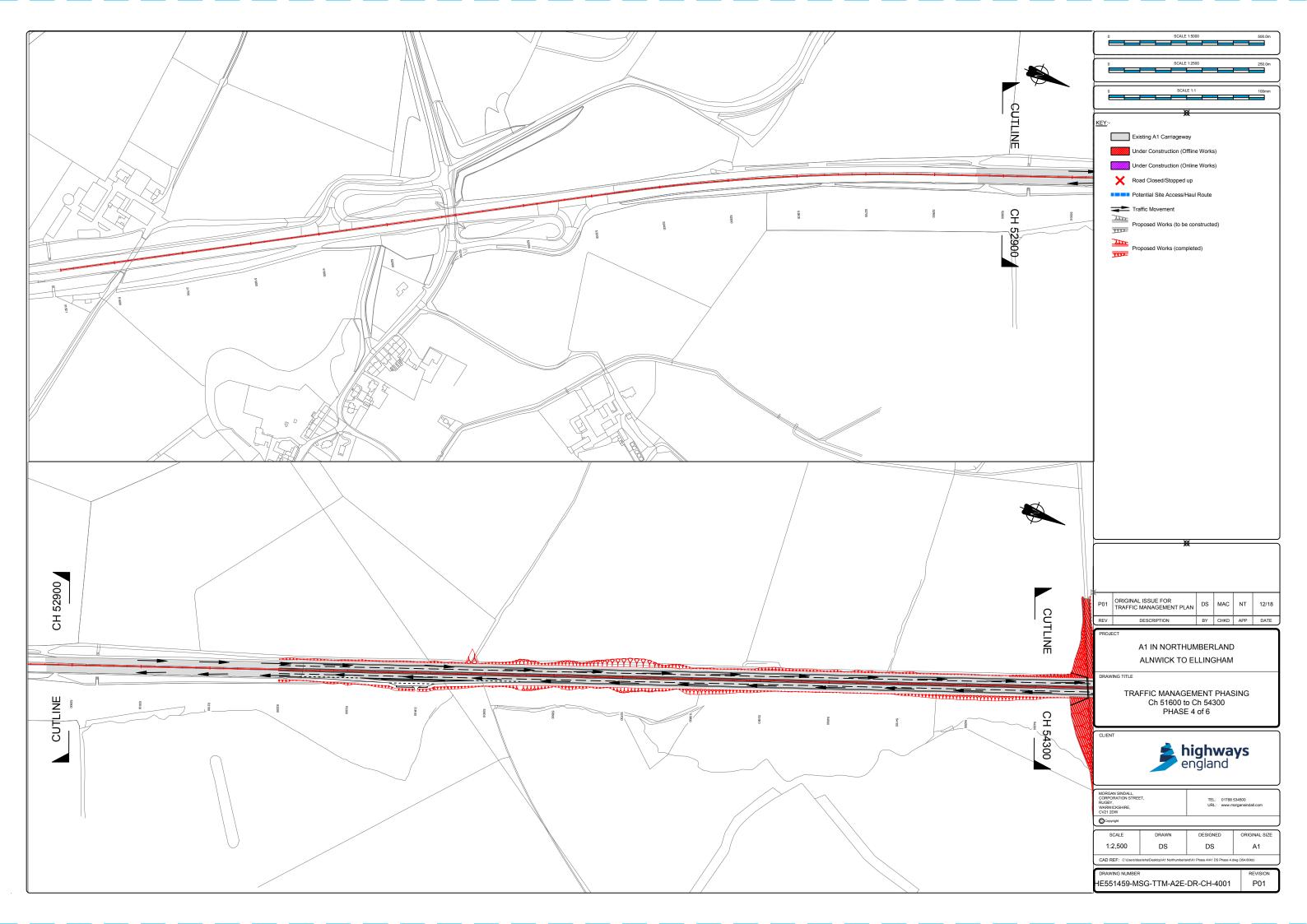


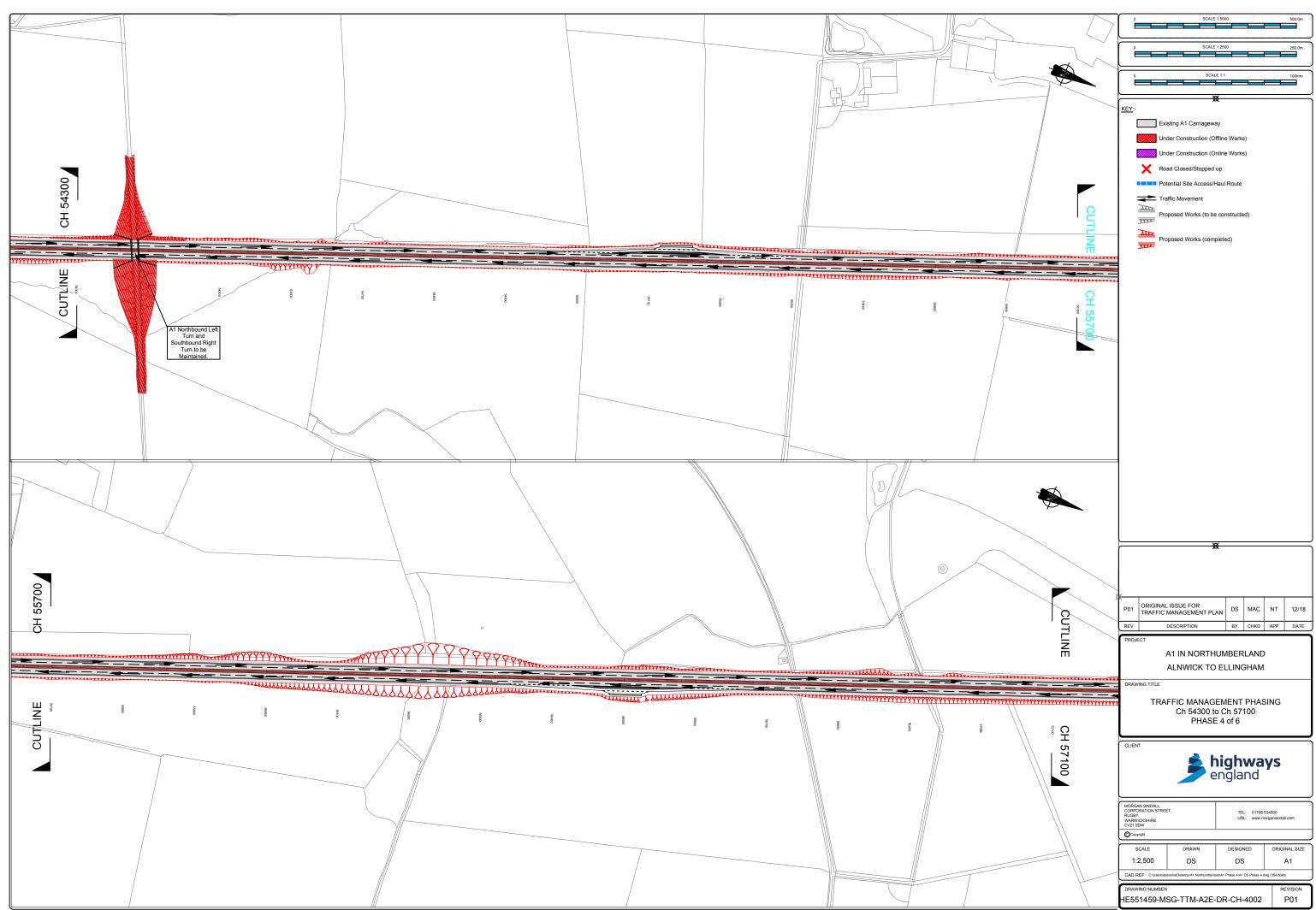


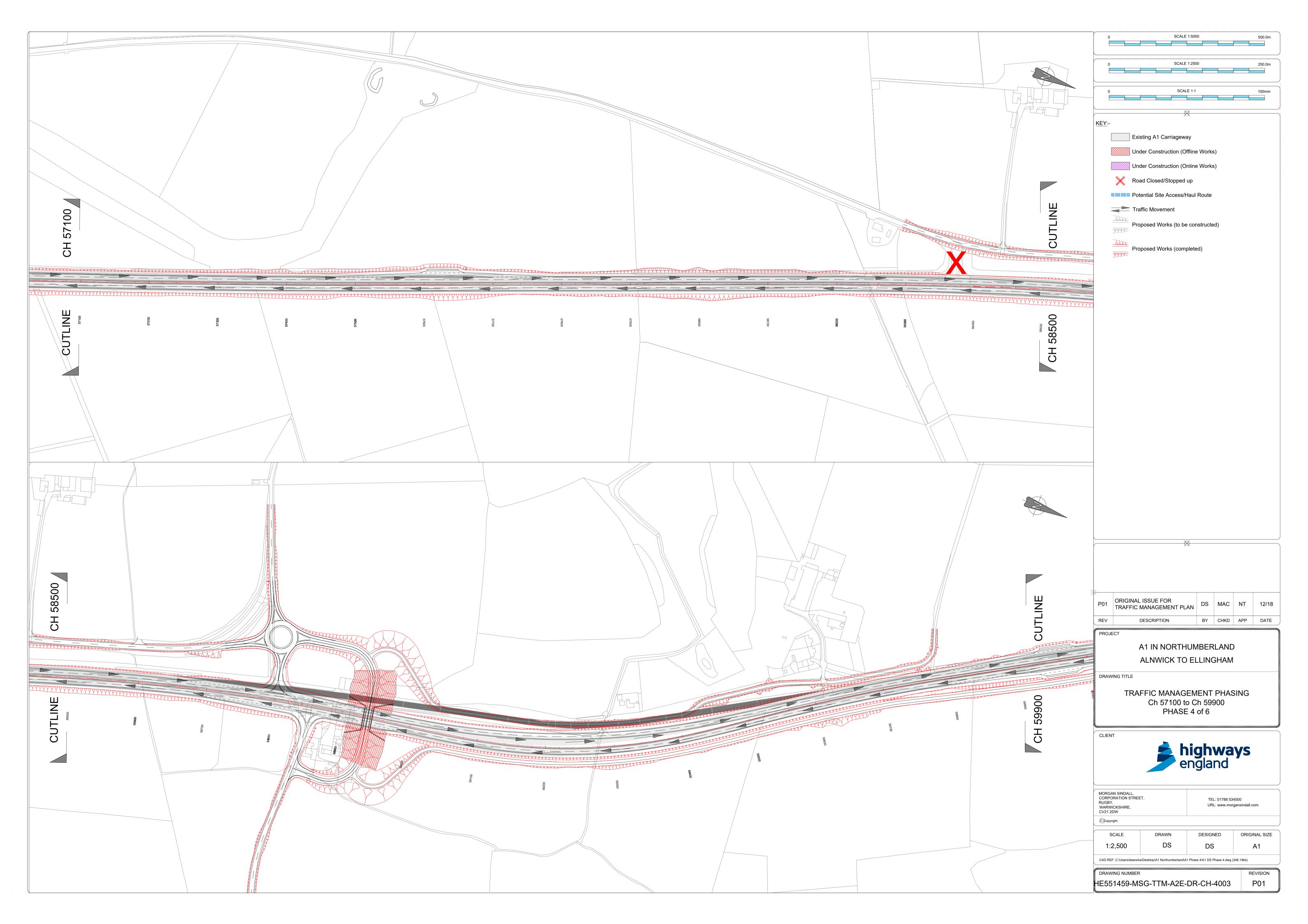




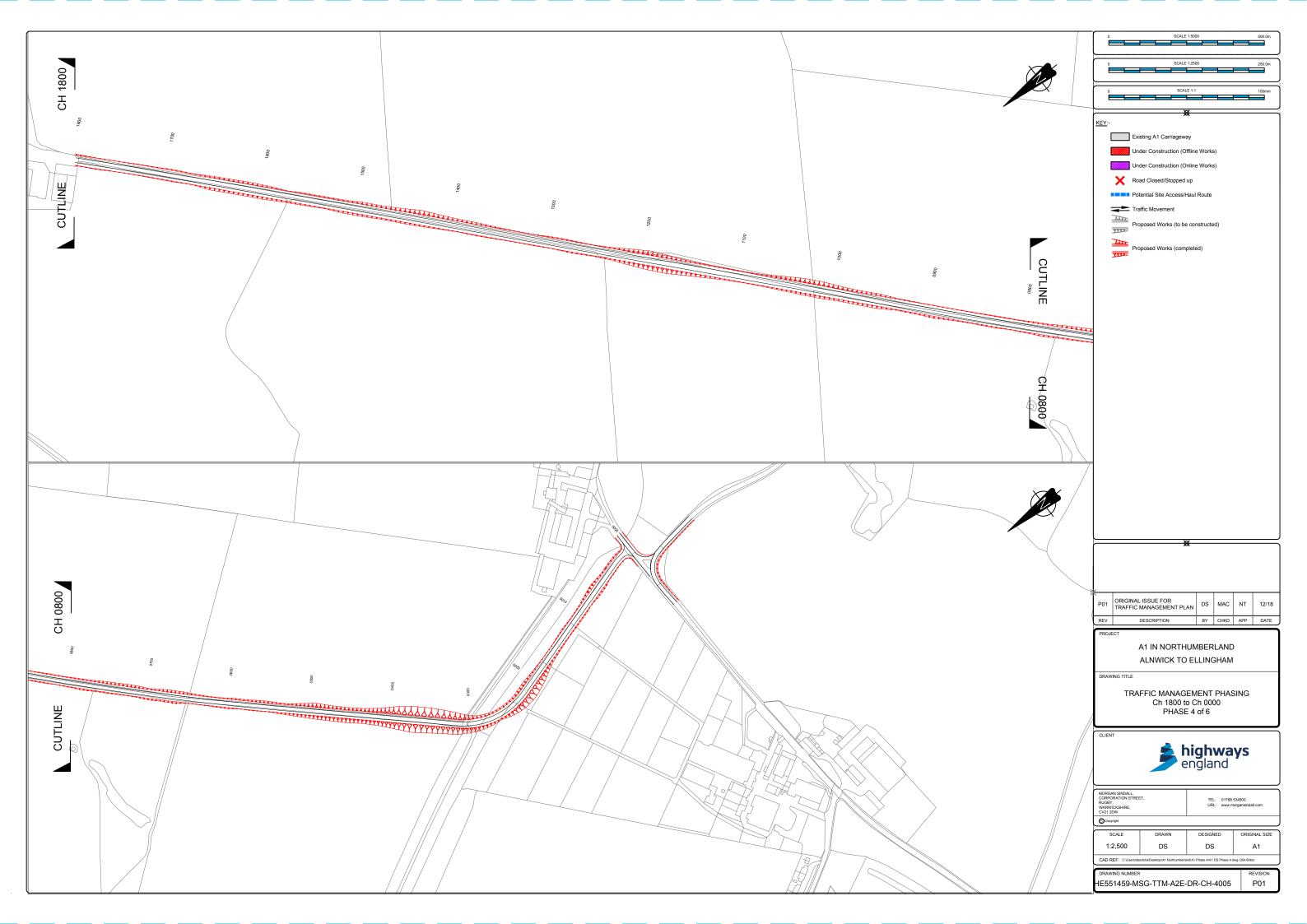






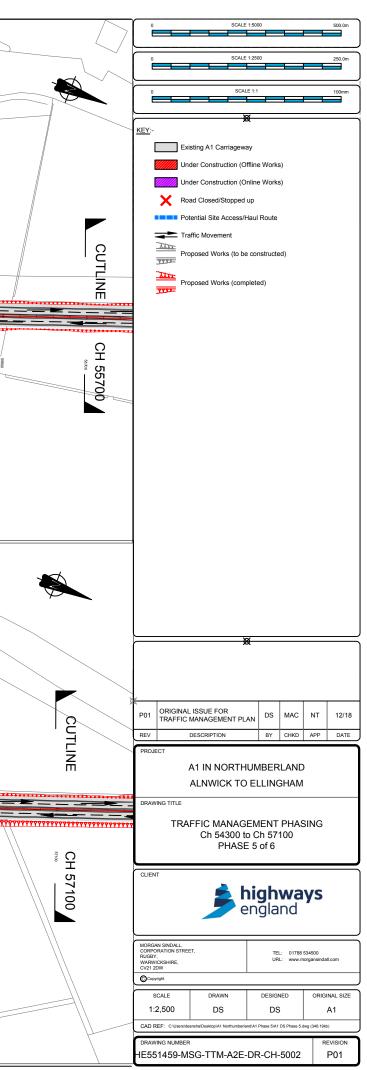






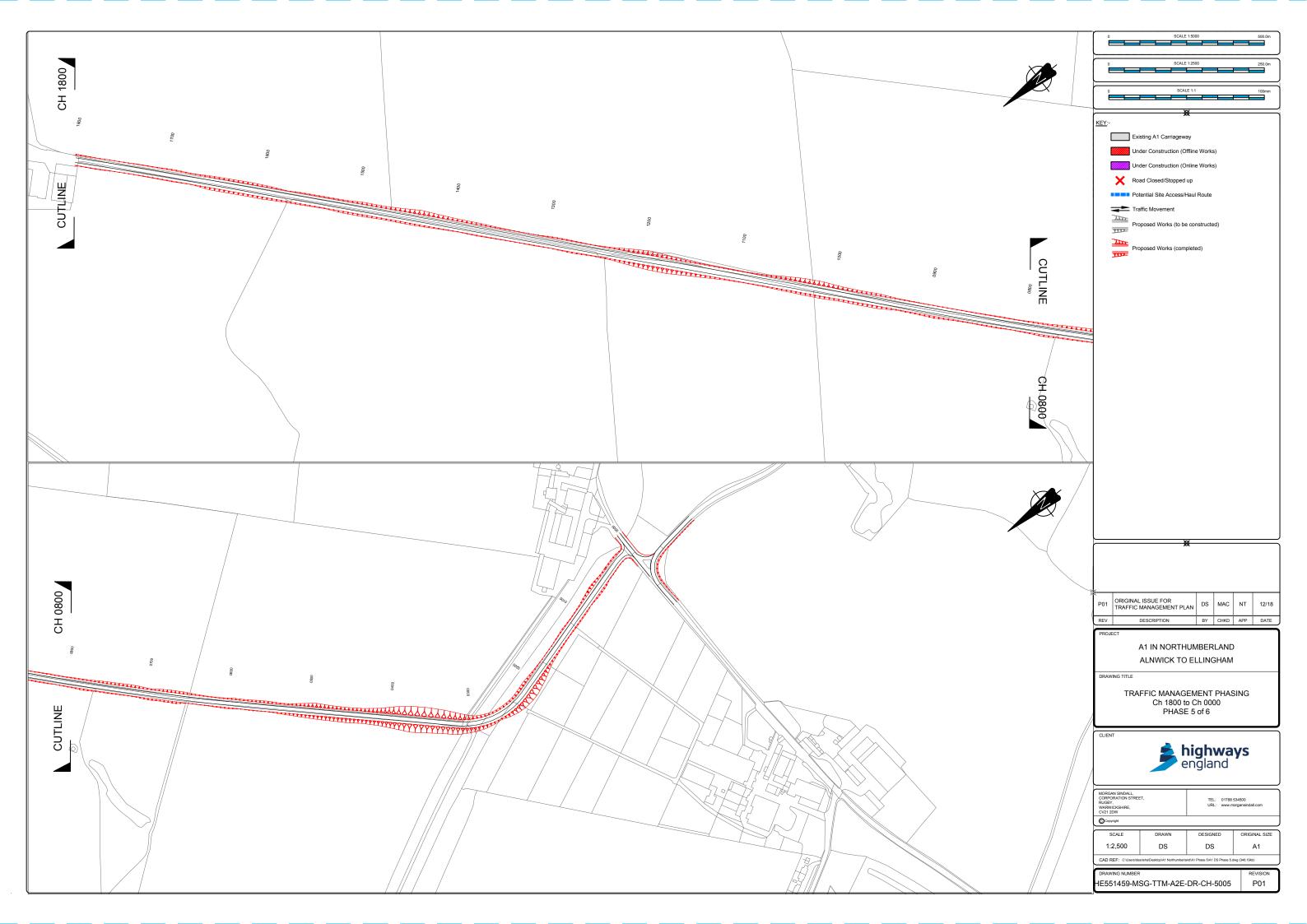


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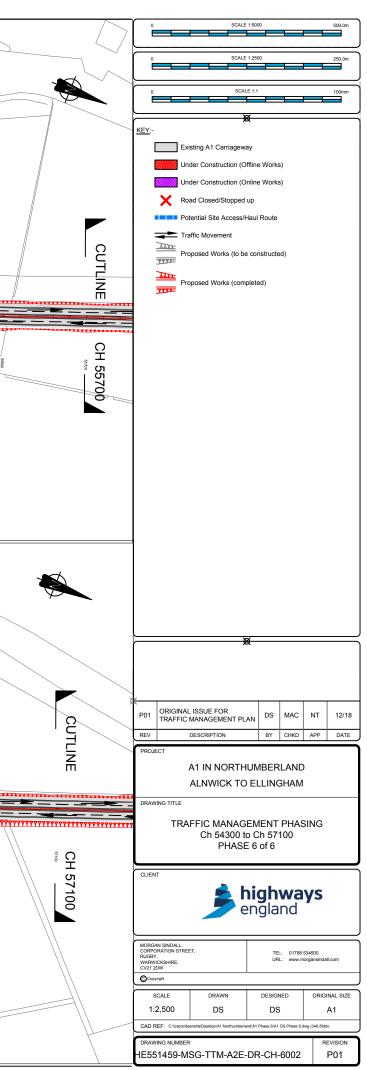






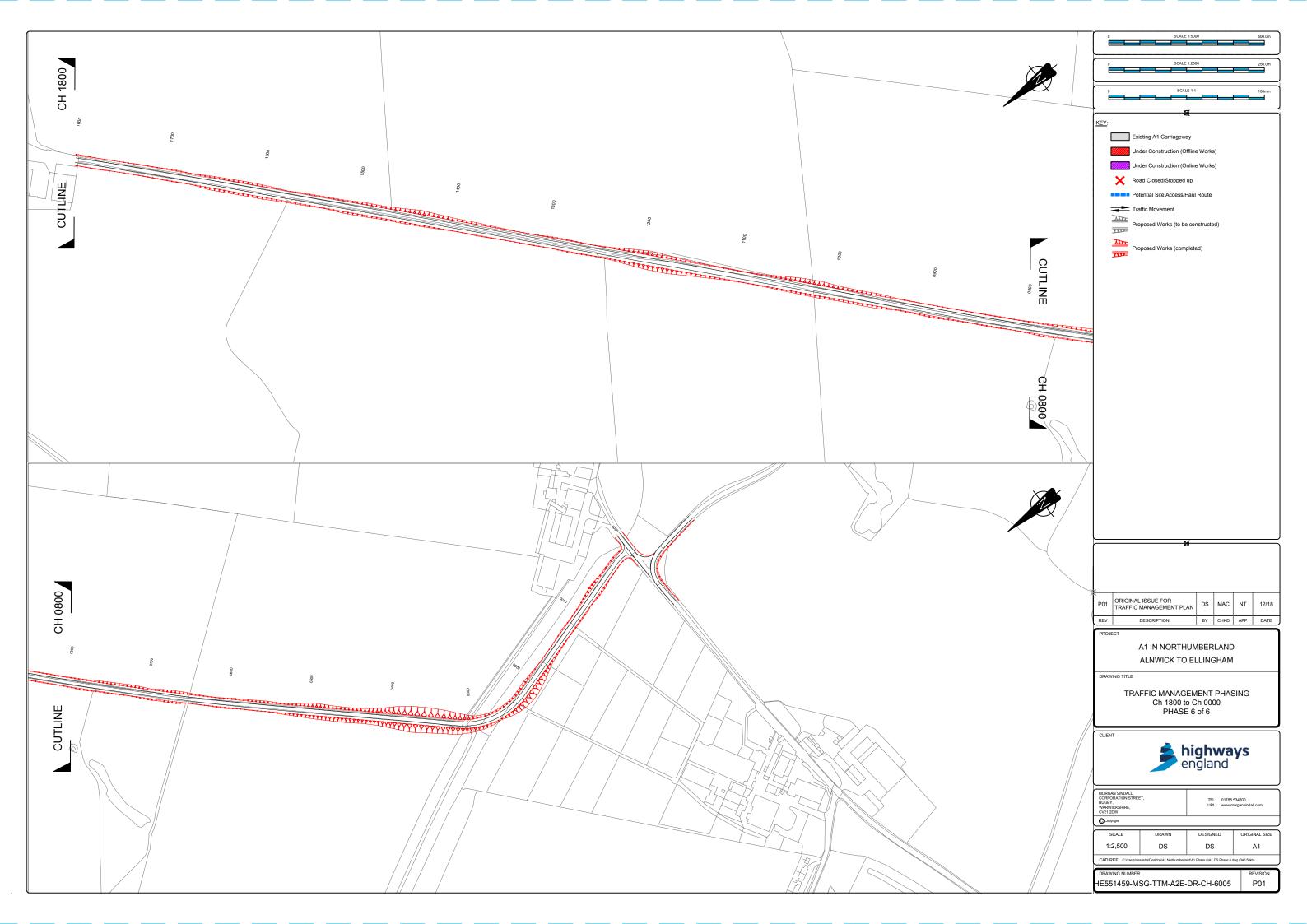


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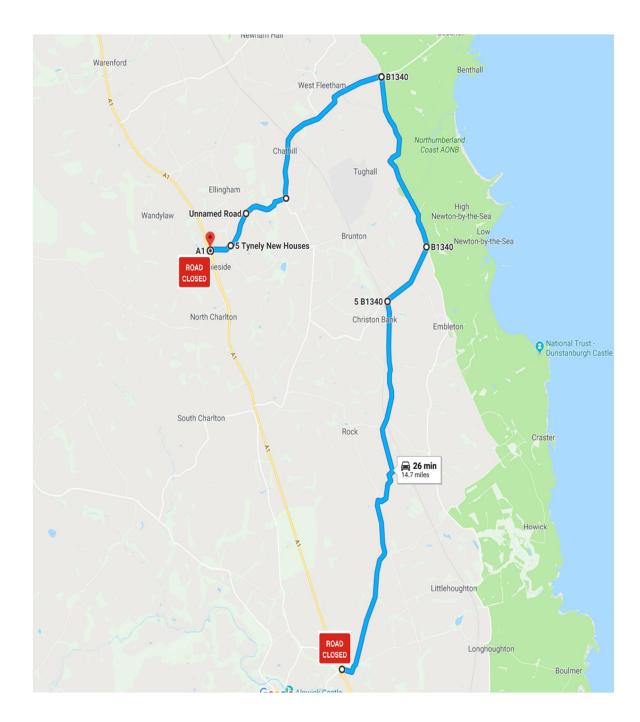






# **Appendix C: Diversion Route Plans**





#### A1 Northbound Traffic Diversion Route – Part B



## A1 Southbound Traffic Diversion Route – Part B

