

A47 Wansford to Sutton Dualling

Scheme Number: TR010039

Volume 9

9.7 Applicant's Response to the Examining Authority's First Written Questions (ExQ1) - Annexes

The Infrastructure Planning (Examination Procedure) Rules 2010
Rule 8(1)(c)

Planning Act 2008

February 2022

Deadline 2

Infrastructure Planning

Planning Act 2008

**The Infrastructure Planning
(Examination Procedure) Rules 2010**

A47 Wansford to Sutton
Development Consent Order 202[x]

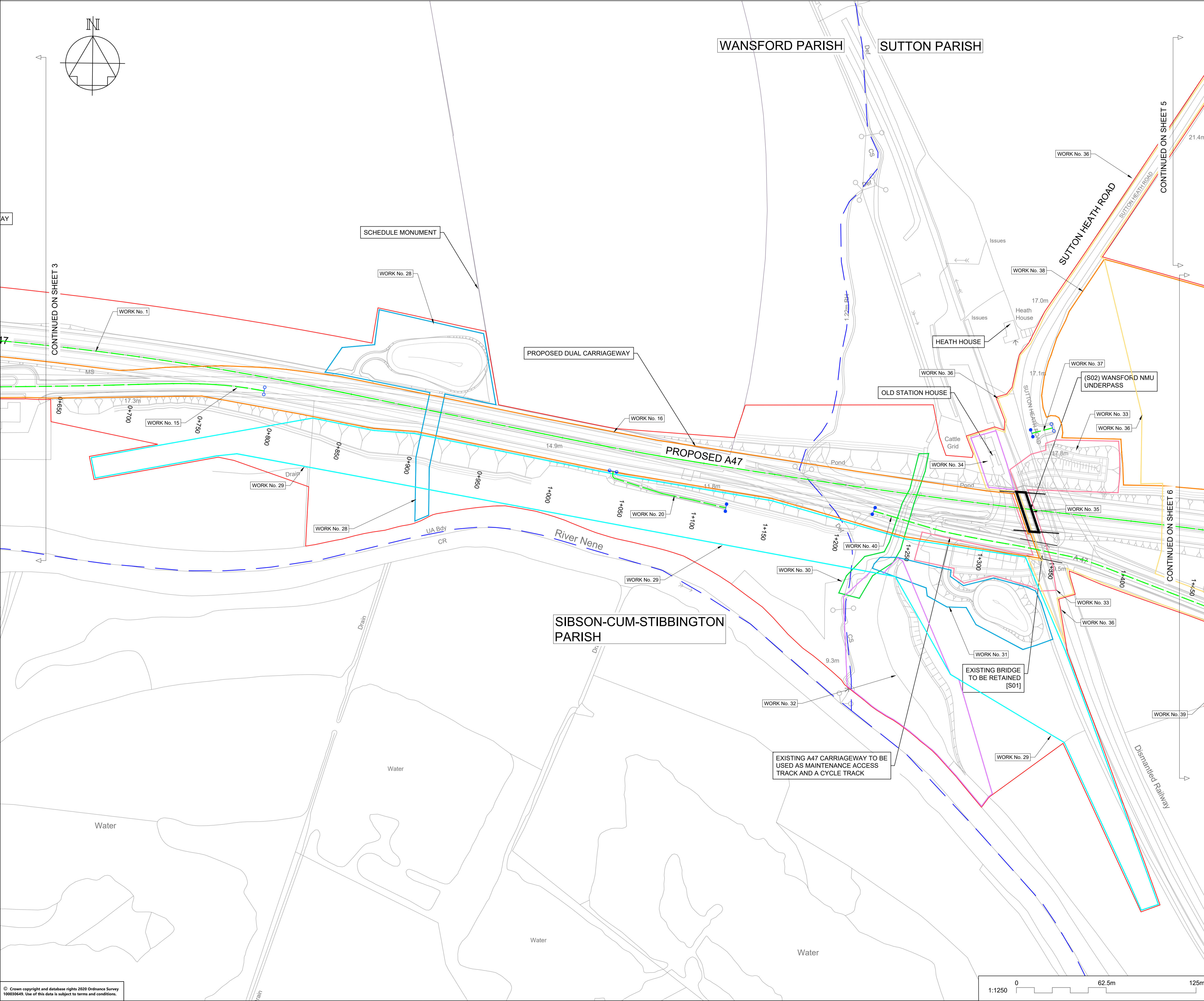
**9.7 APPLICANT'S RESPONSE TO THE EXAMINING AUTHORITY'S FIRST
WRITTEN QUESTIONS (EXQ1) - ANNEXES**

Rule Number:	Rule 3(2)(c)
Planning Inspectorate Scheme Reference	TR010039
Application Document Reference	TR010039/EXAM/9.7
BIM Document Reference	PCF Stage 4
Author:	A47 Wansford to Sutton Project Team, National Highways

Version	Date	Status of Version
Rev 0	February 2022	Deadline 2

Annex A - Works Plans Sheet 4 Example

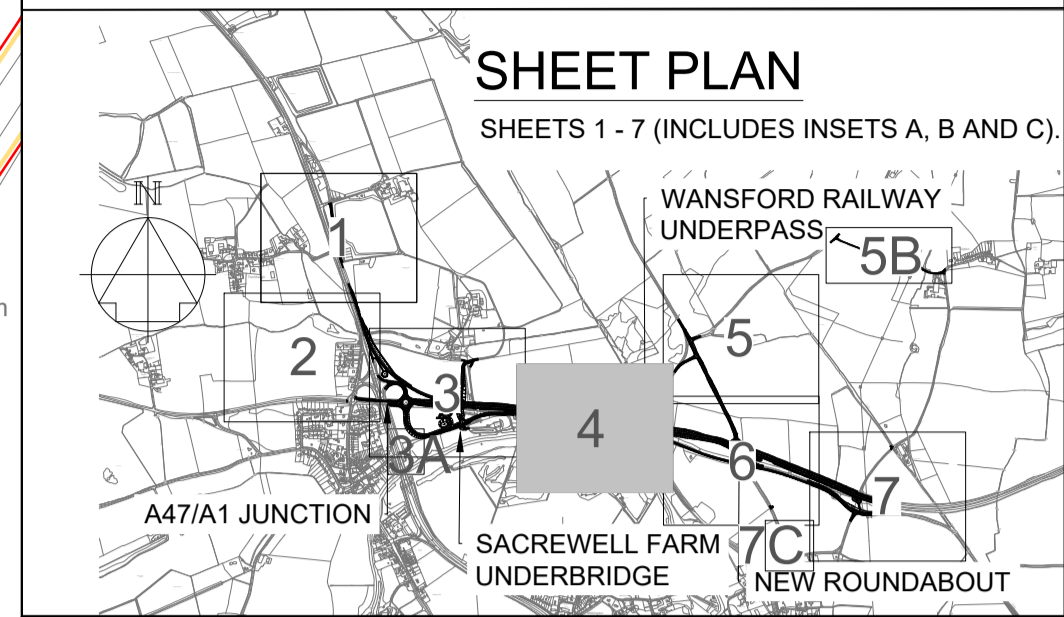
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NOTES

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1. THESE PLANS SHOULD BE READ IN CONJUNCTION WITH SCHEDULE 1 (AUTHORISED DEVELOPMENT) TO THE DEVELOPMENT CONSENT ORDER (APPLICATION DOCUMENT REFERENCE TR010039/APP/X), THE LAND PLANS (APPLICATION DOCUMENT REFERENCE TR010039/APP/X AND THE ENGINEERING DRAWINGS AND SECTIONS (APPLICATION DOCUMENT REFERENCE TR010039/APP/X).
2. THE PROPOSED WORKS WILL BE SUBJECT TO DETAILED DESIGN DEVELOPMENT. ANY CHANGES WILL BE LIMITED TO BEING WITHIN THE ORDER LIMITS OR THE RELEVANT LIMITS OF DEVIATION WHERE NOT COINCIDENT WITH THE ORDER LIMITS AND SUBJECT TO THE REQUIREMENTS OF SCHEDULE 2 TO THE DEVELOPMENT CONSENT ORDER (APPLICATION DOCUMENT REFERENCE TR010039/APP/X).

- KEY:**
- ORDER LIMITS
 - PARISH COUNCIL BOUNDARY
 - SCHEME LAYOUT
 - WORK CENTRELINE
 - NON HIGHWAY WORKS LIMIT OF DEVIATION (DIFFERENT COLOURS ARE PROVIDED ONLY TO DIFFERENTIATE BETWEEN OVERLAPPING LIMITS)
 - COMMENCEMENT OF HIGHWAY WORKS
 - TRANSITION OF HIGHWAY WORKS
 - TERMINATION OF HIGHWAY WORKS

REV	DATE	REVISION NOTE	ORG	CHKD	APPD
P01	27/07/21	DCO ISSUE			
P02	04/08/21	DCO ISSUE			
C01	04/08/21	DCO ISSUE			
P03	20/08/21	DCO ISSUE			
P04.01	---	LINE TYPES AND COLOURS AMENDED			

DESIGNER
SWECO

CONTRACTOR
GallifordTry

CLIENT
highways england

PROJECT TITLE
A47 WANSFORD TO SUTTON DUALLING

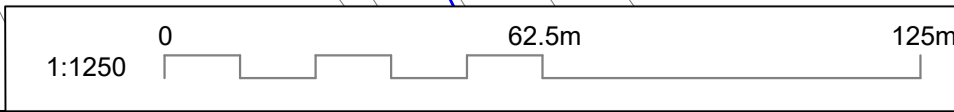
PROJECT STAGE
PCF STAGE 4

DRAWING TITLE
**WORKS PLANS
REGULATION 5(2)(j)
SHEET 4 OF 7**

SUITABILITY
WORK IN PROGRESS

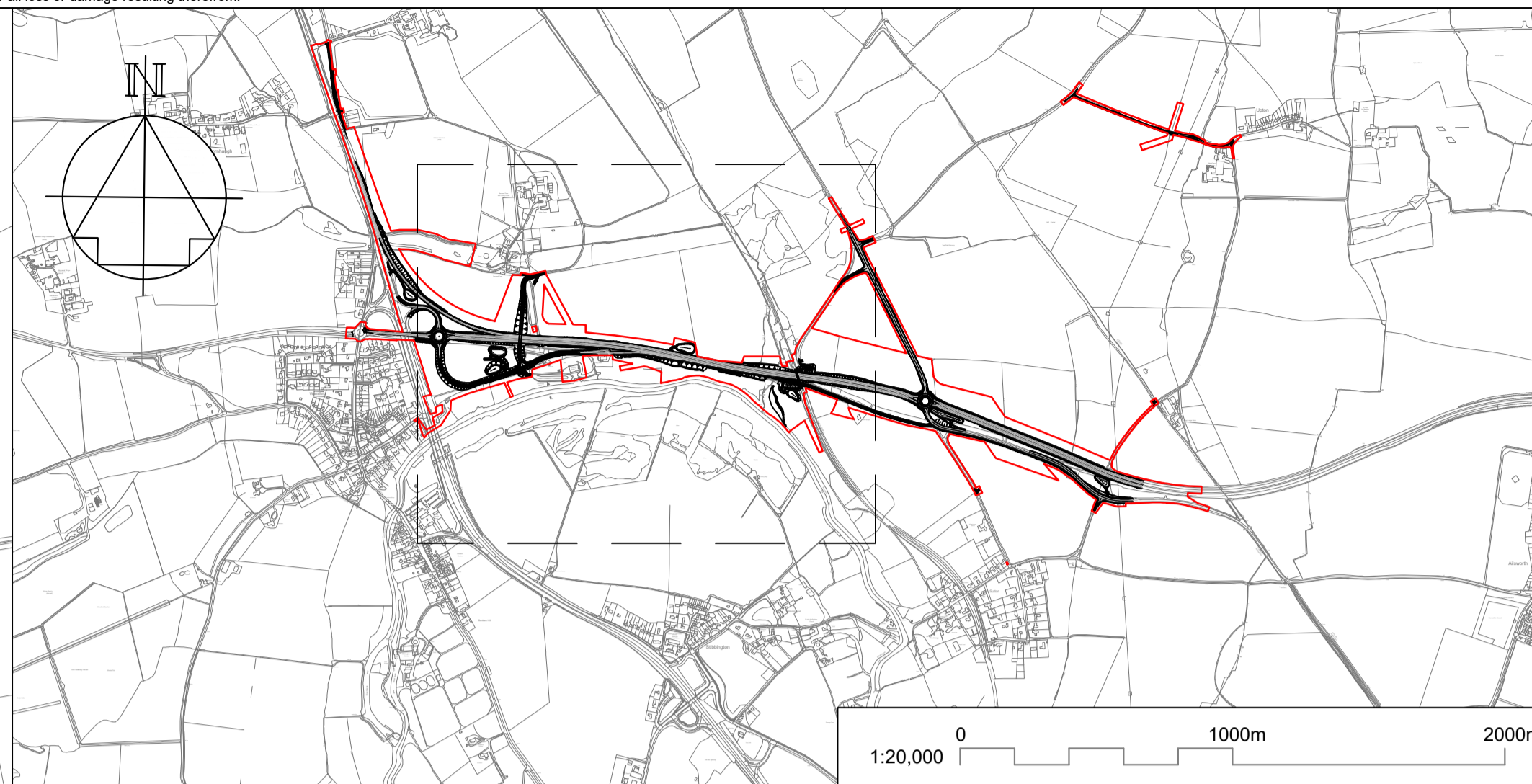
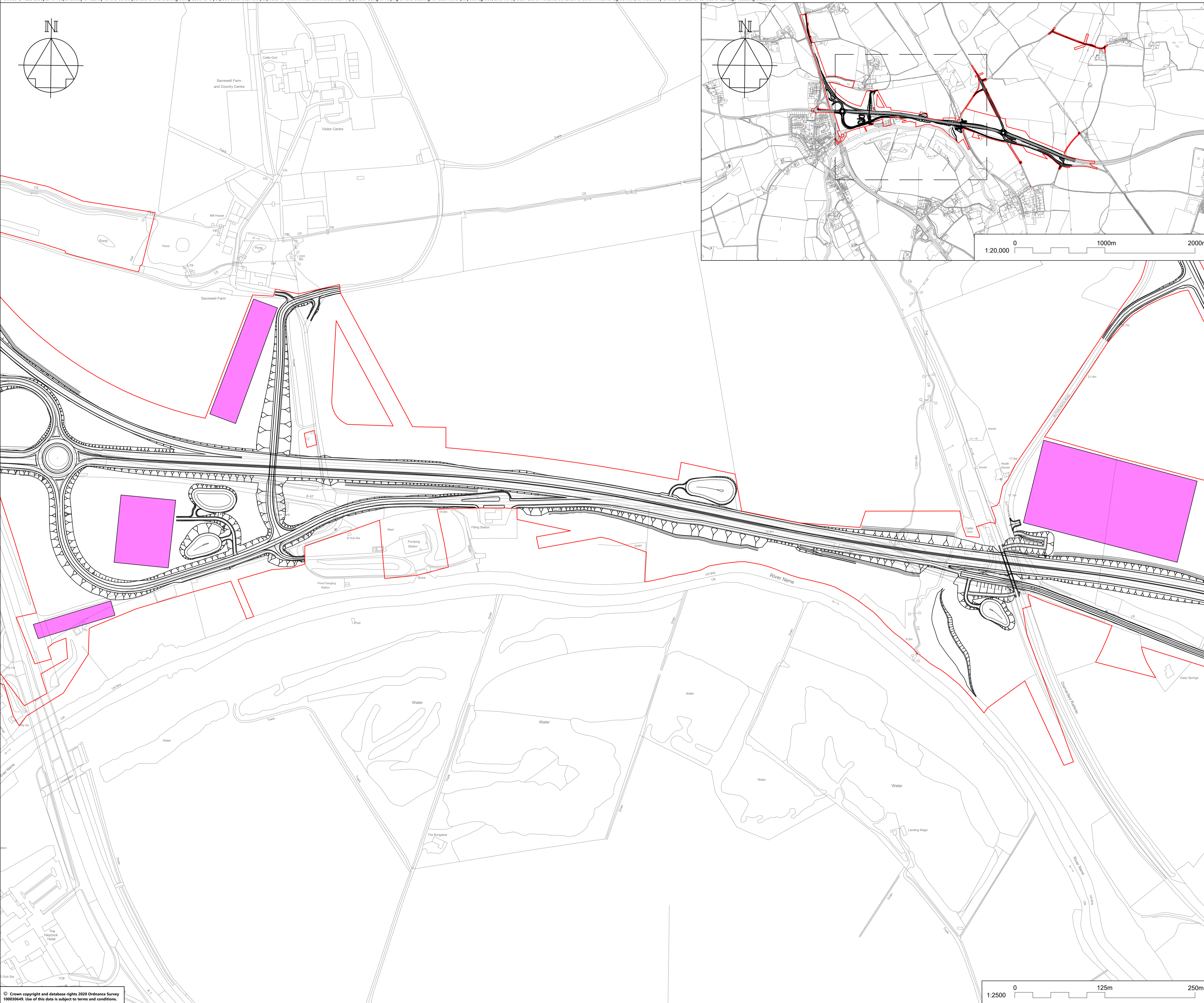
SHEET SIZE	SCALE	STATUS	REVISION
A1	1:1250	S0	P04.01

DRAWING NUMBER
HE551494-GTY-HGN-000-DR-CH-35004



Annex B – Site Compound and Storage Areas

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NOTES

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 2. BASE MAP REPRODUCED FROM ORDINANCE SURVEY MAPPING.

KEY TO SYMBOLS

- ORDER LIMITS
- SITE COMPOUND & STORAGE AREAS

P01	11/02/22	DEADLINE 2 SUBMISSION	RO	PE	MMur
REV	DATE	REVISION NOTE	ORG	CHKD	APPD

DESIGNER



CONTRACTOR



CLIENT



PROJECT TITLE

A47 WANSFORD TO SUTTON DUALLING

PROJECT STAGE

PCF STAGE 4

DRAWING TITLE

SITE COMPOUND AND STORAGE AREAS

SUITABILITY

SUITABLE FOR INFORMATION

SHEET SIZE	SCALE	STATUS	REVISION
A1	AS SHOWN	S2	P01

DRAWING NUMBER

HE551494-GTY-HGN-000-DR-CH-38010

Annex C - Design Principles

ANNEX C – DESIGN PRINCIPLES

The following explains how the ten design principles of good road design as set out in Highways England’s Corporate report ‘The Road to Good Design’ align with the four “Design Principles for National Infrastructure” published by the National Infrastructure Commission.

Design Principles for National Infrastructure	Design principles of good road design
Mitigate greenhouse gas emissions and adapt to climate change	Good Road Design is Environmentally Sustainable
Reflect what society wants and share benefits widely	Good Road Design makes roads safe and useful Good Road Design is Inclusive Good Road Design is Understandable Good Road Design is Thorough Good Road Design is a Collaborative Process
Provide a sense of identity and improve our environment	Good Road Design Fits in Context Good Road Design is Restrained Good Road Design is Environmentally Sustainable Good Road Design is Innovative
Achieve multiple benefits and solve problems well	Good Road Design is Inclusive Good Road Design is Thorough Good Road Design is Innovative

Design Principle	How the Scheme meets the design principles
<p>Good road design makes roads safe and useful</p>	<p><i>Roundabout design</i></p> <p>Upgrading the single carriageway along the A47 to a dual carriageway as part of the Proposed Scheme would have a significant improvement on the overall operational safety of the road. Previous studies along this section have determined that it is operating over capacity, experiences congestion and has a poor safety record.</p> <p>Safety and traffic modelling techniques have been utilised to understand the safety implications of various roundabout options, whilst ensuring the roundabouts provide connections that are as useful as possible for local traffic. The A47 Sutton Heath roundabout replaces the existing Nene Way roundabout and provides access to local communities such as Sutton and Upton.</p> <p><i>A47 direct access removal</i></p> <p>The existing A47 had four side roads connecting directly to the A47, which have presented safety risks with traffic moving fast on the A47 versus slow vehicles exiting onto or turning into the junctions. The Proposed Scheme has developed a new network of side roads to maintain access to the A47 for Sutton Heath Road, Sutton Drift via the A47 Sutton Heath Roundabout and thereby avoiding any direct access safety risks.</p> <p><i>Walking, cycling and horse-riding amenity</i></p> <p>The Proposed Scheme incorporates safer access for walkers, cyclists and horse riders (WCH) connecting Wansford, Sutton and local amenities. Existing access tracks will be reinstated.</p> <p><i>Economic growth</i></p> <p>The Proposed Scheme will be useful in supporting economic growth within Peterborough. Peterborough is rapidly growing, placing further pressure on the network, which already faces high congestion during peak hours. The Proposed Scheme will decrease journey time reliability issues and improve safety issues due to the removal of direct accesses onto the A47, reducing accident-related delays.</p>

Design Principle	How the Scheme meets the design principles
<p>Good road design is inclusive</p>	<p><i>Active travel</i></p> <p>The Proposed Scheme design incorporates new footways / cycleways that will enable easier access for walkers and cyclists crossing the A47 or travelling between Wansford and Sutton. This will encourage more active travel as part of a wider network of walking, cycling and horse riding (WCHR) routes connecting to local amenities.</p> <p>Consultation has been undertaken with local stakeholders to ensure the design of active travel routes are inclusive and meet local needs.</p> <p>Most of the proposed footway/ cycleways are offline, away from the dual carriageway. There is one 520m section of proposed footway/ cycleway located on the westbound verge of the new dual carriageway. Kerbs and barriers are provided to ensure safety for users of this section.</p>
<p>Good road design makes roads understandable</p>	<p><i>Junction design</i></p> <p>Throughout the design process, several proposed design elements have been considered and incorporated in the design of the roundabouts to make them more understandable for road users. Examples of these consist of:</p> <ul style="list-style-type: none"> • The new A47 mainline between Wansford and Sutton will provide a continuous dual carriageway. Continuity in cross-section helps road users to plan ahead and avoid making last minute manoeuvres. Further, road safety is improved through inclusion of overtaking opportunities and reduced driver frustration. • The existing A47 Wansford junction is fully grade separated with merge and diverge tapers on all entry and exit points to and from the A1. To accommodate the flow of traffic, the existing section between the roundabouts on the overbridge will be opened to 2 lanes heading eastbound. The A47 Wansford eastern roundabout will be enlarged and the part-time traffic signals removed.

Design Principle	How the Scheme meets the design principles
	<ul style="list-style-type: none"> To the east of the A47 Wansford junction, a new free-flow slip road connecting the existing A1 southbound carriageway to the new A47 eastbound carriageway will be constructed. This enables road users joining the A47 from the A1 to match the speed of the mainline traffic, maintaining a more free flowing corridor. <p><i>Place direction signs in wider rural road network</i></p> <p>A drive through of the surrounding rural road network, using Google maps, identified small junction place name direction road signs, directing drivers towards roads leading to junctions that will be closed by the Proposed Scheme. By identifying these signs for change as part of the Proposed Scheme it can be ensured users of the rural road network are directed towards the new relevant roundabout. Redundant signage on detrunked sections of the A47 will also be removed and 'No Through Road' signs will be installed to advise road users where local roads have been stopped up.</p> <p><i>Mainline alignment</i></p> <p>The new mainline alignment will be a consistent cross-section throughout the Proposed Scheme and the adjacent roads, which will assist the road user in understanding the road layout ahead.</p> <p><i>De-trunking of the A47.</i></p> <p>The existing A47 north of Sutton will be re-designed to provide access to the new A47 Sutton Heath roundabout from the south. The de-trunking of this section of the A47 will provide separation of local and regional access, therefore providing clarity to drivers that the new A47 is a higher speed road.</p>

Design Principle	How the Scheme meets the design principles
<p>Good road design fits in context</p>	<p><i>Integration with existing landscape</i></p> <p>The A47 highway corridor between Wansford and Sutton is located within a largely rural landscape characterised by agricultural land use and dispersed settlement. Physical features in the immediate vicinity of the existing A47 corridor which contribute to the landscape character of the wider area include agricultural fields enclosed by hedgerows with mature trees and small areas of woodland. Whilst the Proposed Scheme intersects a Scheduled Monument in the south-east corner, effects of the impact have not been deemed significant within the ES Chapter 6 (Cultural Heritage) (TR010039/APP/6.1 Rev 1).</p> <p>The landscape design sought to integrate the Proposed Scheme with surrounding landscape character, minimise visual intrusion and minimise impacts on the settings of heritage assets. The design objectives therefore include retaining notable extents of existing planting and proposing new planting to replicate existing features and establish visual screening. The environmental mitigation strategy also seeks to reinstate landscape features lost as a result of the Proposed Scheme, such as hedgerow boundaries, as well as general enhancement of the landscape context wherever possible.</p> <p>The objectives of the Proposed Scheme to ensure integration with the existing landscape include:</p> <ul style="list-style-type: none"> • Making it environmentally sustainable; retaining the sense of openness where this is consistent with a balanced preference for visual screening. • Integrating Proposed Scheme infrastructure through appropriate use of planting to contribute to visual screening. • Reinforcing existing plantation character with woodland planting where this is consistent with the surroundings. • Reinforcing existing field boundaries with individual trees and hedgerows where the field pattern is a notable component of the landscape.

Design Principle	How the Scheme meets the design principles
	<ul style="list-style-type: none"> • Retaining or replacing and reinforcing existing vegetation where this contributes to the distinctive qualities of the landscape. • Selecting plant and grass species appropriate to the locality to maintain consistency with the appearance of the area.
<p>Good road design is restrained</p>	<p><i>Offline route</i></p> <p>The new A47 will be predominantly constructed offline, therefore enabling the use of the existing A47 during construction to minimise disruption to road users.</p> <p>The visual impact of the existing A47 to local residents will also be reduced and disruption to biodiversity within the vicinity of the existing A47 will be reduced. Local residents will be able to continue to access local amenities in the same methods as pre-construction. The offline Proposed Scheme alignment would:</p> <ul style="list-style-type: none"> • minimise, where possible, the impact on properties close to the existing A47 • reduce the impact of the road on the River Nene and Sutton Meadows County Wildlife Site (CWS). <p><i>Central reserve paving</i></p> <p>The mainline central reserve will be a ‘soft’ central reserve, therefore making use of materials that will better blend in with the surrounding rural character than would be achieved with a paved central reserve.</p> <p><i>Shared cycleways</i></p> <p>As part of the overall strategy to provide a safer route between communities the Proposed Scheme includes a cohesive east-west route along the Proposed Scheme corridor for pedestrians and cyclists.</p>

Design Principle	How the Scheme meets the design principles
	<p>The shared-use cycleway will use an asphalt surface throughout the east to west combined footway / cycleway. The material provides a better surface for cyclists and matches that provided as part of the Highways England designated funds footpath upgrade between Peterborough Road (beneath the A1) and the Wansford picnic area (Nene Way).</p> <p>The shared-used cycle path under the A47 dismantled railway crossing will be unbound materials with a timber edge rather than asphalt construction with a precast concrete kerb edge. This will help these paths to sit better in the surrounding landscape and blend in with the rural character.</p> <p><i>Sustainable drainage systems (SuDS)</i></p> <p>It is proposed to create seven SuDS basins as part of the Proposed Scheme. Each of these basins will be landscaped to integrate into the surrounding setting and look less engineered in appearance. Two basins are proposed to hold a permanent water body and will be enhanced with surrounding planting to improve biodiversity and amenity potential.</p>
Good road design is thorough	<p><i>Specialist driven design</i></p> <p>This design process has included teams of professionals in a wide range of disciplines including engineers, environmental specialists, traffic modellers, contractors and legal advisors. The environmental specialists' qualifications are recorded in the Environmental Statement.</p> <p>These teams of professionals have undertaken an iterative process to explore innovative approaches to be included within the design. This has enabled flexibility to incorporate changes in the design, due to surveys, environmental assessment, consultation and design review to ensure betterment in the design.</p> <p>For example, the design of the Proposed Scheme between the Scheduled Monument and the new Sutton Heath roundabout involved the environmental team working collaboratively with the design team to manage</p>

Design Principle	How the Scheme meets the design principles
	<p>the conflicting challenges of design and cost to manage the impact on environment and where possible to create enhancements. This included:</p> <ul style="list-style-type: none"> • ensuring the Proposed Scheme did not significantly impact the Scheduled Monument or Site of Special Scientific Interest. • providing a new walking and cycling underpass to provide connectivity for users. The new underpass also provides protected species with a safe crossing of the A47. • new woodland creation • creation of a new ‘bat-hotel’ • reduced impact on the Tree-Preservation Order • enhancement of SuDS basin for wildlife value • careful design of the new Wittering Brook culvert to minimise loss of trees <p><i>Statutory and public consultation</i></p> <p>In addition to statutory and non-statutory consultation with stakeholders and the public, the Environmental Impact Assessment (EIA) process has been followed. This has included in-depth consultation with environmental technical specialists which has been supported by consultation with a wide range of external consultees, including requesting feedback on the EIA scope and approach through consultation on the EIA Scoping Report subsequently supplemented by meetings with statutory environmental bodies.</p> <p>The results of this consultation is recorded in the Environmental Statement and Consultation Report for the Proposed Scheme.</p>

Design Principle	How the Scheme meets the design principles
	<p data-bbox="539 288 920 316"><i>Consideration of alternatives</i></p> <p data-bbox="539 355 1957 539">The design process included the consideration of alternatives. Nine initial options were identified for consideration in PCF Stage 1. An initial assessment¹ was made of these options to identify their performance against environmental, engineering, transportation and economic criteria so that they could be compared and contrasted to allow the most feasible options to be taken forward. Three options were selected for public consultation at PCF Stage 2:</p> <ul data-bbox="674 584 1973 786" style="list-style-type: none"> <li data-bbox="674 584 1973 644">• Option 1 – online dualling of the existing A47 between Wansford and Sutton plus free-flow link to A1 southbound. <li data-bbox="674 667 1973 727">• Option 2 – part off-line to the north, part off-line to the south plus free-flow link from A1 southbound. <li data-bbox="674 750 1973 786">• Option 3 – off-line to the north plus free-flow from the A1 southbound. <p data-bbox="539 820 1973 1046">As set out in the Preferred Route Announcement, an amended version of Option 2 was the preferred option as it solves the traffic and safety problems. It also has the least impact on the environment when compared to Option 3 and will have less impact during construction when compared to Option 1. Key concerns raised by the public regarding Option 2 have influenced a realignment which means it can be built with less impact during construction and the existing road can remain for local traffic movements, pedestrians, cyclists and equestrians.</p>
<p data-bbox="141 1091 517 1158">Good road design is environmentally sustainable</p>	<p data-bbox="539 1091 1245 1123"><i>Environmental mitigation and enhancement measures</i></p> <p data-bbox="539 1158 1973 1230">As part of the EIA process design influence and mitigation / enhancement measures are integrated as early as possible. Continued dialogue and close working with the design team has ensured that, where possible:</p>

Design Principle	How the Scheme meets the design principles
	<ul style="list-style-type: none"> • Impact to environmental constraints has been reduced or avoided where possible, such as the reduced impact to the Scheduled Monument and avoidance of the SSSI • biodiversity net gain has been maximised where possible, such as with the introduction of species-rich and marshy, wet grassland. • adverse effects have been reduced, such as mitigating significant increases in flooding via new flood storage and sustainable drainage systems SuDS • opportunities have been maximised, with new segregated walker and cyclist routes to connect communities and habitat creation through careful planting design <p><i>Design amendments to reduce carbon</i></p> <p>Carbon emissions for the Proposed Scheme have been calculated for the scheme design at PCF Stage 3, using the Highways England Carbon Tool (version 2.3). This has allowed for the consideration of carbon in the design process, resulting in the development of a carbon baseline from which further reductions may be made. Embodied carbon emissions are estimated to be 19,823 tCO₂e; the largest proportion linked with Earthworks (9,854 tCO₂e) and Pavement (7,409 tCO₂e).</p> <p>In accordance with DMRB LA 114, projects shall seek to minimise carbon emissions as far as possible in all cases in order to contribute to the UK's net reduction in carbon emissions. A hierarchical approach to carbon management has been applied, i.e. build nothing, build less, build clever, build efficiently (as described in PAS 2080). Through discussions with the design team, an efficiency was identified associated with the segregated left-hand turn from the A1 to the A47 which was removed from the scheme design. This result as in a saving of cut material and an associated carbon saving.</p> <p>The use of the Highways England Carbon Tool to monitor and manage carbon will continue throughout the construction period to ensure an ongoing focus on climate change mitigation.</p>

Design Principle	How the Scheme meets the design principles
<p>Good road design is innovative</p>	<p><i>Environmental innovations</i></p> <p>Several innovative additions have been incorporated into the design which provide environmental benefits. These include:</p> <ul style="list-style-type: none"> • a new underpass which will serve to maintain connectivity for biodiversity • new bat hotel • a new mammal ledge on the Wittering Brook culvert • creation of a new wildlife pond at Sacrewell • enhancement of SuDS basin • creation of wildlife meadows <p><i>A47 GIS web app</i></p> <p>A GIS web-based app has been used as part of the design process to collate and display project specific information, such as the design, survey locations and survey results. This has enabled efficient sharing of information between members of the project team and helped to influence the design, due to the app being used to view, query or analyse the datasets.</p>
<p>Good road design is long-lasting</p>	<p><i>Maintenance requirements</i></p> <p>Suitable maintenance facilities have been located along throughout the Proposed Scheme ensuring that interaction between maintenance vehicles and fast-moving traffic is minimised, and that personnel undertaking inspection activities spend as little time in the vicinity of fast-moving traffic as possible. To facilitate safer access, five of the seven SuDS basins will be accessed via the sides roads.</p> <p>One maintenance hardstanding shall be located on the eastbound carriageway to provide maintenance operatives with a dedicated point to leave the mainline safely. This hardstanding shall be located behind a</p>

Design Principle	How the Scheme meets the design principles
	<p>VRS barrier to enable operatives to park and move safely between their vehicle and the relevant asset.</p> <p>The design has proposed a steel central reservation barrier with a soft verge instead of hard concrete barrier with a hardened verge. Creation of a soft verge offers biodiversity and drainage benefits, but measures such as slow and low growing grass will be used to reduce the frequency of grassland maintenance on a live central highway reservation. Lighting luminaires at the grade separated junctions will be LED to reduce the maintenance and replacement cycles.</p> <p><i>Planting strategy</i></p> <p>The proposed environmental design planting strategy takes reference from the native plant species found in the surrounding area. Species include oak, birch, grey willow, hawthorn, blackthorn and field maple. The inclusion of diversity within planting mixes will embed an aspect of resilience and adaptation for vegetation faced with increasing pest, disease and climate change threats.</p> <p>The planting strategy also acknowledges the character of existing vegetation, which typically consists of field boundary hedgerows with individual trees, and woodland plantations. The various Proposed Scheme planting types are consistent with DMRB defined elements and compatible with standard highway practices for long term operational maintenance and management. The ultimate outcome of using locally occurring native species, which replicate existing features and are maintained in a manner consistent with that of the wider highway network, will contribute to consistency and integration of the proposals with their surroundings.</p> <p><i>Structures</i></p> <p>The structures have been designed with due regard to the long-term maintenance requirements. The structures have been designed as either integral bridges or boxes thereby removing the requirements for articulated bearings which improves the durability of the structure and reduces maintenance requirements</p>

Design Principle	How the Scheme meets the design principles
	<p>over the life of the structure. Three new structures will be included as part of the Proposed Scheme. These structures and their associated materials are proposed to be:</p> <ul style="list-style-type: none"> • Wansford NMU Underpass (S02) – a precast concrete jointed portal solution in accordance with CD127 and CD143 • Wansford Sluice Extension (S04) – to replace existing masonry culvert • Sacrewell Farm Underbridge (S05) - a precast concrete jointed portal solution in accordance with CD127 and CD143 <p>All structures have been designed with a design life of 120 years.</p>
<p>Good road design is a collaborative process</p>	<p><i>Collaboration between the project team and with external stakeholders</i></p> <p>An iterative design process has meant collaboration between all project team disciplines from the outset. Regular discussions between the design team and the environment team began at PCF Stage 1 and have continued throughout the development of the design. In addition, regular collaborative planning meetings have further assisted this continuous cycle of improvement, ensuring that the Proposed Scheme is on track and ensuring that each discipline is aware of other discipline activities and how they feed in to inform the design in different ways.</p> <p>An open dialogue with stakeholders has been maintained across the stages of the Proposed Scheme. The communications team have managed dialogue with key stakeholders throughout the options development stage, to ensure that feedback is provided on the different options ensuring that the most viable option is chosen. Key stakeholders throughout the process have included Statutory Environmental Bodies (SEBs), Peterborough City Council and the Parish Councils.</p>

Design Principle	How the Scheme meets the design principles
	<p>Throughout design development, a series of Technical Working Groups have been held across numerous disciplines, including environment. This has allowed a close working dialogue with the stakeholders involved and has allowed the design to evolve based on the requirements of the individual stakeholders ensuring the design meets the needs of the end users.</p> <p><i>Non-Statutory and Statutory consultation</i></p> <p>Non-statutory and statutory consultation was undertaken at PCF Stages 2 and 3 respectively to inform the design. These consultation periods included a series of one-to-one landowner meetings, public events and individual meetings for consultees such as SEBs, facilitating engagement from numerous user groups.</p> <p>The consultation gathered feedback on the design proposals as they progressed. Highways England received approximately 700 responses to the statutory consultation from stakeholders, members of the public and interested bodies. This feedback was analysed and the design updated accordingly. This engagement better facilitated the design to meet the needs of road users and local communities, such as changes to the proposed side road network.</p>
<p>Good road design is a collaborative process</p>	<p><i>Collaboration between the project team and with external stakeholders</i></p> <p>An iterative design process has meant collaboration between all project team disciplines from the outset. Regular discussions between the design team and the environment team began at PCF Stage 1 and have continued throughout the development of the design. In addition, regular collaborative planning meetings have further assisted this continuous cycle of improvement, ensuring that the Proposed Scheme is on track and ensuring that each discipline is aware of other discipline activities and how they feed in to inform the design in different ways.</p>

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Annex D - Greenhouse Gas Emissions and Climate Change Adaptations

Question number	Doc ref & question to	Question	Applicant's Response
1.0 General Questions			
1.1.10	The Applicant PCC	<p>Greenhouse Gas Emissions and Climate Change adoptions</p> <p>With respect to greenhouse gas emissions, the cumulative impact assessment that the Applicant has undertaken is limited. At paragraph 14.8.9 of the Chapter 14 of the ES [APP-052] it is predicted that the Proposed Development would contribute 0.0078% to the UK's fourth, fifth and sixth Carbon Budgets.</p> <p>However, the Proposed Development has been assessed in isolation from any in combination effects associated with the implementation of projects forming part of the Road Improvement Strategy. While the Proposed Development of itself may have a limited effect on greenhouse gas emissions, this scheme when taken with others might '... have a material effect on the ability of the Government to meet its carbon reduction targets' (paragraph 5.18 of the NPSNN).</p> <p>In light of the quashing of the A38 Derby Junctions DCO by the High Court, further representations are requested on the</p>	<p>To answer this question, National Highways has responded by breaking it down into various constituent parts as follows:</p> <ul style="list-style-type: none"> • National Highways' assessment of the cumulative effects of greenhouse gas emissions from the A47 Wansford to Sutton (Proposed Development) with other existing and/or approved projects; • The appropriate geographical scale for the assessment) of greenhouse gas emissions from construction and operational contributions; • How the assessment which identifies the baseline used at each local, regional and national level compares against any identified relevant local, regional or national carbon targets and/or budgets (including the carbon budgets, the 2050 net zero target under the Climate Change Act 2008 and the UK's Nationally Determined Contribution under the Paris Agreement); • How an assessment was undertaken to evaluate the likely significant effects of the Proposed Development and any difficulties encountered in compiling the information; • How the assessment presented for the Proposed Development complies with the Environmental Impact Assessment Regulations; <p>To assist the Examiner, National Highways has set out its response for each of the matters raised in turn.</p> <p>Assessment of Cumulative Effects of Greenhouse Gas Emissions from the Proposed Development with other</p>

Question number	Doc ref & question to	Question	Applicant's Response
		<p>following matters:</p> <p>a) the carbon impact of the development; the implications, if any, of the development in relation to the Paris Agreement and the UK's nationally-determined contribution under the Paris Agreement, the 2050 net zero target in the Climate Change Act 2008, and carbon budgets set under the 2008 Act (including the sixth carbon budget as set out in the Carbon Budget Order 2021); and, whether the increase in carbon emissions resulting from the development is so significant that it would have a material impact on the ability of the Government to meet its carbon reduction targets;</p> <p>b) the direct, indirect and cumulative likely significant effects of the development on climate, including greenhouse gas emissions and climate change adaptation, in light of the requirements set out in the EIA Regulations and in light of paragraphs 5.17 and 5.18 of the NPSNN.</p> <p>The Assessment should provide (or, to the extent that it has already been provided,</p>	<p>Existing and/or Approved Projects</p> <p>National Highways follows the advice set out in the Design Manual for Roads and Bridges (DMRB) for the design and evaluation of the impact of any of its road schemes. This ensures consistency in how any scheme is progressed and how the outcomes are evaluated.</p> <p>In respect of the assessment of cumulative effects, DMRB Chapter LA 104- Environmental assessment and monitoring¹ provides the following overarching advice on the assessment and evaluation of cumulative impacts on pages 17-18:</p> <p><i>“Paragraph 3.21 Environmental assessments shall assess cumulative effects which include those from:</i></p> <ol style="list-style-type: none"> <i>1) a single project (e.g. numerous different effects impacting a single receptor); and</i> <i>2) different projects (together with the project being assessed).</i> <p><i>Paragraph 3.21.2 The assessment of cumulative effects should report on:</i></p> <ol style="list-style-type: none"> <i>1) roads projects which have been confirmed for delivery over a similar timeframe;</i> <i>2) other development projects with valid planning permissions or consent orders, and for which EIA is a requirement; and</i> <i>3) proposals in adopted development plans with a clear identified programme for delivery.</i> <p><i>Paragraph 3.22 The assessment of cumulative effects shall:</i></p> <ol style="list-style-type: none"> <i>1) establish the zone of influence of the project together with other projects;</i>

Question number	Doc ref & question to	Question	Applicant's Response
		<p>identify) its assessment of the cumulative effects of Greenhouse Gas emissions from the scheme with other existing and/or approved projects on a local, regional and national level on a consistent geographical scale (for example an assessment of the cumulative effects of the Road Investment Strategy RIS 1 and RIS 2 at a national level). This should: take account of both construction and operational effects; identify the baseline used at each local, regional and national level; and identify any relevant local, regional or national targets and/or budgets where they exist (as set out). It should be accompanied by reasoning to explain the methodology adopted, any likely significant effects identified, any difficulties encountered in compiling the information, and how the assessment complies with the Environmental Impact Assessment Regulations.</p>	<p>2) <i>establish a list of projects which have the potential to result in cumulative impacts; and</i> 3) <i>obtain further information and detail on the list of identified projects to support further assessment.”</i></p> <p>The DMRB LA 114, Climate² describes the approach to be undertaken to assess and evaluate the climate impacts and adaptation for schemes. This is set out in Chapter 14 (APP-052) of the Environmental Statement for the Proposed Development.</p> <p>The assessment of carbon dioxide (CO₂) undertaken has assessed the construction and operational effects of the Proposed Development as follows:</p> <ul style="list-style-type: none"> • Construction – the materials and energy required to construct the Proposed Development; • Operational – emissions produced by vehicles using the completed Proposed Development and associated journeys from the wider road network that incorporate or have a change in their journey following opening of the Proposed Development; emissions produced by maintenance activities over its design life (i.e. 60 years). <p>The traffic modelling for the Proposed Development has been undertaken in line with Transport Appraisal Guidance published³ by the Department for Transport (DfT). The Transport Assessment Report for the Proposed Development has been submitted to the DCO examination (AS-024)⁴. The</p>

² [REDACTED]

³ <https://www.gov.uk/guidance/transport-analysis-guidance-tag>

⁴ <https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR010039/TR010039-000262-7.3%20Transport%20Assessment.pdf>

Question number	Doc ref & question to	Question	Applicant's Response
			<p>traffic model used for the Proposed Development has been developed in line with DfT requirements and is inherently cumulative. This is because, in brief, traffic models used to support scheme assessment contain data about the following:</p> <ol style="list-style-type: none"> 1) The proposed scheme and adjoining Strategic Road Network and local road network; 2) Other schemes promoted by National Highways in the near vicinity of the proposed scheme with high certainty that they are to be progressed i.e. progressed beyond preferred route announcement stage; 3) They are based on discussions with the relevant planning authority, of foreseeable developments promoted by third parties as likely to be developed in a similar timeline to the proposed National Highways' scheme. Knowing where the proposed third party development is to be sited, the extents and types of development, and the timescales of when it is to be completed are requirements to ensure that the third party developments can be reasonably described in the traffic model; and 4) National government regional growth rates which include a representation of likely growth rates excluding known planning developments already included in the traffic model. This is represented by DfT's NTEM/TEMPRO⁵ growth factors for car usage, and growth in freight is derived from DfT's National Transport Model⁶. <p>In terms of operational carbon, when National Highways evaluates the changes in CO_{2e} emissions of their proposed</p>

⁵ <https://www.gov.uk/government/publications/tempo-downloads>

⁶ <https://www.gov.uk/government/publications/national-transport-model-ntmv2r-overview-of-model-structure-and-update>

Question number	Doc ref & question to	Question	Applicant's Response
			<p>schemes they do so by comparing changes in the road traffic on the Strategic Road Network and local road network between the 'without scheme scenario' and the 'with scheme scenario'. This takes into account the assessment of the proposed scheme and all other developments likely to have an influence on the proposed road scheme and on the area the proposed road scheme is likely to influence.</p> <p>In essence, as both with and without scheme scenarios already include all likely developments and traffic growth factors, the assessment is inherently cumulative as regards operational carbon emissions. This is a state of affairs recognised in general terms in paragraph 3.4.4 of the Planning Inspectorate's Advice Note 17 ("Cumulative effects assessment relevant to nationally significant infrastructure projects"), the first two sentences of which state that:</p> <p><i>"Certain assessments, such as transport and associated operational assessments of vehicular emissions (including air and noise) may inherently be cumulative assessments. This is because they may incorporate modelled traffic data growth for future traffic flows. Where these assessments are comprehensive and include a worst case within the defined assessment parameters, no additional cumulative assessment of these aspects is required (separate consideration may be required of the accumulation or inter-relationship of these effects on an individual set of receptors e.g. as part of a socio economic assessment)."</i></p> <p>The Appropriate Geographical Scale of Assessment of Greenhouse Gas Emissions, In line with the requirements set out in Climate Change Act</p>

Question number	Doc ref & question to	Question	Applicant's Response
			<p>2008⁷ (CCA 2008), Part 1, Section 4 (see below) parliament has set carbon budgets⁸ at the national scale.</p> <p>“Carbon budgets</p> <p>1) <i>It is the duty of the Secretary of State—</i></p> <p>(a) <i>to set for each succeeding period of five years beginning with the period 2008-2012 (“budgetary periods”) an amount for the net UK carbon account (the “carbon budget”), and</i></p> <p>(b) <i>to ensure that the net UK carbon account for a budgetary period does not exceed the carbon budget” [our emphasis].</i></p> <p>Carbon budgets cover the following 11 sectors:</p> <ol style="list-style-type: none"> 1. Surface Transport 2. Buildings 3. Manufacture and Construction 4. Electricity Generation 5. Fuel Supply 6. Agriculture and land use, land use change and forestry 7. Aviation 8. Shipping 9. Waste 10. Fluorinated gases (F-gases) 11. Greenhouse gas removals <p>The national carbon budgets are themselves cumulative i.e. the sum of carbon emissions from a range of sectors between now and the end of the 6th carbon budget (2037). The CCA 2008 does not impose a legal duty to set carbon budgets at a smaller scale than those set out nationally i.e.</p>

⁷ https://www.legislation.gov.uk/ukpga/2008/27/pdfs/ukpga_20080027_en.pdf

⁸ <https://www.gov.uk/guidance/carbon-budgets>

Question number	Doc ref & question to	Question	Applicant's Response
			<p>regional or local budgets are not required. Specifically:</p> <ul style="list-style-type: none"> a) In setting carbon budgets parliament has not imposed any legal duty upon local authorities to attain any particular targets whether carbon budgets or for net zero 2050. i.e. there are no legal duties which require particular geographical areas within the UK to achieve particular reductions in carbon emissions by particular dates. b) Neither Parliament nor Government has identified any sectoral targets for carbon reductions related to transport, or any other sector. There is no requirement in the CCA 2008, or in Government policy, for carbon emissions for all road transport to become net zero. This was explained in the <i>R(Transport Action Network) v Secretary of State for Transport</i> [2021] EWHC 2095 (Admin) ("the TAN case") in which Holgate J held that: <ul style="list-style-type: none"> <i>"...there is no sectoral target for transport, or any other sector, and that emissions in one sector, or in part of one sector, may be balanced against better performance in others. A net increase in emissions from a particular policy or project is managed within the government's overall strategy for meeting carbon budgets and the net zero target as part of "an economy-wide transition."</i> c) A net increase in emissions from a particular policy or project is thus managed within the Government's overall strategy for meeting carbon budgets and the net zero target as part of an economy-wide transition.

Question number	Doc ref & question to	Question	Applicant's Response
			<p>There is, therefore, no legal requirement to assess the impact of an individual project against the total carbon emissions from RIS 1 and RIS 2.</p> <p>To conduct an impact assessment at a local or regional scale some form of baseline would need to be identified, and that baseline would need to comprise:</p> <ul style="list-style-type: none"> a) A forecast of carbon emissions from all cumulative sources relevant to the geographic / sectoral scale being adopted; b) A forecast which addresses the time frame relevant to the proposed road scheme; c) A forecast which reflects existing government policy to attain the 6th carbon budget and net zero 2050; and d) A forecast which does not include carbon emissions from the proposed road scheme (to avoid double counting). <p>The Government sets carbon budgets at a national level in accordance with the CCA 2008. Carbon budgets are not produced at a local or regional level.</p> <p>National Highways is therefore unable to produce a baseline at a local or regional scale itself. Such a baseline would have to be consistent with the Government's understanding of the likely implications of its policies over time in a particular geographic area. In relation to carbon reductions, those policies are myriad and extend to matters beyond the planning system and into issues relating to the use of fiscal incentives / disincentives to manage carbon emissions across the country as a whole.</p> <p>Relevant to this request for information is that an environmental statement is required to include such information as is reasonably required to assess the</p>

Question number	Doc ref & question to	Question	Applicant's Response
			<p>environmental effects of the development and which the applicant can reasonably be required to compile having regard to current knowledge (see <i>R. (Khan) v London Borough of Sutton</i> [2014] EWHC 3663 (Admin) and <i>Preston New Road Action Group v Secretary of State for Communities and Local Government</i> [2018] Env. L.R. 18).</p> <p>There is no reasonable basis upon which National Highways can assess the carbon emissions impact of the Proposed Development at a local or regional level and it is not required to do so by law or by the National Policy Statement for National Networks (NPS NN)⁹</p> <p>Accordingly, National Highways is not in a position to provide an assessment of the cumulative effects of the greenhouse gas emissions for the Proposed Development for anything other than at the national level carbon budgets.</p> <p>How the Assessment Complies with various Carbon Budgets and wider Carbon Policies</p> <p>Overall compliance with, or attainment of, 'carbon budgets' and 'the 2050 zero target' under CCA 2008, and the 'UK's Nationally Determined Contribution' under the Paris Agreement are the responsibility of Government to manage as they are matters of national policy and not policies set at an individual scheme level.</p> <p>The NPS NN sets the national policy framework against which decision makers can evaluate the outcomes of proposed road infrastructure project. The NPS NN sets policy advice across a range of topics such as air quality, noise, biodiversity and carbon (see paragraphs 5.16 to 5.29 pages 49 and 50).</p>

⁹ https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/387223/npsnn-web.pdf

Question number	Doc ref & question to	Question	Applicant's Response
			<p>The specific advice on the evaluation of carbon impacts from a proposed scheme and decision making considerations is set out in paragraphs 5.17 and 5.18 respectively.</p> <p>“Applicant’s assessment 5.17 <i>Carbon impacts will be considered as part of the appraisal of scheme options (in the business case), prior to the submission of an application for DCO. Where the development is subject to EIA, any Environmental Statement will need to describe an assessment of any likely significant climate factors in accordance with the requirements in the EIA Directive. It is very unlikely that the impact of a road project will, in isolation, affect the ability of Government to meet its carbon reduction plan targets. However, for road projects applicants should provide evidence of the carbon impact of the project and an assessment against the Government’s carbon budgets. [our emphasis].</i></p> <p>“Decision making 5.18 <i>The Government has an overarching national carbon reduction strategy (as set out in the Carbon Plan 2011) which is a credible plan for meeting carbon budgets. It includes a range of non-planning policies which will, subject to the occurrence of the very unlikely event described above, ensure that any carbon increases from road development do not compromise its overall carbon reduction commitments. The Government is legally required to meet this plan. Therefore, any increase in carbon emissions is not a reason to refuse development consent, unless the increase in carbon emissions resulting from the proposed scheme are so significant that it</i></p>

Question number	Doc ref & question to	Question	Applicant's Response
			<p><i>would have a material impact on the ability of Government to meet its carbon reduction targets.” [our emphasis].</i></p> <p>The NPS NN requires assessment against the Government’s climate reduction targets i.e. the carbon budgets which are set at a national geographical scale. It does not require assessment against any local or regional targets. This is because the Government has not identified or adopted any carbon reduction targets at a scale smaller than the UK as a whole i.e. National Carbon Budgets.</p> <p>How an Assessment was Undertaken to Evaluate the Impacts of the Proposed Development Including Consideration of Likely Significance Effects</p> <p>National Highways’ approach to assessing and evaluating the CO₂e impacts associated with proposed schemes is set out in DMRB LA 114 Climate, Section 3 Methodology. Within Section 3 of LA 114, paragraphs 3.18 to 3.20 defines the reporting requirements for comparison against the relevant carbon budgets (<i>in existence at the time of the assessment</i>) and the evaluation criteria for significance, which is consistent with the decision making requirements set out in paragraphs 5.17 and 5.18 of the NPS NN.</p> <p>Chapter 14 (APP-052) of the environmental statement for the Proposed Development sets out the climate assessment completed for the Proposed Development. It concludes that the Proposed Development does not cause a significant effect for changes in CO₂e emissions when compared to carbon budgets.</p> <p>How the Assessment Presented for the Proposed Development Complies with the Environmental Impact</p>

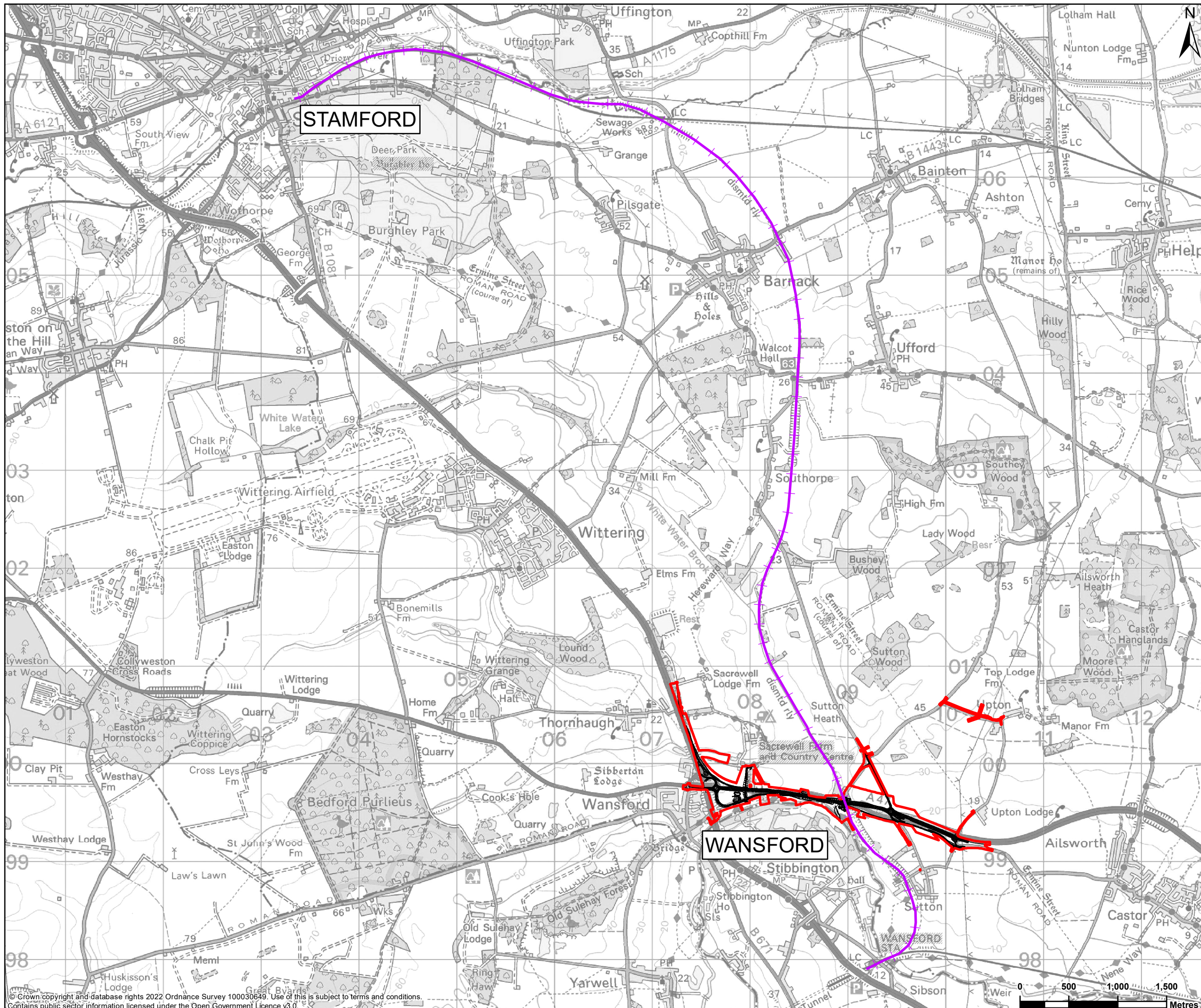
Question number	Doc ref & question to	Question	Applicant's Response
			<p>Assessment Regulations</p> <p>An environmental statement is required to describe the likely significant effects of a proposed development on the environment (Regulation 14 of the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017¹⁰. This includes a description of the likely significant effects on the environment from, inter alia, the impact of the project on climate (for example the nature and magnitude of greenhouse gas emissions) and the vulnerability of the project to climate change. An environmental statement is also required to describe the likely significant cumulative impacts of the development proposed together with those from other “existing and/or approved projects” (see paragraph 5 (e) of Schedule 4 to the 2017 Regulations).</p> <p>To undertake this work and come to an informed judgement an environmental statement is required to include such information as is reasonably required to describe the environmental effects of the development and which the applicant can reasonably be required to compile having regard to current knowledge¹¹. In the context of assessing cumulative carbon impacts, the only assessment National Highways can be reasonably required to undertake is one having regard to current knowledge.</p> <p>Accordingly, the environmental statement produced for the Proposed Development complies with the 2017 Regulations. As regards the additional material now requested by the Secretary of State, this amounts to a request by the Secretary</p>

¹⁰ <https://www.legislation.gov.uk/uk/si/2017/572/contents/made>

¹¹ (see R. (Khan) v London Borough of Sutton [2014] EWHC 3663 (Admin) and Preston New Road Action Group v Secretary of State for Communities and Local Government [2018] Env. L.R. 18)

Question number	Doc ref & question to	Question	Applicant's Response
			<p>of State for “any other information” within the meaning of regulation 3(1) of the 2017 Regulations. However, there is no reasonable basis upon which National Highways can assess the carbon emissions impact of the Proposed Development at a local or regional level and it is not required to do so by law or pursuant to the NPS NN.</p> <p>National Highways can only assess the change in CO₂e emissions from the Proposed Development in absolute terms and against the national carbon budgets. The procedures and evaluation criteria set out in DMRB LA 114 Climate, are appropriate and sufficient to ensure that the cumulative effects of proposed road schemes upon climate change are assessed in accordance with the 2017 Regulations and to provide sufficient evidence for the decision making requirements set out in paragraph 5.18 of the NPS NN.</p>

Annex E - Heritage Non-Designated Asset - Railway Line



LEGEND

- The Proposed Scheme Boundary
- Scheme Design
- Former Stamford to Wansford railway line (53529)



REFERENCE MAP

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P01	11/02/2022	FIRST EDITION	RMT	RMC	MM
REV	DATE	REVISION NOTE	ORG	CHKD	APPD

DESIGNER	SWECO				
CONTRACTOR	GallifordTry				
CLIENT	highways england				

PROJECT TITLE
A47 WANSFORD TO SUTTON

PROJECT STAGE
PCF STAGE 3

DRAWING TITLE
HERITAGE
NON-DESIGNATED ASSET - RAILWAY LINE
TR010039/APP/6.2

SUITABILITY	FOR INFORMATION	
SHEET SIZE	A3	SCALE 1:37,500
DRAWING NUMBER		STATUS S2

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Annex F - Scheduled Monument north of the A47 (List entry 1006796)

Official list entry

Heritage Category: **Scheduled Monument**

List Entry Number: **1006796**

Date first listed: **14-Jun-1962**

Date of most recent amendment: **19-Oct-2018**

Location Description: **Approximately 837m south-east of Sacrewell Farmhouse**

Location

The building or site itself may lie within the boundary of more than one authority.

District: **City of Peterborough (Unitary Authority)**

Parish: **Wansford**

National Grid Reference: **TL0867099837**

Summary

The buried remains of seven ring ditches, a quadrilateral, single-ditched enclosure interlinked with a smaller, single-ditched enclosure, a pit alignment and pits, all visible as cropmarks on aerial photographs. The ring ditches are thought to represent the buried remains of a Bronze Age round barrow cemetery while the enclosure is believed to have originated as a prehistoric enclosed farmstead which was later reused in the Romano-British period. The features lie 837m south-east of Sacrewell Farmhouse, in a field known as Toll Bar Field, which rises gently from the River Nene in the south to the Sacrewell stream in the north.

Reasons for Designation

The cropmarks of a round barrow cemetery and a quadrilateral, single-ditched enclosure, together with pits and a pit alignment, approximately 837m south-east of Sacrewell Farmhouse, are scheduled for the following principal reasons: * Period: the round barrow cemetery and ditched enclosure demonstrate a significant sequence of development throughout the late prehistoric and Romano-British periods and offer an important understanding of the economic and social activities within the area during the period of occupation; * Survival: despite having previously subject to ploughing, aerial photographs and geophysical (magnetometer) survey have shown that archaeological features survive as buried deposits; * Potential: deposits in the infilled ditches and the buried land surface will preserve important archaeological information relating to the construction and use of the site, as well as the impact of prehistoric and Roman occupation on the wider landscape; * Finds: the abundance of Romano-British finds recovered from the site, all indicate a prolonged period of occupation; * Group value: a study of the monument and its relationship to other prehistoric and Roman sites in the area will make a valuable contribution to the understanding of later prehistoric occupation and

funerary activity in the Nene Valley, along with civil and military control during its Roman occupation.

History

The lower Nene Valley is exceptionally rich in the archaeological remains of the prehistoric and Roman periods, though relatively few extant monuments now survive. Most of its known archaeological sites have been discovered either by chance or by systematic field walking, while others are only visible on aerial photographs as crop and soil marks. Few sites were known before 1945 and the majority have been discovered since 1960 by aerial reconnaissance. In 1961 a previously unknown cropmark system was recorded by Professor JKS St Joseph, Curator of Aerial Photography for the Cambridge University Committee for Aerial photography, at Sacrewell Farm, Thornhaugh. Situated in a 27-acre arable field known as 'Toll Bar Field', the cropmarks comprised seven ring ditches and a quadrilateral, single-ditched enclosure. As the features lay within the hinterland of the Roman town of Durobrivae, the scheduled remains of which lie some 2.5km to the south-east (National Heritage List for England List Entry number: 1021429), with the route of Ermine Street, the principal Roman road linking London with Lincoln, also lying some 1.6km to the east, the cropmarks were originally thought to represent Romano-British settlement activity. However, advances in aerial photographic interpretation, along with the results of a geophysical (magnetometer) survey undertaken in 2017, has now resulted in the seven ring ditches being interpreted as the probable remains of a Bronze Age round barrow cemetery, with suggestion of a pit alignment, while the enclosure possibly originated as a prehistoric farmstead which was later reused in the Romano-British period.

In general, where barrow mounds have been levelled, the most striking feature recorded from the air is the ring ditch or quarry ditch i.e. the ditch from which material to construct the barrow mound was excavated. Barrow cemeteries are groups of five or more closely-spaced round barrows containing examples of one or more of the following types: bowl barrows, fancy barrows, pond barrows and ring cairns. As they have usually accumulated over many generations the land between and around the barrows is important as it may contain evidence of paraphernalia associated with the functioning of the monument such as burials, pyres and feasting areas. Some barrow groups cluster together in small areas, while others take on a looser arrangement with groups of two or three spaced at much greater intervals. In some instances groups take on a linear form. Barrow cemeteries are sometimes found in association with other monuments that are also often assumed to have served a ceremonial or ritual purpose during the Neolithic and Bronze Age. These may include avenues, cursuses, henges, mortuary enclosures, stone and timber circles. Such relationships are little understood but the variety of spatial and chronological associations provide invaluable areas for archaeological study.

Prehistoric farmsteads are generally represented by ditched enclosures, the size and form of which vary considerably, containing evidence of a small group of circular domestic buildings and associated agricultural structures. Where excavated, these sites are also found to contain pits or rectangular post-built structures for the storage of grain and other produce, evidence of an organised and efficient farming system. The surrounding enclosures would have provided protection against cattle rustling and tribal raiding. In central and southern England, most enclosed prehistoric farmsteads are situated in areas which are now under intensive arable cultivation. As a result the majority have been recorded as cropmarks and soilmarks appearing on aerial photographs.

While the primary source of evidence for prehistoric occupation in the lower Nene Valley principally lies with air photography along with the identification of dateable remains and chance finds, evidence of Roman activity in the area is more apparent. Prior to Professor Joseph's aerial reconnaissance in the 1960s, the most comprehensive archaeological surveys of the river valley were undertaken by Edmund Tyrell Artis (1789-1847), a geologist and archaeologist who served as Steward to the Earls of Fitzwilliam between 1820 and 1828. While searching for fossils on Fitzwilliam's estates at Castor in 1821, Artis discovered a large tessellated Roman pavement. This encouraged him to conduct a series of further excavations in the locality, unusually systematic for their time, which continued until 1827. Unlike many of his contemporaries, whose main interest was in searching for ancient treasures for private collections, he meticulously measured and recorded his discoveries. He also attempted to place this information within a wider landscape context, observing how the various elements, settlements, roads, industry and temples may have related to each other, thus

attempting to understand Roman society as a whole. From 1823 he produced a series of plates illustrating his discoveries, largely engraved from his own drawings, entitled 'The Durobrivae of Antoninus'. While these illustrations appeared in a single volume in 1828, the text to accompany them, which was apparently in note form at the time of Artis's death, was never published. One of his plates, however, clearly depicts two Roman buildings standing in Toll Bar Field, one placed inside the enclosure and one standing immediately to its east side. Scatters of limestone rubble building material were discovered by field-walking in the 1980s along with Romano-British tegulae and imbrex tile fragments. Further finds indicative of Romano-British activity within and around the enclosure include the discovery of a significant amount of Grey Ware and colour-coated ware pottery along with a smaller amount of Samian ware. By 1991 over 500 Roman coins had also been recovered from Toll Bar Field, of which 200 had been dated to the C1/C2 AD.

After the Romans left there is little evidence that the land at Sacrewell Farm was occupied by later settlers, though Sacrewell Mill is recorded as being in existence by the time of the Domesday Book. At this time the farm was owned by the St Medard family, as part of the Manor of Thornough, and they introduced the three-field system of farming.

In 1525 Sir John Russell, Earl of Bedford and a close advisor to Henry VIII, acquired Sacrewell Farm, with the land, by this time, being divided into individual furlongs as part of an open field system. Faint traces of ridge and furrow from this subdivision of the land are still discernible across parts of Toll Bar Field.

By 1729, as illustrated on an estate map, the majority of individual furlongs had been amalgamated to create larger fields. At this time Toll Bar Field is shown to have been formed of three separate fields: Middle Close, Middle Ground and Bridge Mill Close. The process of amalgamation continued with the Enclosures which came to Sacrewell in around 1760. Rectangular fields enclosed by hawthorn hedges were laid out and two new farmhouses, Sacrewell Farmhouse and Sacrewell Lodge (both listed Grade II), were built.

In 1928 Toll Bar Field consisted of two separate fields with the northern half known as Hop Ground and the southern half Toll Bar. It eventually became a single field in the mid-C20 and was farmed as arable until the late C20. It is now (2018) set aside.

Details

Principal elements: the buried remains of seven ring ditches, a quadrilateral, single-ditched enclosure interlinked with a smaller, single-ditched enclosure, a pit alignment and pits, all visible as cropmarks on aerial photographs. The ring ditches are thought to represent the buried remains of a Bronze Age round barrow cemetery while the enclosure is believed to have originated as a prehistoric enclosed farmstead which was later reused in the Romano-British period. The features lie 837m south-east of Sacrewell Farmhouse, in a field known as Toll Bar Field, which rises gently from the River Nene in the south to the Sacrewell stream in the north.

Description: the buried remains of the ring ditches and large, quadrilateral enclosure have all been recorded as cropmarks from aerial photographs and by geophysical (magnetometer) survey. The ring ditches are thought to represent the buried remains of a Bronze Age round barrow cemetery while the enclosure is believed to have originated as a prehistoric enclosed farmstead which was later reused in the Romano-British period.

The ring ditches, the surviving quarry ditches of seven round barrows, lie mainly in the southern half of Toll Bar Field and vary in size from 11m to 37m diameter. The southernmost and largest ring ditch is centred at NGR TL0866 9968 and abuts the southern boundary of the field. It is bivallate in form with an outer ring measuring approximately 30m in diameter and an inner ring measuring approximately 20m in diameter. A cut internal feature may represent the grave of a primary burial while a further cut feature at the eastern edge of the outer ditch line could be that of a secondary interment.

The remaining six ring ditches, which are centred at NGR's TL 0862 9985, TL 0861 9979, TL 0873 9983, TL 0871 9979, TL 0868 9976 and TL 0871 9975, respectively measure 11m, 22m, 23.5m, 37m, 25.5m and 11m in diameter. Numerous high

magnitude discrete anomalies identified within the ring ditches by a geophysical (magnetometer) survey in 2017 may indicate the locations of burial pits, cremations and/or inhumations.

Situated at roughly the mid-point of Toll Bar Field, centred at NGR TL 08678 99928, is a large, quadrilateral, single-ditched enclosure. Neither the geophysical survey nor the LIDAR and aerial photograph (AP) assessment of the site offer measurements for the enclosure but from the plots of the cropmarks it is at least between 80 and 100m across the southern edge, but is longer north to south, particularly on the east side. Geophysical survey has also confirmed a smaller, single-ditched enclosure interlinked at its south-east corner, with both enclosures containing numerous pit-type anomalies suggesting settlement activity. Thermoremnant anomalies east of the enclosure may indicate burning or industrial activity.

The discovery of Neolithic artefacts provides further evidence for the site being the focus of prehistoric activity.

Extending from the enclosures south-east corner, on a roughly east-west axis, is a short pit alignment, while a short length of ditch runs from the north-west corner of the enclosure to a smaller, rectilinear enclosure.

Although the earthworks have been levelled by ploughing, the infilled ditches and ground surface will contain valuable evidence relating to the date of construction and the function of the monuments, as well as evidence for social organisation. Funerary remains contained within burial pits may also provide evidence of the nature of the funeral rituals employed.

Extent of Scheduling: the area of protection, which is shown on the accompanying map extract, includes the buried remains of seven ring ditches, a quadrilateral, single-ditched enclosure interlinked with a smaller, single-ditched enclosure, a pit alignment and pits, all visible as cropmarks on aerial photographs.

The scheduled area is bounded to the south and west by field boundaries formed by hedge rows, while the north and east sides open onto agricultural land.

Legacy

The contents of this record have been generated from a legacy data system.

Legacy System number: **PE 201**

Legacy System: **RSM - OCN**

Sources

Books and journals

Artis, E, *The Durobrivae of Antonius*, (1828), Plate 1

Royal Commission on Historical Monuments, , *Peterborough New Town: a survey of antiquities...*, (1969)

Websites

Information on Edmund Tryell Artis from the Oxford Dictionary of National Biography website, accessed 26 July 2018 from

Other

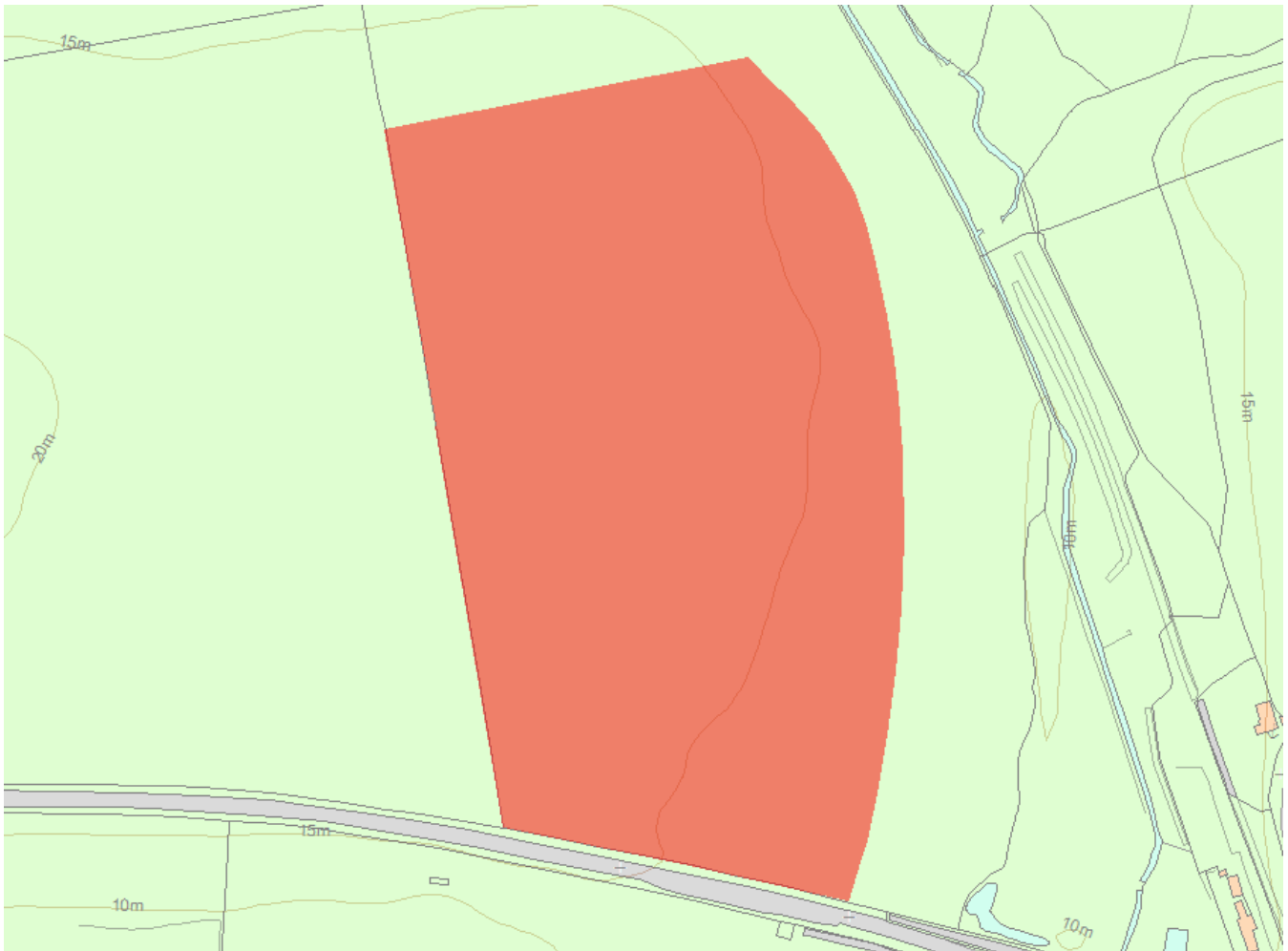
Cambridge University Collection of Aerial Photography, Oblique Aerial Photograph Reference Number ABW, 07 July 1960

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Headland Archaeology, 'A47 Wansford LiDAR and Aerial Photo Analysis for Amey', (2017)
Headland Archaeology, 'Land adjacent to the A47, Wansford, Peterborough: Geophysical Survey for Amey', (2017)
Upex, S, 'An archaeological desk-based evaluation of land along the line of the A47 road between Wansford and Sutton roundabout, to the west of Peterborough' (2018)

Legal

This monument is scheduled under the Ancient Monuments and Archaeological Areas Act 1979 as amended as it appears to the Secretary of State to be of national importance. This entry is a copy, the original is held by the Department for Digital, Culture, Media and Sport.



Map

This map is for quick reference purposes only and may not be to scale. This copy shows the entry on 22-Dec-2021 at 15:13:22.

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End of official list entry



Annex G - Effect on Scheduled Monument

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NOTES

Purpose of use
FOR DCO SUBMISSION

Development Consent Order Number / Document

1. THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH ALL PLANS AND DOCUMENTS INCLUDED IN THE DCO APPLICATION.
2. BASE MAP REPRODUCED FROM ORDINANCE SURVEY MAPPING.

KEY TO SYMBOLS

- ORDER LIMITS
- SCHEDULED MONUMENT
- AREA OF SCHEDULED MONUMENT AND WORKS OVERLAP
- AGRICULTURAL
- FERROUS MATERIAL
- +++ FEILD DRAIN
- QUARRYING
- BURNT MATERIAL
- GEOLOGY
- ARCHEOLOGY
- ARCHEOLOGY
- FERROUS MATERIAL

P01	14/02/22	DEADLINE 2 SUBMISSION	RO	PE	MMur
REV	DATE	REVISION NOTE	ORG	CHKD	APPD

DESIGNER
SWECO

CONTRACTOR
GallifordTry

CLIENT
highways england

PROJECT TITLE
A47 WANSFORD TO SUTTON DUALLING

PROJECT STAGE
PCF STAGE 4

DRAWING TITLE
EFFECT ON SCHEDULED MONUMENT

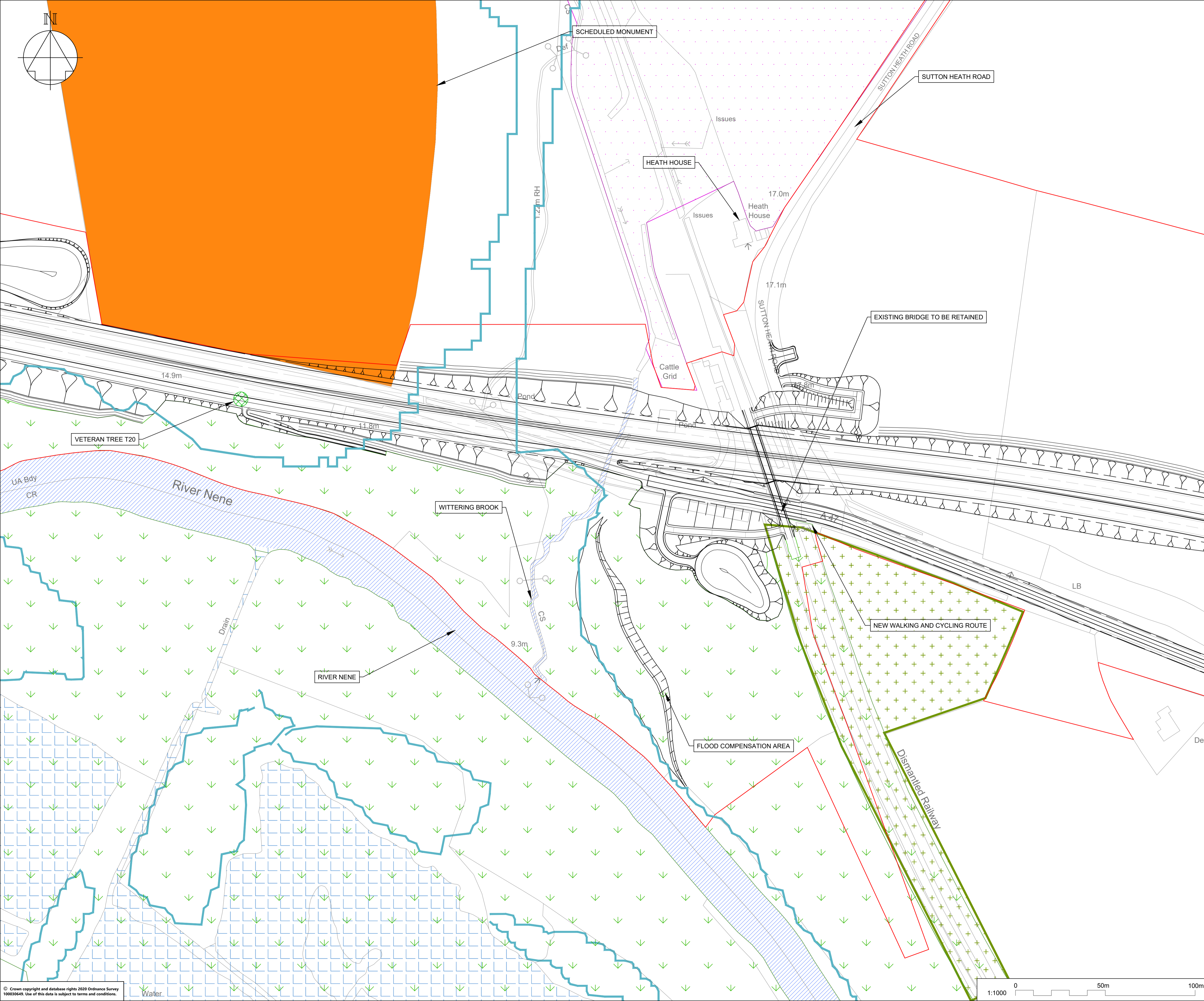
SUITABILITY
SUITABLE FOR INFORMATION

SHEET SIZE A1	SCALE 1:500	STATUS S2	REVISION P01
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DRAWING NUMBER
HE551494-GTY-HGN-000-DR-CH-38015

Annex H - Relationship of Effect on Scheduled Monument, SSSI, veteran tree T20, and Flood Compensation

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NOTES

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- THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH ALL PLANS AND DOCUMENTS INCLUDED IN THE DCO APPLICATION.
- BASE MAP REPRODUCED FROM ORDINANCE SURVEY MAPPING.

KEY TO SYMBOLS

- ORDER LIMITS
- FLOOD ZONE 3
- VETERAN TREE T20
- SSSI
- WANSFORD COUNCIL WILDLIFE SITES
- DRAINAGE POND
- WANSFORD COUNCIL TREE PRESERVATION ORDER
- SCHEDULED MONUMENT
- MARSH AND WET GRASSLAND

P01	15/02/22	DEADLINE 2 SUBMISSION	RO	PE	MMur
REV	DATE	REVISION NOTE	ORG	CHKD	APPD

DESIGNER
SWECO

CONTRACTOR
GallifordTry

CLIENT
highways england

PROJECT TITLE
A47 WANSFORD TO SUTTON DUALLING

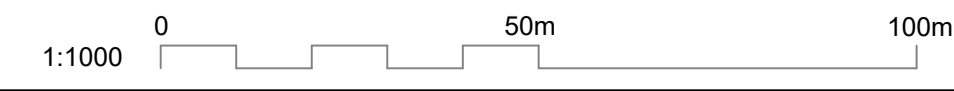
PROJECT STAGE
PCF STAGE 4

DRAWING TITLE
RELATIONSHIP OF EFFECT ON SCHEDULED MONUMENT, SSSI, VETERAN TREE T20 AND FLOOD COMPENSATION

SUITABILITY
SUITABLE FOR INFORMATION

SHEET SIZE A1	SCALE 1:1000	STATUS S2	REVISION P01
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DRAWING NUMBER
HE551494-GTY-HGN-000-DR-CH-38014



Annex I - A47 Trunk Road (Wansford, City of Peterborough to Great Yarmouth, Norfolk) (24 Hour Clearway) Order 2013

2013 No. 394

ROAD TRAFFIC

The A47 Trunk Road (Wansford, City of Peterborough to Great Yarmouth, Norfolk) (24 Hour Clearway) Order 2013

Made - - - - *11th February 2013*
Coming into force - - *25th February 2013*

The Secretary of State for Transport makes the following Order in exercise of the powers conferred by sections 1(1), 2(1) and (2) and 4(1) of, and paragraph 27(1) of Schedule 9 to, the Road Traffic Regulation Act 1984(a):

1. This Order may be cited as the A47 Trunk Road (Wansford, City of Peterborough to Great Yarmouth, Norfolk) (24 Hour Clearway) Order 2013 and shall come into force on 25th February 2013.

2. In this Order -

“the trunk road” means the lengths of the A47 Trunk Road, in the City of Peterborough and the Counties of Cambridgeshire and Norfolk, as described in Part I of the Schedule to this Order;

“a slip road” means any connecting road leading to or from the trunk road at its junction with an interchange, roundabout or local road, as described in Part I of the Schedule to this Order;

“a road” means the trunk road or a slip road;

“verge” means any part of a road which is not a carriageway;

“carriageway” means a way constituting or comprised in a road being a way (other than a cycle track) over which the public have a right of way for the passage of vehicles and a surface suitable for the exercise of that right;

“lay-by” means an area of carriageway intended for the waiting of vehicles and bounded partly by a road marking on the outer edge of that carriageway complying with diagram 1010 in Schedule 6 to the Traffic Signs Regulations and General Directions 2002(b);

3. Subject to the provisions in article 4 of this Order no person shall, except upon the direction, or with the permission, of a constable, or a traffic officer in uniform, cause or permit any vehicle to wait on any part of the carriageway of a road, other than a lay-by.

4. Nothing in article 3 of this Order shall apply -

(a) so as to prevent a vehicle waiting on any part of a road, for so long as may be necessary to enable that vehicle to be used in connection with -

(i) any building operation or demolition,

(a) 1984 (c.27); sections 1(1) and 2(1) and (2) were amended by the New Roads and Street Works Act 1991 (c.22), section 168 and Schedule 8, paragraphs 17(2) and 18(2) and (3).

(b) Part I of S. I. 2002/3113; as amended by S. I. 2005/1670. There are other amending instruments but none are relevant.

- (ii) the removal of any obstruction to traffic,
 - (iii) the maintenance, including winter maintenance, improvement or reconstruction of the trunk road, or
 - (iv) the laying, erection, inspection, maintenance, alteration, repair, renewal or removal in or near the trunk road of any sewer, main, pipe, conduit, wire, cable or other apparatus for the supply of gas, water, electricity or of any telecommunications apparatus as defined in Schedule 2 of the Telecommunications Act 1984(a),
- (b) in relation to a vehicle being used –
- (i) or police, fire and rescue authority or ambulance purposes,
 - (ii) by a traffic officer in pursuance of statutory powers or duties,
 - (iii) by the Vehicle and Operator Services Agency for observation and enforcement purposes,
 - (iv) by the Highways Agency contractors in performance of their duties,
 - (v) by Safety Camera Partnerships for the purpose of speed limit enforcement,
 - (vi) in the service of a local authority in pursuance of statutory powers or duties, or
 - (vii) in the service of a water or sewerage undertaker within the meaning of the Water Industry Act 1991(b),
- (c) in relation to a vehicle waiting while any gate or barrier at the entrance to premises to or from which that vehicle is proceeding is opened or closed, if it is not reasonably practicable for the vehicle to wait elsewhere, and
- (d) in relation to a vehicle waiting when the person in control of it is –
- (i) required by law to stop,
 - (ii) obliged to stop in order to avoid an accident, or
 - (iii) prevented from proceeding by circumstances outside his or her control.

5. No person shall cause or permit any vehicle to wait on any part of a lay-by or a verge immediately adjacent to the carriageway of a road, for the purpose of selling, or dispensing of, goods from that vehicle, unless the goods are immediately delivered at, or taken into premises adjacent to, the land on which the vehicle stood when the goods were sold or dispensed, except with –

- (a) street trading consent issued by the relevant local authority under section 3 of, and schedule 4 to, the Local Government (Miscellaneous Provisions) Act 1982(c); and
- (b) the written consent of the Secretary of State for Transport.

6. Each of the Orders specified in column (1) of a paragraph in Part II of the Schedule to this Order is hereby revoked or varied as indicated in column (2) of that paragraph.

Signed by authority of the Secretary of State for Transport

Woodlands, Manton Lane, Bedford, MK41 7LW
11th February 2013

M R Evans
A Team Leader in the Highways Agency

(a) 1984 c.12.
(b) 1991 c.56.
(c) 1982 c.30.

THE SCHEDULE

Article 3

PART I

Lengths of trunk road and slip roads subject to no waiting

Lengths of the A47 Trunk Road (both carriageways) –

1. from its junction with the western side of the western roundabout at the A1/A47/A6118 Wansford Interchange, City of Peterborough to the centre line of its junction with Hill Road, North Runcton, Norfolk;
2. from a point 220 metres east of the centre line of its junction with Station Road, Middleton, Norfolk to a point 60 metres west of the centre line of its junction with Church Lane, East Winch, Norfolk;
3. from a point 157 metres east of the centre line of its junction with Station Road, East Winch, Norfolk to a point 516 metres west of the centre line of its junction with Station Road, Little Fransham, Norfolk; and
4. from a point 256 metres east of the centre line of its junction with Crown Lane, Little Fransham, Norfolk to its junction with the A47/A12/A149 Vauxhall Roundabout, Great Yarmouth, Norfolk;

Slip roads leading to or from the trunk road –

5. in the City of Peterborough at –
 - (a) Castor Interchange;
 - (b) A1260 Thorpe Wood Interchange Junction 15;
 - (c) A15 Bretton Gate Interchange Junction 16;
 - (d) Bretton Way Interchange Junction 17, including the eastbound and westbound link roads between Bretton Way Interchange Junction 17 and the A15 Interchange Junction 18;
 - (e) A15 Interchange Junction 18; and
 - (f) Fulbridge Road Interchange Junction 19;
6. in the County of Norfolk at –
 - (a) Walpole Highway, Lynn Road junction;
 - (b) Church Road junction, Terrington St John;
 - (c) A148 Saddlebow junction, King's Lynn;
 - (d) A10/A149 Hardwick Road Interchange, King's Lynn;
 - (e) Lynn Road junction, Swaffham;
 - (f) A1065 Castleacre Road Interchange, Swaffham;
 - (g) A1075/B1135 Toftwood Interchange, Dereham;
 - (h) B1147 Etling Green junction, Dereham;
 - (i) Fox Lane/B1110, North Tuddenham;
 - (j) A1074 Longwater Interchange, Norwich;
 - (k) B1108 Watton Road Interchange, Norwich;
 - (l) A11 Newmarket Road/Thickthorn Interchange, Norwich;
 - (m) A140 Ipswich Road Interchange, Norwich;
 - (n) A146 Trowse Interchange, Norwich;
 - (o) A1042 Postwick Interchange, Norwich;
 - (p) Blofield junction;
 - (q) Norwich Road junction, Acle; and
 - (r) Beighton Road junction, Acle.

PART II

Orders which are revoked or varied (1)	(2)
Name of Order	
1. The Birmingham – Great Yarmouth Trunk Road (Prohibition of Waiting) (Clearways) Order 1971(a);	The Order is varied by deleting paragraph 3 in the Schedule to this Order.
2. The A47 Trunk Road (Birmingham – Great Yarmouth) (24-Hour Main Carriageway Clearway) Order 1985(b);	The Order is revoked.
3. The A47 Trunk Road (Birmingham-Great Yarmouth) (24 Hour Main Carriageway Clearway) Order 1986(c);	The Order is varied by deleting paragraphs 1, 2 and 6 in the Schedule to this Order.
4. The A47 Trunk Road (Castor - Ailsworth Bypass) (24 Hour Clearway) Order 1993(d);	The Order is revoked.
5. The A47 Trunk Road (East Winch to Little Fransham) (24 Hour Clearway) Order 1993(e);	The Order is revoked.
6. The A47 Trunk Road (Walpole Highway/Tilney High End Bypass, Norfolk) (24 Hours Clearway) Order 1996(f);	The Order is revoked.
7. The A47 Trunk Road (Little Fransham to Acle Road Roundabout, Great Yarmouth) (24 Hours Clearway) Order 2007(g), and	The Order is revoked.
8. Any other Order made under, respectively, the Road Traffic Act 1960, the Road Traffic Regulation Act 1967 or the Road Traffic Regulation Act 1984, which prohibits or restricts the waiting of vehicles on any length of a road.	Each such Order is varied by deletion of every reference to such a length.

EXPLANATORY NOTE

(This note is not part of the Order)

There are existing Clearway Orders in place along various lengths of the A47 Trunk Road. For ease of reference and to reduce regulation, it is proposed to incorporate all the existing provisions under one Order. At the same time it will be an opportunity to include new sections that are not currently covered by regulations.

-
- (a) 1971/795.
 - (b) 1985/739.
 - (c) 1986/2327.
 - (d) 1993/1857.
 - (e) 1993/3088.
 - (f) 1996/2459.
 - (g) 2007/86.

Annex J - Determinations of the sensitivity and magnitude of impacts to agricultural soils

Annex J - Determinations of the sensitivity and magnitude of impacts to agricultural soils

Question 1.7.5b Table 9-12: Determinations of the sensitivity and magnitude of impacts to agricultural soils (presented as per Table 9-12 in ES Chapter 9 Geology and Soils)

Receptor and description of impact	Sensitivity and Magnitude	Reasoning	Significance	Mitigation measures
Construction				
<p>Agricultural soils-</p> <p>Stripping of soil across the Proposed Scheme required for the permanent works (road, structures, drainage network, environmental bunds etc).</p> <p>Permanent land-take of over 20 ha.</p>	<p>Very high Major</p>	<p>Stripping of soil across the Proposed Scheme footprint required for the permanent works (road, structures, drainage network, flood storage etc.).</p> <p>Agricultural land would be removed/ permanently sealed beneath new carriage ways which will be constructed as part of the Proposed Scheme.</p> <p>Permanent land-take of approximately 28.6 ha of agricultural land (ALC Grades 2, 3a and 3b).</p>	<p>Very large adverse</p>	<p>Inclusion of a Materials Management Plan (MMP) and Soil Management Plan (SMP).</p> <p>Minimising over-excavation of soils.</p> <p>Reuse of soils as much as possible on the Proposed Scheme</p> <p>Reduce the footprint of the Proposed Scheme as far as practicable.</p> <p>Use of best practice measures for soil handling</p> <p>Logistical planning of site layout and access</p> <p>Identifying soils subject to earthworks and construction activities</p>
<p>Agricultural soils-</p> <p>Stripping of soil across the Proposed Scheme required for the temporary works (construction compounds, haul roads etc.).</p>	<p>Very high Minor</p>	<p>Stripping of soils across the Proposed Scheme footprint required for the temporary works (construction compounds, haul roads, etc.)</p> <p>Temporary land-take resulting in the potential for reduction of soil functions due to degradation, compaction and erosion of soil resource during the construction period.</p>	<p>Moderate adverse (due to temporary impacts)</p>	<p>Inclusion of a Materials Management Plan (MMP) and Soil Management Plan (SMP), incorporating guidance provided by the Construction Code of Practice for the Sustainable Use of Soils on Construction Sites.</p> <p>Minimising over-excavation of soils.</p>

Receptor and description of impact	Sensitivity and Magnitude	Reasoning	Significance	Mitigation measures
				<p>Reuse of soils as much as possible on the Proposed Scheme</p> <p>Use of best practice measures for soil handling</p> <p>Protection of the agricultural soils within the temporary land-take</p> <p>Logistical planning of site layout and access</p> <p>Identifying soils subject to earthworks and construction activities</p> <p>Specifying areas of soils to be stripped, stored and replaced to their baseline condition</p>

Question 1.7.5c Table 9-12: Determinations of the sensitivity and magnitude of impacts to BMV agricultural land (presented as per Table 9-12 in ES Chapter 9 Geology and Soils)

Receptor and description of impact	Sensitivity and Magnitude	Reasoning	Significance	Mitigation measures
Construction				
<p>Agricultural soils- BMV agricultural land</p> <p>Stripping of soil across the Proposed Scheme required for the permanent works (road, structures, drainage network, environmental bunds etc).</p> <p>Permanent land-take of between 1 - 20 ha.</p>	<p>Very high</p> <p>Moderate</p>	<p>Stripping of soil across the Proposed Scheme footprint required for the permanent works (road, structures, drainage network, flood storage etc.).</p> <p>Agricultural land would be removed/ permanently sealed beneath new carriage ways which will be constructed as part of the Proposed Scheme.</p> <p>Permanent land-take of approximately 19.1 ha of BMV agricultural land (ALC Grades 2 and 3a).</p>	<p>Very large adverse (due to the loss of over 10 ha of BMV agricultural land)</p>	<p>Inclusion of a Materials Management Plan (MMP) and Soil Management Plan (SMP).</p> <p>Minimising over-excavation of soils.</p> <p>Reuse of soils as much as possible on the Proposed Scheme</p> <p>Reduce the footprint of the Proposed Scheme as far as practicable.</p> <p>Use of best practice measures for soil handling</p> <p>Logistical planning of site layout and access</p> <p>Identifying soils subject to earthworks and construction activities</p>
<p>Agricultural soils- BMV agricultural land</p> <p>Stripping of soil across the Proposed Scheme required for the temporary works (construction compounds, haul roads etc.).</p>	<p>Very high</p> <p>Minor</p>	<p>Stripping of soils across the Proposed Scheme footprint required for the temporary works (construction compounds, haul roads, etc.)</p> <p>Temporary land-take resulting in the potential for reduction of soil functions due to degradation, compaction and erosion of soil resource during the construction period.</p>	<p>Moderate adverse (due to temporary impacts)</p>	<p>Inclusion of a Materials Management Plan (MMP) and Soil Management Plan (SMP), incorporating guidance provided by the Construction Code of Practice for the Sustainable Use of Soils on Construction Sites.</p> <p>Minimising over-excavation of soils.</p> <p>Reuse of soils as much as possible on the Proposed Scheme</p>

Receptor and description of impact	Sensitivity and Magnitude	Reasoning	Significance	Mitigation measures
				<p>Use of best practice measures for soil handling</p> <p>Protection of the agricultural soils within the temporary land-take</p> <p>Logistical planning of site layout and access</p> <p>Identifying soils subject to earthworks and construction activities</p> <p>Specifying areas of soils to be stripped, stored and replaced to their baseline condition</p>
<p>Agricultural soils- non-BMV agricultural land</p> <p>Stripping of soil across the Proposed Scheme required for the permanent works (road, structures, drainage network, environmental bunds etc).</p> <p>Permanent land-take of between 1 - 20 ha.</p>	<p>Medium</p> <p>Moderate</p>	<p>Stripping of soil across the Proposed Scheme footprint required for the permanent works (road, structures, drainage network, flood storage etc.).</p> <p>Agricultural land would be removed/ permanently sealed beneath new carriage ways which will be constructed as part of the Proposed Scheme.</p> <p>Permanent land-take of approximately 9.5 ha of non-BMV agricultural land (ALC Grade 3b).</p>	<p>Moderate adverse</p>	<p>Inclusion of a Materials Management Plan (MMP) and Soil Management Plan (SMP).</p> <p>Minimising over-excavation of soils.</p> <p>Reuse of soils as much as possible on the Proposed Scheme</p> <p>Reduce the footprint of the Proposed Scheme as far as practicable.</p> <p>Use of best practice measures for soil handling</p> <p>Logistical planning of site layout and access</p> <p>Identifying soils subject to earthworks and construction activities</p>
<p>Agricultural soils- non-BMV agricultural land</p> <p>Stripping of soil across the Proposed Scheme required for the temporary works</p>	<p>Medium</p> <p>Minor</p>	<p>Stripping of soils across the Proposed Scheme footprint required for the temporary works (construction compounds, haul roads, etc.)</p>	<p>Slight adverse</p>	<p>Inclusion of a Materials Management Plan (MMP) and Soil Management Plan (SMP), incorporating guidance provided by the Construction Code of</p>

Receptor and description of impact	Sensitivity and Magnitude	Reasoning	Significance	Mitigation measures
(construction compounds, haul roads etc.).		Temporary land-take resulting in the potential for reduction of soil functions due to degradation, compaction and erosion of soil resource during the construction period.		Practice for the Sustainable Use of Soils on Construction Sites. Minimising over-excavation of soils. Reuse of soils as much as possible on the Proposed Scheme Use of best practice measures for soil handling Protection of the agricultural soils within the temporary land-take Logistical planning of site layout and access Identifying soils subject to earthworks and construction activities Specifying areas of soils to be stripped, stored and replaced to their baseline condition

Annex K - Comparison of ALC Grades by Administrative Areas

Annex K - Comparison of ALC Grades by Administrative Areas

Agricultural land ALC grade	Area (ha) ¹	Permanent land-take as % of the geographic area	Temporary land-take as % of the geographic area
Peterborough District			
Grade 1	809	0	0
Grade 2	13,304	0.08	0.02
Grade 3	13,188	0.13	0.10
Grade 4	571	0	0
Grade 5	0	0	0
County (Cambridgeshire and Peterborough)			
Grade 1	66,270	0	0
Grade 2	152,070	0.01	0.002
Grade 3	90,168	0.02	0.02
Grade 4	7,185	0	0
Grade 5	36	0	0
East Region			

¹ Taken from [REDACTED]

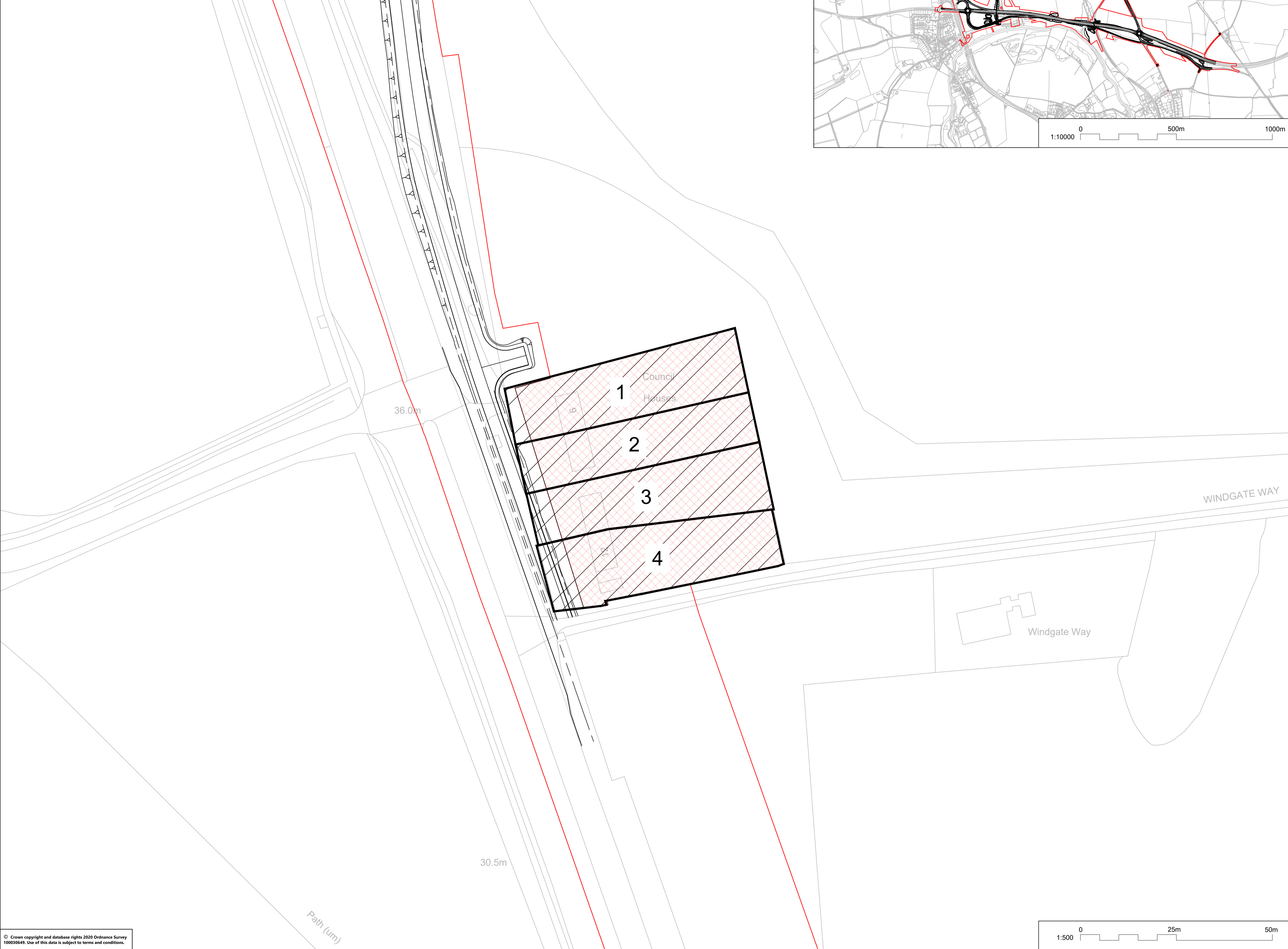
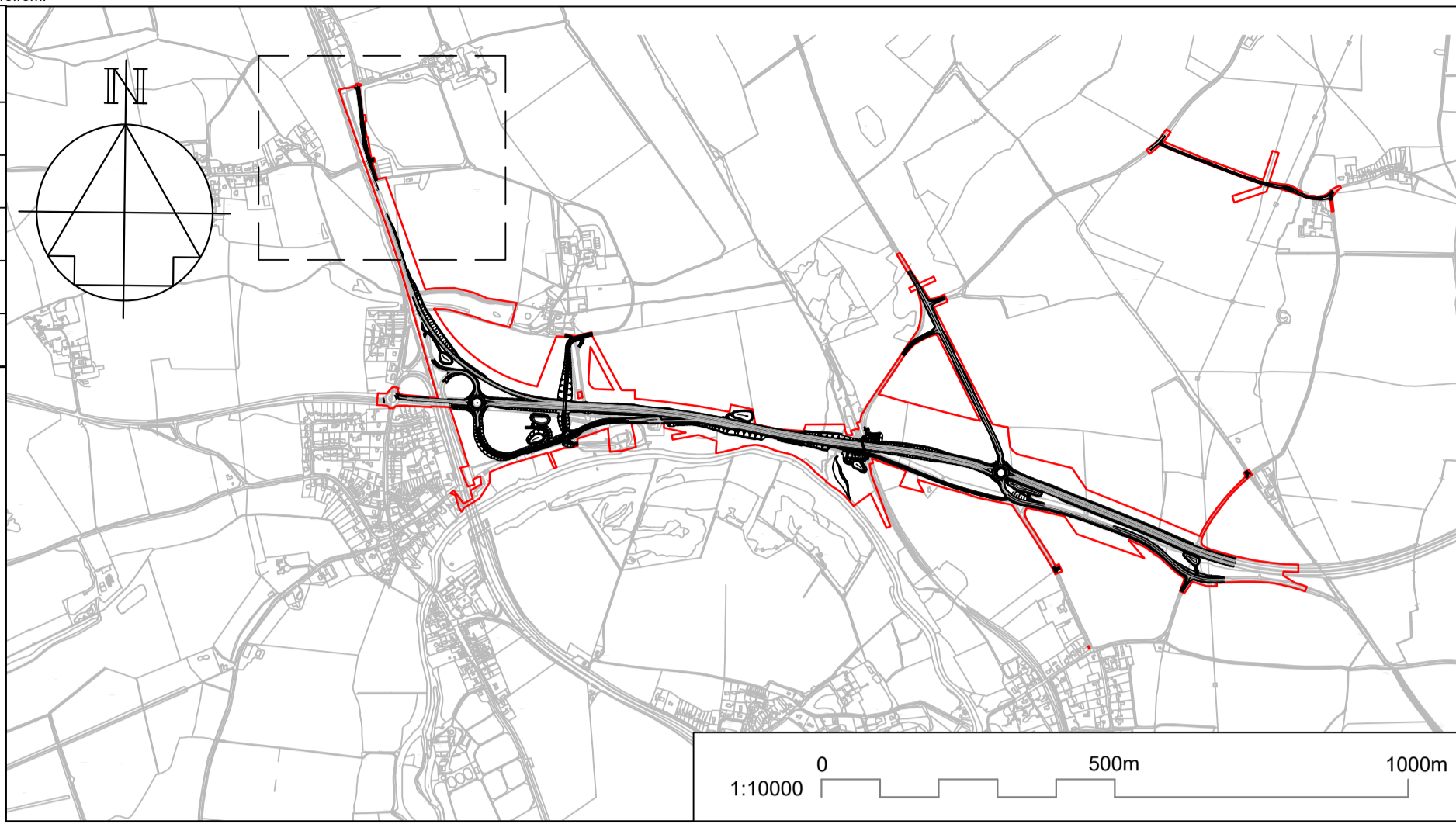
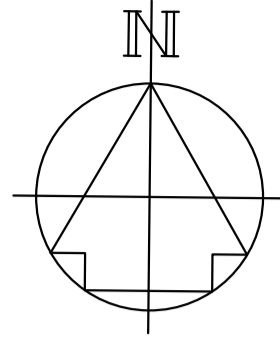
Agricultural land ALC grade	Area (ha) ¹	Permanent land-take as % of the geographic area	Temporary land-take as % of the geographic area
Grade 1	128,092	0	0
Grade 2	560,728	0.002	0.0005
Grade 3	888,609	0.002	0.002
Grade 4	117,676	0	0
Grade 5	2,780	0	0
Northamptonshire			
Grade 1	0	0	0
Grade 2	19,992	0.06	0.01
Grade 3	192,891	0.01	0.01
Grade 4	7,754	0	0
Grade 5	0	0	0
East Midlands Region			
Grade 1	76,729	0	0
Grade 2	288,336	0.004	0.001
Grade 3	886,249	0.002	0.002

Agricultural land ALC grade	Area (ha) ¹	Permanent land-take as % of the geographic area	Temporary land-take as % of the geographic area
Grade 4	154,835	0	0
Grade 5	44,743	0	0

Annex L - A1 Property Garden Areas

This drawing should not be relied on or used in circumstances other than those for which it was originally prepared and for which Sweco UK Ltd was commissioned. Sweco UK Ltd accepts no responsibility for this drawing to any party other than the person by whom it was commissioned. This drawing has been prepared on behalf of Galliford Try by Sweco UK Ltd for the titled project or named part thereof and should not be relied upon or used for any other project without an independent check being carried out as to its suitability and prior written authority of Galliford Try being obtained. Sweco UK Ltd accepts no responsibility or liability for the consequences of this drawing being used for a purpose other than the purposes for which it was commissioned. Any person using or relying on this drawing for such other purpose agrees, and will by such use or reliance be taken to confirm his/her agreement, to indemnify Sweco UK Ltd for all loss or damage resulting therefrom.

PROPERTY NUMBER	AREA Ref.	EXISTING AREA (m ²)	PROPOSED AREA (m ²)	AREA DIFFERENCE (m ²)
No.6	1	993	938	55
No.8	2	816	753	63
No.10	3	940	858	82
No.12	4	1050	919	131
	TOTAL	3799.000	3468.000	331.000



NOTES

Purpose of use
FOR DCO SUBMISSION

Development Consent Order Number / Document

1. THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH ALL PLANS AND DOCUMENTS INCLUDED IN THE DCO APPLICATION.
2. BASE MAP REPRODUCED FROM ORDINANCE SURVEY MAPPING.

KEY TO SYMBOLS

- ORDER LIMITS
- EXISTING AREA
- PROPOSED AREA (TO ORDER LIMITS)

P01	11/02/22	DEADLINE 2 SUBMISSION	RO	PE	MMur
REV	DATE	REVISION NOTE	ORG	CHKD	APPD

DESIGNER
SWECO

CONTRACTOR
GallifordTry

CLIENT
highways england

PROJECT TITLE
A47 WANSFORD TO SUTTON DUALLING

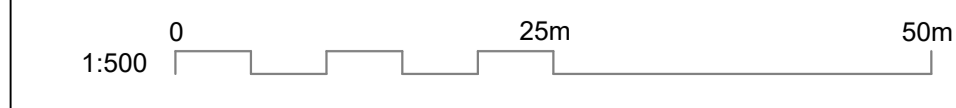
PROJECT STAGE
PCF STAGE 4

DRAWING TITLE
AREAS OF THE AFFECTED HOUSES ALONG THE A1 GREAT NORTH ROAD

SUITABILITY
SUITABLE FOR INFORMATION

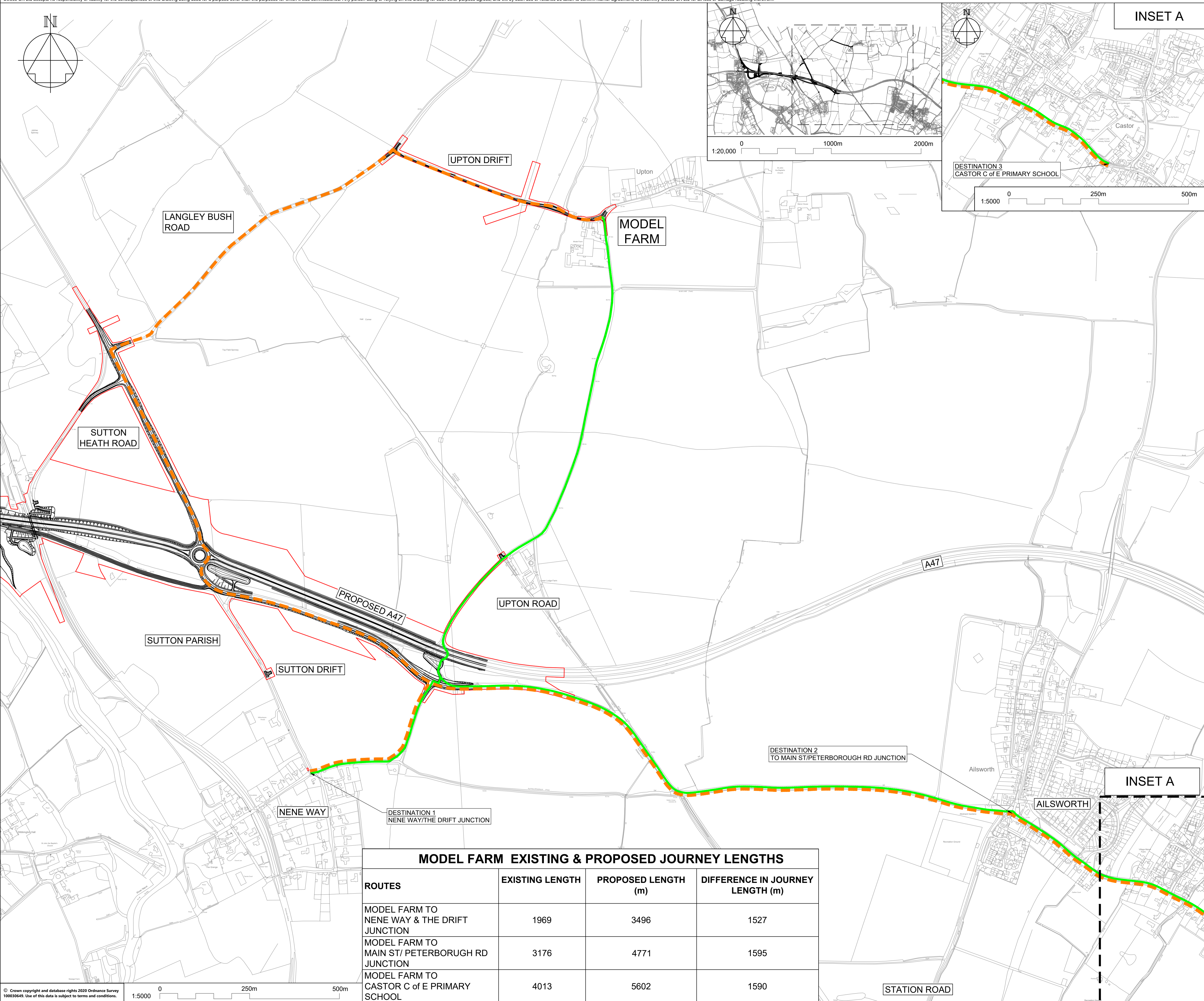
SHEET SIZE	SCALE	STATUS	REVISION
A1	AS SHOWN	S2	P01

DRAWING NUMBER
HE551494-GTY-HGN-000-DR-CH-38009



Annex M - Separation of Communities

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NOTES
 Purpose of use
FOR DCO SUBMISSION
 Development Consent Order Number / Document

NOTES
 1. ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE STATED
 2. EXISTING AND PROPOSED ROUTES ARE NOT EXHAUSTIVE AND ARE ONLY TO GIVE AN INDICATIVE ROUTE TO THE DESTINATIONS

VEHICLE ROUTES

- ORDER LIMITS
- EXISTING ROUTES
- - - PROPOSED ROUTES

P01	11/02/22	DEADLINE 2 SUBMISSION	BSim	PE	MMur
REV	DATE	REVISION NOTE	ORG	CHKD	APPD

DESIGNER

CONTRACTOR

CLIENT

PROJECT TITLE
A47 WANSFORD TO SUTTON DUALLING

PROJECT STAGE
PCF STAGE 4

DRAWING TITLE
SEPARATION OF COMMUNITIES MODEL FARM

SUITABILITY
SUITABLE FOR INFORMATION

SHEET SIZE	SCALE	STATUS	REVISION
A1	1:5000	S2	P01

DRAWING NUMBER
HE551494-GTY-HGN-000-DR-CH-38006

ROUTES	EXISTING LENGTH	PROPOSED LENGTH (m)	DIFFERENCE IN JOURNEY LENGTH (m)
MODEL FARM TO NENE WAY & THE DRIFT JUNCTION	1969	3496	1527
MODEL FARM TO MAIN ST/ PETERBOROUGH RD JUNCTION	3176	4771	1595
MODEL FARM TO CASTOR C of E PRIMARY SCHOOL	4013	5602	1590

NOTES
Purpose of use
FOR DCO SUBMISSION

Development Consent Order Number / Document

- NOTES**
- ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE STATED
 - EXISTING AND PROPOSED ROUTES ARE NOT EXHAUSTIVE AND ARE ONLY TO GIVE AN INDICATIVE ROUTE TO THE DESTINATIONS

- KEY TO SYMBOLS**
- ORDER LIMITS
 - EXISTING ROUTES
 - PROPOSED ROUTES

P01	11/02/22	DEADLINE 2 SUBMISSION	BSim	PE	MMur
REV	DATE	REVISION NOTE	ORG	CHKD	APPD

DESIGNER
SWECO

CONTRACTOR
GallifordTry

CLIENT
highways england

PROJECT TITLE
A47 WANSFORD TO SUTTON DUALLING

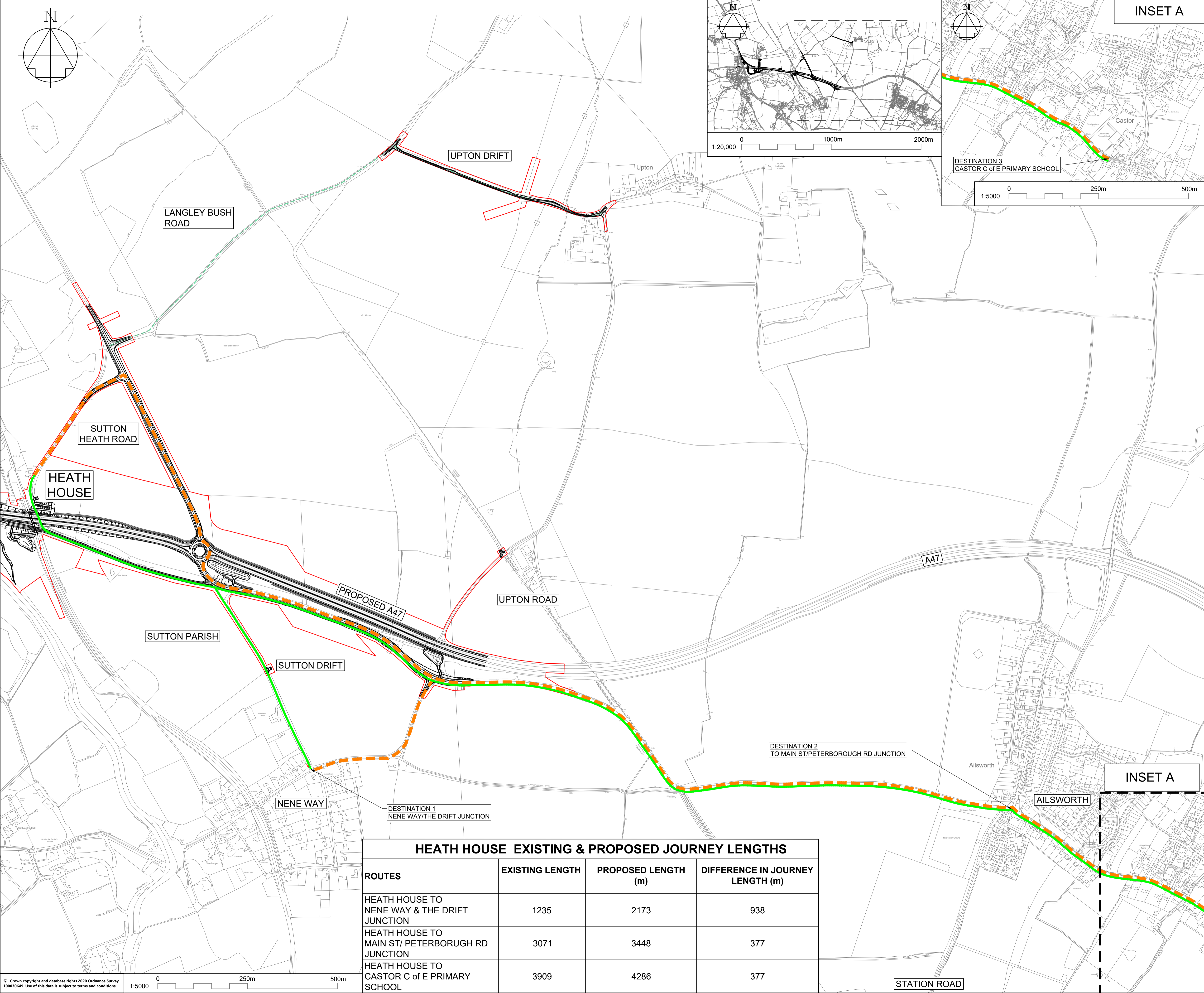
PROJECT STAGE
PCF STAGE 4

DRAWING TITLE
SEPARATION OF COMMUNITIES HEATH HOUSE

SUITABILITY
SUITABLE FOR INFORMATION

SHEET SIZE	SCALE	STATUS	REVISION
A1	1:5000	S2	P01

DRAWING NUMBER
HE551494-GTY-HGN-000-DR-CH-38007



ROUTES	EXISTING LENGTH	PROPOSED LENGTH (m)	DIFFERENCE IN JOURNEY LENGTH (m)
HEATH HOUSE TO NENE WAY & THE DRIFT JUNCTION	1235	2173	938
HEATH HOUSE TO MAIN ST/ PETERBOROUGH RD JUNCTION	3071	3448	377
HEATH HOUSE TO CASTOR C of E PRIMARY SCHOOL	3909	4286	377

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NOTES
Purpose of use
FOR DCO SUBMISSION

Development Consent Order Number / Document

- NOTES**
- ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE STATED
 - EXISTING AND PROPOSED ROUTES ARE NOT EXHAUSTIVE AND ARE ONLY TO GIVE AN INDICATIVE ROUTE TO THE DESTINATIONS

- KEY TO SYMBOLS**
- ORDER LIMITS
 - EXISTING ROUTES
 - PROPOSED ROUTES

P01	11/02/22	DEADLINE 2 SUBMISSION	BSim	PE	MMur
REV	DATE	REVISION NOTE	ORG	CHKD	APPD

DESIGNER
SWECO

CONTRACTOR
GallifordTry

CLIENT
highways england

PROJECT TITLE
A47 WANSFORD TO SUTTON DUALLING

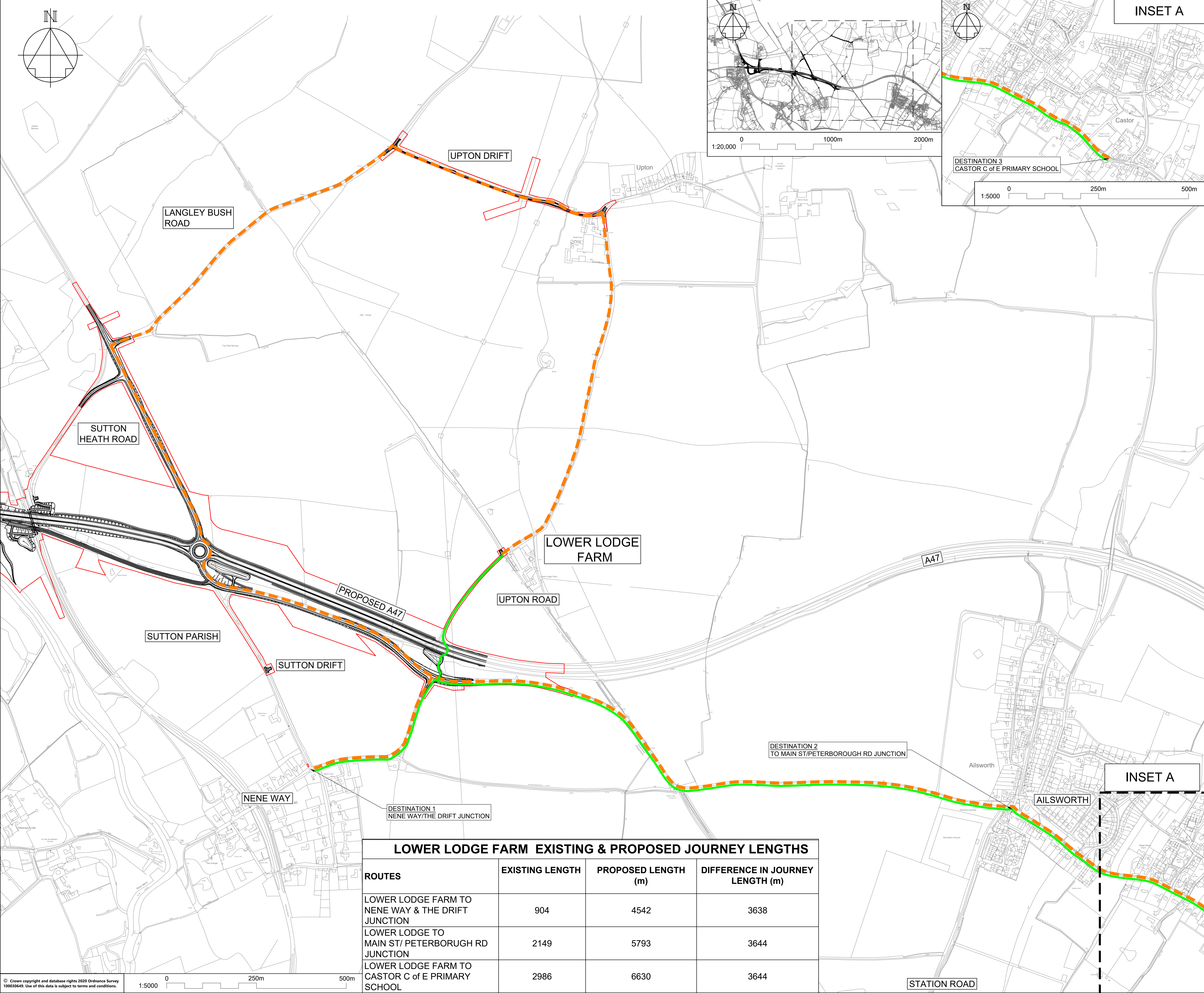
PROJECT STAGE
PCF STAGE 4

DRAWING TITLE
SEPARATION OF COMMUNITIES LOWER LODGE FARM

SUITABILITY
SUITABLE FOR INFORMATION

SHEET SIZE	SCALE	STATUS	REVISION
A1	1:5000	S2	P01

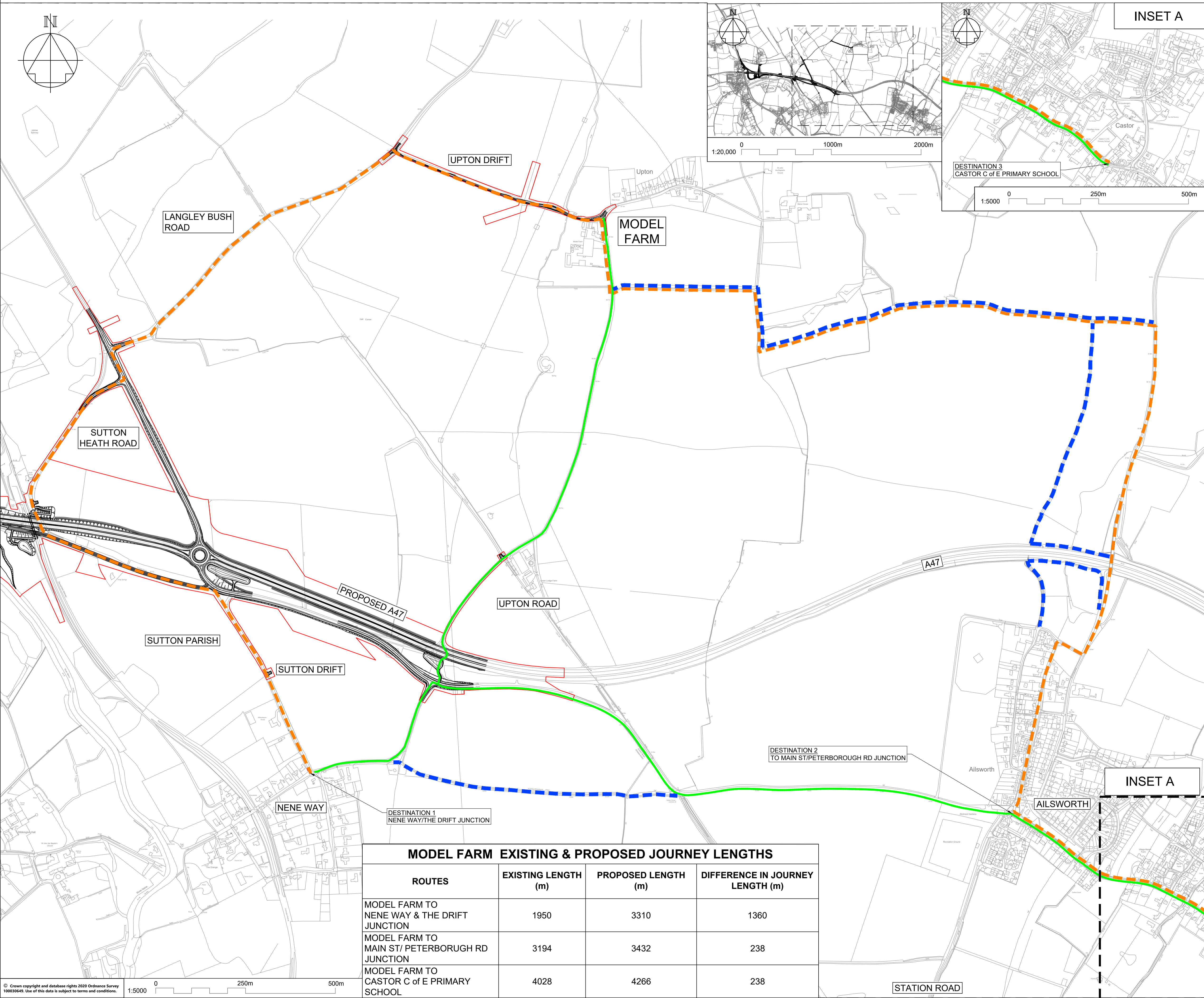
DRAWING NUMBER
HE551494-GTY-HGN-000-DR-CH-38008



LOWER LODGE FARM EXISTING & PROPOSED JOURNEY LENGTHS

ROUTES	EXISTING LENGTH	PROPOSED LENGTH (m)	DIFFERENCE IN JOURNEY LENGTH (m)
LOWER LODGE FARM TO NENE WAY & THE DRIFT JUNCTION	904	4542	3638
LOWER LODGE TO MAIN ST/ PETERBOROUGH RD JUNCTION	2149	5793	3644
LOWER LODGE FARM TO CASTOR C of E PRIMARY SCHOOL	2986	6630	3644

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NOTES
Purpose of use
FOR DCO SUBMISSION

Development Consent Order Number / Document

NOTES
1. ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE STATED
2. EXISTING AND PROPOSED ROUTES ARE NOT EXHAUSTIVE AND ARE ONLY TO GIVE AN INDICATIVE ROUTE TO THE DESTINATIONS

KEY TO SYMBOLS
VEHICLE ROUTES
— ORDER LIMITS
- - - EXISTING PUBLIC RIGHT OF WAY
— EXISTING ROUTES
- - - PROPOSED ROUTES

REV	DATE	REVISION NOTE	ORG	CHKD	APPD
P01	11/02/22	DEADLINE 2 SUBMISSION	BSim	PE	MMur

DESIGNER
SWECO

CONTRACTOR
GallifordTry

CLIENT
highways england

PROJECT TITLE
A47 WANSFORD TO SUTTON DUALLING

PROJECT STAGE
PCF STAGE 4

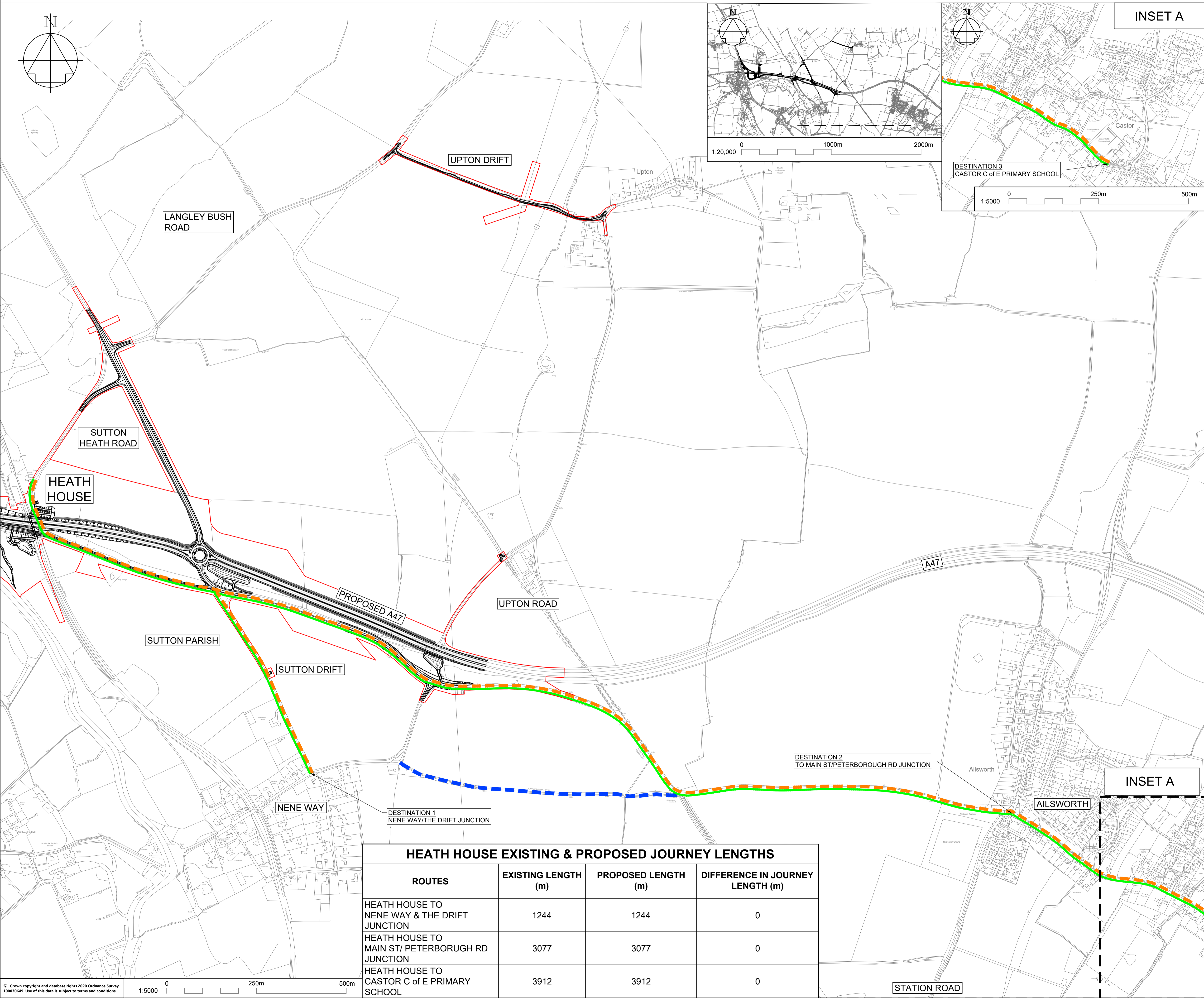
DRAWING TITLE
SEPARATION OF COMMUNITIES WALKING CYCLING & HORSE RIDING MODEL FARM

SUITABILITY
SUITABLE FOR INFORMATION

SHEET SIZE: A1
SCALE: 1:5000
STATUS: S2
REVISION: P01
DRAWING NUMBER: HE551494-GTY-HGN-000-DR-CH-38011

ROUTES	EXISTING LENGTH (m)	PROPOSED LENGTH (m)	DIFFERENCE IN JOURNEY LENGTH (m)
MODEL FARM TO NENE WAY & THE DRIFT JUNCTION	1950	3310	1360
MODEL FARM TO MAIN ST/ PETERBOROUGH RD JUNCTION	3194	3432	238
MODEL FARM TO CASTOR C of E PRIMARY SCHOOL	4028	4266	238

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HEATH HOUSE EXISTING & PROPOSED JOURNEY LENGTHS			
ROUTES	EXISTING LENGTH (m)	PROPOSED LENGTH (m)	DIFFERENCE IN JOURNEY LENGTH (m)
HEATH HOUSE TO NENE WAY & THE DRIFT JUNCTION	1244	1244	0
HEATH HOUSE TO MAIN ST/ PETERBOROUGH RD JUNCTION	3077	3077	0
HEATH HOUSE TO CASTOR C of E PRIMARY SCHOOL	3912	3912	0

NOTES
Purpose of use
FOR DCO SUBMISSION

Development Consent Order Number / Document

- NOTES**
- ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE STATED
 - EXISTING AND PROPOSED ROUTES ARE NOT EXHAUSTIVE AND ARE ONLY TO GIVE AN INDICATIVE ROUTE TO THE DESTINATIONS

KEY TO SYMBOLS

- VEHICLE ROUTES**
- ORDER LIMITS
 - - - EXISTING PUBLIC RIGHT OF WAY
 - EXISTING ROUTES
 - - - PROPOSED ROUTES

P01	11/02/22	DEADLINE 2 SUBMISSION	BSim	PE	MMur
REV	DATE	REVISION NOTE	ORG	CHKD	APPD

DESIGNER
SWECO

CONTRACTOR
GallifordTry

CLIENT
highways england

PROJECT TITLE
A47 WANSFORD TO SUTTON DUALLING

PROJECT STAGE
PCF STAGE 4

DRAWING TITLE
SEPARATION OF COMMUNITIES WALKING CYCLING & HORSE RIDING HEATH HOUSE

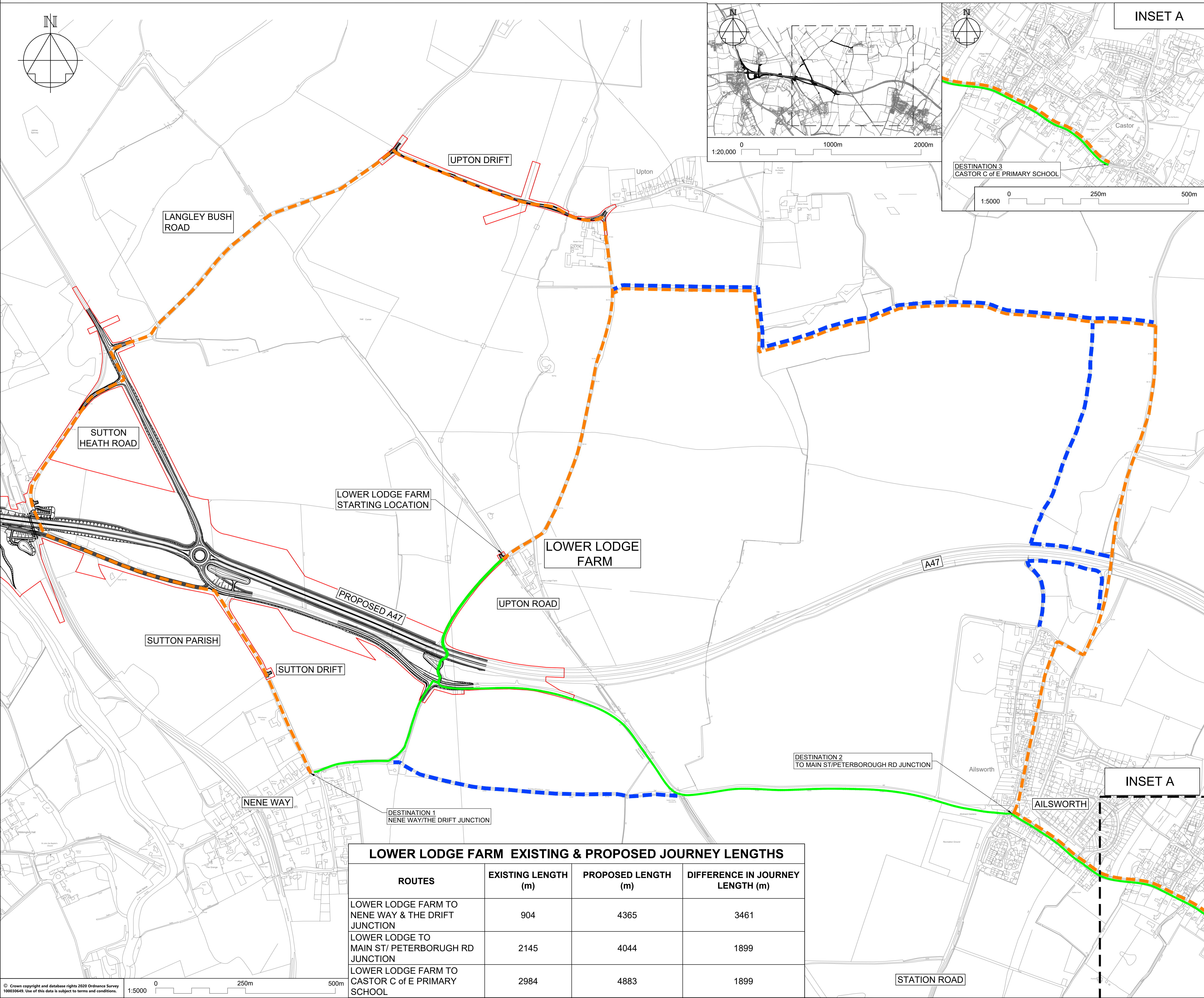
SUITABILITY
SUITABLE FOR INFORMATION

SHEET SIZE	SCALE	STATUS	REVISION
A1	1:5000	S2	P01

DRAWING NUMBER
HE551494-GTY-HGN-000-DR-CH-38012

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LOWER LODGE FARM EXISTING & PROPOSED JOURNEY LENGTHS			
ROUTES	EXISTING LENGTH (m)	PROPOSED LENGTH (m)	DIFFERENCE IN JOURNEY LENGTH (m)
LOWER LODGE FARM TO NENE WAY & THE DRIFT JUNCTION	904	4365	3461
LOWER LODGE TO MAIN ST/ PETERBOROUGH RD JUNCTION	2145	4044	1899
LOWER LODGE FARM TO CASTOR C of E PRIMARY SCHOOL	2984	4883	1899

NOTES
Purpose of use
FOR DCO SUBMISSION

Development Consent Order Number / Document

NOTES
1. ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE STATED
2. EXISTING AND PROPOSED ROUTES ARE NOT EXHAUSTIVE AND ARE ONLY TO GIVE AN INDICATIVE ROUTE TO THE DESTINATIONS

KEY TO SYMBOLS

VEHICLE ROUTES

- ORDER LIMITS
- EXISTING PUBLIC RIGHT OF WAY
- EXISTING ROUTES
- PROPOSED ROUTES

P01	11/02/22	DEADLINE 2 SUBMISSION	BSim	PE	MMur
REV	DATE	REVISION NOTE	ORG	CHKD	APPD

DESIGNER
SWECO

CONTRACTOR
GallifordTry

CLIENT
highways england

PROJECT TITLE
A47 WANSFORD TO SUTTON DUALLING

PROJECT STAGE
PCF STAGE 4

DRAWING TITLE
SEPARATION OF COMMUNITIES WALKING CYCLING & HORSE RIDING LOWER LODGE FARM

SUITABILITY
SUITABLE FOR INFORMATION

SHEET SIZE	SCALE	STATUS	REVISION
A1	1:5000	S2	P01

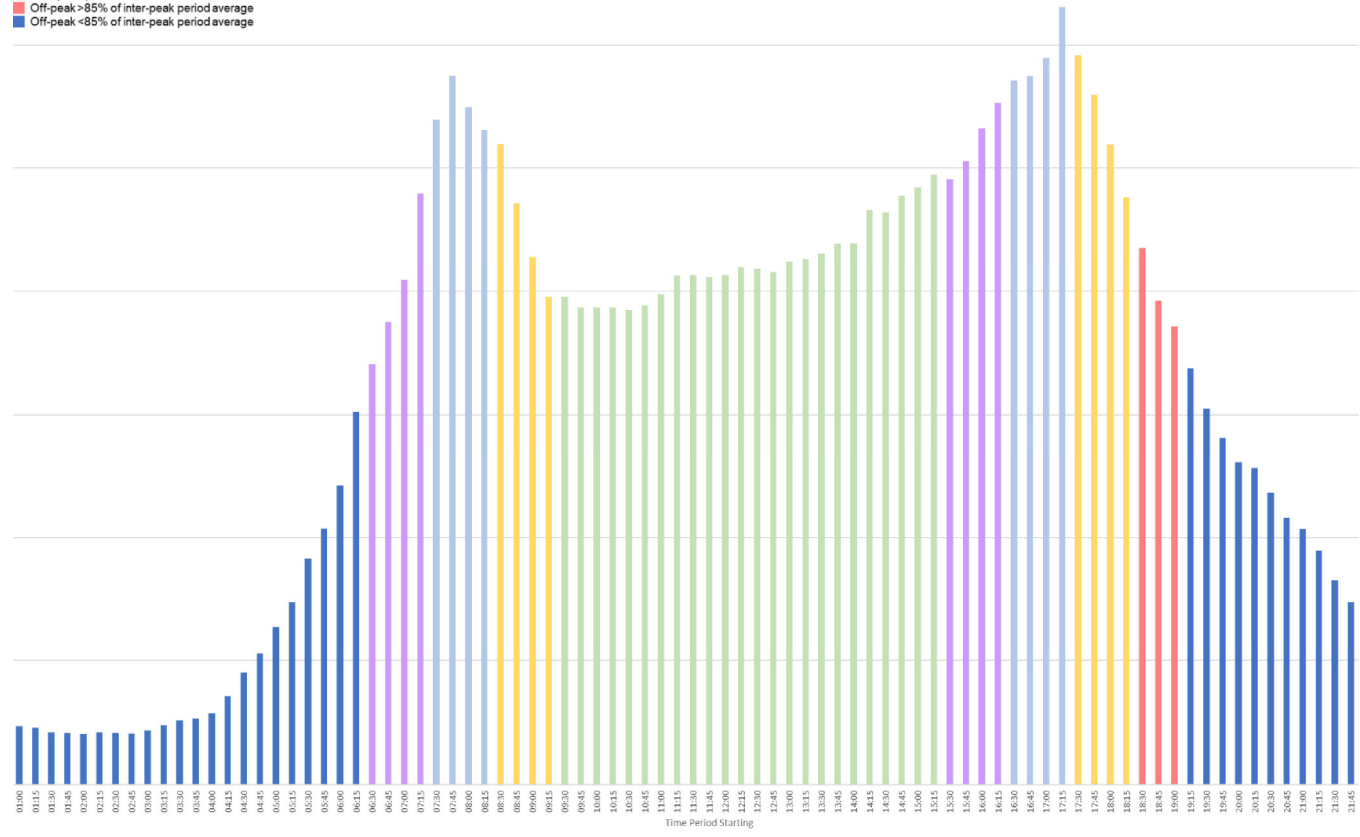
DRAWING NUMBER
HE551494-GTY-HGN-000-DR-CH-38013

Annex N - Traffic Counts: Weekday average daily traffic profile for Wansford

AM and PM Shoulder Peak Ratios

Weekday Average

- Modelled peak hour
- 1 hour before modelled peak hour
- 1 hour after modelled peak hour
- Inter-peak period
- Off-peak >85% of inter-peak period average
- Off-peak <85% of inter-peak period average

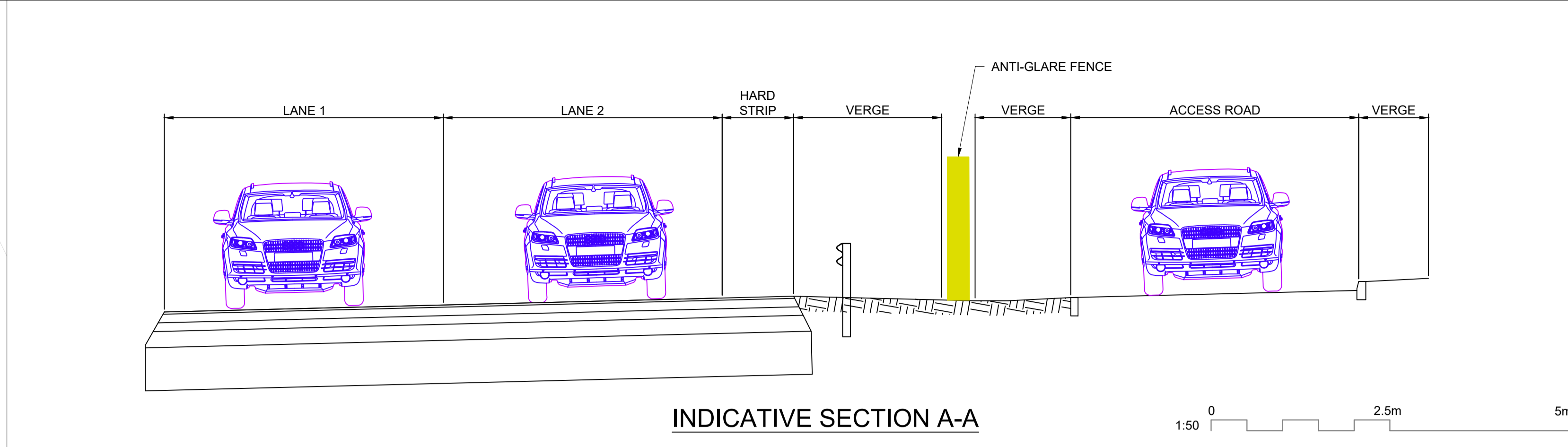
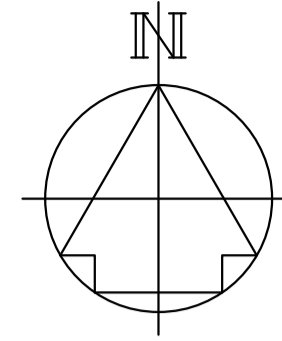


AM and PM shoulder peak ratios

Time Period	Factor
6.30 - 7.30	0.73
7.30 - 8.30 – Modelled AM Peak Hour	1.00
8.30 - 9.30	0.83
15.30 - 16.30	0.88
16.30 - 17.30 – Modelled PM Peak Hour	1.00
17.30 - 18.30	0.91

Annex O - Separation between A1 and Great North Road Properties

This drawing should not be relied on or used in circumstances other than those for which it was originally prepared and for which Sweco UK Ltd was commissioned. Sweco UK Ltd accepts no responsibility for this drawing to any party other than the person by whom it was commissioned. This drawing has been prepared on behalf of Galliford Try by Sweco UK Ltd for the titled project or named part thereof and should not be relied upon or used for any other project without an independent check being carried out as to its suitability and prior written authority of Galliford Try being obtained. Sweco UK Ltd accepts no responsibility or liability for the consequences of this drawing being used for a purpose other than the purposes for which it was commissioned. Any person using or relying on this drawing for such other purpose agrees, and will by such use or reliance be taken to confirm his/her agreement, to indemnify Sweco UK Ltd for all loss or damage resulting therefrom.



TURNING HEAD PROVIDED FOR SERVICE VEHICLES

Council Houses

SEPARATION BETWEEN A1 CARRIAGEWAY AND ACCESS ROAD. ROAD RESTRAINT SYSTEM AND ANTI-GLARE FENCE IN PLACE.

ACCESS CLOSED ALONG WINDGATE WAY TO VEHICLES.

SEPARATION BETWEEN A1 GREAT NORTH ROAD AND PROPERTIES

WINDGATE WAY

Windgate Way

NOTES

Purpose of use
FOR DCO SUBMISSION

Development Consent Order Number / Document

1. THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH OTHER PLANS AND DOCUMENTS IN THE DEVELOPMENT CONSENT ORDER.

KEY TO SYMBOLS

- ORDER LIMITS
- PROPOSED VISUAL BARRIER
- PROPOSED ROAD RESTRAINT SYSTEM

P01	14/02/22	DEADLINE 2 SUBMISSION	RO	PE	MMur
REV	DATE	REVISION NOTE	ORG	CHKD	APPD

DESIGNER

CONTRACTOR

CLIENT

PROJECT TITLE
A47 WANSFORD TO SUTTON DUALLING

PROJECT STAGE
PCF STAGE 4

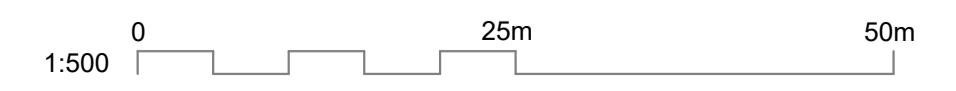
DRAWING TITLE
SEPARATION BETWEEN A1 AND GREAT NORTH ROAD PROPERTIES

SUITABILITY
SUITABLE FOR INFORMATION

SHEET SIZE A1	SCALE AS SHOWN	STATUS S2	REVISION P01
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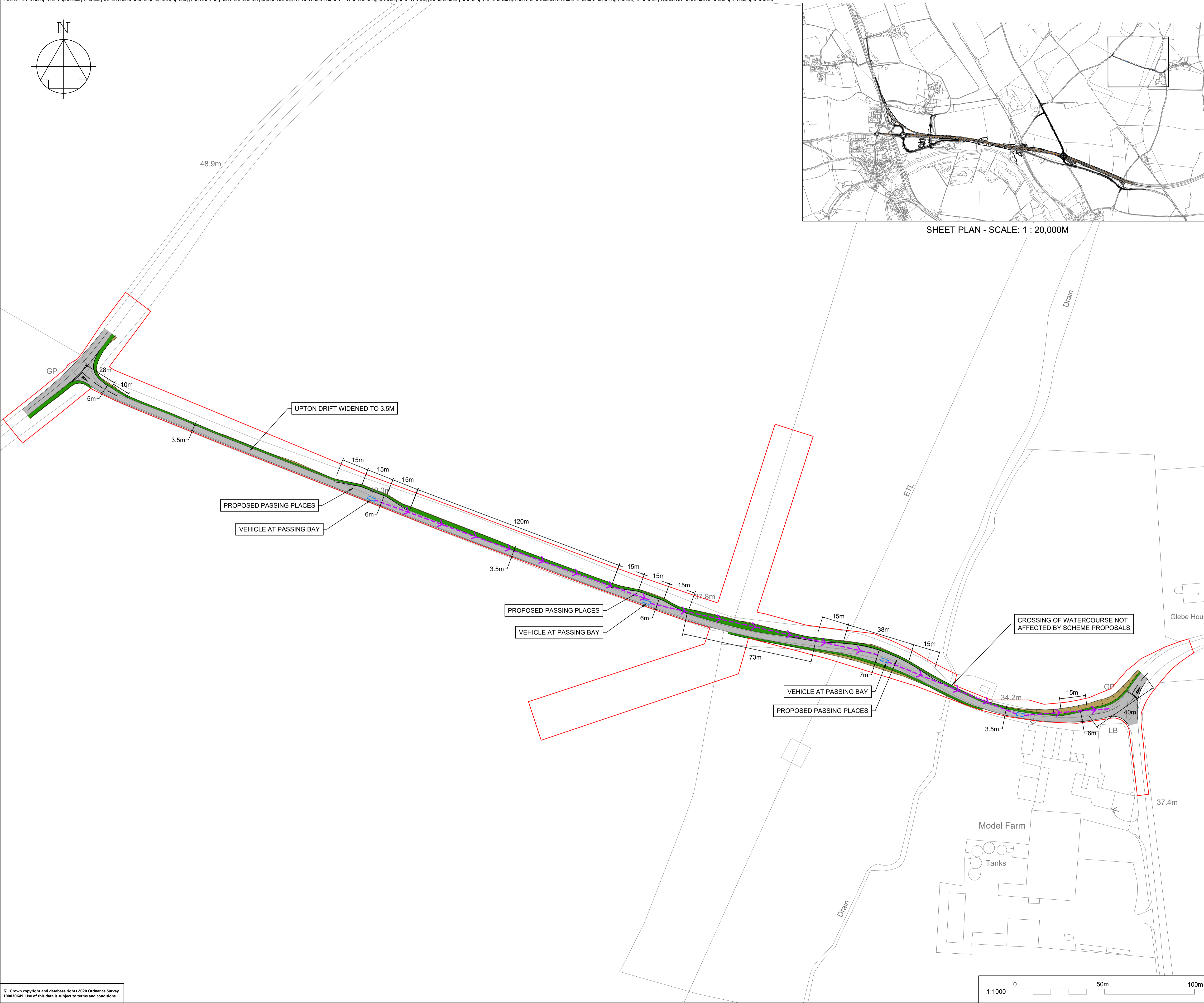
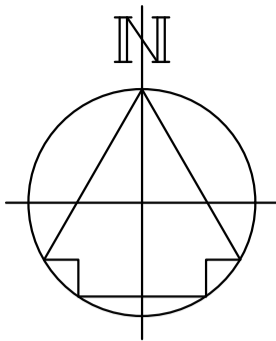
DRAWING NUMBER
HE551494-GTY-HSR-000-SK-CH-30005

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Annex P - Main Road Improvements

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SHEET PLAN - SCALE: 1 : 20,000M

NOTES
 Purpose of use
FOR DCO SUBMISSION
 Development Consent Order Number / Document
 1. THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH ALL PLANS AND DOCUMENTS INCLUDED IN THE DCO APPLICATION.
 2. BASE MAP REPRODUCED FROM ORDINANCE SURVEY MAPPING.

KEY TO SYMBOLS

- ORDER LIMITS
- NEW / IMPROVED CARRIAGEWAY
- NEW / IMPROVED VERGE
- NEW / IMPROVED EARTHWORKS
- - - INTERVISIBILITY BETWEEN PASSING PLACES

P01	14/02/22	DEADLINE 2 SUBMISSION	RO	PE	MMur
REV	DATE	REVISION NOTE	ORG	CHKD	APPD

DESIGNER
SWECO

CONTRACTOR
GallifordTry

CLIENT
highways england

PROJECT TITLE
A47 WANSFORD TO SUTTON DUALLING

PROJECT STAGE
PCF STAGE 4

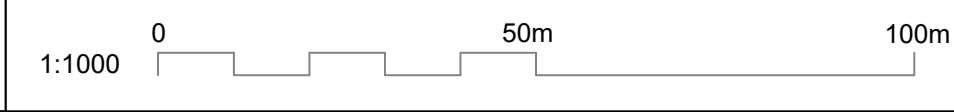
DRAWING TITLE
UPTON MAIN ROAD LAYOUT

SUITABILITY
SUITABLE FOR INFORMATION

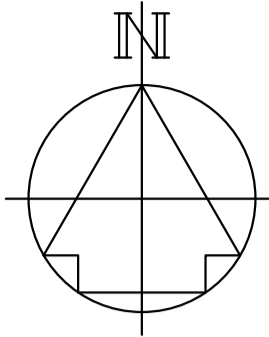
SHEET SIZE	SCALE	STATUS	REVISION
A1	1:1000	S2	P01

DRAWING NUMBER
HE551494-GTY-HSR-000-DR-CH-31006

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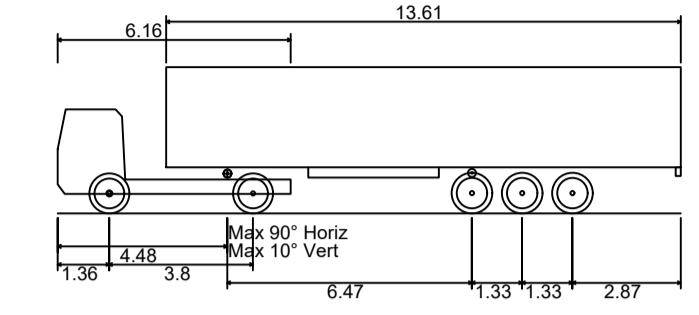


NOTES

Purpose of use
FOR DCO SUBMISSION

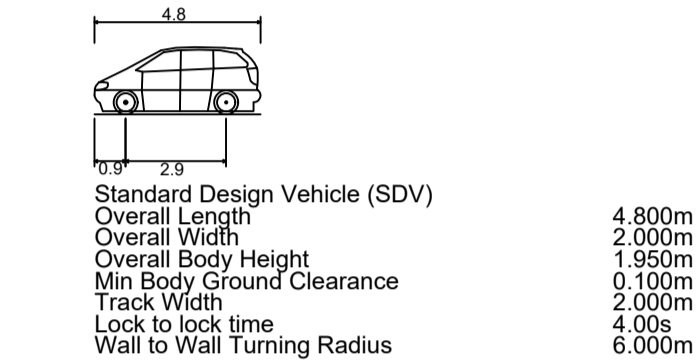
Development Consent Order Number / Document

- THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH ALL PLANS AND DOCUMENTS INCLUDED IN THE DCO APPLICATION.
- BASE MAP REPRODUCED FROM ORDINANCE SURVEY MAPPING.

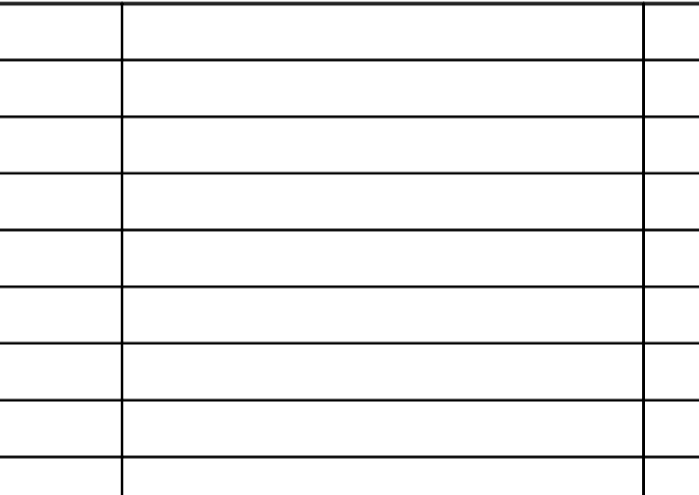


FTA Design Articulated Vehicle (1998)	
Overall Length	16.480m
Overall Width	2.550m
Overall Body Height	3.870m
Min Body Ground Clearance	0.515m
Max Track Width	2.470m
Lock to lock time	3.00s
Kerb to Kerb Turning Radius	6.550m

KEY TO SYMBOLS



Standard Design Vehicle (SDV)	
Overall Length	4.800m
Overall Width	2.000m
Overall Body Height	1.950m
Min Body Ground Clearance	0.100m
Track Width	2.000m
Lock to lock time	4.00s
Wall to Wall Turning Radius	6.000m



Farm tractor & hay wagon	
Overall Length	19.020m
Overall Width	2.500m
Overall Body Height	0.438m
Min Body Ground Clearance	0.398m
Max Track Width	2.500m
Lock to lock time	4.00s
Kerb to Kerb Turning Radius	4.620m

P01	14/02/22	DEADLINE 2 SUBMISSION	RO	PE	MMur
REV	DATE	REVISION NOTE	ORG	CHKD	APPD

DESIGNER



CONTRACTOR



CLIENT



PROJECT TITLE

A47 WANSFORD TO SUTTON DUALLING

PROJECT STAGE

PCF STAGE 4

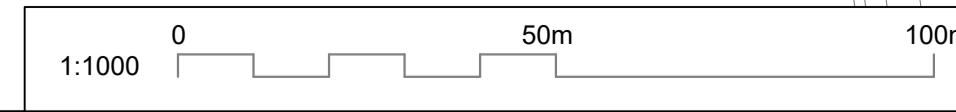
DRAWING TITLE

UPTON MAIN ROAD VEHICLE TRACKING

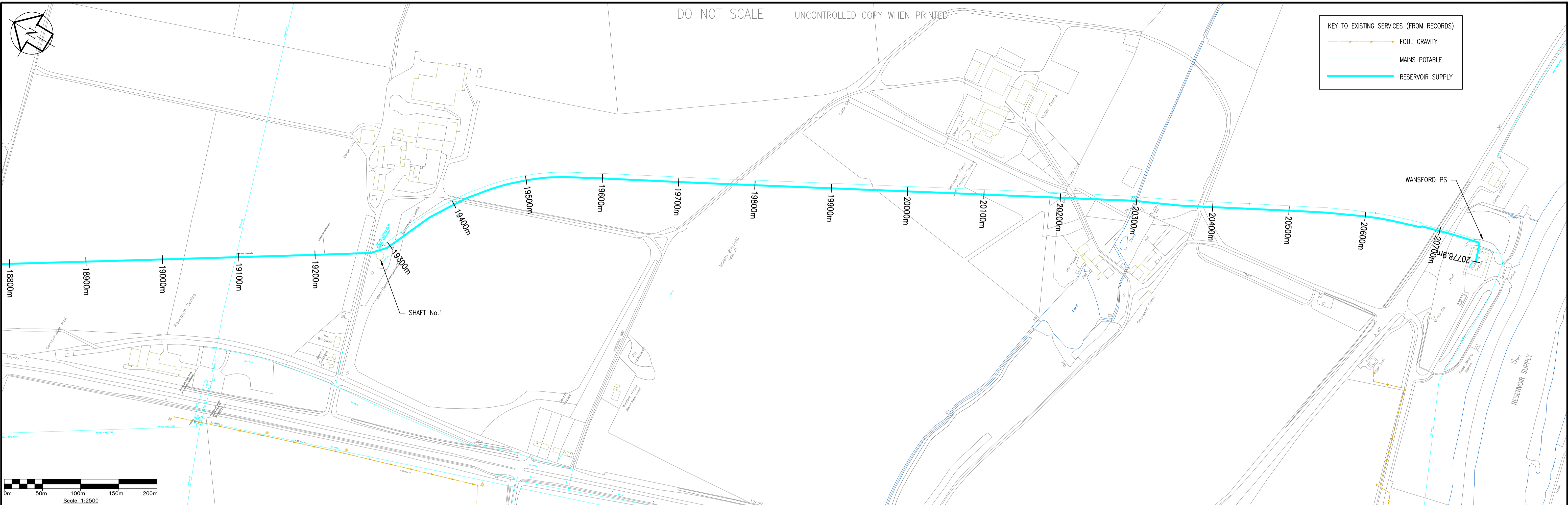
SUITABILITY
SUITABLE FOR INFORMATION

SHEET SIZE A1	SCALE AS SHOWN	STATUS S2	REVISION P01
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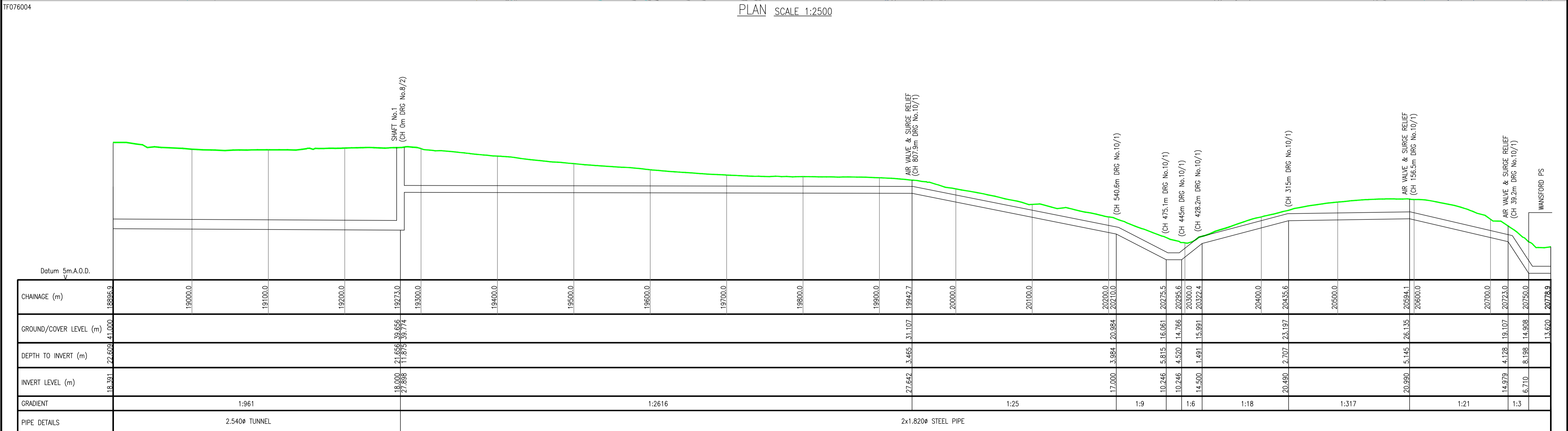
DRAWING NUMBER
HE551494-GTY-HSR-000-DR-CH-31005



Annex Q - Water Main from River Nene Extraction



PLAN SCALE 1:2500



LONGITUDINAL SECTION 18896.9m TO 20778.9m. HORIZONTAL SCALE 1 in 2500 VERTICAL SCALE 1 in 500

CHECKING PRINT

REV	DATE	DETAILS	BY	STAT	CHK	APP
B	05.06.15	AIR VALVES ADDED	AD	1		
A	0.1.04.15	FOR INFORMATION	AD	1		

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PROJECT TITLE
**RUTLAND WATER
DRAW DOWN SCHEME**

DRAWING TITLE
**INLET JETS TO WANSFORD PS
PLAN & LONGITUDINAL SECTION
SHEET 12 OF 12**

DES'D:	DATE:	DRAWN: AD	DATE: 28.04.15	CHK'D:	DATE:	APP'D:	DATE:	
A1 SCALE: AS SHOWN		REFERENCED DRAWINGS: RUTLAND MAPPING.DWG RUTLAND PIPE ROUTE.DWG						
DRAWING No. LON-111							REV. B	STAT. 1